PORTULANS INSTITUTE

STL

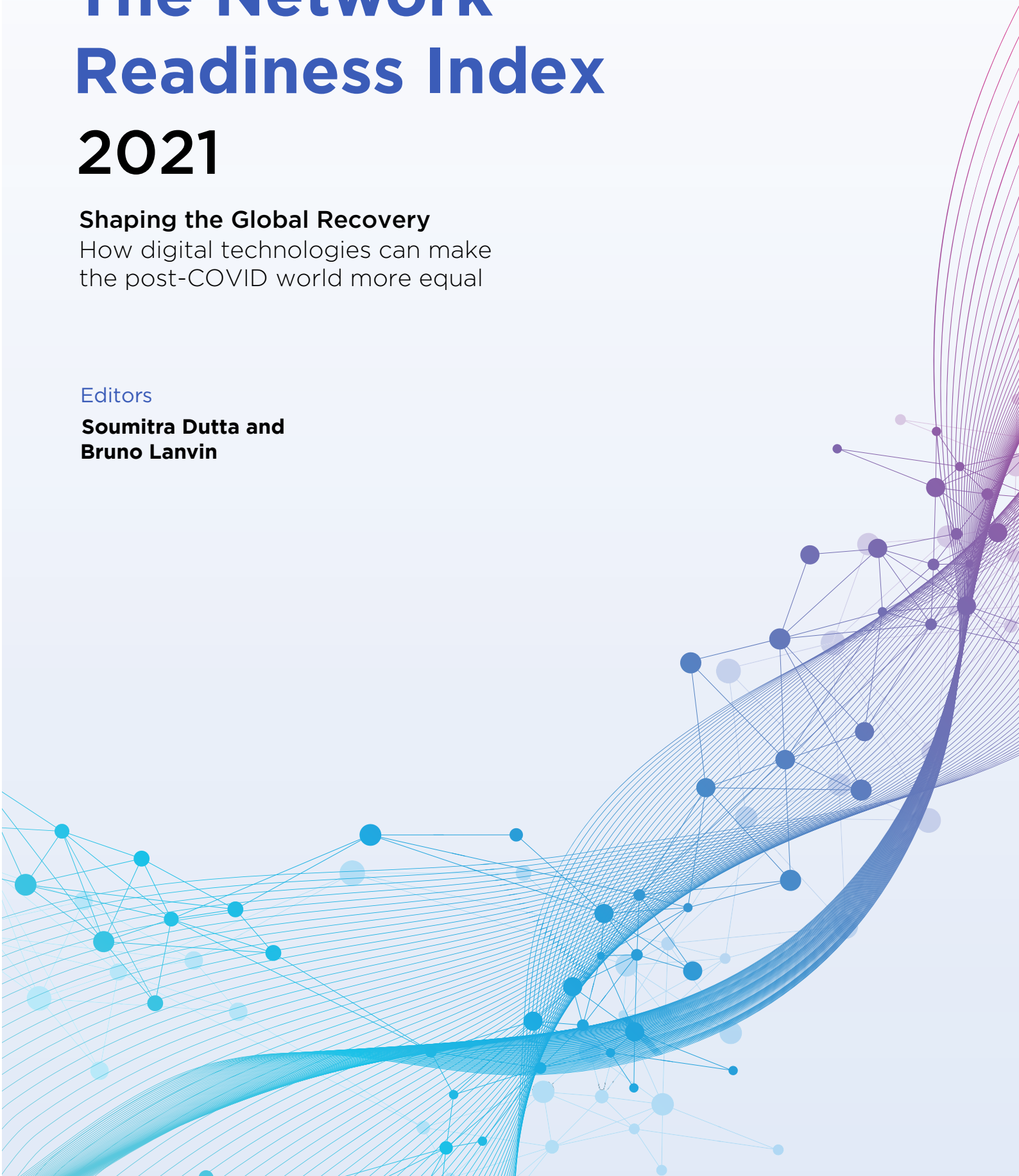
The Network Readiness Index 2021

Shaping the Global Recovery

How digital technologies can make the post-COVID world more equal

Editors

Soumitra Dutta and Bruno Lanvin







The Network Readiness Index 2021

Shaping the Global Recovery

How digital technologies can make the post-COVID world more equal

Editors

Soumitra Dutta and Bruno Lanvin

Copyright and other notices:

© 2021 by Portulans Institute.

ISBN: 978-1-68489-261-7

This year's edition was designed by Juan Ramón Dávila Urrutia, copy edited by Pieter Huyer, and authored, edited, and printed by Portulans Institute.

LICENSING: This content is licensed under the Creative Commons Attribution, Non-commercial No-Derivates 3.0 Unported License. The user is allowed to reproduce, distribute, and publicly perform this publication without explicit permission, provided that the content is accompanied by an acknowledgement that Portulans Institute is the source.

No part of this publication can be used for commercial purposes or adapted/translated/modified without the explicit permission of Portulans Institute.

DISCLAIMER: No representation or warranty, either express or implied, is provided in relation to the information contained herein and with regard to its fitness, sufficiency, or applicability for any particular purpose. Portulans Institute disclaims all liability relating to the content and use of the report and the information contained therein, and the report should not be used as a basis for any decision that may affect the business and financial interests of the reader or any other party.

Table of Contents

Preface 8

Foreword 11

Shaping the Global Recovery: How digital technologies can make the post-COVID world more equal. 13

- The great acceleration 14
- Reducing digital divides: a trend reversed? 15
- Can technology be a post-COVID equalizer? 16
- The crucial importance of recovery packages 19
- The NRI as a barometer of ongoing change 21

Key Messages from the NRI 2021 24

Key Results of NRI 2021 28

- Continuing to improve the NRI model 31

Detailed Results of NRI 2020 35

- Overall Rankings 36
- Pillar-level Performances 40
- Top 10 NRI Performers 45
- NRI Performances by Income Group 49
- NRI Performances by Region 56

Country/Economy Profiles 80

- How to Read the Country/Economy Profiles 81
- Index of Country/Economy Profiles 83
- Country/Economy Profiles 84

Appendices 215

- Appendix I: Technical Notes 217
- Appendix II: Sources and Definitions 227
- Appendix III: JRC Statistical Audit of the 2021 Network Readiness Index 245

About STL 266

About Portulans Institute 267

- The NRI Team 268

Preface



Dr. Bruno Lanvin



Prof. Soumitra Dutta

Nearly two years after the onset of COVID-19, one conclusion is clear—digital transformation has changed from a needed priority into a global imperative for all. Businesses, governments, education institutions, and individuals all rapidly shifted their processes online in the wake of lockdown measures. The overnight shift towards virtual living and working heightened our reliance on digital technologies and increased the demand for network infrastructure, reliable connectivity, and digital literacy.

The great digital acceleration came as a boon for emerging markets as it pushed forward the digitalization of their economies by several years. The need for digital technologies forced emerging market businesses to move online, evidenced by the explosion in digital startups and unicorns (in September 2021, reports indicate that India registered more than 66 unicorn companies, with around 28 created in the first nine months of 2021 alone) (Business Today India 2021). Other emerging markets that historically lagged in digitalization also progressed (with the number of unicorns in Latin America growing from 2 to 34 in four years, with 60% of them being based in Brazil) (Pompeo 2021).

Amid such digital acceleration, it is sobering to note that more than 40% of the world's population today does not have usable access to the Internet. Numerous nations are still unable to access the full advantages of digital technologies due to ongoing developmental challenges, structural limitations, and fragmented regulatory environments. High-income economies with more digital skills and greater access to resources continue to leverage technology better than lower-income nations that have limited skills and access to fewer resources. Divisions across rich and poor regions within national boundaries have deepened as rural populations and less well-off segments of society struggle to move their productive work online. As a result, the economic and social benefits of accelerated digital transformation do not distribute equally across the globe but remain concentrated geographically in certain economies and specific segments of society.

Preface

Such divides to access signal how important it is to shape the process of post-COVID global recovery in a way that benefits all members of society. For example, examining the role of different stakeholders (governments, businesses, and citizens) towards informed policy decisions can help demonstrate methods that take advantage of technological innovation. Any change will require accurate facts and metrics that measure how different nations can address recovery issues and determine what methods can use improvements.

The need for data and actionable insights towards network readiness and digital innovation offered the precise reason for the first Network Readiness Index (NRI) 20 years ago, and it is the very reason why the index is more relevant now than ever.

The NRI 2021 is the third edition of the updated model that addresses trust, governance, inclusivity, and the potential impact on Sustainable Development Goals (SDGs). We have introduced additional indicators for two reasons: first, to better capture the reach and impact of digital transformation, and second, to offer a holistic view of how technology use can enhance the development and competitiveness of economies.

It is now time to look ahead beyond the crisis and create a more equitable and inclusive post-pandemic world. In all likelihood, such an investigation could lead to more questions than answers:

- How do we distribute the benefits of technology with more equality across the world?
- How do we ensure that adequate investments are made in infrastructure, access, and skills so that all can benefit from the opportunity of hybrid learning and working?
- What will the future models of business look like?
- How will work-life balance shift for employees?
- How will the pandemic affect globalization processes?
- How will the crisis impact the environment and sustainable development?
- These questions are important to ask, and the NRI aims to provide valuable evidence to support decision leaders as they attempt to solve many of the listed issues.

We would like to express our gratitude towards Sterlite Technologies Limited (STL), the sponsor and knowledge partner for the NRI for the past two years. We are grateful for the continuous support and active participation of our partners, the Advisory Board, and the NRI Technical Advisory Group. We give additional thanks to the Joint Research Centre (JRC) for ensuring the accuracy of our metrics and findings. We also invite your comments and feedback as we strive to continuously improve the NRI and keep it the most relevant global index and set of measures for technology policy creation.

References

Business Today. “India adds 28 unicorns in 2021 to take total to 66; over 3.3 lakh people are employed.” Business Today.IN, September 28, 2021.

Pompeo, Carolina. 2021. “Latin America Goes From 2 To 34 Unicorns In Four Years, Says Sling Hub”. Blog. Latin America Business Stories.

Foreword

It's time to cross the bridge of digital inequality



Ankit Agarwal,

Managing Director
STL - Sterlite Technologies Limited

The last few months have shown us two sides of the digital landscape. On the one side, a new world has emerged where the Internet has brought people closer than ever and redefined the way we work, live and interact. The pace of digital transformation fastened like never before and enabled business continuity across the globe, saving millions of jobs. On the other side, unfortunately, is the exposed wide chasm between the connected and the unconnected. While more than 2 million people are coming online each day, millions are left behind without digital solutions, tools, and services. The digital divide is not only across countries but regions, societies and genders. There is now a more pressing need than ever to eliminate these inequalities and bring everyone on the right side of the digital revolution.

STL – Sterlite Technologies Limited is excited to collaborate with Portulans Institute for the Network Readiness Index Report 2021 that will put a microscopic lens on the rapid digital transformation across the globe and examine the strategies by several countries to cope with or leverage the accelerated technology adoption to ensure larger digital inclusion. For close to three decades, STL is relentlessly bringing together disruptive solutions and models that have led to digital inclusion, empowering economies across the globe. The company is solving the crucial problem of at scale, viable and ubiquitous connectivity by powering a new network architecture driven by advanced optical technologies with a layer of programmability to manage the ever-increasing traffic.

In its 14th version and third edition under a renewed methodology, the NRI report reflects how technology and people need to be integrated within an effective governance structure to have the right impact on our economy, society and the environment. In the 2021 edition, the report helps dissect how economies embraced digital transformation, thus laying down a detailed roadmap for governments to launch and accelerate a digital journey that provides equal economic and social benefits for all. It will cover various aspects such as the development of ICT infrastructure, regulatory frameworks, community initiatives among others.

The world stands at an interesting stage in its evolution. The impact of technology now is greater than ever and digitalization is fundamentally changing our lives. For the world to collectively grow, the stakeholders - economies, businesses and societies - will have to step up and embrace digital technologies at a faster pace. The NRI report unearths the opportunities and challenges that lie ahead in making that happen. Let's make the most of this opportunity to take the wonders of technology to the last standing person on the planet.

Back to TOC

Shaping the Global Recovery:

How digital technologies can make the post-COVID world more equal.



The great acceleration

Soumitra Dutta, Bruno Lanvin, Rafael Escalona Reynoso, Mariam Chaduneli, Sylvie Antal and Abdellah Bouhamidi

The COVID-19 pandemic created a global tipping point in regards to the adoption of technology. In the first half of 2020 over a matter of weeks, practically all countries (both developed and developing) adopted strict lockdowns and required most organizations to employ remote working. As a result, the world witnessed a digital acceleration with a scale and magnitude few would have imagined possible a couple of years ago.

Executives surveyed by McKinsey noted how the pandemic accelerated the digitalization of customer and supply-chain interactions in addition to their company's internal operations by three to four years (Laberge, Clayton, Snider and Smaje 2021). The rapid growth by tech giants in the past year further reflects the sheer scale of digitalization during the COVID pandemic: The New York Times noted that the five tech superpowers (Amazon, Apple, Google, Microsoft, and Facebook) earned a combined revenue of about $1.2 trillion in 2020, a 25% increase compared to pre-pandemic levels (Ovide 2021).

The COVID-19 pandemic occurred at a point in time when many digital technologies had already matured and could rapidly deploy on a large scale. Companies commonly used remote teams before the pandemic in an attempt to globalize their operations. Organizations had implemented flexible office practices and open office plans to support collaboration, adjusted hours, and an enhanced work-life balance. Once the effects of lockdown took place, many businesses could move with relative ease into fully remote or hybrid work environments. The technology had matured to handle such requirements, and employees had the necessary experience with collaborative software systems to continue remote work. While many organizations reported no loss of productivity due to remote working during the pandemic period, the potential for remote work remains higher in advanced economies compared to emerging economies where physical and manual jobs in sectors like agriculture and manufacturing remain more prevalent (McKinsey Global Institute, 2020).

Some emerging countries took advantage of the new normal to accelerate their own digital transformation, but other economies struggled against the exposure to new kinds of digital divides. While the COVID-19 pandemic has adversely affected several groups (e.g. women and minorities), the increased reliance on digital technologies forced businesses in emerging markets to move their operations online, spawning an explosion in digital startups and unicorns. In September 2021, reports indicate that India registered more than 66 unicorn companies, with around 28 created in the first nine months of 2021 alone (Business Today India 2021). Digital companies now make up a significant part of the equity markets in emerging economies—for example, new companies now make up more than 60% of the China MSCI index (Business Today India 2021).

Over the past two years, the COVID-19 pandemic helped create a real-time economic revolution fueled by digital transformation. Digital technologies provided effective solutions that could assess the overall effect and scope of the pandemic, and many products and services moved online. For example, the digital tools companies used out of necessity gave organizations a deeper understanding of supply-chains and consumer trends, leading to enhanced contact tracing, contactless product delivery, and remote services. At a broad level, COVID-19 charted the way for accelerated digitization programs that supported business continuity throughout the crisis.

The data-based recovery effort now presents a chance for governments to play a critical role that could pave the way for new technologies and infrastructure. The shift towards greater technological integration is an opportunity to develop plans and policies that promote a more equitable benefit share, and the outcomes that stem from technology can help to build a better and more connected future. As societies usher in this new era of accelerated digital transformation, each economy must consider whether global inequalities concerning technology access and usage will subside or continue to expand. The ability to leverage the current digitized climate can lead to timelier and more precise data, informed decision-making processes, and better livelihoods.

Reducing digital divides: a trend reversed?

Before the COVID-19 pandemic onset, positive trends in technological adoption across the globe gave reason for optimism concerning the reduction of digital divides. However, when COVID-19 broke out and an increased reliance on digital technology swept through the global economy, the positive trends partially reversed, giving renewed importance to existing divides while creating new ones.

Amid the digital euphoria, it is sobering to note that more than 40% of the world's population does not currently have usable access to the Internet (ITU 2020). Numerous nations can not access the full advantages of digital technologies due to ongoing developmental challenges, structural limitations, and fragmented regulatory environments. High-income economies with more digital skills and greater access to resources continue to leverage technology better than lower-income nations that have limited skills and access to fewer resources. Such a divide is of particular importance for developed states that struggled to ensure the standard well-being of their citizens (e.g. food supply) throughout the height of the pandemic. Divisions across wealthy and poorer regions within national boundaries further deepened as less well-off and rural populations struggled to shift their productive work online. The economic and social benefits of accelerated digital transformation are not distributed equally across the globe but remain geographically concentrated in certain economies and specific segments of society.

Physical distancing requirements put in place due to the COVID-19 pandemic also resulted in a shift towards the digitalization of daily tasks such as: accessing news and information, shopping, staying connected to friends and family, receiving medical treatment, attending school, and using financial services. Such an alteration in the methods of daily activities has created new digital divides along the way.

Given the pervasiveness of digital transformation, it is important to determine the obstacles to digital access and usage in different regions of the world. Barriers such as geographical restrictions, lack of physical infrastructure, and digital illiteracy contribute to the digital divide and are often faced at disproportionate levels by marginalized populations. Governments, private companies, and not-for-profit organizations can take steps to help bridge the current gaps and increase access to digital technologies for such groups, ensuring that the outcomes disseminate evenly.

The acceleration of digital transformation also highlighted how divides of access exist between genders, in addition to regions and economies. The digital gender divide remains one of the primary barriers to meaningful participation in a digital society, and the COVID pandemic affected further polarization. Crisis-induced digitalization uncovered gender gaps in Internet access, digital skills, participation in STEM fields, and innovation leadership (Brookings Institute 2021). According to the International Telecommunication Union's latest data, the proportion of women using the

Internet globally amounts to 48% compared to 55% of men (ITU 2021). In relative terms, the global Internet use gender gap stands at 12.5%. The divergence between genders is even more pressing in developing countries, where women are 22.8% less likely than men to use the Internet, although it is not an exclusive issue (Brookings Institute 2021).

Equal access to digital technologies and skills is a step towards gender equality within the context of the Sustainable Development Goals as outlined by the United Nations. The BBC notes that while activities have moved online, women and girls globally are left out because they have lower levels of access to the Internet (Fitzgerald 2021). The growth of such a digital divide across gender also has secondary effects; with regions where women suffer from reduced rights to land or access to the job market, the added dimension of increased digital inequality continues to make matters of equality worse.

Identifying and addressing the inequalities in both access and literacy through targeted measures is a crucial strategy that can further promote inclusive and sustainable digital-driven growth. Such preparedness could derive into positive ramifications like those experienced during the pandemic, with possible longer-term impacts on economic development, employment, food security and health, government services provision, and the quality of life (UNCTAD 2021).

Can technology be a post-COVID equalizer?

Both emerging and developed economies have shown initiative to help close the digital divide and promote more distributed access to digital technologies. The experience of some of the leading NRI economies, namely the United States and Sweden, shows that supporting local, community-tailored initiatives can often have a positive impact. For instance, the Swedish municipalities could select subsidies that encouraged the faster development of ICT infrastructure, allowing residents to connect to high-speed Internet. As a result, the Swedish population with broadband access grew from 2% to 89% between 1995 and 2012 (Münch 2013).

South Korea, China, the United Kingdom, and the United States demonstrated further leadership efforts to promote Internet connectivity via initiatives such as satellite Internet and 5G. Satellite Internet projects have since impacted the connectivity experience and accessibility of videoconferencing and other data-intensive apps, while 5G helped reach rural areas where the geographical landscape makes laying fiber optic cable difficult. To accelerate the arrival of 5G, the United Kingdom set up a £200 million fund that aims to improve the opportunities UK businesses' have to develop 5G technology for domestic and global markets in a range of geographical and vertical market segments (KPMG 2019). The communications regulator received recommendations from the government to appraise flexible licensing models for spectrum sharing, a way for new players to access spectrum and invest in new business models. In South Korea, the government incentivized cooperation and encouraged network sharing between mobile network operators (MNOs) by promising tax benefits and security maintenance services (KPMG 2019). As a result, three MNOs simultaneously launched an initial limited 5G service, started to share existing network assets, and jointly built new 5G facilities.

The shift towards remote learning brought attention to existing gaps in infrastructure and connectivity that rural or underserved regions continue to face. An estimated 463 million students around the globe are unable to access remote learning due in part to fragmented policy approaches to education and low levels of equipment access for home learning (UNICEF 2020). Various economies took novel approaches towards providing inclusive remote learning opportunities

for students while schools remain closed (World Bank 2020). For example, Pakistan began using its national terrestrial television programs to deliver educational content to rural areas(Aijaz 2020). Students unable to take advantage of the program may soon gain access through mobile platforms, an initiative currently in development through a public-private partnership. The United States implemented a support subsidy for broadband services and specific devices to help low-income households stay connected during the COVID-19 pandemic (FCC 2021).

Since the onset of the COVID-19 pandemic, the top priority of many countries involved increasing public access to critical supplies and medical services. As a result, it is arguable that digitalization in the healthcare sector incited rapid innovation in 2020 more than any year before (UNCTAD 2021). In Tanzania, the Ministry of Health partnered with the e-Government Authority and all mobile networks to provide free information and calls to health experts through a short code number dedicated to COVID-19 (UNDESA 2020). The service provides preliminary diagnoses to citizens according to their locations and other personal data. In Luxembourg, the government developed an online sales platform that offers home delivery of necessities to all citizens, with a specific portal for persons from high-risk categories such as seniors, those with chronic diseases, and the immunocompromised (The Luxembourg Government 2021).

The COVID-19 pandemic also altered consumer behavior. For large sectors of society, shopping experienced a drastic evolution as many online consumer processes initiated due to restrictions became permanent because of their lasting convenience. As an example, the online retailer Amazon reported a more than 200% increase in profit (Weise 2021). The shift towards online shopping did cause some adverse effects for small or family-owned businesses that sometimes lack the necessary tools or skills to pursue digital business channels. As a result, several countries implemented transitioning programs to assist with the evolution of e-commerce. In Chile, the Ministry of Agriculture promoted family farming programs through a digital platform (UNDESA 2021). Similarly, Ghana set up an e-commerce platform that connected 10,000 farmers with buyers, a digital infrastructure that helped boost production prices (UNDESA 2021).

Box 1: The human dimension of technological innovation during the COVID-19 crisis.

Digital technologies constitute a dynamic and highly interdependent ecosystem that requires a continuous combination of communication infrastructure, connectivity, and skills. The rapid shift towards an increased reliance on technology is causing significant social, economic, and political changes that require recognition and must be addressed in a way that benefits society.

Frontier technologies like robotics and Artificial Intelligence (AI) have significantly increased the efficiency and capabilities of the healthcare sector, in addition to better access for populations. The European Union funded the deployment of AI software called InferRead™ CT Lung COVID-19, a solution that analyses images of the lungs taken by a CT scanner and identifies the signs of Coronavirus within seconds. Since the outbreak of the Coronavirus pandemic, the InferRead™ artificial intelligence tool analyzed over 20,000 CT scans, speeding up the testing process and revolutionizing how radiologists work.[i] Besides facilitating rapid diagnostics through AI and PCR tests, the technology enabled the accelerated development of vaccines. Technology played a crucial role at all stages of the process and was utilized in the sequence data on the SARS-CoV-2 genome, bioinformatics, computational approaches, and structural modeling that helped identify appropriate antigen targets.[ii]

The increased prevalence of digital tools such as e-commerce platforms, resource management, and collaboration software has helped small businesses and startups leverage their networks and employees. For example, Tele-health services are now able to reach a higher number of those in need of medical care. Software tools provide better access to critical information about markets for business products and can improve company production planning and commercialization. In the public sector, investment in civic technologies has increased citizen participation and government responsiveness and transparency. Some nations used digital services to streamline contact tracing, COVID-19 screening, and testing. Others have even applied digitization to revolutionize how residents can apply for financial assistance and subsidies.

[i] The European Commision, "Artificial Intelligence Can Help Us Combat Coronavirus." European Commission, 2021. .https://ec.europa.eu/info/strategy/recovery-plan-europe/recovery-coronavirus-success-stories/health/artificial-intelligence-can-help-us-combat-coronavirus_en

[ii] Lundstrom, Kenneth, "Can Technology Help Us Win The Vaccine Race Against COVID-19?". Biotechniques, 2021. https://www.biotechniques.com/immunology/bethyl10xim_can-technology-help-us-win-the-vaccine-race-against-covid-19/.

The crucial importance of recovery packages

During the pandemic, major economies rapidly freed themselves from budgetary and fiscal orthodoxies and used public debt as a tool to maintain employment and social cohesion levels in the face of lockdown and other contention measures. Since the onset of the crisis, global fiscal support amounts have reached more than 12 trillion USD as countries progressively mobilize massive recovery packages (OECD 2021). The United States passed three major spending packages over the past two years, totaling nearly 5 trillion USD (Committee for a Responsible Federal Budget 2021). The European Union set a long-term budget of 2.018 trillion EUR under its NextGenerationEU recovery instrument to help repair the economic and social damage caused by the Coronavirus pandemic (European

Commission 2021). The EU also used the stimulus to aid the transition towards a modern and more sustainable Europe between 2021-2027. In late 2020, Japan unveiled a $708 billion economic stimulus designed to accelerate the pandemic recovery, bringing its combined value of COVID-19-related spending to about $3 trillion (Kihara, Kajimoto 2020). Meanwhile, Brazil's $50 billion stimulus package, passed at the beginning of the crisis, remains one of the largest among emerging markets.

Four primary areas are likely to receive the bulk of such fiscal efforts:

1. **Health:** Since the medical issues of the pandemic are still visible and highly sensitive, continued funding is in order for vaccines and other treatments, in addition to a re-hauling of national health systems. Efforts to reduce dependencies on external supplies (including low-tech supplies such as masks, oxygen, or syringes) are necessary as part of a global reflection on improving international supply chains and local resilience.

2. **Greening of the economy:** In tune with the latest international commitments (including at the UN Climate Change Conference - COP 26 - in Glasgow), efforts to enhance an economy's national willingness and capabilities to fight climate change are at the core of many recovery packages (for instance, in the European Union). The significant reduction of economic activity during the pandemic showed the potential impact that lower levels of production and consumption could have on the environment, in addition to the economic and social cost reduction.

3. **Infrastructure:** In large economies with aging infrastructure, the notion of 'building back better" has focused on modernization. Evidence of such recovery plans are visible within the US recovery package adopted by the US Congress in November 2021. Infrastructure is typically an area in which labor intensity is higher than in the rest of the economy, and such packages should act in a truly Keynesian way (TVA-style) to fight longer-term unemployment.

4. **Digital transformation:** Moving digitization from a "priority" to an "imperative" measure is the central common component of many economic recovery packages. The experience gained during the pandemic (including teleworking, virtual teams, and virtual collaboration) opened new doors and perspectives. As the fourth axis, digital transformation cuts across the first three areas connected with recovery. Health policies and medical research can benefit from better use of technologies in hospital management and fundamental research. Recent applications of AI to genetic engineering have brought further credibility to such an approach. Similarly, technologies can enhance our abilities to build and manage better infrastructure (i.e. energy, transport, and communications), while digital transformation is clearly called to play an increasingly important role in our ability to address and mitigate the effects of climate change.

Beyond the applications of fiscal spending, it is important to consider how technology can help further shape the process of a post-COVID global restoration. At the moment, recovery remains K-shaped, but we can still turn the "K" into a "V" (Figure 1)

FIGURE 1: MAKING THE CASE TO CHANGE THE K INTO A V



Many signs suggest that the current recovery is both strong and rapid, but collected data also indicates that such a recovery may be unequal, both domestically and internationally. Domestically, some occupations will remain in high demand, especially in digitally-intensive activities. Others will face reduced appeal from labor markets, giving rise to the K-shaped recovery. Workers with minimal skill concerning digital technologies are at particular risk. Internationally, a similar phenomenon has emerged, whereby poorer (and under-networked) economies are at risk of finding themselves in the lower branch of the potential K-shaped global recovery.

The smart use of technology is a crucial aspect towards turning the K-shaped recovery into a V-shape, helping create an inclusive and global recovery process. Such technology use must remain human-centric, with particular efforts in education (upskilling and reskilling, lifelong training) and governance (balancing the interests of business with those of social and longer-term economic strategies).

The NRI as a barometer of ongoing change

The Networked Readiness Index (NRI) was first published in 2002 by the World Economic Forum as part of the Global Information Technology Report. Over the last two decades, the NRI has provided a holistic view of how economies can deploy technology to enhance development and global competitiveness.

The NRI is the first technology framework to explicitly include the importance of governmental and societal factors in the formulation of digital strategies. In a major redesign of the NRI framework in 2019, current topical concerns of trust, governance, inclusivity, and impact on SDG goals were included in the model. The NRI framework continues to provide a simple yet holistic view of how economies can leverage the power of digital technologies while building sustainable and inclusive futures.

For this year's report, the NRI reviews some of the effects induced by the COVID-19

pandemic that contributed to the new pace and depth of digital transformation. Although it is early to predict the full impact of the digital change induced by COVID-19, the NRI provides a first glance at the potential significance of accelerated digital technologies on governments, businesses, and individuals. The data from the NRI analysis examines how economies have dealt with and continue to fare in the face of present-day challenges. Promising initiatives are visible across several regions, including enhancements to the quality and timeliness of information and efforts to improve digital literacy and digital skills. The information presented by the NRI can help determine the proper courses of action to ensure that the economic and social benefits of this enhanced digital revolution are distributed equally across the globe.

References

LaBerge, Laura, Clayton O'Toole, Jeremy Sneider, and Kate Smaje. "How COVID-19 Has Pushed Companies over the Technology Tipping Point--and Transformed Business Forever." McKinsey & Company. McKinsey & Company, February 18, 2021.

Ovide, Shira "'A Perfect Storm': Bonkers Dollars For Big Tech." The New York Times, April 29, 2021.

McKinsey Global Institute, "What's Next For Remote Work." McKinsey & Company, November 23, 2020. https://www.mckinsey.com/featured-insights/future-of-work/whats-next-for-remote-work-an-analysis-of-2000-tasks-800-jobs-and-nine-countries

Business Today. "India adds 28 unicorns in 2021 to take total to 66; over 3.3 lakh people employed." Business Today.IN, September 28, 2021.

Individuals using the Internet (% of population), ITU, https://data.worldbank.org/indicator/IT.NET.USER.ZS

Global Economy and Development program at Brookings Institute. 2021. "Bridging The Global Digital Divide: A Platform To Advance Digital Development In Low- And Middle-Income Countries". Brookings Global Working Paper #157.

International Telecommunication Union. "Bridging the Gender Divide", International Telecommunications Union, July 2021.

Global Economy and Development program at Brookings Institute. 2021. "Bridging The Global Digital Divide: A Platform To Advance Digital Development In Low- And Middle-Income Countries". Brookings Global Working Paper #157.

James Fitzgerald. "The Women Fighting For Digital Equality." BBC News, The BBC, May 21, 2021, https://www.bbc.com/news/technology-57193791

United Nations Conference on Trade and Development (2021). "Technology and Innovation Report 2021." UNCTAD.

Münch, Merlin. 2013. "Do as the Swedes do? Internet policy and regulation in Sweden – a snapshot". Alexander von Humboldt Institute for Internet and Society, Internet Policy Review 2. May 10, 2013.

KPMG, 2019. Encouraging 5G Investment: Lessons learnt from around the world.

UNICEF. "COVID-19: Are children able to continue learning during school closures?" UNICEF Data, August 2020.

World Bank. "How countries are using EdTech (including online learning, radio, television, texting) to support access to remote learning during the COVID-19 pandemic." 2020.

Urooj Aijaz. "Digital Transformation - a Way to Accelerate COVID Recovery." Pakistan & Gulf Economist. Karachi: Knowledge Bylines, n.d. 2020.

Federal Communications Commission. Emergency Broadband Benefit. Last modified September 8, 2021.

United Nations Conference on Trade and Development (2021). Technology and Innovation Report 2021. UNCTAD, 2021.

"Tanzania e-Government initiative with mobile

network operators." Compendium of Digital Government Initiatives.

The Luxembourg Government. "New Online Sales Platform For Vulnerable People". Government.Lu, 2021.

Weise, Karen. "Amazon's profit soars 220 percent as pandemic drives shopping online." The New York Times, April 29, 2021. https://www.nytimes.com/2021/04/29/technology/amazons-profits-triple.html.

United Nations Department of Economic and Social Affairs. "Leveraging Digital Technologies For Social Inclusion". Decade Of Action. 2021.

OECD, "The territorial impact of COVID-19: Managing the crisis across levels of government." OECD, 2021,

https://www.oecd.org/coronavirus/policy-responses/the-territorial-impact-of-covid-19-managing-the-crisis-across-levels-of-government-d3e314e1/

"Covid Money Tracker." Committee for a Responsible Federal Budget, 2021.

"The 2021-2027 EU Budget — What's New", European Commission, 2021.

Leika Kihara, Tetsushi Kajimoto. "Japan unveils $708 billion in fresh stimulus with eye on post-COVID growth." Reuters, 2020.

Back to TOC

Key Messages
NRI 2021



Key messages from the NRI 2021

1. **The pandemic turned digital transformation from a priority into a global imperative.** Over the past two years, the COVID-19 pandemic increased our dependence on technology and accelerated the inevitable process of digital transformation as many aspects of life moved online. The shift towards improved technological capability and integration presents an opportunity to build a better and more connected future in light of the "new normal". However, as societies usher in the new era of accelerated digital transformation, it is important to consider whether global inequalities concerning technology access and usage will subside or continue to expand. The swift shift towards an increased reliance on technology has caused recognizable social, economic, and political changes that will have a lasting impact.

2. **The new landscape of digital transformation is creating new divides that question the previous progress made towards reducing older gaps between distinct groups.** Divides in access exist not just between regions and economies but also remain persistent between genders. The digital gender divide continues to present a significant barrier to meaningful participation in a digital society, a barrier exacerbated by the effects of the pandemic. The rapid digitalization triggered by the COVID-19 pandemic uncovered gender gaps in Internet access, digital skills, participation in STEM fields, and innovation leadership (Brookings Institute, 2021). Equal access to digital technologies and skills is a step towards gender equality within the context of the Sustainable Development Goals. Greater inclusion of women and girls in these spaces can have far-reaching effects as it will encourage further participation in educational, economic, and entrepreneurial opportunities.

3. **Technology can help equalize the global recovery.** As a growing number of large economies adopt massive stimulus and fiscal packages, anticipating the shape that the global recovery will form becomes easier. Four primary areas emerge as likely to receive the bulk of such recovery efforts:

   a. **Health:** Since the effects of the pandemic are still highly visible and sensitive, funding for vaccines and other treatments, in addition to the re-hauling of national health systems, will be in order.

   b. **Greening of the economy:** National economy's willingness and capabilities to fight climate change will likely increase.

   c. **Infrastructure:** Labor-intensive employment in infrastructure could help combine nation priorities to fight unemployment and 'rebuild better'.

   d. **Digital transformation (of organizations and societies).** Out of all four recovery aspects, digital transformation cuts across and impacts each of the first three.

   If local and global inequalities start to grow again, it could diminish the long-term impact and sustainability of such stimulus packages. Fully leveraging technology and international cooperation should be top priorities for national economies as equalizing factors in the post-COVID recovery process (turning a K-shaped recovery to a global V-shaped one).

4. **Network readiness requires holistic approaches.** The leading countries in network readiness have balanced, dynamic economies that excel in multiple areas and demonstrate strong performances across all pillar dimensions of the NRI. Similar to previous years, seven of the top 10 overall ranking economies also rank in the top 10 in at least three of the four primary NRI pillars. Performance trends demonstrate the importance of adopting a holistic

approach towards advancing network readiness, as the four primary pillar areas are interdependent and reinforce each other. For example, as new technologies emerge during this era of digital transformation, factors such as governance and regulation (as well as mechanisms for disseminating these technologies among individuals, businesses, and governments) must keep pace. As the new digital economy becomes more established, the ability to integrate people and technology within the proper governance structures is key to fostering resilience and sustainability.

5. **Technology readiness remains fair at the regional level.** Although economies in higher-income region clusters remain the most network-ready, some of the most noteworthy efforts in overall performance identified this year are among the African countries of the middle and lower-income groups. Economies like South Africa (70th), Rwanda (101st), Nigeria (103rd), Mali (118th), and Madagascar (120th) display performances in certain NRI dimensions that are at par or even above some economies in the more developed regions of Asia and the Pacific, the Arab States, and Europe. In particular, economies that outperformed expectations showed higher prowess in governance, people, and technology. Still, this trend is less clear regarding impact, evidencing some of the pressing issues often endemic to emerging economies.

6. **Clear digital technology champions are helping bridge income group gaps.** China (29th), Ukraine (53rd), Vietnam (63rd), India (67th), and Rwanda (101st) are a few of the economies that continue to close the performance gap between income groups. China is the only upper-middle-income group economy that approached the cluster of high-income group economies featured in the top 25. In particular, China's output in areas of digital technology associated with people and impact is above the high-income group median performance. Similarly, Ukraine (a lower-middle-income group economy) stands out with a performance above the mean of the upper-middle-income group in all four primary pillars of network readiness (Technology, People, Governance, and Impact). Lower-middle-income group peers Vietnam and India display similar results in technology and impact, while Rwanda (a low-income group economy) closes the gap with the lower-middle-income economies when it comes to governance.

7. **Connectivity is not an end in itself - it is a tool designed to create value for societies.** Even among regions that have achieved Internet connectivity, barriers such as the speed of connection, availability, affordability of connected devices, and fragmented regulatory environments persist, barring individuals from leveraging the power of digital technologies to create economic and social value. While connectivity is critical, it is also important to go beyond and focus on additional aspects such as education (to improve skills and support content creation) and policies that support technological investments and innovation in businesses, both small and large. Lastly, it is crucial that economies tackle the digital divide to ensure Internet access contributes to equal opportunity, rather than becoming a means that increases social and economic inequality.

References

Global Economy and Development program at Brookings Institute. 2021. "Bridging The Global Digital Divide: A Platform To Advance Digital Development In Low- And Middle-Income Countries". Brookings Global Working Paper #157.

Back to TOC

Key Results of NRI 2021



The Top 10

Compared to previous years, the ranking of the top 10 performers in the NRI 2021 experienced some significant shifts in its composition. While the countries within the top 10 remain the same, specific countries made notable movements within the upper group. In particular, the Netherlands climbed three spots to take the top position from Sweden, which has held the number one position since 2019. The United States also shifted, increasing four rankings to earn a place among the top five for the first time in the 2019-2021 period. With Singapore falling out of the top five, four out of the five most network-ready economies in 2021 are from Europe.

The top 10 performers all demonstrate solid performance metrics across the highest number of dimensions of the NRI. They all rank as the top 20 countries on each of the four primary pillars (Technology, People, Governance, Impact) and on at least two-thirds of the twelve sub-pillars. In particular, top performers rank well on the prominent indicators of Future Technologies, Economy, and Trust. All of the top 10 countries are high-income economies characterized by significant investment in emerging technologies and successful adoption of information and communications technologies (ICTs) by governments, businesses, and individuals. In terms of regional distribution, Europe leads with eight top ten countries, while Singapore and the United States represent the only economies located in Asia and the Pacific and the Americas, respectively.

TABLE 1: TOP 10 PERFORMERS IN NRI 2021

			PILLARS			
Economy	**NRI Rank**	**NRI Score**	**Technology**	**People**	**Governance**	**Impact**
Netherlands	1	82.06	3	7	2	3
Sweden	2	81.57	4	4	5	2
Denmark	3	81.24	7	2	3	7
United States	4	81.09	1	5	7	16
Finland	5	80.47	10	3	4	5
Switzerland	6	80.20	2	12	11	6
Singapore	7	80.01	8	9	12	1
Germany	8	78.95	5	8	13	10
Norway	9	78.49	13	6	1	11
United Kingdom	10	76.60	6	16	14	9

Source: Network Readiness Index Database, Portulans Institute, 2021.

Regional Leaders

The top three countries in each region capture the performance divide that exists among different regions. Europe continues to lead with four countries in the global top five, while Africa remains the most laggard regional group. The Netherlands is the top performer in Europe as well as the top performer in the overall NRI rankings. The United Arab Emirates, Singapore, the Russian Federation, and the United States continue to lead in their respective regions. South Africa earned the top position in Africa this year.

TABLE 2: NRI 2021 TOP 3 COUNTRIES BY REGION

Africa	Arab States	Asia & Pacific	CIS	Europe	The Americas
1. South Africa (70)	1. United Arab Emirates (34)	1. Singapore (7)	1. Russian Federation (43)	1. Netherlands (1)	1. United States (4)
2. Mauritius (71)	2. Saudi Arabia (40)	2. Korea, Rep. (12)	2. Armenia (60)	2. Sweden (2)	2. Canada (11)
3. Kenya (84)	3. Qatar (42)	3. Australia (13)	3. Kazakhstan (61)	3. Denmark (3)	3. Chile (44)

Note: Global ranks in parentheses. CIS = Commonwealth of Independent States.

Source: Network Readiness Index Database, Portulans Institute, 2021.

Income group leaders

The top performers of each income group reflect the strong correlation between income levels and network readiness present in the NRI 2021. High-income groups dominate the top quartile and earn the top three spots in the overall index ranking. China is the only country in the upper-middle-income group economies to rank in the upper quartile. Ukraine and Vietnam are the only lower-middle-income economies that make it into the upper half of the NRI rankings.

China (ranked 29th) and India (ranked 67th) experienced a performance boost this year in part from more precise measurements (for more details, see the next section Continuing to improve the NRI model on page) and due to their advanced tech sectors. Both countries are home to some of the most innovative global businesses and organizations. Of note, both China and India have a network readiness greater than expected from their income levels upon final analysis.

TABLE 3: NRI 2021 TOP 3 COUNTRIES BY INCOME GROUP

High-income	Upper middle-income	Lower middle-income	Low-income
1. Netherlands (1)	1. China (29)	1. Ukraine (53)	1. Rwanda (101)
2. Sweden (2)	2. Malaysia (38)	2. Viet Nam (63)	2. Tajikistan (111)
3. Denmark (3)	3. Russian Federation (43)	3. India (67)	3. Gambia (113)

Note: Global ranks in parentheses (Detailed results can be found in next section).

Source: Network Readiness Index Database, Portulans Institute, 2021.

Continuing to improve the NRI model

The pace of digital transformation demands a continual reexamination of the sources that enrich the NRI model. Similar to the renewal process of 2019, the NRI team examined multiple general and technology-specific sources to identify novel indicators that can help measure and assess the dynamic landscape of digital transformation and network readiness.

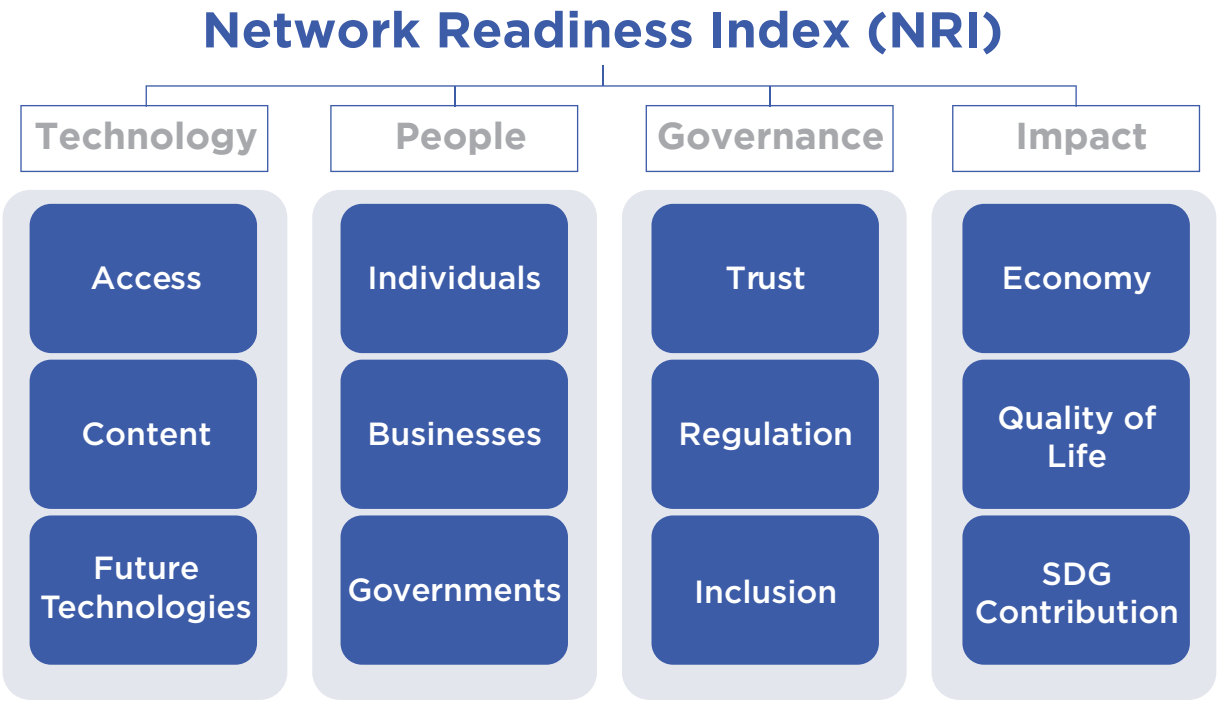
Improvements to the NRI occurred through the replacement, development, or inclusion of coherent metrics, but the main concept underlying the NRI model remained constant.

Improvement relies on the notion that our collective future will require a harmonious integration of People and Technology. As Technology continues to evolve, its interaction with People will increase, and both Technology and People will collaborate as partners on both social and business planes. To ensure the effectiveness of such integration, implementing appropriate governance mechanisms that address issues related to trust, security, and inclusion must continue. The ultimate objective for the improvement of technology is threefold:

1. To have a positive impact on the economy
2. To have a positive impact on a country's quality of life
3. To help a country achieve all Sustainable Development Goals (SDGs)

Each of these objectives reflects the goals agreed upon by the United Nations for a better and more sustainable future.

FIGURE 1: THE NRI 2021 MODEL



Source: Network Readiness Index Database, Portulans Institute, 2021.

The Network Readiness Index

For the 2021 NRI Report, three primary principles defined by the NRI Technical Advisory Group in 2019 once again serve as a guideline to keep the NRI model future-proof:

1. To maintain continuity with the major components of the NRI from previous years.
2. To reflect the current issues concerning ICT deployment that the NRI model of 2016 or previous models did not capture adequately.
3. To future-proof the NRI model regardless of developing future technology trends.

The NRI 2021 model reflects its staple four-pillar structure: Technology, People, Governance, and Impact. Each pillar consists of three sub-pillars depicted in Figure 1.

The structure of the pillars and sub-pillars of the NRI model deserves an in-depth explanation[1].

Technology

Technology is at the heart of the network economy. Therefore, as a primary category of the NRI, the Technology pillar seeks to assess the level of technology that is a ***sine qua non*** for a country to participate in the global economy. Three sub-pillars accomplish the Technology pillar's purpose:

- Access: The fundamental access level to ICT in countries, including issues about communications infrastructure and affordability.
- Content: The type of digital technology produced in countries and the content/applications that can be deployed locally, including research on the subject derived from scientific and technical articles.
- Future Technologies: The extent that countries have prepared for the future of the network economy and new technology trends such as Artificial Intelligence (AI) and the Internet of Things (IoT).

As expected, large economies and tech hubs dominate both top 10 rankings. The United States reports the highest number of GitHub commits by far, followed by Germany, China, and the United Kingdom. As for cities, London saw the most frequent GitHub commits, accounting for more than two-fifths of the total in the country, followed by New York and San Francisco.[iii]

The results echo some of the central findings in this year's NRI report, suggesting a divide between outcomes from economies among higher-income groups and countries/cities located in the middle and lower-income groups. When it comes to economies, surprisingly, those in Africa such as South Africa (36th in absolute number of GitHub commits), Nigeria (45th), and Kenya (50th) rank closer to the top 10 than those among the Arab States such as Egypt (52nd), the United Arab Emirates, UAE (67th), and Morocco (75th).

A closer look at the commit numbers at the city level shows Moscow, Russian Federation (11th) in the CIS region with a performance that falls just outside of the top 10. Once again, urban areas in Africa like Lagos, Nigeria (95th), Cape Town, South Africa (102nd), and Nairobi, Kenya (106th) earn ranks above large urban spots in the Arab States such as Cairo, Egypt (203rd), and Dubai, UAE (219th).

From an income group perspective, China (3rd) and India (7th) are the only two economies in the top 10 GitHub commits

1 Primary updates to the NRI 2021 apply across five sub-pillars: Access, Future Technologies, Individuals, Businesses, Economy, and SDG Contribution. A total of 60 indicators populate all 12 sub-pillars in the NRI. Details about any improvements within the complete list of indicators are found in Appendix I: Technical Notes and Appendix II: Sources and Definitions.

indicator rankings that are not among the high-income group. They are part of the upper-middle and lower-middle-income group economies, respectively. In addition to Moscow, the two non-top 10 ranked cities within upper-middle-income group economies are Hangzhou, China (22th) and Shenzhen, China (27th). Among the cities located within lower-income group economies, India dominates with four out of the five highest-ranked city rankings: Bengaluru (14th), Hyderabad (53rd), New Delhi (65th), and Mumbai (69th).

The top cities within low-income group economies are all located in Africa, with the top three consisting of Kampala, Uganda (299th), Addis Ababa, Ethiopia (893rd), and Kigali, Rwanda (1049th). See tables in Box A-I.1 in Appendix I for more information.

In addition to supporting the robust and informative value of this indicator, such results offer additional elements that corroborate the existence of technology gaps among economies at different levels of development. Yet, the data also provides an additional perspective that suggests the efforts for achieving higher levels of technology readiness remain inclusive at the global stage.

[i] Ojanperä, Graham, and Zook (2019) estimate that one-quarter of users can be geolocated—accounting for some 45 percent of all commits—but argue that this limitation does not entail any significant geographic biases.

[ii] Results are different when values are scaled by population. These results show values for dates between January 1, 2018, and December 31, 2018.

[iii] In the context of cities, it is important to note that the definition of an urban area is not always straightforward. The cities analyzed often refer to the urban center rather than the metropolitan area. The analysis complicates further by the discretion that users enjoy with respect to registering their city (the urban neighborhood versus the metropolitan area, the city of residence versus the city of employment).

People

The prevalence and quality of technology reflect countries' (and any organization's) skill, access, and ability to utilize technology resources in productive ways. Therefore, the People pillar measures how people apply ICT at three levels of analysis: individuals, businesses, and governments.

- Individuals: how individuals use technology and leverage their skills to participate in the network economy.
- Businesses: How businesses use ICT and participate in the network economy.
- Governments: How governments use and invest in ICT for the benefit of the general population.

Governance

Governance refers to the structures that uphold an integrated network for the safety and security of its users. Therefore, the Governance pillar concerns the establishment and accessibility of systems that promote activity within the network economy across three levels:

- Trust: The safety of individuals and firms in the context of the network economy, reflected in an environment conducive to trust and the trusting behavior of the population.
- Regulation: The extent to which a government promotes participation in the network economy through regulation, policy, and planning.
- Inclusion: The digital divides within countries where governance can address issues such as inequality based on gender, disabilities, and socioeconomic status.

Impact

Readiness in the network economy is a means to improve the growth and well-being of society and the economy in general. Therefore, the Impact pillar seeks to assess the economic, social, and human impact of participation in the network economy across three levels:

- Economy: The economic impact of participating in the network economy.
- Quality of life: The social impact of participating in the network economy.
- SDG contribution: The impact of participating in the network economy within the context of SDGs. ICT has a critical role within the network economy and receives particular focus with indicators integrated across health, education, and the environment.

Back to TOC

Detailed Results of NRI 2021



Detailed Results

Overall rankings

The Network Readiness Index 2021 ranks a total of 130 economies. The Netherlands moved up three positions from last year and, for the first time, emerged as the most network-ready economy, followed by Sweden and Denmark that swapped spots (Table 1). The United States experienced the most positive movement among the top 10 economies, surging from the eighth rank to fourth. Finland rounded out the top five, moving up one position from sixth. For the remaining top 10 Switzerland moved down from 5th to 6th, Singapore dropped from 3rd to 7th, Germany shifted up one spot to 8th, Norway bumped two spots from 9th to 7th, and the United Kingdom held its position from the 2020 NRI at 10th.

The top 10 performers in the NRI 2021 confirm that advanced economies in Europe, the Americas, and Asia and the Pacific are the world's most network-ready societies. Out of the top 25 countries, 17 are from Europe (primarily Northern and Western Europe), three are from Eastern and Southeastern Asia (Singapore, the Republic of Korea, and Japan), two are from Oceania (Australia and New Zealand), two are in North America (Canada and the United States), and one in Western Asia (Israel).

TABLE 1: NRI 2021 RANKINGS, SCORES, INCOME GROUP AND REGION

Rank	Economy	Score	Income group	Region
1	**Netherlands**	82.06	High-income	Europe
2	**Sweden**	81.57	High-income	Europe
3	**Denmark**	81.24	High-income	Europe
4	**United States**	81.09	High-income	The Americas
5	**Finland**	80.47	High-income	Europe
6	**Switzerland**	80.20	High-income	Europe
7	**Singapore**	80.01	High-income	Asia & Pacific
8	**Germany**	78.95	High-income	Europe
9	**Norway**	78.49	High-income	Europe
10	**United Kingdom**	76.60	High-income	Europe
11	**Canada**	76.48	High-income	The Americas
12	**Korea, Rep.**	75.56	High-income	Asia & Pacific
13	**Australia**	74.96	High-income	Asia & Pacific
14	**France**	74.79	High-income	Europe
15	**Austria**	74.37	High-income	Europe
16	**Japan**	73.92	High-income	Asia & Pacific
17	**Luxembourg**	73.79	High-income	Europe
18	**Belgium**	72.57	High-income	Europe
19	**Ireland**	72.26	High-income	Europe
20	**New Zealand**	72.00	High-income	Asia & Pacific

Rank	Economy	Score	Income group	Region
21	**Estonia**	71.62	High-income	Europe
22	**Israel**	71.51	High-income	Europe
23	**Spain**	69.94	High-income	Europe
24	**Czech Republic**	68.11	High-income	Europe
25	**Iceland**	67.69	High-income	Europe
26	**Slovenia**	67.30	High-income	Europe
27	**Malta**	66.30	High-income	Europe
28	**Italy**	66.25	High-income	Europe
29	**China**	65.62	Upper middle-income	Asia & Pacific
30	**Lithuania**	65.32	High-income	Europe
31	**Portugal**	65.20	High-income	Europe
32	**Hong Kong (China)**	64.91	High-income	Asia & Pacific
33	**Poland**	64.33	High-income	Europe
34	**United Arab Emirates**	63.92	High-income	Arab States
35	**Slovakia**	62.45	High-income	Europe
36	**Latvia**	62.16	High-income	Europe
37	**Hungary**	62.14	High-income	Europe
38	**Malaysia**	61.26	Upper middle-income	Asia & Pacific
39	**Cyprus**	61.09	High-income	Europe
40	**Saudi Arabia**	60.23	High-income	Arab States
41	**Croatia**	58.29	High-income	Europe
42	**Qatar**	57.83	High-income	Arab States
43	**Russian Federation**	57.74	Upper middle-income	CIS
44	**Chile**	56.89	High-income	The Americas
45	**Turkey**	56.88	Upper middle-income	Europe
46	**Greece**	56.64	High-income	Europe
47	**Romania**	56.54	High-income	Europe
48	**Oman**	56.38	High-income	Arab States
49	**Uruguay**	56.38	High-income	The Americas
50	**Bulgaria**	56.17	Upper middle-income	Europe
51	**Bahrain**	56.09	High-income	Arab States
52	**Brazil**	55.86	Upper middle-income	The Americas
53	**Ukraine**	55.70	Lower middle-income	Europe
54	**Thailand**	55.31	Upper middle-income	Asia & Pacific
55	**Kuwait**	54.61	High-income	Arab States
56	**Costa Rica**	53.81	Upper middle-income	The Americas
57	**Serbia**	53.60	Upper middle-income	Europe
58	**Argentina**	52.92	Upper middle-income	The Americas
59	**Mexico**	52.57	Upper middle-income	The Americas

Rank	Economy	Score	Income group	Region
60	**Armenia**	52.51	Upper middle-income	CIS
61	**Kazakhstan**	52.17	Upper middle-income	CIS
62	**Montenegro**	51.17	Upper middle-income	Europe
63	**Viet Nam**	51.08	Lower middle-income	Asia & Pacific
64	**North Macedonia**	50.63	Upper middle-income	Europe
65	**Colombia**	50.55	Upper middle-income	The Americas
66	**Indonesia**	50.37	Upper middle-income	Asia & Pacific
67	**India**	49.74	Lower middle-income	Asia & Pacific
68	**Georgia**	49.10	Upper middle-income	Europe
69	**Moldova**	49.07	Lower middle-income	Europe
70	**South Africa**	48.88	Upper middle-income	Africa
71	**Mauritius**	48.34	High-income	Africa
72	**Jordan**	48.14	Upper middle-income	Arab States
73	**Peru**	47.96	Upper middle-income	The Americas
74	**Jamaica**	47.95	Upper middle-income	The Americas
75	**Panama**	47.76	High-income	The Americas
76	**Azerbaijan**	47.56	Upper middle-income	CIS
77	**Egypt**	47.56	Lower middle-income	Arab States
78	**Sri Lanka**	46.94	Lower middle-income	Asia & Pacific
79	**Iran, Islamic Rep.**	46.29	Upper middle-income	Asia & Pacific
80	**Albania**	46.07	Upper middle-income	Europe
81	**Morocco**	46.06	Lower middle-income	Arab States
82	**Dominican Republic**	45.33	Upper middle-income	The Americas
83	**Philippines**	45.27	Lower middle-income	Asia & Pacific
84	**Kenya**	45.18	Lower middle-income	Africa
85	**Trinidad and Tobago**	44.80	High-income	The Americas
86	**Bosnia and Herzegovina**	44.71	Upper middle-income	Europe
87	**Tunisia**	44.33	Lower middle-income	Arab States
88	**Paraguay**	43.36	Upper middle-income	The Americas
89	**Mongolia**	43.21	Lower middle-income	Asia & Pacific
90	**Ecuador**	42.74	Upper middle-income	The Americas
91	**Cabo Verde**	42.33	Lower middle-income	Africa
92	**Kyrgyzstan**	42.22	Lower middle-income	CIS
93	**Lebanon**	42.16	Upper middle-income	Arab States
94	**Bolivia**	41.08	Lower middle-income	The Americas
95	**Bangladesh**	40.93	Lower middle-income	Asia & Pacific
96	**Ghana**	40.86	Lower middle-income	Africa
97	**Pakistan**	40.25	Lower middle-income	Asia & Pacific
98	**El Salvador**	40.14	Lower middle-income	The Americas
99	**Senegal**	39.48	Lower middle-income	Africa
100	**Algeria**	38.93	Lower middle-income	Arab States
101	**Rwanda**	38.65	Low-income	Africa
102	**Botswana**	38.03	Upper middle-income	Africa
103	**Nigeria**	37.51	Lower middle-income	Africa

Rank	Economy	Score	Income group	Region
104	**Honduras**	37.37	Lower middle-income	The Americas
105	**Guatemala**	37.35	Upper middle-income	The Americas
106	**Cambodia**	36.39	Lower middle-income	Asia & Pacific
107	**Tanzania**	35.83	Lower middle-income	Africa
108	**Côte d'Ivoire**	35.69	Lower middle-income	Africa
109	**Namibia**	35.66	Upper middle-income	Africa
110	**Lao PDR**	35.64	Lower middle-income	Asia & Pacific
111	**Tajikistan**	34.55	Low-income	CIS
112	**Zambia**	33.93	Lower middle-income	Africa
113	**Gambia**	33.68	Low-income	Africa
114	**Cameroon**	32.76	Lower middle-income	Africa
115	**Nepal**	32.36	Lower middle-income	Asia & Pacific
116	**Uganda**	31.51	Low-income	Africa
117	**Burkina Faso**	30.54	Low-income	Africa
118	**Mali**	30.40	Low-income	Africa
119	**Malawi**	29.00	Low-income	Africa
120	**Madagascar**	28.80	Low-income	Africa
121	**Eswatini**	28.76	Lower middle-income	Africa
122	**Zimbabwe**	28.74	Lower middle-income	Africa
123	**Lesotho**	28.56	Lower middle-income	Africa
124	**Guinea**	28.50	Low-income	Africa
125	**Mozambique**	26.55	Low-income	Africa
126	**Angola**	25.99	Lower middle-income	Africa
127	**Ethiopia**	24.90	Low-income	Africa
128	**Burundi**	22.48	Low-income	Africa
129	**Congo, Dem. Rep.**	22.31	Low-income	Africa
130	**Chad**	21.85	Low-income	Africa

Note: CIS = Commonwealth of Independent States.

Source: Network Readiness Index Database, Portulans Institute, 2021.

Pillar-level performances

Top performers in the overall rankings demonstrate positive scores across the four primary pillars of the NRI: Technology, People, Governance, and Impact. It is typical for the best-performing countries in the index to rank well in each of the different pillar dimensions. However, the count of top 10 economies with at least three top-ten pillar rankings dropped by one from eight to seven in 2021. A similar aspect occurs at the lower rankings, with six of the last 10 economies having at least three pillars among the bottom 10 rankings. As a recurrent finding, this demonstrates the relevance of multidimensional approaches to network readiness improvements. It also hints at a broad range of issues that can help economies strengthen strategy and design policies that lead to a faster pace of digital transformation.

Although similarities become evident among the high performers, analysis confirms that their operations do not differ much within the fundamental sub-pillars such as Future technologies, Trust, Regulation, and Quality of life. Differences may become more apparent regarding the particulars of each sub-pillar associated with the economy, individuals, or their governments, including aspects such as the research on and the adoption of emerging technologies.

Economies featured lower in the NRI rankings demonstrate different priorities, with Governance and Technology pillars more relevant to middle-ranked countries. Countries in this segment of the NRI could improve the balance of their pillar performances by increasing the current levels of trust, access, and skillset expansion towards network readiness.

Technology: The United States emerges as the highest-ranking economy in the Technology pillar, supported by the top score in the Future Technologies sub-pillar and two top-five rankings in Access (2nd) and Content (4th). Switzerland and the Netherlands also display notable performances in Technology, ranking second and third respectively. Both economies exhibit particular strength in the Content sub-pillar, with Switzerland in the first-place position and the Netherlands in second. Australia earned the top spot in the Access sub-pillar, attributed to its balanced levels of mobile tariffs and the affordability of its handset prices.

People: The Republic of Korea leads the People pillar, supported by top five rankings across all three sub-pillars and positive performances concerning Businesses and Governments. Despite the Republic of Korea's positive scores, Japan earned the top spot in the Businesses sub-pillar, due to high levels of gross expenditure on R&D financed by business enterprises, technicians, and associate professionals. Denmark ranks second behind the Republic of Korea in the People pillar and showcases leadership in the Government sub-pillar with the greatest investment in R&D by governments and higher education. Turkey emerges as a leader in the Individuals sub-pillar, supported by high levels of tertiary enrollment. Finland and Sweden display strong performances in People as well, driven by positive scores concerning their prevalence of online services in business and government. The United States rounds out the top 5, leading when it comes to investment in telecommunication services.

Governance: Northern European countries dominate the Governance pillar, with Norway remaining the top-ranked economy supported by a top rank in the Regulation sub-pillar. The Netherlands earned second position, driven by a strong performance in the Trust pillar, even with Denmark taking first place. Denmark also claimed the top spot in the Secure Internet servers and Internet shopping indicators to best a second-place performance in the Online access to a financial account indicator. Finland and Sweden round out the top 5

with sophisticated displays of Governance, attributed to strong performances in the Adaptability of legal frameworks to the challenges presented by emerging technologies indicator. Singapore earned first rank in the Inclusion sub-pillar with marked improvements in Internet access gaps between genders and rural populations.

Impact: Singapore maintains its dominance in the Impact pillar, ranking first in both Economy and SDG Contribution sub-pillars. The strong performance results from the country's efficiency in high-tech and medium-high tech manufacturing, a continued emphasis on high-quality education, and a focus on sustainability in its cities and communities. Sweden, an economy driven by sustainability, ranks second behind Singapore. The Netherlands ranks third, whose prevalent gig economy stands out with high scores. Ireland ranks fourth in Impact, in part attributed to its ICT services exports and the availability of affordable and clean energy within the country. Finland rounds out the top 5, emerging as the global leader in its quality of life ranking, where citizens enjoy a strong sense of happiness and freedom to make life choices.

TABLE 2: NRI 2021 RANKINGS BY PILLAR

Economy	NRI ranking	Technology	People	Governance	Impact
Netherlands	1	3	7	2	3
Sweden	2	4	4	5	2
Denmark	3	7	2	3	7
United States	4	1	5	7	16
Finland	5	10	3	4	5
Switzerland	6	2	12	11	6
Singapore	7	8	9	12	1
Germany	8	5	8	13	10
Norway	9	13	6	1	11
United Kingdom	10	6	16	14	9
Canada	11	9	15	6	20
Korea, Rep.	12	20	1	17	18
Australia	13	15	13	10	23
France	14	14	14	16	14
Austria	15	17	10	18	19
Japan	16	16	11	24	15
Luxembourg	17	11	19	15	25
Belgium	18	19	18	19	17
Ireland	19	18	33	21	4

Economy	NRI ranking	Technology	People	Governance	Impact
New Zealand	20	24	17	8	26
Estonia	21	27	23	9	12
Israel	22	21	22	28	8
Spain	23	22	21	22	28
Czech Republic	24	23	36	25	21
Iceland	25	25	34	23	24
Slovenia	26	32	24	29	22
Malta	27	29	29	33	27
Italy	28	26	28	31	35
China	29	33	20	45	13
Lithuania	30	40	26	20	33
Portugal	31	31	30	32	31
Hong Kong (China)	32	12	32	34	71
Poland	33	36	42	26	29
United Arab Emirates	34	28	25	39	41
Slovakia	35	38	51	30	30
Latvia	36	41	52	27	32
Hungary	37	34	44	38	36
Malaysia	38	37	39	40	38
Cyprus	39	52	43	35	34
Saudi Arabia	40	30	27	43	66
Croatia	41	64	46	37	40
Qatar	42	35	69	36	57
Russian Federation	43	39	35	54	51
Chile	44	54	38	42	61
Turkey	45	46	31	48	74
Greece	46	51	40	44	59
Romania	47	43	53	55	39
Oman	48	60	62	41	46
Uruguay	49	42	45	53	54
Bulgaria	50	56	50	47	48
Bahrain	51	47	66	46	45
Brazil	52	53	37	49	70
Ukraine	53	50	48	57	47
Thailand	54	45	58	52	53
Kuwait	55	59	55	63	37
Costa Rica	56	55	78	56	42
Serbia	57	71	56	50	50
Argentina	58	66	41	62	69
Mexico	59	65	49	70	56
Armenia	60	58	47	72	60
Kazakhstan	61	68	54	60	58
Montenegro	62	44	68	64	82
Viet Nam	63	61	80	73	44

Economy	NRI ranking	Technology	People	Governance	Impact
North Macedonia	64	85	72	61	43
Colombia	65	67	64	71	67
Indonesia	66	48	79	68	79
India	67	49	73	82	63
Georgia	68	77	67	65	80
Moldova	69	89	74	67	55
South Africa	70	63	70	51	103
Mauritius	71	79	87	58	72
Jordan	72	78	63	76	81
Peru	73	86	57	84	68
Jamaica	74	75	101	69	49
Panama	75	57	86	85	75
Azerbaijan	76	62	77	88	77
Egypt	77	72	75	90	62
Sri Lanka	78	74	85	78	76
Iran, Islamic Rep.	79	70	71	77	99
Albania	80	84	61	95	83
Morocco	81	69	88	97	64
Dominican Republic	82	99	65	66	97
Philippines	83	97	81	91	52
Kenya	84	83	83	59	106
Trinidad and Tobago	85	88	82	79	90
Bosnia and Herzegovina	86	80	93	81	86
Tunisia	87	81	76	98	88
Paraguay	88	101	84	80	89
Mongolia	89	93	94	75	93
Ecuador	90	87	90	100	84
Cabo Verde	91	82	96	87	96
Kyrgyzstan	92	110	92	93	65
Lebanon	93	76	60	115	107
Bolivia	94	105	59	110	91
Bangladesh	95	94	104	92	85
Ghana	96	103	98	74	102
Pakistan	97	73	105	108	92
El Salvador	98	106	95	102	78
Senegal	99	95	108	89	98
Algeria	100	90	89	118	101
Rwanda	101	107	103	86	100
Botswana	102	91	99	101	115
Nigeria	103	100	91	105	111
Honduras	104	108	97	103	104

Economy	NRI ranking	Technology	People	Governance	Impact
Guatemala	105	102	113	106	87
Cambodia	106	98	107	120	94
Tanzania	107	109	116	83	114
Côte d'Ivoire	108	111	117	96	105
Namibia	109	104	102	104	116
Lao PDR	110	92	100	126	95
Tajikistan	111	118	120	119	73
Zambia	112	114	106	99	120
Gambia	113	96	125	109	109
Cameroon	114	112	109	121	110
Nepal	115	123	112	111	108
Uganda	116	120	126	94	121
Burkina Faso	117	128	110	112	117
Mali	118	115	128	114	112
Malawi	119	127	118	113	119
Madagascar	120	122	119	117	122
Eswatini	121	119	111	124	124
Zimbabwe	122	113	114	116	129
Lesotho	123	116	123	107	128
Guinea	124	117	124	125	118
Mozambique	125	121	122	123	126
Angola	126	124	115	122	130
Ethiopia	127	125	129	128	113
Burundi	128	126	127	129	127
Congo, Dem. Rep.	129	129	121	130	125
Chad	130	130	130	127	123

Source: Network Readiness Index Database, Portulans Institute, 2021.

Top 10 NRI performers

While the top 10 countries from the NRI 2021 remained the same as the previous year, the exact rank of each economy changed (e.g. The Netherlands took the top spot from Sweden, while the United States entered the top five for the first time in the 2019 - 2021 period).

It is noteworthy that the top 10 performers are all high-income economies and do well across most pillar dimensions of NRI. Each of the top 10 countries achieves top 20 rankings across all four primary pillars (Technology, People, Governance, Impact) and does equally well on at least two-thirds of the 12 sub-pillars.

As for regional distribution, Singapore is the only top 10 country located in Asia or the Pacific, and the United States is the only society located in the Americas. The rest of the top 10 rankings consist of European countries.

A detailed look at the top ten performers can demonstrate the comparative strengths and weaknesses of each country's performance regarding network readiness.

1. The Netherlands ranked as the most network-ready society in the NRI for the first time since 2019. Even though the Netherlands does not take the top rankings in many primary or sub-pillar levels, it dominates the rankings with a well-rounded performance. The highest ranking achieved at the primary pillar level involved a second-place in Governance, a third place in Technology (3rd), and a third place in Impact (3rd). The country benefits from positive performances at the sub-pillar level due to world-class digital content creation (2nd place in the Content), and remarkable levels of trust (3rd place in the Trust) and regulation (4th in the Regulation). The Netherlands also holds one of the top scores in the Impact pillar (3rd) with solid performances in Economy (6th), Quality of Life (4th), and SDG Contribution (11th) sub-pillars, even if there is some room for improvement in regards to the Affordable and Clean Energy Indicator (45th rank). The Netherlands showed increases in the People primary pillar (7th) due to improvements in the Individuals sub-pillar. Enhanced measurements affected the use of ICTs among individuals, shifting the Individuals sub-pillar ranking from 20th in 2020 to 5th in 2021, resulting in a better overall performance.

2. Sweden achieved a top three rank again in the NRI 2021, albeit dropping one position from last year. Similar to the well-rounded ranks posted by the Netherlands, Sweden maintains a positive overall performance in all areas of network readiness. Sweden's highest position relates to the Impact (2nd) pillar, reflecting the country's global leader status when it comes to adopting and investing in technologies that improve the social and human aspects of the network economy. Other high-performance areas by Sweden include Happiness (7th), Freedom to make life choices (7th), Good Health and Well-Being (6th), Females employed with advanced degrees (7th), and the Sustainable cities and communities (6th) indicators. Sweden ranks in the top 10 in every sub-pillar except Access (15th) and Individuals (28th). Its best scores relate to the adoption of Future Technologies (2nd), Businesses (3rd) and Trust (5th) sub-pillars. The country also benefits from balanced and progressive regulation policies of ICTs (5th place in the Regulation sub-pillar) and displays substantial e-commerce legislation that earns a first place position in the E-commerce Legislation indicator. Some areas of opportunity for Sweden involve the use of digital technologies among individuals, most likely due to the low affordability of devices and connectivity options (the country ranked 33rd for the Handset prices indicator). Enhancing levels of cybersecurity

can also improve future rankings (Sweden placed 33rd in the Cybersecurity indicator).

3. Denmark maintains its top three ranking in the NRI 2021. Excellent scores in the Governments (1st) and Businesses (7th) sub-pillars reflect the extensive ICT use within the country and earn a second place ranking in the People pillar. Denmark also displays a high performance towards the Governance pillar (3rd), assisted by top rankings in Trust (1st) and Regulation (6th) sub-pillars showing a sophisticated regulatory framework of ICTs. On the other hand, Denmark can improve scores within the Impact (7th) pillar, where it placed 66th in the GDP per person engaged indicator, a weak performance in the context of high-income economies. Denmark also performs at lower levels than previously seen in the Technology (6th) pillar due to changes in ranking within the Access sub-pillar (21st). Although Denmark is the top-ranked society in the Population covered by at least a 3G mobile network indicator (1st), its overall access performance is affected by less than ideal scores in the Mobile tariffs (31st), Handset prices (46th), and SMS sent (42nd) indicators. The Inclusion sub-pillar can also afford an increase in rank, where a 43rd ranking in the Gender gap in Internet use indicator offset otherwise good indicator showings.

4. The United States climbed to the fourth spot in the NRI 2021, marking its first appearance in the top five network economies since 2019. The shift in overall performance stems from an impressive response in the Future Technologies sub-pillar (1st). The Impact pillar (16) is the only pillar where the US does not rank among the top 10, but the country maintains a comprehensive performance in the Access (2nd), Content (4th), and Trust (4th) sub-pillars, among others. Consistent and robust investments in emerging Technologies (the country ranks first in the Emerging Technologies indicator) explain the United States' key score advantage, further boosted by the general availability and affordability of devices (the US takes first place in the Handset prices indicator as well). The US also excels at generating digital content, likely contributing to its top overall performance in the Technology pillar. The US can improve its performance in the Governance pillar (7th) if it focuses on its low comparative score in the Regulation sub-pillar (19th). To better compete with its European counterparts, the United States would benefit from enhanced legal protection of privacy that can increase its low rank in the Privacy protection by law content indicator (76th). Similar to last year, the country's worst performance at the pillar level concerns Impact (16th), and better showings in Income inequality (81st), Affordable Clean Energy (83rd), and Quality of Life indicators (45th) would contribute to elevated scores.

5. Finland also climbed to the top five in the NRI 2021. Overall, the country performed well, earning top five positions in all pillars except for a ninth-place rank in Technology. Finland's best pillar-level performance occurred in the People pillar (3rd), set up by strong adoption of digital services by businesses, a high number of firms with websites, and the effective use of ICTs by governments. Performances translated into an eighth position ranking in the Businesses sub-pillar, a third in the Governments sub-pillar, and a first in the Firms with a website indicator. Still, Finland achieves its best sub-pillar performance in Regulation (2nd), supported by balanced scores in the E-commerce legislation and Emerging Technologies indicators (both ranked 1st). Finland's weaker rankings relate to the Technology pillar (10th) due to overlooked access to ICTs and SMS sent by the population (13th position for the Access Sub-pillar and 77th for the SMS sent indicator). As for the Impact (5th) pillar, a weaker performance

in the SDG contribution sub-pillar (13th) dampens the impressive showings in the Quality of Life indicator (1st). Finland can enhance the role of digital technologies in promoting sustainable development for a better overall score, as the Impact pillar is currently lowered by an uncharacteristically weak showing in the Affordable and Clean Energy indicator (104th).

6. Switzerland falls outside of the top five with an overall ranking that is a fraction lower than Finland. The country's best performance on the pillar level relates to Technology (2nd), where it earns a first in Content indicator (1st) and a fourth in the Investment in emerging technologies (4th). Switzerland also performs well with regards to the effect of digital technologies on its society, leading to a sixth place ranking in the Impact pillar. Impact rankings are supported by advanced scores in Economy (7th), Quality of Life (8th), and SDG Contribution (8th) indicators. When it comes to the People (12th) and Governance (11th) pillars, Switzerland shows some room for improvement compared to other high-income peers (which could explain its drop in rankings). The country performs well concerning the adoption of ICTs by businesses (5th in the Businesses indicator), but scores are slightly offset by less impressive results in the Government sub-pillar (17th). As for the Governance primary pillar (11th rank), Switzerland benefits from an improved regulatory framework for ICTs (3rd in Regulation sub-pillar) in addition to good rankings in the E-commerce legislation (1st) and the Privacy protection (5th) indicators. The strong showings in the Governance pillar are offset by a weak score in the Inclusion sub-pillar (15th), reflecting a less than ideal Gender gap in Internet use (64th) and a Rural gap in use of digital payments (27th) indicator ranks.

7. Singapore ranking in the NRI 2021 dropped by five positions, and the city-state finds itself out of the top three network-ready economies for the first time since 2019. But Singapore still shows an overall strong performance in all pillars, with Governance (12th) as the only area where it ranks outside the top 10. Singapore is second to none when it comes to the Impact (1st) pillar and the positive effect of digital technologies on its society, reflected by first place scores in the Economy and SDG contributions sub-pillars (Singapore maintains its impressive investment in sustainable development). Singapore's other strength relates to the Technology pillar (8th) due to accessible ICTs (3rd in the Access sub-pillar) and robust financing of future tech (4th place in the Future Technologies sub-pillar). However, there is a possibility for further improvements in digital content creation (Singapore ranked 23rd in the Publication and use of open data indicator). Singapore did score well in the People pillar (9th) because of an impressive fourth place rank in the Governments sub-pillar, but performances in the Individuals (11th) and Businesses (16th) sub-pillars are lower than years previous and appear to have impacted overall performance. Singapore can improve its rank most within the Governance primary pillar (12th) where low levels of trust towards the digital economy (19th in the Trust sub-pillar) offset impressive showings in the Inclusion (1st) sub-pillar and the Rural gap in the use of digital payments indicator (2nd). Singapore has the opportunity to change its score in the Regulation sub-pillar (10th) with a better showing in the Privacy protection by law content indicator (95th), an area currently led by its regional peers.

8. Germany remains in the top 10 with a strong overall performance across all primary pillars. The country scores best in the Technology pillar (5th), while its weakest showing is in Governance (13th), the only pillar where Germany earns a primary pillar rank outside of the top 10. Positive scores in the Technology pillar stem from notable

investments in future tech (Germany ranked 3rd in the Future Technologies sub-pillar) and the widespread production of digital content (6th in the Content sub-pillar). Germany could improve its overall score in the Technology pillar with better performances in the Access sub-pillar (24th), where relatively less affordable ICTs (26th in the Handset prices indicator) and their use (SMS sent) dampen results. Germany displays some strength in the People pillar (8th) with mixed rankings in its three sub-pillars: Business (4th), Governments (14th), and Individuals (23rd). Each sub-pillar reflects the high usage of ICTs among businesses amongst the limited usage by Governments and Individuals. As for the Governance pillar (13th), more focus on the Inclusion sub-pillar can increase rankings, as the country has the opportunity to improve upon the Gender gap in Internet use (69th indicator ranking) and low overall levels of E-participation (56th indicator ranking).

9. Norway maintains its global leadership in the Governance pillar (1st) due to its progressive ICT regulation and a high level of public trust (scoring first in the Regulation sub-pillar and second in the Trust sub-pillars). Norway also shows well within the People pillar (6th), driven by widespread usage of ICTs amongst individuals (9th) and one of the world's most digitally engaged governments (scoring ninth in Individuals sub-pillar and third in Governments sub-pillars). However, the country can increase the adoption of technology by businesses (18th in the Business sub-pillar) with particular reference to the Active mobile broadband subscriptions indicator(76th), as it currently holds down the overall score in the People pillar. Norway ranks 11th in the Impact Pillar, attributed to high scores in the Quality of Life and Contribution to the SDGs indicators (both ranked 3rd). A weak performance in the Economy sub-pillar (33rd) counterbalances scores in the Impact pillar where significant opportunities for improvement regarding the ICT services exports indicator (62nd) and labor productivity as measured by the growth rate of GDP (69th in the GDP per person engaged indicator) exist. Norway's Technology (13th) pillar shows development potential in the Future Technologies sub-pillar (37th), especially with the low rank in the Robot density indicator (26th). However, the country maintains a solid performance toward ICT access (7th in the Access Sub-pillar) and digital content creation (3rd in the Content Sub-pillar), both of which guarantee Norway's top 10 position.

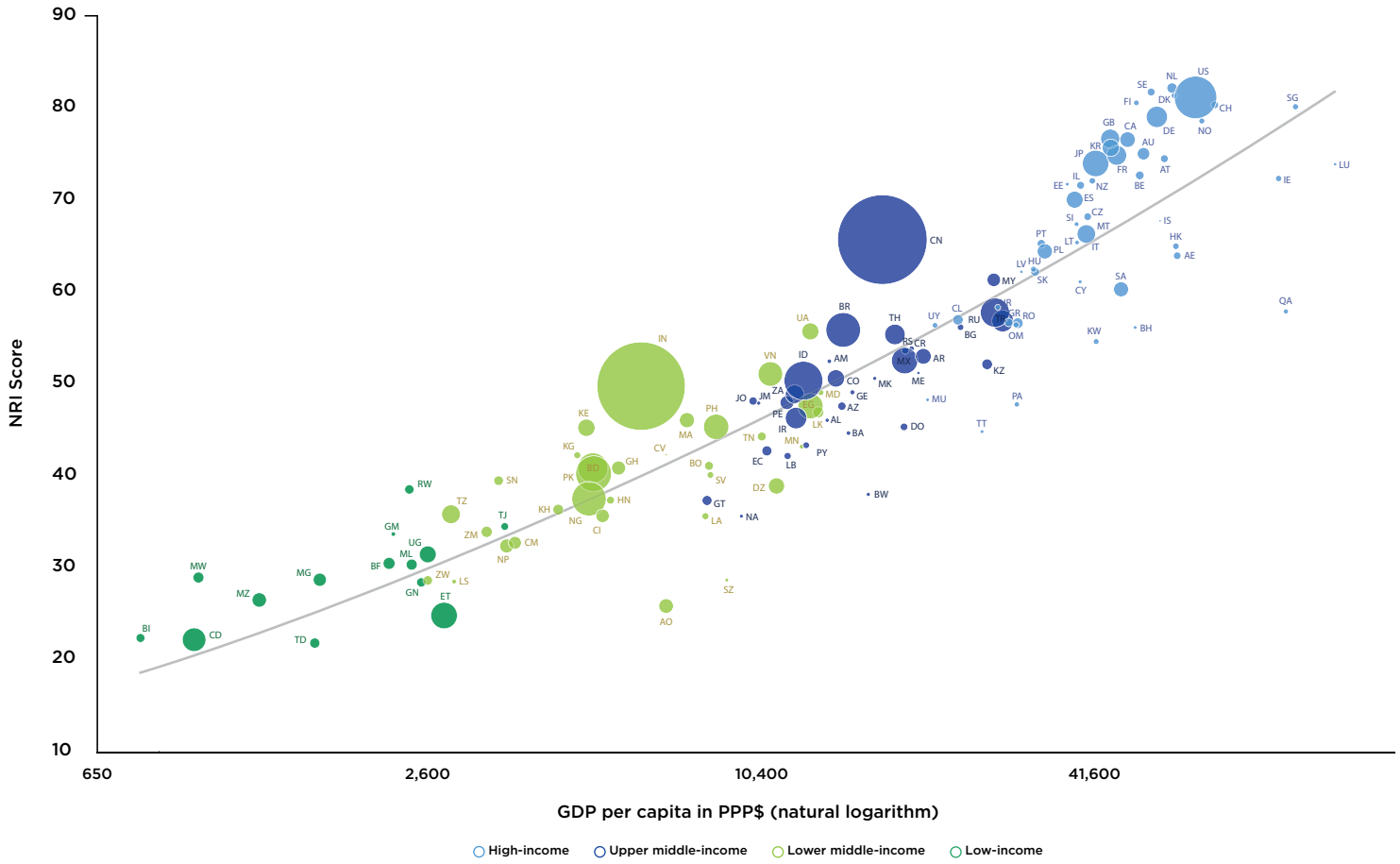
10. The United Kingdom maintains in 2021 its position as the 10th most-network ready economy. The UK shows best in the Technology pillar (6th) due to high scores in the Access (4th) and Content (5th) sub-pillars, though rankings dampen from a weak showing in the Future Technologies sub-pillar (16th). The UK also performs well regarding the impact of ICTs on its society (9th in the Impact pillar), boosted by aggressive sustainable development goals investments (2nd place in the SDG contribution indicator). Conversely, the United Kingdom's output reduces within the People (16th) and Governance (14th) pillars. The People pillar benefits from having a digitally engaged government (10th in the Governments sub-pillar), but raising ICT usage and skills among individuals and Businesses (34th in the Individuals sub-pillar and 24th in the Businesses sub-pillar) will present a challenge. As for the Governance pillar (14th), the economy's engagement in both the Trust (13th) and Inclusion (8th) sub-pillars remain relatively stable. Less effective operations in the Regulation sub-pillar (21st) hurt Governance pillar scores, where regulatory protection for privacy is an area to focus on (the UK ranked 90th in the Privacy protection by law content indicator).

NRI Performances by Income Group[1]

A clear correlation exists between an economy's NRI performance and its income level. Figure 1 confirms the relationship of each factor by plotting NRI scores against GDP per capita in terms of purchasing power parity (PPP). The top NRI performers are predominantly high-income economies, while the bottom NRI performers are mainly low-income economies. Lower middle-income and upper middle-income economies occupy a range between both extremes of the trend line. Of interest, certain economies perform above the expectations associated with their income level, and plot above the trendline. Economies that operate at lower-than-expected levels in regards to income level appear below the trend line. Performances above or below the trend line are not exclusive to income level groups, suggesting the existence of network readiness divides among same

1 Countries are grouped according to the World Bank Income Classifications. Economies are divided based on their 2019 gross national income (GNI) per capita, calculated using the World Bank Atlas method

FIGURE 1: NRI SCORE VERSUS GDP PER CAPITA (PPP)



Note: GDP per capita is in PPP$ (natural logarithms). Both GDP per capita and population data (represented by the size of the bubbles) are for 2019 or the latest year available. The data are drawn from the World Bank's World Development Indicators database. The general trend line is a polynomial of degree two (R2 = 0.85). Countries are grouped according to the World Bank Income Classifications (July 2021).
Source: Network Readiness Index Database, Portulans Institute, 2021.

Detailed Results

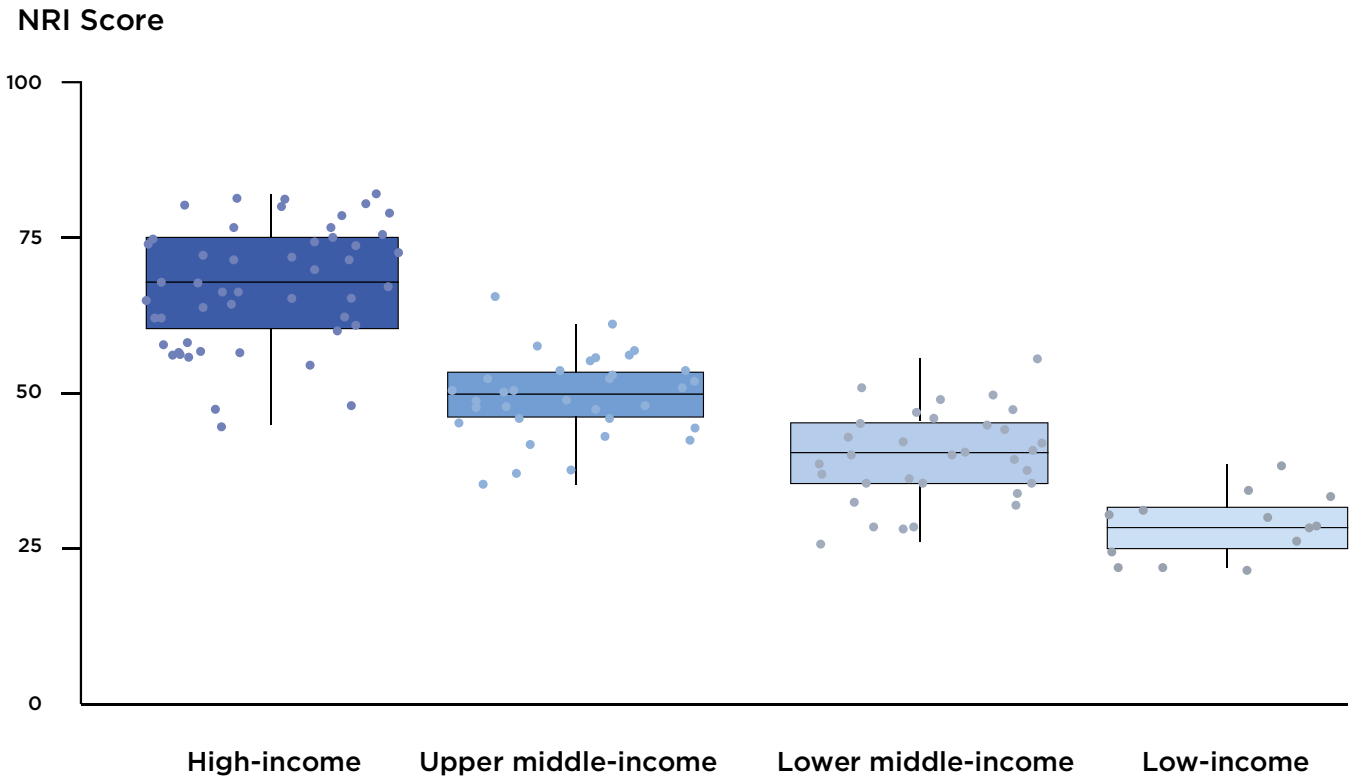
COUNTRY/ECONOMY CODES FOR THE CHART

CODE	ECONOMY	CODE	ECONOMY	CODE	ECONOMY		ECONOMY
AE	United Arab Emirates	DZ	Algeria	KW	Kuwait	PL	Poland
AL	Albania	EC	Ecuador	KZ	Kazakhstan	PT	Portugal
AM	Armenia	EE	Estonia	LA	Lao PDR	PY	Paraguay
AO	Angola	EG	Egypt	LB	Lebanon	QA	Qatar
AR	Argentina	ES	Spain	LK	Sri Lanka	RO	Romania
AT	Austria	ET	Ethiopia	LS	Lesotho	RS	Serbia
AU	Australia	FI	Finland	LT	Lithuania	RU	Russian Federation
AZ	Azerbaijan	FR	France	LU	Luxembourg	RW	Rwanda
BA	Bosnia and Herzegovina	GB	United Kingdom	LV	Latvia	SA	Saudi Arabia
BD	Bangladesh	GE	Georgia	MA	Morocco	SE	Sweden
BE	Belgium	GH	Ghana	MD	Moldova	SG	Singapore
BF	Burkina Faso	GM	Gambia	ME	Montenegro	SI	Slovenia
BG	Bulgaria	GN	Guinea	MG	Madagascar	SK	Slovakia
BH	Bahrain	GR	Greece	MK	North Macedonia	SN	Senegal
BI	Burundi	GT	Guatemala	ML	Mali	SV	El Salvador
BO	Bolivia	HK	Hong Kong (China)	MN	Mongolia	SZ	Eswatini
BR	Brazil	HN	Honduras	MT	Malta	TD	Chad
BW	Botswana	HR	Croatia	MU	Mauritius	TH	Thailand
CA	Canada	HU	Hungary	MW	Malawi	TJ	Tajikistan
CD	Congo, Dem. Rep.	ID	Indonesia	MX	Mexico	TN	Tunisia
CH	Switzerland	IE	Ireland	MY	Malaysia	TR	Turkey
CI	Côte d'Ivoire	IL	Israel	MZ	Mozambique	TT	Trinidad andTobago
CL	Chile	IN	India	NA	Namibia	TZ	Tanzania
CM	Cameroon	IR	Iran, Islamic Rep.	NG	Nigeria	UA	Ukraine
CN	China	IS	Iceland	NL	Netherlands	UG	Uganda
CO	Colombia	IT	Italy	NO	Norway	US	United States
CR	Costa Rica	JM	Jamaica	NP	Nepal	UY	Uruguay
CV	Cabo Verde	JO	Jordan	NZ	New Zealand	VN	Viet Nam
CY	Cyprus	JP	Japan	OM	Oman	ZA	South Africa
CZ	Czech Republic	KE	Kenya	PA	Panama	ZM	Zambia
DE	Germany	KG	Kyrgyzstan	PE	Peru	ZW	Zimbabwe
DK	Denmark	KH	Cambodia	PH	Philippines		
DO	Dominican Republic	KR	Korea, Rep.	PK	Pakistan		

Summary statistics of each income group also reinforce the positive correlation between NRI score and income level. Figure 2 shows how NRI scores differ across the four income groups. The dispersion of NRI scores among high-income economies is greater than in the other income groups, as reflected by the size of the box-and-whisker plots.

Figure 2 and Figure 3 depict the existing gap in NRI scores between high-income economies and the other income groups, with clear gaps between the upper middle-income, lower middle-income, and low-income groups as well. The data suggest that the 25th percentile of one income group performs at a slightly higher level than the 75th percentile of the income group just below it. Upper middle-income economies at the 25th percentile scored 46.07 in 2021, matching the 45.18 score of lower middle-income economies at the 75th percentile.

FIGURE 2: NRI SCORES BY INCOME GROUP



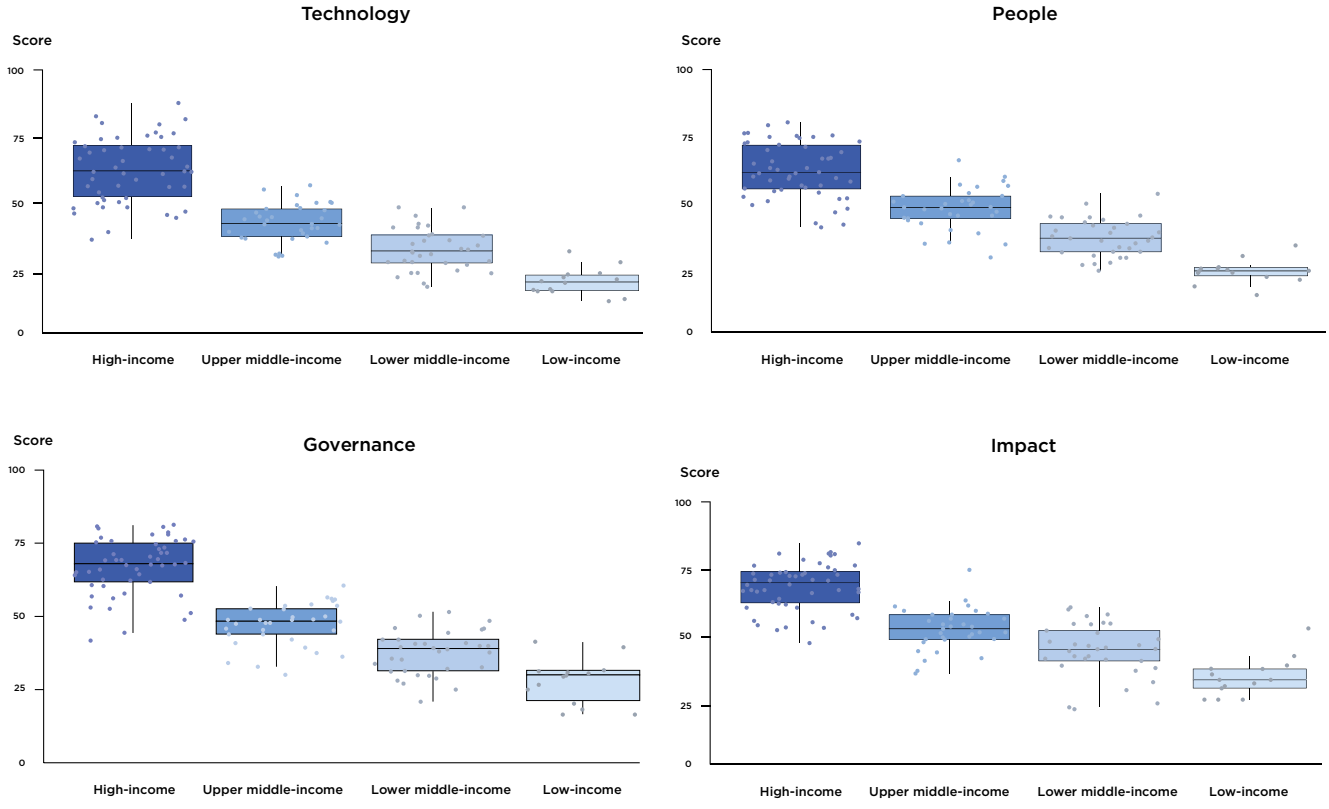
Note: The whiskers indicate minimum and maximum values, while the extremes of a box indicate the 25th and 75th percentiles. The line within a box represents the median (i.e. 50th percentile) Source: Network Readiness Index Database, Portulans Institute, 2021.

Differences in NRI performance across income groups are also observed within each primary pillar of the NRI (Figure 3). Each pillar demonstrates similar trends of higher-income economies outperforming lower-income economies. Sub-pillar performances also follow the same pattern.

However, some differences in performance across pillars emerge when viewed through the lens of income groups. First, high-income economies score comparatively higher in Technology and Governance, as the gaps in relation to other income groups are often greater in these two pillars. Second, the group of upper middle-income economies exhibits increased performance rankings within the People pillar, as the scores of the median upper middle-income economy are closer to the scores of the median high-income economy. Third, all income groups demonstrate the least amount of performance variation within the Impact pillar. The gaps between the various income groups in the Impact pillar are less pronounced than in other pillars. The Impact pillar also has the lowest standard deviation, especially for low-income economies.

High-income economies display the greatest variation in scores among all four pillars. Levels of variation continue to decline across all groups in line with income decreases. Differences in variation between income groups are most apparent within the Technology and People pillars, where high-income economies have the greatest variation, and low income economies have the least.

FIGURE 3: SCORES BY INCOME GROUP AND PILLAR



Note: The whiskers indicate minimum and maximum values, while the extremes of a box indicate the 25th and 75th percentiles. The line within a box represents the median (i.e. 50th percentile) Source: Network Readiness Index Database, Portulans Institute, 2021.

TABLE 3: TOP 3 COUNTRIES BY INCOME GROUP

High-income	Upper middle-income	Lower middle-income	Low-income
1. Netherlands (1)	1. China (29)	1. Ukraine (53)	1. Rwanda (101)
2. Sweden (2)	2. Malaysia (38)	2. Viet Nam (63)	2. Tajikistan (111)
3. Denmark (3)	3. Russian Federation (43)	3. India (67)	3. Gambia (113)

Note: Global ranks in parentheses (Detailed results can be found in next section). Source: Network Readiness Index Database, Portulans Institute, 2021.

Table 3 lists the top three economies of each income group. The Netherlands (1st), Sweden (2nd), and Denmark (3rd) are the top-performers among high-income economies (for more information, please refer to The Top NRI performers section), and Rwanda (101st), Tajikistan (111th), and Gambia (113th) earn top performance scores for low-income economies. Comparative performances in each pillar vary among the three economies and offer insight into the relationship between Network Readiness and Income.

The top three **upper middle-income economies** are China (29th), Malaysia (38th), and Russia (43rd).

China is the only non-high-income economy to earn a ranking in the top quartile of the NRI 2021, in part attributed to its positive performance in the People pillar (20th). At the sub-pillar level, China also scores well in Businesses (6th) and Individuals (19th) indicated by strength in annual investment in telecommunication services and active mobile broadband subscriptions. China's highest ranking is in the Impact pillar (13th), due to an export-oriented high-tech industry and an emphasis on Sustainable Development Goal 4: Quality Education. In contrast, China's weakest pillar is Governance (45th), which is impacted adversely by the state of Regulation (87th) of the ICT landscape and Inclusion (48th) of more rural populations in digital participation.

Malaysia's performance also displays a sophisticated degree of network readiness. Compared to its income group peers, Malaysia's economy stands as one of the strongest with high-tech exports, a prevalent gig economy, and efficient high-tech and medium-high tech manufacturing. Malaysia ranks just one position below China in Technology (37th), where it exhibits positive performance scores in international Internet bandwidth that in turn benefits the Access (37th) sub-pillar. Like China, Malaysia's weakest pillar is also Governance (40th) with lower scores in Regulation (46th) and Inclusion (43rd). Although Regulation is Malaysia's lowest ranking sub-pillar, it is among the higher Governance rankings in the group of upper middle-income economies. Malaysia displays a balanced profile when it comes to distribution of performance across the four pillars. Its rankings across the four primary pillars differ by only one position, ranking 37th in the Technology pillar, 38th in the Impact pillar, 39th in the People pillar, and 40th in the Governance pillar.

The Russian Federation's highest ranking pillar is People (35th), where scores in the Businesses sub-pillar (36th) and the Governments (34th) sub-pillar reflect an advanced level of investment in telecommunication services and the publication and use of open data. Conversely, the Russian Federation has the largest scope

of improvement within the Governance (54th) pillar, with low scores in the Regulation sub-pillar (118th) due to lower scores on e-commerce legislation and the privacy protection by law of content.

The group of **lower middle-income economies** is led by Ukraine (53rd), Viet Nam (63rd), and India (67th).

Ukraine scores well in the Impact pillar (47th), an improvement over last year when the pillar was its lowest score. Ukraine's Impact ranking is followed closely by People (48th), where a high score in the Individuals sub-pillar (17th) is offset by lower scoring in the Government sub-pillar (71st), partly due to lower R&D expenditure by governments and higher education. Ukraine also scores well within the Technology pillar (50th) due to its spending on software development and creation of content. Its weakest ranking relates to the Governance pillar (57th). Addressing regulatory quality and digital access gaps for the general population and rural areas could improve Ukraine's rankings in the Regulation (61st) and Inclusion (65th) sub-pillars.

Viet Nam also scores higher than the income group average in each of the four pillars. However its scoring in Impact (44th) stands out as a distinct strength for the economy. The high score is attributed in part to robust labor productivity, an export-oriented high-tech industry, and the prevalence of a gig economy, which boosts the ranking in the Economy sub-pillar (25th). Viet Nam also enjoys a considerable freedom to make life choices, leading to a 53rd ranking in the Quality of Life sub-pillar. Some gains are lost with the economy's performance in the SDG Contribution sub-pillar (80th), however this ranking could increase with improved sustainability and a continued quality of education. Viet Nam performs well in Technology (61st) compared to its income group peers, reflected by the country's access to technologies (50th ranking in the Access sub-pillar) and production of content (55th ranking for the Content sub-pillar). For Governance (73rd), Viet Nam ranks well in with the Trust sub-pillar (50th), but overall scores are offset by weaker levels in the Regulation (93rd) and Inclusion (97th) sub-pillars. Viet Nam shows opportunities for improvement in the People pillar (80th), determined by the performance scores in the Business (105th) and Governments (87th) sub-pillars. Expenditure on R&D and an increased share of professionals in the workforce can boost future scores.

The top performers in the **low-income group** include Rwanda (101st), Tajikistan (111th), and Gambia (113th). Each economy shows moderate to high levels of variation across the four pillars. As the highest ranking low-income group economy.

Rwanda shows strength in the Governance pillar (86th), due to its balanced performance across the three sub-pillars: Trust (89th), Regulation (89th), and Inclusion (86th). However, at the sub-pillar level, Rwanda's best performance relates to Governments (57th), scoring well with indicators related to the promotion of investment in emerging technologies and R&D expenditure. Areas of opportunity are apparent in the People pillar (103rd), with challenges regarding use of virtual social networks and tertiary enrollment levels, particularly for technicians and associates. Rwanda's ranking in the Technology pillar (107th) is dampened by low levels of Access (111th) and production of Content (116th) at the sub- pillar level.

Tajikistan exhibits a strong performance in the Impact pillar (73rd), where it earns a ranking in the third quartile. This ranking can be attributed to the country's performance in the SDG Contribution (38th) and Quality of Life (70th) sub-pillars, as well as a comparative strength in low levels of income inequality. Tajikistan does find itself ranking lower across the remaining pillars of Technology (118th), Governance (119th), and People (120th). Performances in the mid-ranking pillars indicate room for improvement in Access (129th) and Regulation (127th)

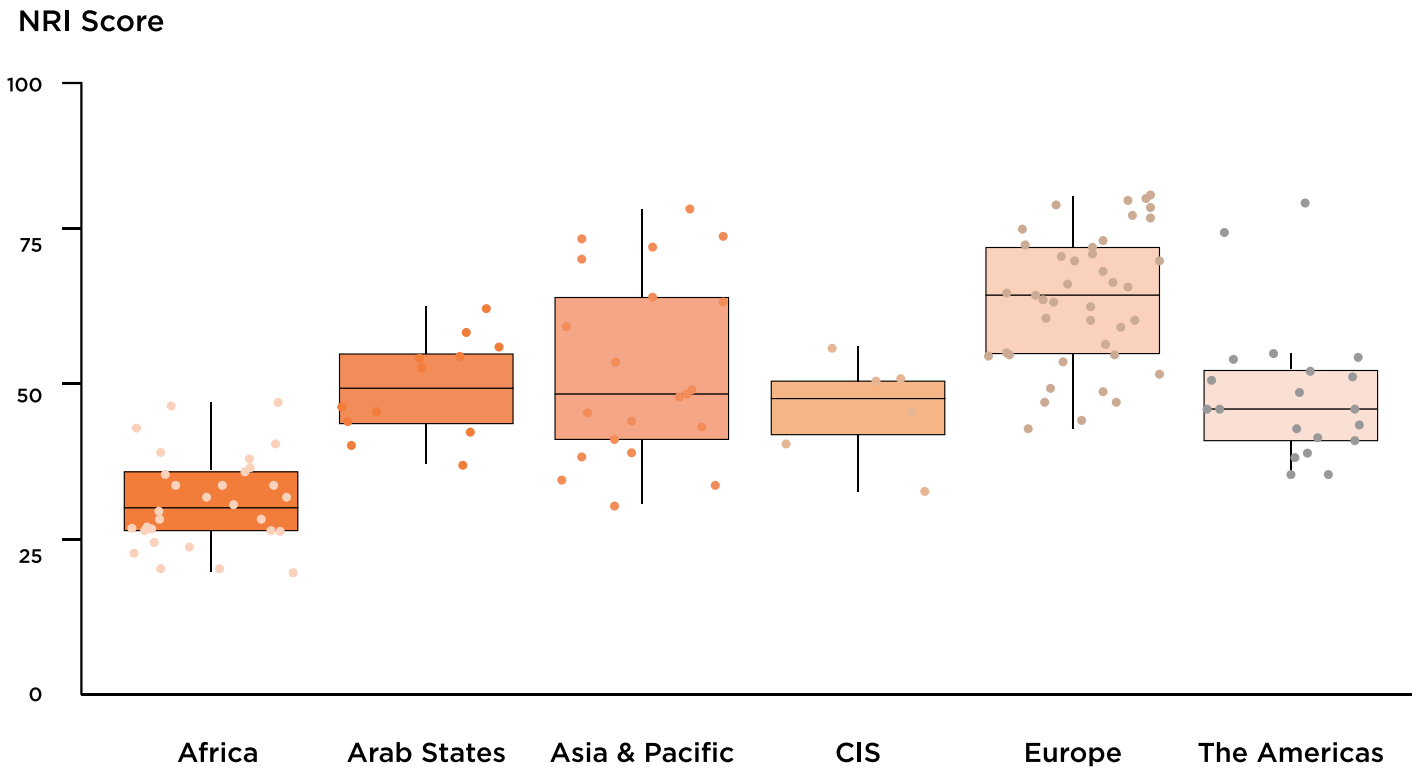
sub-pillars, with particular focus on regulatory quality and privacy protection. In the country's lowest ranking pillar, People (120th), the areas with the greatest margin for improvement are indicators related to usage of ICT by the government (121st) and businesses (127th).

Gambia ranks highest in the Technology pillar (96th), where its performance in the Future Technologies sub-pillar (53rd) reflects an increase in the adoption of and investment in emerging technologies in the country. Gambia ranks 109th in both Governance and Impact, however the former ranking displays a wider distribution of performances. The country's promising regulatory environment and e-commerce legislation, is dampened by lower levels of Inclusion (130th). Gambia displays the most scope for improvement within the People pillar (125th) and can elevate future scores by promoting investment in emerging technologies, boosting tertiary enrollment, and improving adult literacy rates.

NRI Performances by Region

Figure 4 displays an overview of NRI statistics across six regions: Africa, the Arab States, Asia and the Pacific, the Commonwealth of Independent States (CIS), Europe, and the Americas. Within each region, there is a clear correlation between regional performances and the frequency of income groups. Over three-quarters of the countries in Europe (76 percent) are high-income economies, and Europe maintains its strong leadership position in the NRI 2021. In contrast, the region of Africa earns the lowest scores and has the highest concentration of lower-middle-income or low-income economies.

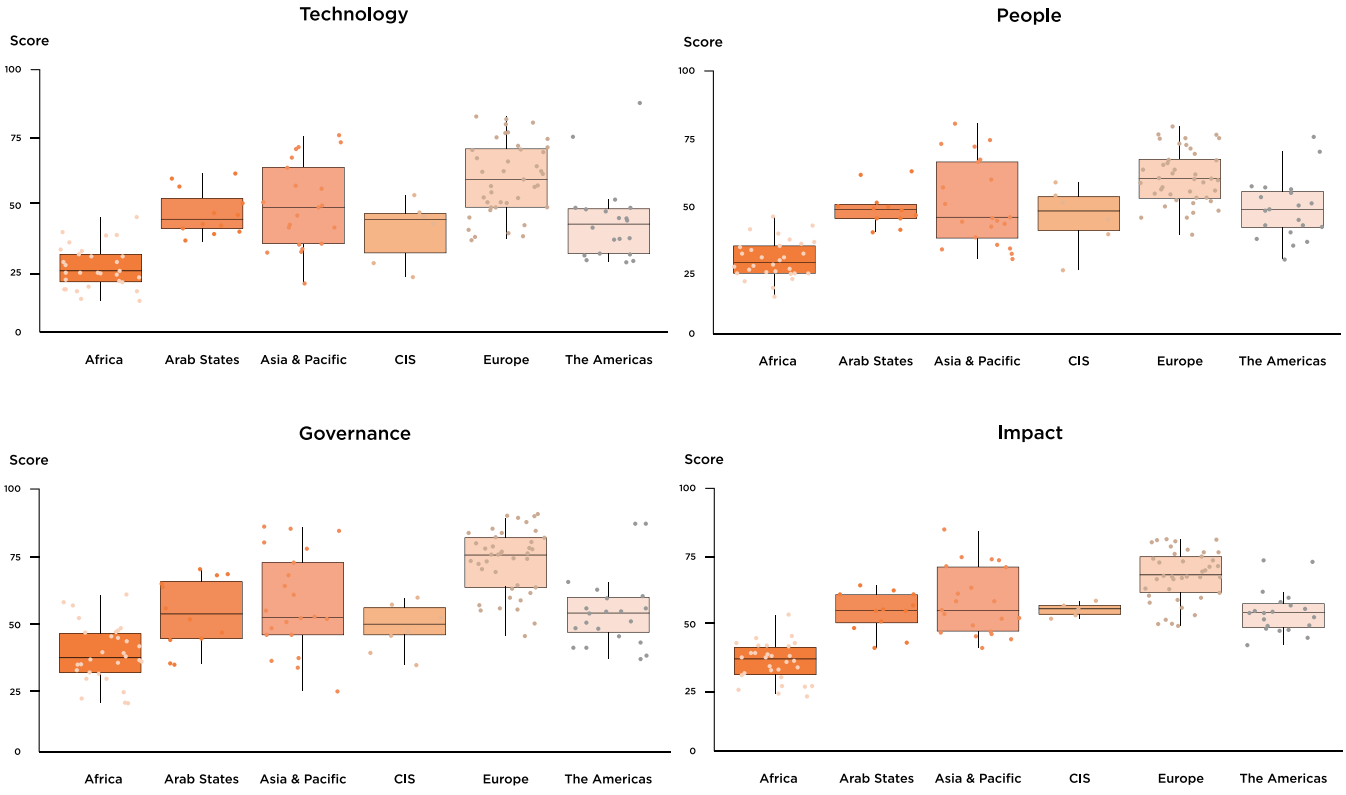
FIGURE 4: SCORES BY REGION AND PILLAR



Note: The whiskers indicate minimum and maximum values, while the extremes of a box indicate the 25th and 75th percentiles. The line within a box represents the median (i.e. 50th percentile) Source: Network Readiness Index Database, Portulans Institute, 2021.

Regions with an increased number of countries also demonstrate a wider dispersion of NRI scores. For example, the score variation in Europe (a total of 41 countries) is much higher than in the Commonwealth of Independent States (a total of 6 countries). However, Asia and the Pacific present a different pattern, showing less variation in scores than Europe despite a sizable amount of economies (21) spread across a larger region. Thus, the coefficient of variation can consider the different means across geographical areas and functions as a more appropriate measure of dispersion. With an analysis based on a relative standard of deviation, economies in Asia and the Pacific experience the highest relative dispersion compared to Europe and the CIS. Furthermore, it suggests that the dispersion of Arab States is nearly as high as that of Africa (30 countries) and higher than that of the Americas (20 countries), despite the region's significantly smaller number of economies (12).

FIGURE 5: NRI SCORES BY REGION AND PILLAR



Note: The whiskers indicate minimum and maximum values, while the extremes of a box indicate the 25th and 75th percentiles. The line within a box represents the median (i.e. 50th percentile) Source: Network Readiness Index Database, Portulans Institute, 2021.

Europe maintains its leadership position as the most network-ready region with an impressive overall performance across all four NRI pillars, while Africa is the most laggard regional group. The group of Arab States does comparatively better than other regions concerning the People pillar, especially compared to Asia and the Pacific (which struggles with low scores in the People Pillar despite strength in the Technology pillar). The Americas perform best within the Governance pillar, the weakest area for the CIS region.

Notable scores by individual countries

TABLE 4: NRI 2021 TOP 3 ECONOMIES BY REGION

Africa	Arab States	Asia & Pacific	CIS	Europe	The Americas
1. South Africa (70)	1. United Arab Emirates (34)	1. Singapore (7)	1. Russian Federation (43)	1. Netherlands (1)	1. United States (4)
2. Mauritius (71)	2. Saudi Arabia (40)	2. Korea, Rep. (12)	2. Armenia (60)	2. Sweden (2)	2. Canada (11)
3. Kenya (84)	3. Qatar (42)	3. Australia (13)	3. Kazakhstan (61)	3. Denmark (3)	3. Chile (44)

Source: Network Readiness Index Database, Portulans Institute, 2021.

AFRICA

The highest-ranked economies in Africa are South Africa (70th), Mauritius (71st), and Kenya (84th).

South Africa earns its highest rank in the Governance pillar (51st), reflecting solid showings across all three sub-pillars (60th in Trust, 51st in Regulation, and 51st in Inclusion). The country also performs well in the Technology (63rd) pillar due to a strong performance in the Future Technologies (45th) sub-pillar. Robust investment and adoption in emerging technologies at the indicator level (33rd in the Adoption of emerging technologies indicator, 40th in the Investment of emerging technologies indicator, and 24th rank in Computer software spend indicator) support the Future Technologies sub-pillar. South Africa's weakest performance relates to the Impact (103rd) pillar, where low scores in the Quality of Life (123rd) and SDG Contribution (86th) sub-pillars dampen positive showings in the Economy sub-pillar (67th). Indicators that would benefit from increased focus are Healthy life expectancy at birth (112th) and SDG 7: Affordable and Clean Energy (115th).

Mauritius is the second-best performing African country with an overall score attributed to relative positive showings in the Governance Pillar (58th) compared to regional peers. High ranks in the Trust (62nd) and Inclusion (61st) sub-pillars help push the Governance pillar score above expectations. In particular, Mauritius ranks within the top 50 economies

regarding the Rural gap in the use of digital payments indicator (49th), a score that contributed to a positive Inclusion sub-pillar rank. The Regulation (67th) sub-pillar does offer the possibility for improvement, where a somewhat fragmented legal framework and a low E-commerce Legislation indicator ranking (76th) offset good scores in the Regulatory quality indicator (35th). The country's weakest area relates to the People pillar (87th), where a surprisingly low adoption of digital technologies by Businesses (123rd in the Business sub-pillar) and to a lesser extent by Governments (74th in the Governments sub-pillar) overshadows the widespread use of ICTs among Individuals (59th in the Individuals sub-pillar).

Kenya, similar to South Africa, performs best in the Governance pillar (59th). Good scores in the Trust (52nd) and Regulation (63rd) sub-pillars explain the noteworthy Governance performance. A strong performance in the Online access to financial accounts indicator (18th) props up the Trust sub-pillar, while Kenya's proper ICT regulatory environment and e-commerce regulation speak to its strong score in Regulation. Kenya still faces a challenge concerning the Inclusion sub-pillar (79th), where a noticeable gender gap in internet use is apparent (88th rank in the Gender gap in Internet use indicator). The country's weakest performance is in the Impact pillar (106th), despite a positive comparative rank in the Economy sub-pillar (59th) and top 20 rankings in the GDP per person engaged (16th), ICT services exports (13th), Quality of Life (112th), and SDG Contribution (118th) indicators. Kenya can do more to improve its rank in the Females employed with advanced degrees (110th) and SDG 7: Affordable and Clean Energy (112th) indicators.

ARAB STATES

The United Arab Emirates (34th), Saudi Arabia (40th), and Qatar (42nd) are the highest ranked Arab States in the NRI 2021.

The United Arab Emirates has a solid overall performance across all pillars, but shows scores of particular strength in the People pillar (25th). The Arab Emirates benefits from one of the most digitally engaged governments (25th in the Governments sub-pillar), the widespread usage of ICTs by individuals (32nd in the Individuals Sub-pillar), and a high level of GERD by business enterprises (32nd rank in the Business sub-pillar). A first-place ranking in the Use of virtual social networks indicator further props up People pillar scores. The UAE also performs well in the Technology pillar (28th) with impressive levels of ICT access (27th in the Access sub-pillar) and investment in emerging technologies (15th in the Future Technologies sub-pillar). But even with a large population covered by at least a 3G network and high levels of Internet access, insufficient digital content creation (50th in the Content sub-pillar) offsets the country's excellent performance in the Technology pillar. Moreover, an underdeveloped regulatory framework for ICTs (80th in the Regulation sub-pillar) deters overall strong performances in Trust (30th) and Inclusion (28th) sub-pillars, leading to lower scores in the Governance primary pillar. Balanced e-commerce regulation and better safeguarding of privacy (125th in Privacy protection by law content) could assist overall performance rankings. UAE's weakest pillar-level operation relates to Impact (41st) where poor results in the SDG Contribution (62nd) and Economy (56th) indicators lower the impressive showings in Quality of Life (20th), Freedom to make life choices (10th), and Income inequality (5th).

Saudi Arabia improved by one position in the NRI 2021 (40th overall) because of increased performance results in the Technology pillar (30th). The country benefits from high levels

of ICT access (17th in the Access sub-pillar) and significant rates of investment in new technologies (22nd in the Future Technologies sub-pillar). Content creation remains the area with the most room for development (56th in the Content sub-pillar) despite notable positive changes compared to last year. The People pillar (27th) remains Saudi Arabia's best pillar-level performance, resulting from better ICT usage and skills among individuals (24th in the Individuals sub-pillar), governments (32nd in the Governments sub-pillar), and businesses (34th in the Businesses sub-pillar). The country's weakest performance relates to the Impact (66th) pillar, reflecting the minimal effect of ICTs on the society. The SDG Contribution indicator (106th) ranked outside of the top 100, and the poor performance somewhat balanced strong showings in the Economy (49th) and Quality of Life (41st) indicators. Prioritizing education (69th in Quality Education indicator) and the sustainability of living centers (127th in Sustainable cities and communities indicator) could have a positive impact on the country's overall rank.

Qatar showed its best performance in the Technology (35th) and Governance (36th) pillars, leading to a strong overall performance. Generous investments towards new technologies (21st in the Future Technologies sub-pillar) and ICT access (32nd in the Access sub-pillar) helped boost Qatar's rank in the Technology pillar. The country performs particularly well concerning the affordability of mobile tariffs (18th in the Mobile Tariffs indicator), and it achieves top ranks regarding handset prices, the population amount covered by at least a 3G mobile network, and the available Internet access in schools. Qatar could do more to increase the creation of digital content (62nd in the Content sub-pillar). Within the Governance Pillar, the country benefits from high levels of trust in digital technologies (27th in the Trust sub-pillar), but there is room for improvement regarding government regulation, particularly with respect to the ICT regulatory environment (101st in the Regulation Sub-pillar). Qatar does rank at the top in e-commerce legislation compared to global competitors, helping increase Governance pillar scores. Qatar is weakest in the People (69th) and Impact (57th) pillars due to low sub-pillar scores: 103rd in the Businesses, 56th in Individuals, and 47th in Government. Prioritizing methods that fix the uncharacteristically low levels of ICT adoption by businesses (and to a lesser extent by individuals and governments) could result in better scores for the People pillar and the country's overall degree of network readiness.

ASIA AND THE PACIFIC

Singapore (7th), the Republic of Korea (South Korea, 12th), and Australia (13th) are the leading economies for network readiness in Asia and the Pacific.

Singapore: find a detailed review of Singapore's NRI 2021 performance in the Top 10 NRI performers section on page 47.

The Republic of Korea stands as the global leader of the People pillar (1st), with top 20 performances in the other three primary pillars. The country's unmatched performance within People reflects the widespread use of ICTs among individuals (4th in the Individuals sub-pillar) and an even more impressive amount of digital technology use by businesses and governments (2nd in both the Businesses and Governments sub-pillar). The Republic of Korea also scores well in the Impact pillar (18th), with strong showings in the Economy sub-pillar (5th) reflecting the country's scores in high-tech and medium-high-tech manufacturing indicator (5th), high-tech exports indicator

(6th), and PCT patent applications (2nd) indicators. Modest execution in the Quality of Life (49th) and SDG Contribution (27th) sub-pillars balanced the overall positive results within the Impact Pillar. Better access to affordable and clean energy in addition to enhanced freedom to make life choices can improve the country's Impact pillar scores. The Republic of Korea also stands out concerning Governance (17th), reflecting strong levels of trust towards emerging technologies (10th place in the Trust sub-pillar) and positive showings in the Inclusion sub-pillar (18th). The Regulation sub-pillar (36th) shows opportunity for improvement, particularly regarding the Republic of Korea's ICT regulatory environment (earning a 101st indicator score). In the Technology pillar (20th), The Republic of Korea displays strength in its access to ICTs (14th ranking in the Access sub-pillar) and its absorption and investment in emerging technologies (11th ranking in the Future Technologies indicator). A low score in the Content sub-pillar (34th) shows that an increased focus on computer software spending, the creation of content, and Wikipedia edits will lead to better scoring results for the Republic of Korea.

Australia is the top economy with regards to ICT access because of affordable mobile tariffs (17th in the Mobile Tariffs indicator), competitive prices for handsets (1st in the Handset prices indicator), and improved internet access for schools (1st in the Internet access in schools indicator). As a result, Australia earns the top ranking in the Access sub-pillar. The country also ranks near the top 10 in content creation (11th in the Content sub-pillar) and has a modest output in investment and adoption of future technologies (30th in the Future Technologies sub-pillar). In sum, such positive sub-pillar results offer a noteworthy overall performance within the top 15 economies of the Technology pillar. Australia also presents a strong overall performance in the People pillar, where it ranks among the top 10 in the Individuals sub-pillar (7th) and maintains top 20 scores in the Governments (12th) and Businesses (20th) sub-pillars. Australia achieves its 10th place Governance pillar score (10th) due to high levels of trust (8th in the Trust sub-pillar), inclusion (11th in the Inclusion sub-pillar), and progressive regulation (14th in the Regulation sub-pillar). Regulation displays some diverse showings, with Regulatory quality (4th) and E-commerce legislation (1st) indicators earning top rated scores while the Privacy protection by law content indicator (70th) has a more pressing outcome. When assessing the impact of digital technologies on Australian society (23rd in the Impact pillar), the use of ICTs could benefit from more focus. More specifically, better scores in the Economy (38th), GDP per worker (85th), Affordable and Clean Energy (79th), and ICT services exports (77th) indicators could improve the country's ranking in the Impact pillar.

China ranks as one of the strongest performers in the region, standing amongst the top 20 in the Impact (13th) and People (20th) primary pillars. The country shows good performances in the Economy sub-pillar (3rd) because of continued exports of high-tech products (4th in the High-tech Exports indicator) and the growth rate of workers (5th in the GDP per person engaged indicator), helping boost Impact pillar scores. Weaker showings in Quality of Life (54th) and the overall Happiness (63rd) indicators offset progress, and China faces a challenge with income inequality (67th in the Income inequality indicator). A 17th ranking in the SDG Contribution sub-pillar and the global lead in the Quality Education indicator (1st) help complete the positive performances within the Impact pillar. China's execution in the Technology pillar (33rd) is also well-rounded, showing balanced access to ICTs (31st in the Access sub-pillar), robust creation of digital content (43rd in the Content indicator), and extended investment

in emerging technologies (32nd in the Future Technologies sub-pillar). China ranks at the top in international internet bandwidth, the number of AI scientific publications, and is among the top 15 in Robot density (14th), creating an environment for positive scoring in the Technology pillar. China shows relatively poor output in the Governance pillar (45th), where a weak regulatory framework (87th in Regulation) hampers high levels of trust towards digital technologies (36th in the Trust sub-pillar). In this context, Regulatory quality (90th), ICT regulatory environment (123rd), as well as Privacy protection by law content (111th) indicators show the most opportunity for improvement. Still, China manages to have highly sophisticated e-commerce regulation (1st in the E-commerce Legislation indicator) and a degree of e-participation that is among the highest globally (10th in the E-participation indicator).

India (67th overall) is another strong economy in the region, and it made one of the most notable improvements in the NRI 2021 by jumping up 21 positions. The aggressive upward movement resulted from a better country-wide performance in addition to the introduction of more relevant indicators to the NRI framework. India displayed significant progress across most pillars and sub-pillars, with the Technology pillar (49th) as its best dimension. India benefits from high levels of access (40th in the Access sub-pillar) and solid levels of future technology investment (56th in the Future Technologies sub-pillar). Both sub-pillar scores benefit from India's leading performance in the International Internet bandwidth indicator (1st) and the newly introduced SMS sent by population 15-69 indicator (3rd). As for the Impact pillar (63rd), India ranks in the top quartile in the Economy sub-pillar (24th) with robust outputs in exported ICT services (4th in the ICT services exports indicator). However, lower scores in the Quality of Life (92nd) and SDG Contribution (95th) sub-pillars slightly offset positive outcomes. Within the People pillar (73rd), India reflects a digitally engaged government but a relatively less effective ICT usage among Businesses and Individuals (46th, 76th, and 93rd in the Government, Businesses, and Individuals sub-pillars, respectively). The Governance pillar (82nd) offers India the most opportunity for action. High levels of cybersecurity are evident (15th in the Cybersecurity indicator), but insufficient scores in Online access to a financial account (113th) and Internet shopping (100th) indicators stifle scores in the Trust sub-pillar. The Inclusion sub-pillar (99th) also masks diverse aspects of India's network readiness, where a weak score in Gender gap in internet use (91st) reduces the substantial ranking of E-participation (29th).

THE COMMONWEALTH OF INDEPENDENT STATES (CIS)

The Russian Federation (43rd), Armenia (60th), and Kazakhstan (61st) lead the region of the Commonwealth of Independent States (CIS).

The Russian Federation improved its performance across the Technology (39th), Governance (54th), and Impact (51st) primary pillars, but the country scored best within the People pillar (35th). The people pillar remained propped up by extended ICT usage and ICT skill among businesses (36th in the Businesses sub-pillar), governments (34th in the Government sub-pillar), and to a lesser extent, by individuals (47th in the Individuals sub-pillar). The Russian Federation holds several top 15 indicator scores within the People pillar: Active mobile broadband subscriptions (7th), Tertiary enrollment (14th), Adult literacy rate (9th), Professionals (12th), and Annual investment in telecommunication services (11th). Within the Technology pillar, the Russian Federation shows comparative strength towards Access (33rd) and Content

(40th) sub-pillars. For scores in the Impact pillar, a weak performance in the Quality of Life (89th) indicator dissipates the solid results in the Economy (45th) and SDG Contribution (43rd) sub-pillars. Governance is the Russian Federation's weakest dimension, and less robust showings in Regulation (118th) counterbalance decent scores in the Trust (38th) and Inclusion (31st) sub-pillars. ICT regulatory environment (125th), E-commerce legislation (123rd), and Privacy protection by law content (115th) indicators are clear areas of action for the economy.

Armenia shows its best outcome within the People pillar (47th) due to widespread use of ICTs among individuals, governments, and even more so by businesses (a 52nd ranking for both the Individuals and Governments sub-pillars, and a 45th ranking position for Businesses). In particular, Armenia's adult literacy rate is noted as one of the highest, scoring eighth place in the Adult literacy rate indicator. The Technology pillar (58th) displays diverse outcomes, with the relatively solid performance in the Future Technologies (55th) and creation of digital Content (49th) sub-pillars diminished by a not so strong showing in Access (68th). The affordability of mobile tariffs and devices could benefit from prioritization to boost Access sub-pillar scores, though Armenia does display excellence in population covered by at least a 3G mobile network and Internet access in schools (both indicators earn 1st place rankings). Armenia can improve its overall score in the Governance pillar (72nd) through adjustments within the Trust sub-pillar. E-commerce regulation (76th in the E-commerce legislation indicator) and the socioeconomic divide in reference to the use of digital payments (94th in the Socioeconomic gap in the use of digital payments indicator) are additional areas of further development.

Kazakhstan displays its strongest performance in the People pillar (54th), reflecting the continued adoption of ICTs by businesses (52nd in the Business sub-pillar) and a slightly less strong performance by individuals and governments (61st in both sub-pillars). In the Impact pillar (58th), improvements in happiness capture the country's efforts to reduce Income inequality (42nd in the Happiness indicator and 12th in the Income inequality indicator). Still, Kazakhstan could expand its network readiness impact by using digital technologies to increase the life expectancy at birth, increasing a 75th ranking placement in the Healthy life expectancy at birth indicator. Contributing to clean energy can also improve the 118th rank the country scored in the Affordable and Clean Energy indicator. Kazakhstan's performance in Technology (68th) captures good scores in the Access pillar (53rd), but low creation of digital content (73rd in the Content sub-pillar) and the promotion of future technologies (96th in the Future Technologies sub-pillar) lower performance scores. At the indicator level, improvement in the rate of Adoption of emerging technologies (84th) and Computer software spending (114th) are areas in need of action.

EUROPE

The Netherlands, Sweden, and Denmark are the top three performers in the region of Europe. Find detailed remarks about each country in the Top 10 NRI performers section on page 45. France (14th) and Austria (15th) demonstrated performance rank improvements in the 2021 NRI that deserve further analysis.

France earns a 14th place ranking in the Technology, People, and Impact pillars, in addition to a 16th in Governance. Within the Technology pillar, improvements in the SMS sent (4th) and Handset prices (11th) indicators resulted in a good score in the Access sub-

pillar (16th), even though the country can improve upon its mobile network access (51st in the Population covered by at least a 3G network indicator). In the People pillar, France stands out as a world-class leader in its usage of open data (scoring 3rd in the Publication and use of open data indicator). The country also performs well in the Annual investment in telecommunication services (4th) and the Technicians and associate professionals (5th) indicators, earning high scores for an economy ranked outside the top 10. France also demonstrates strong performance scores within the Governance pillar because of its progressive regulatory frameworks for ICTs (11th rank in the Regulation sub-pillar). Several indicator scores prop up high Governance and Regulation rankings: Legal framework's adaptability to emerging technologies (9th), ICT regulatory environment (8th), and E-commerce legislation (1st). France can further improve overall scores by enhancing the Inclusion sub-pillar ranking (17th) and eradicating the gender gap in Internet use (53rd in the Gender gap in Internet use indicator).

Austria is another European economy with a top performance in network readiness, achieving a 15th overall ranking. While Austria remains outside the top 10, it does earn top 20 scores in all pillars led by a 10th place showing in the People pillar. High levels of ICT engagement contribute to the positive performance in the People sub-pillar (11th in Businesses, 13th in Governments, 18th in Individuals). Several indicator rankings support such advanced ICT engagement: 5th in the Firms with a website indicator, 7th in the Government online services indicator, 7th in the GERD performed by business enterprise indicator, and 7th in R&D expenditure by governments and higher education indicator. Austria is also a global leader with regards to the development of mobile apps (1st in the Mobile applications development indicator) and mobile tariffs (7th in the Mobile tariffs indicators), resulting in a 17th position in the Technology pillar. Still, the country could improve its mobile network coverage, where it scored 70th in Population covered by at least a 3G mobile network indicator. In the Governance pillar (18th), positive scores in the E-participation (6th) and the Rural gap in the use of digital payments (9th) indicators result in a 12th place ranking in the Inclusion sub-pillar (12th). However, the gender gap in internet use is still a notable issue that needs attention for overall improvement (58th rank in the Gender gap in Internet use indicator).. Austria's Impact pillar (19th) benefits from strong performances in the Quality of life (11th) and Happiness (11th) indicators, but more work towards the GDP per person engaged (89th) and the prevalence of the local gig economy (78th) is necessary. While Austria's SDG Contribution sub-pillar ranking (29th) reflects sustainably built cities (18th in the Sustainable cities and communities indicator) and healthy local communities (25th in the Good Health and Well-being indicator), the country can improve its overall score with improvements in the Females employed with advanced degrees indicator (36th) and the Affordable and Clean Energy (39th) indicators.

THE AMERICAS

The United States leads the region of the Americas. Find a detailed analysis on the performance of the US in the Top 10 NRI performers section on page 46. Canada (11th) and Chile (44th) follow the US in second and third place within the region. Improved performances by Brazil and Mexico deserve further additional insight.

Canada scores one rank outside the top 10 in the NRI 2021. The country boasts a well-rounded overall performance by earning top 20 rankings across all pillars. Canada's best performance scores relate to the Governance pillar (6th), which is boosted by global

leadership in inclusion (2nd in the Inclusion sub-pillar) in addition to high levels of trust (7th in the Trust pillar) and regulation (16th in the Regulation sub-pillar). Canada demonstrates strong indicator scores with a first-place rank in E-commerce legislation (1st) and a reduced Socioeconomic gap in the use of digital payments (3rd), even though weaker showings in the ICT regulatory environment (60th) slightly offset positive ranks. Canada's Technology pillar (9th) shows strong overall ICT access (11th in the Access sub-pillar), high-levels of digital content creation (10th in the Content sub-pillar), and robust investments in emerging technology (10th in the Future Technologies sub-pillar). Canada does show comparative weakness in the Impact pillar (20th), where solid economic performance (20th in the Economy sub-pillar) and a high quality of life (19th in Quality of Life sub-pillar) is somewhat slowed by relatively weaker showings in the SDG Contribution sub-pillar (32nd), particularly with respect to SDG 7: Affordable and Clean Energy indicator (111th).

Chile earned third place in the Americas region with a positive performance score in the People pillar (38th). The widespread adoption of ICTs among individuals resulted in a 16th place rank in the Individual sub-pillar, even when a surprisingly low usage of digital technologies by businesses (46th) and governments offset the high grade (46th in the Businesses sub-pillar and 54th in Governments). Chile's Technology pillar score (54th) could benefit from less stringent mobile tariffs (56th in Mobile tariffs indicator), a higher volume of device use (85th in the SMS sent indicator), and more thorough mobile network coverage (82nd in the Population covered by at least a 3G mobile network indicator). The impact of ICTs on Chilean society displays significant room for improvement (61st in the Impact pillar), with all three sub-pillars scoring outside the top 50 economies (61st in Economy, 63rd in Quality of Life, and 66th in SDG Contribution 66th). A focus on eradicating income inequality and increasing the number and quality of sustainable living centers can improve the scores of Income inequality (97th) and Sustainable Cities and Communities (69th) indicators for a better overall Impact ranking.

Brazil placed outside the top 50 countries with a 52nd overall position. Brazil earned its strongest showing in the People pillar, though it displays diverse sub-pillar and indicator outcomes. On the one hand, the country demonstrates significant levels of ICT adoption by governments and businesses, scoring 29th and 38th in each respective sub-pillar. On the other hand, it shows somewhat low levels of digital engagement by individuals (67th in the Individuals sub-pillar), even with a sixth-place score in the Active mobile broadband subscriptions indicator. Another relatively strong pillar dimension of Brazil includes Governance (49th), with solid scores in the Inclusion sub-pillar (44th) that is boosted by increased e-participation (18th in the E-participation indicator) and a reduced rural gap regarding the use of digital payments (29th in the Rural gap in the use of digital payments indicator). Conversely, weaker sub-pillar rankings in Trust (54th) and Regulation (50th) prevent higher overall pillar scores. Brazil can improve most within the Impact pillar (70th), where low ranks in the Quality of Life (96th) and Income inequality (112th) indicators dampen achievements in Economy (55th) and SDG Contribution (59th).

Mexico (59th overall rank) is the third-largest economy in the region and shows one of the most improved performances in the NRI 2021. Mexico's best outcome is in the People pillar (49th), where the country boasts a high number of digitally engaged individuals (33rd in the Individuals sub-pillar) due to plenty of active mobile broadband subscriptions (8th in the Active Mobile broadband subscriptions

indicator). A similar performance in the Governments sub-pillar (37th) stems from a high score in the Publication and use of open data indicator (11th). Still, Mexico faces challenges with regards to the adoption of ICTs by businesses (83rd in the Businesses sub-pillar) due to a low number of technicians (69th in the Technicians and associate professionals indicators), a limited number of firms that offer a website (82nds in the Firms with websites indicator), and minimal GERD performed in the business sector (67th in the GERD performed by business enterprise indicator). In the Impact pillar (56th), Mexico displays a robust digital economy (51st in the Economy sub-pillar) via its global leadership in High-tech exports (8th) and High-tech and medium-high-tech manufacturing (12th) indicators. However, the country struggles to maintain a consistent GDP growth rate (108th in GDP per person engaged). Mexico also shows a mixed outcome in the Technology pillar (65th), where relatively dismal scores in the Future Technologies sub-pillar deter strong Access sub-pillar scores (55th). The affordability of devices (32nd in the Handset prices indicator) and device use (12th in the SMS sent by population indicator) prop up the Access sub-pillar. Significant room for improvement is also evident when it comes to the Quality of Life sub-pillar (68th), where Income inequality (100th) and Healthy life expectancy at birth (71st) indicators rank among the lowest of similar-sized economies. Mexico worst performance occurs in the Governance pillar (70th), where weak levels of inclusion and trust towards digital technologies (90th in the Inclusion sub-pillar and 72nd in the trust sub-pillar) hurt positive showings in the E-commerce legislation (1st) and Privacy protection by law content (27th) indicators.

NRI 2021 – ANNEX TABLE 1 – RANKINGS IN THE TECHNOLOGY PILLAR AND ASSOCIATED SUB-PILLARS

	PILLARS	SUB-PILLARS		
Economy	Technology	Access	Content	Future Technologies
United States	1	2	4	1
Switzerland	2	8	1	6
Netherlands	3	12	2	7
Sweden	4	15	7	2
Germany	5	24	6	3
United Kingdom	6	4	5	16
Denmark	7	21	8	8
Singapore	8	3	22	4
Canada	9	11	10	10
Finland	10	13	13	9
Luxembourg	11	9	12	13
Hong Kong (China)	12	5	18	12
Norway	13	7	3	37
France	14	16	17	14
Australia	15	1	11	30
Japan	16	10	35	5
Austria	17	20	15	17
Ireland	18	6	16	24
Belgium	19	19	20	18
Korea, Rep.	20	14	34	11
Israel	21	26	24	19
Spain	22	22	25	20
Czech Republic	23	28	21	29
New Zealand	24	42	14	31
Iceland	25	51	9	38
Italy	26	35	28	23
Estonia	27	23	19	49
United Arab Emirates	28	27	50	15
Malta	29	41	23	26
Saudi Arabia	30	17	56	22
Portugal	31	45	26	28
Slovenia	32	44	29	40
China	33	31	43	32
Hungary	34	25	32	67
Qatar	35	32	62	21
Poland	36	18	30	74
Malaysia	37	37	48	25
Slovakia	38	47	41	36
Russian Federation	39	33	40	62
Lithuania	40	52	31	58
Latvia	41	36	37	76
Uruguay	42	29	52	63
Romania	43	30	45	84

	PILLARS	SUB-PILLARS		
Economy	Technology	Access	Content	Future Technologies
Montenegro	44	74	27	52
Thailand	45	34	68	48
Turkey	46	38	46	68
Bahrain	47	49	77	27
Indonesia	48	39	75	46
India	49	40	63	56
Ukraine	50	60	42	57
Greece	51	59	33	80
Cyprus	52	64	36	73
Brazil	53	46	47	64
Chile	54	54	51	50
Costa Rica	55	69	66	35
Bulgaria	56	67	38	78
Panama	57	43	72	54
Armenia	58	68	49	55
Kuwait	59	56	76	44
Oman	60	48	85	51
Viet Nam	61	50	55	77
Azerbaijan	62	76	78	34
South Africa	63	73	69	45
Croatia	64	58	39	108
Mexico	65	55	65	70
Argentina	66	57	54	83
Colombia	67	71	61	59
Kazakhstan	68	53	73	96
Morocco	69	65	81	71
Iran, Islamic Rep.	70	77	58	69
Serbia	71	70	44	112
Egypt	72	66	71	89
Pakistan	73	83	88	43
Sri Lanka	74	88	89	39
Jamaica	75	75	92	47
Lebanon	76	72	70	82
Georgia	77	63	59	114
Jordan	78	105	67	42
Mauritius	79	84	64	79
Bosnia and Herzegovina	80	61	57	125
Tunisia	81	86	80	72
Cabo Verde	82	97	60	66
Kenya	83	87	105	41
Albania	84	62	82	121
North Macedonia	85	85	53	107
Peru	86	80	74	105
Ecuador	87	91	79	86

	PILLARS	SUB-PILLARS		
Economy	Technology	Access	Content	Future Technologies
Trinidad and Tobago	88	82	83	98
Moldova	89	78	84	104
Algeria	90	81	93	88
Botswana	91	79	90	101
Lao PDR	92	110	104	33
Mongolia	93	93	87	100
Bangladesh	94	94	91	99
Senegal	95	100	109	60
Gambia	96	107	107	53
Philippines	97	115	86	61
Cambodia	98	89	113	95
Dominican Republic	99	96	103	94
Nigeria	100	99	98	97
Paraguay	101	90	96	120
Guatemala	102	98	108	91
Ghana	103	102	106	85
Namibia	104	92	124	93
Bolivia	105	103	101	106
El Salvador	106	106	95	109
Rwanda	107	111	116	65
Honduras	108	116	102	75
Tanzania	109	104	119	92
Kyrgyzstan	110	95	100	126
Côte d'Ivoire	111	101	120	102
Cameroon	112	121	112	87
Zimbabwe	113	114	111	113
Zambia	114	109	121	110
Mali	115	108	114	119
Lesotho	116	118	99	117
Guinea	117	117	128	81
Tajikistan	118	129	110	90
Eswatini	119	125	94	118
Uganda	120	122	118	103
Mozambique	121	112	125	124
Madagascar	122	123	117	111
Nepal	123	130	97	115
Angola	124	113	122	129
Ethiopia	125	126	126	116
Burundi	126	128	115	123
Malawi	127	120	127	127
Burkina Faso	128	119	123	128
Congo, Dem. Rep.	129	127	130	122
Chad	130	124	129	130

Source: Network Readiness Index Database, Portulans Institute, 2021.

NRI 2021 – ANNEX TABLE 2 – RANKINGS IN THE PEOPLE PILLAR AND ASSOCIATED SUB-PILLARS

	PILLARS	SUB-PILLARS		
Economy	People	Individuals	Businesses	Governments
Korea, Rep.	1	4	2	2
Denmark	2	15	7	1
Finland	3	14	8	5
Sweden	4	28	3	6
United States	5	13	9	9
Norway	6	9	18	3
Netherlands	7	5	12	11
Germany	8	23	4	14
Singapore	9	11	16	4
Austria	10	18	11	13
Japan	11	83	1	16
Switzerland	12	35	5	17
Australia	13	7	20	12
France	14	42	14	8
Canada	15	31	22	7
United Kingdom	16	34	24	10
New Zealand	17	36	21	18
Belgium	18	43	10	22
Luxembourg	19	77	13	15
China	20	19	6	43
Spain	21	3	30	21
Israel	22	53	15	19
Estonia	23	27	29	23
Slovenia	24	40	17	30
United Arab Emirates	25	32	32	25
Lithuania	26	26	41	20
Saudi Arabia	27	24	34	32
Italy	28	41	19	36
Malta	29	44	33	31
Portugal	30	38	40	27
Turkey	31	1	53	39
Hong Kong (China)	32	48	43	26
Ireland	33	45	26	40
Iceland	34	79	23	28
Russian Federation	35	47	36	34
Czech Republic	36	71	25	33
Brazil	37	67	38	29
Chile	38	16	46	54
Malaysia	39	39	66	24
Greece	40	6	49	64
Argentina	41	2	65	48
Poland	42	58	27	50
Cyprus	43	30	47	51

Economy	PILLARS	SUB-PILLARS		
	People	Individuals	Businesses	Governments
Hungary	44	49	31	66
Uruguay	45	21	73	35
Croatia	46	29	39	77
Armenia	47	52	45	52
Ukraine	48	17	50	71
Mexico	49	33	83	37
Bulgaria	50	37	56	65
Slovakia	51	75	35	59
Latvia	52	22	54	79
Romania	53	50	48	73
Kazakhstan	54	61	52	61
Kuwait	55	10	79	70
Serbia	56	65	57	49
Peru	57	69	28	91
Thailand	58	74	51	55
Bolivia	59	8	61	96
Lebanon	60	12	44	110
Albania	61	84	55	44
Oman	62	63	82	38
Jordan	63	57	37	95
Colombia	64	60	64	69
Dominican Republic	65	76	67	58
Bahrain	66	25	97	67
Georgia	67	62	63	75
Montenegro	68	51	58	92
Qatar	69	56	103	47
South Africa	70	85	70	62
Iran, Islamic Rep.	71	91	77	45
North Macedonia	72	82	62	80
India	73	93	76	46
Moldova	74	78	81	63
Egypt	75	80	85	60
Tunisia	76	92	71	56
Azerbaijan	77	98	74	41
Costa Rica	78	66	72	85
Indonesia	79	55	119	53
Viet Nam	80	46	105	87
Philippines	81	95	75	68
Trinidad and Tobago	82	20	94	112
Kenya	83	103	88	42
Paraguay	84	68	68	99
Sri Lanka	85	90	90	72
Panama	86	54	80	100
Mauritius	87	59	123	74

Economy	PILLARS	SUB-PILLARS		
	People	Individuals	Businesses	Governments
Morocco	88	86	87	86
Algeria	89	88	106	76
Ecuador	90	72	114	88
Nigeria	91	109	42	97
Kyrgyzstan	92	64	91	111
Bosnia and Herzegovina	93	81	60	123
Mongolia	94	70	104	104
El Salvador	95	73	89	116
Cabo Verde	96	104	95	81
Honduras	97	87	86	113
Ghana	98	99	108	82
Botswana	99	89	99	109
Lao PDR	100	94	117	93
Jamaica	101	102	110	89
Namibia	102	96	107	98
Rwanda	103	116	121	57
Bangladesh	104	113	96	90
Pakistan	105	122	69	94
Zambia	106	105	59	129
Cambodia	107	97	120	103
Senegal	108	117	112	84
Cameroon	109	107	98	102
Burkina Faso	110	126	101	83
Eswatini	111	111	84	118
Nepal	112	100	124	105
Guatemala	113	101	115	119
Zimbabwe	114	119	78	117
Angola	115	118	93	122
Tanzania	116	114	130	78
Côte d'Ivoire	117	125	102	108
Malawi	118	123	100	120
Madagascar	119	115	109	125
Tajikistan	120	106	127	121
Congo, Dem. Rep.	121	112	118	126
Mozambique	122	120	122	114
Lesotho	123	108	116	130
Guinea	124	128	113	106
Gambia	125	124	92	128
Uganda	126	110	129	101
Burundi	127	121	128	115
Mali	128	127	111	127
Ethiopia	129	129	125	107
Chad	130	130	126	124

Source: Network Readiness Index Database, Portulans Institute, 2021.

NRI 2021 – ANNEX TABLE 3 – RANKINGS IN THE GOVERNANCE PILLAR AND ASSOCIATED SUB-PILLARS

	PILLARS	SUB-PILLARS		
Economy	Governance	Trust	Regulation	Inclusion
Norway	1	2	1	13
Netherlands	2	3	4	6
Denmark	3	1	6	14
Finland	4	6	2	7
Sweden	5	5	5	10
Canada	6	7	16	2
United States	7	4	19	4
New Zealand	8	11	17	3
Estonia	9	14	9	5
Australia	10	8	14	11
Switzerland	11	16	3	15
Singapore	12	19	10	1
Germany	13	9	8	25
United Kingdom	14	13	21	8
Luxembourg	15	17	7	20
France	16	18	11	17
Korea, Rep.	17	10	36	18
Austria	18	24	15	12
Belgium	19	15	24	23
Lithuania	20	23	13	22
Ireland	21	22	28	19
Spain	22	28	25	16
Iceland	23	12	37	34
Japan	24	32	26	9
Czech Republic	25	20	23	41
Poland	26	21	40	21
Latvia	27	25	20	40
Israel	28	31	18	36
Slovenia	29	34	22	24
Slovakia	30	26	31	39
Italy	31	33	30	29
Portugal	32	43	12	35
Malta	33	35	29	37
Hong Kong (China)	34	37	32	33
Cyprus	35	42	34	26
Qatar	36	27	49	42
Croatia	37	41	38	38
Hungary	38	40	27	55
United Arab Emirates	39	30	80	28
Malaysia	40	39	46	43
Oman	41	29	85	27
Chile	42	48	35	49
Saudi Arabia	43	47	60	32

Economy	PILLARS	SUB-PILLARS		
	Governance	Trust	Regulation	Inclusion
Greece	44	46	44	54
China	45	36	87	48
Bahrain	46	56	58	30
Bulgaria	47	57	33	59
Turkey	48	44	59	58
Brazil	49	54	50	44
Serbia	50	51	54	56
South Africa	51	60	51	51
Thailand	52	61	57	45
Uruguay	53	58	48	62
Russian Federation	54	38	118	31
Romania	55	53	43	76
Costa Rica	56	66	42	64
Ukraine	57	55	61	65
Mauritius	58	62	67	61
Kenya	59	52	63	79
Kazakhstan	60	49	106	46
North Macedonia	61	63	70	68
Argentina	62	71	74	50
Kuwait	63	64	78	67
Montenegro	64	80	56	53
Georgia	65	67	45	82
Dominican Republic	66	85	41	73
Moldova	67	59	90	74
Indonesia	68	65	77	77
Jamaica	69	77	52	72
Mexico	70	72	39	90
Colombia	71	81	55	70
Armenia	72	90	65	66
Viet Nam	73	50	93	97
Ghana	74	69	66	81
Mongolia	75	78	99	47
Jordan	76	91	76	63
Iran, Islamic Rep.	77	45	120	71
Sri Lanka	78	96	92	57
Trinidad and Tobago	79	105	81	52
Paraguay	80	94	88	60
Bosnia and Herzegovina	81	97	68	78
India	82	70	84	99
Tanzania	83	68	82	101
Peru	84	93	71	87
Panama	85	101	53	95
Rwanda	86	89	89	86
Cabo Verde	87	100	75	93

	PILLARS	SUB-PILLARS		
Economy	Governance	Trust	Regulation	Inclusion
Azerbaijan	88	74	98	92
Senegal	89	108	62	88
Egypt	90	88	95	83
Philippines	91	79	72	109
Bangladesh	92	84	113	75
Kyrgyzstan	93	102	110	69
Uganda	94	87	102	85
Albania	95	86	73	110
Côte d'Ivoire	96	92	79	105
Morocco	97	83	64	118
Tunisia	98	73	96	107
Zambia	99	75	86	116
Ecuador	100	111	91	94
Botswana	101	82	97	111
El Salvador	102	118	83	100
Honduras	103	127	47	108
Namibia	104	98	119	91
Nigeria	105	76	107	120
Guatemala	106	121	103	98
Lesotho	107	116	115	89
Pakistan	108	103	108	117
Gambia	109	99	69	130
Bolivia	110	115	117	84
Nepal	111	107	109	113
Burkina Faso	112	113	101	114
Malawi	113	110	104	115
Mali	114	125	105	103
Lebanon	115	106	121	106
Zimbabwe	116	95	124	104
Madagascar	117	123	94	112
Algeria	118	117	116	102
Tajikistan	119	114	127	80
Cambodia	120	120	123	96
Cameroon	121	109	111	123
Angola	122	119	112	119
Mozambique	123	112	114	124
Eswatini	124	104	126	121
Guinea	125	126	100	128
Lao PDR	126	122	122	129
Chad	127	124	125	122
Ethiopia	128	129	128	126
Burundi	129	130	129	125
Congo, Dem. Rep.	130	128	130	127

Source: Network Readiness Index Database, Portulans Institute, 2021.

NRI 2021 – ANNEX TABLE 4 – RANKINGS IN THE IMPACT PILLAR AND ASSOCIATED SUB-PILLARS

	PILLARS	SUB-PILLARS		
Economy	Impact	Economy	Quality of life	SDG Contribution
Singapore	1	1	12	1
Sweden	2	8	6	5
Netherlands	3	6	4	11
Ireland	4	4	15	4
Finland	5	11	1	13
Switzerland	6	7	8	8
Denmark	7	17	5	7
Israel	8	2	24	20
United Kingdom	9	13	23	2
Germany	10	10	14	30
Norway	11	33	3	3
Estonia	12	16	18	16
China	13	3	54	17
France	14	14	22	19
Japan	15	18	30	6
United States	16	9	45	15
Belgium	17	21	21	12
Korea, Rep.	18	5	49	27
Austria	19	23	11	29
Canada	20	20	19	32
Czech Republic	21	15	10	44
Slovenia	22	35	7	21
Australia	23	38	17	14
Iceland	24	32	2	46
Luxembourg	25	48	13	9
New Zealand	26	44	9	22
Malta	27	40	16	28
Spain	28	34	35	10
Poland	29	30	42	26
Slovakia	30	28	28	40
Portugal	31	39	31	31
Latvia	32	26	55	25
Lithuania	33	36	50	18
Cyprus	34	41	37	23
Italy	35	27	46	34
Hungary	36	22	47	42
Kuwait	37	58	33	33
Malaysia	38	12	62	77
Romania	39	31	52	55
Croatia	40	65	27	39
United Arab Emirates	41	56	20	62
Costa Rica	42	43	40	58
North Macedonia	43	46	39	57

Economy	PILLARS	SUB-PILLARS		
	Impact	Economy	Quality of life	SDG Contribution
Viet Nam	44	25	53	80
Bahrain	45	74	32	36
Oman	46	85	26	37
Ukraine	47	42	57	53
Bulgaria	48	29	71	61
Jamaica	49	87	36	41
Serbia	50	52	56	67
Russian Federation	51	45	89	43
Philippines	52	19	82	87
Thailand	53	37	51	88
Uruguay	54	68	43	56
Moldova	55	64	38	74
Mexico	56	51	68	64
Qatar	57	63	29	92
Kazakhstan	58	81	34	73
Greece	59	80	74	35
Armenia	60	62	48	83
Chile	61	61	63	66
Egypt	62	53	91	60
India	63	24	92	95
Morocco	64	47	95	69
Kyrgyzstan	65	100	25	79
Saudi Arabia	66	49	41	106
Colombia	67	66	84	54
Peru	68	94	58	47
Argentina	69	72	67	63
Brazil	70	55	96	59
Hong Kong (China)	71	77	105	24
Mauritius	72	98	60	49
Tajikistan	73	105	70	38
Turkey	74	54	108	45
Panama	75	90	66	70
Sri Lanka	76	60	94	78
Azerbaijan	77	83	79	72
El Salvador	78	99	59	71
Indonesia	79	57	72	96
Georgia	80	89	83	68
Jordan	81	70	87	84
Montenegro	82	118	65	51
Albania	83	108	61	76
Ecuador	84	112	81	50
Bangladesh	85	82	69	97
Bosnia and Herzegovina	86	78	64	103
Guatemala	87	69	78	100

Economy	PILLARS	SUB-PILLARS		
	Impact	Economy	Quality of life	SDG Contribution
Tunisia	88	84	93	90
Paraguay	89	117	75	65
Trinidad and Tobago	90	109	44	101
Bolivia	91	111	73	81
Pakistan	92	50	102	104
Mongolia	93	128	80	48
Cambodia	94	92	86	99
Lao PDR	95	106	77	98
Cabo Verde	96	123	85	75
Dominican Republic	97	73	88	116
Senegal	98	75	97	108
Iran, Islamic Rep.	99	95	104	85
Rwanda	100	76	111	102
Algeria	101	103	106	93
Ghana	102	97	99	105
South Africa	103	67	123	86
Honduras	104	126	90	89
Côte d'Ivoire	105	79	103	112
Kenya	106	59	112	118
Lebanon	107	115	113	82
Nepal	108	120	76	114
Gambia	109	104	101	111
Cameroon	110	71	115	115
Nigeria	111	114	100	110
Mali	112	91	119	109
Ethiopia	113	88	98	127
Tanzania	114	93	107	120
Botswana	115	127	124	52
Namibia	116	101	126	94
Burkina Faso	117	102	110	122
Guinea	118	116	109	121
Malawi	119	113	116	117
Zambia	120	121	122	107
Uganda	121	107	114	124
Madagascar	122	86	121	128
Chad	123	96	125	123
Eswatini	124	129	129	91
Congo, Dem. Rep.	125	110	117	130
Mozambique	126	122	118	129
Burundi	127	124	120	126
Lesotho	128	125	127	119
Zimbabwe	129	119	128	125
Angola	130	130	130	113

Source: Network Readiness Index Database, Portulans Institute, 2021.

Back to TOC

Country/ Economy Profiles



How to read the Country/ Economy Profiles

The Country/Economy Profiles presents a scorecard that summarizes the individual performance of each economy (130 total) covered in The Network Readiness Index 2021.

Each Country/Economy Profile consists of three parts:

1. PERFORMANCE HIGHLIGHTS

The first section displays each Country/ Economy's overall performance across the NRI, the four primary pillars, and the twelve sub-pillars. For each level of the NRI, the economy's ranking (out of the 130 economies) and individual score (on a 0-to-100 scale) is shown.

2. RADAR CHART

The second section uses a radar chart to visually depict the individual economy's performance in the overall NRI, its four pillars, and sub-pillars. The blue line plots the economy's score, while the gray line represents the average score of all economies found in the same income class. The World Bank defines each country's income classification and reflects data current to July 2021.

3. DETAILED NETWORK READINESS INDEX REPORTING

The third section demonstrates how a particular economy performed across each of the 60 indicators comprising the NRI. All indicators organize into primary and secondary level pillars, and their numbering matches the data tables found in the other report sections with additional information such as descriptions, years, rankings, values, and normalized scores for all the indicators.



Country/Economy Profiles

STRENGTHS AND WEAKNESSES

The indicators considered a strength of a particular economy are notated on the far right-hand side by a solid circle. Indicators signaled as a weakness receive a hollow circle. For all economies, indicators with rankings of 1, 2, and 3 are highlighted as strengths, while indicator rankings of 128, 129, and 130 represent weaknesses.

For any remaining indicators, the strengths and weaknesses of a particular economy are based on the percentage of economies with scores that fall above or below a score determined by percent ranks. Indicators highlighted as strengths earn a score in the 10th largest percent rank among the 60 possible indicators of each economy. Indicators highlighted as weaknesses include scores that rank below the 5th lowest percent rank of the 60 indicators.

THE NRI ONLINE

The NRI website (https://networkreadinessindex.org/) offers additional analysis, analytical tools, individual country/economy profiles, and visualizations such as sortable rankings and maps.

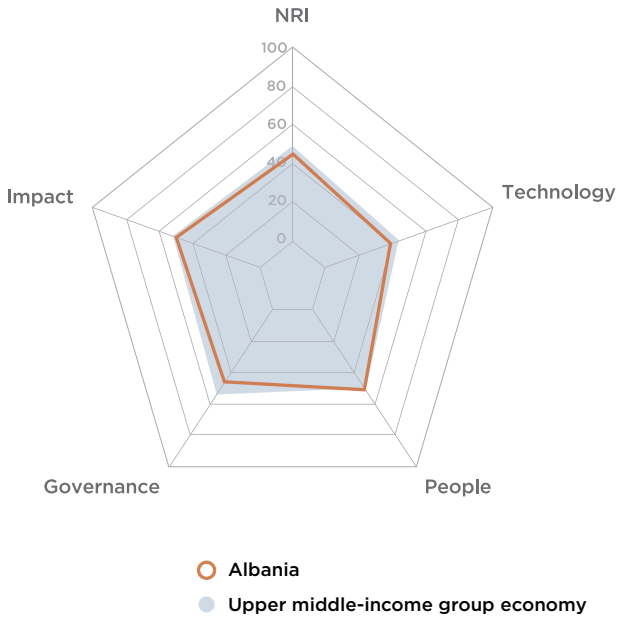
INDEX OF COUNTRY/ECONOMY PROFILES

Economy	Page
Albania	84
Algeria	85
Angola	86
Argentina	87
Armenia	88
Australia	89
Austria	90
Azerbaijan	91
Bahrain	92
Bangladesh	93
Belgium	94
Bolivia	95
Bosnia and Herzegovina	96
Botswana	97
Brazil	98
Bulgaria	99
Burkina Faso	100
Burundi	101
Cabo Verde	102
Cambodia	103
Cameroon	104
Canada	105
Chad	106
Chile	107
China	108
Colombia	109
Congo, Dem. Rep.	110
Costa Rica	111
Côte d'Ivoire	112
Croatia	113
Cyprus	114
Czech Republic	115
Denmark	116
Dominican Republic	117
Ecuador	118
Egypt	119
El Salvador	120
Estonia	121
Eswatini	122
Ethiopia	123
Finland	124
France	125
Gambia	126
Georgia	127
Germany	128
Ghana	129
Greece	130
Guatemala	131
Guinea	132
Honduras	133
Hong Kong (China)	134
Hungary	135
Iceland	136
India	137
Indonesia	138
Iran, Islamic Rep.	139
Ireland	140
Israel	141
Italy	142
Jamaica	143
Japan	144
Jordan	145
Kazakhstan	146
Kenya	147
Korea, Rep.	148
Kuwait	149
Kyrgyzstan	150
Lao PDR	151
Latvia	152
Lebanon	153
Lesotho	154
Lithuania	155
Luxembourg	156
Madagascar	157
Malawi	158
Malaysia	159
Mali	160
Malta	161
Mauritius	162
Mexico	163
Moldova	164
Mongolia	165
Montenegro	166
Morocco	167
Mozambique	168
Namibia	169
Nepal	170
Netherlands	171
New Zealand	172
Nigeria	173
North Macedonia	174
Norway	175
Oman	176
Pakistan	177
Panama	178
Paraguay	179
Peru	180
Philippines	181
Poland	182
Portugal	183
Qatar	184
Romania	185
Russian Federation	186
Rwanda	187
Saudi Arabia	188
Senegal	189
Serbia	190
Singapore	191
Slovakia	192
Slovenia	193
South Africa	194
Spain	195
Sri Lanka	196
Sweden	197
Switzerland	198
Tajikistan	199
Tanzania	200
Thailand	201
Trinidad and Tobago	202
Tunisia	203
Turkey	204
Uganda	205
Ukraine	206
United Arab Emirates	207
United Kingdom	208
United States	209
Uruguay	210
Viet Nam	211
Zambia	212
Zimbabwe	213

Albania

	Rank (out of 130)	
Network Readiness Index	**80**	**46.07**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**84**	**38.40**
1st sub-pillar: Access	62	66.76
2nd sub-pillar: Content	82	31.77
3rd sub-pillar: Future Technologies	121	16.68
B. People pillar	**61**	**50.17**
1st sub-pillar: Individuals	84	56.70
2nd sub-pillar: Businesses	55	44.35
3rd sub-pillar: Governments	44	49.46
C. Governance pillar	**95**	**45.68**
1st sub-pillar: Trust	86	33.74
2nd sub-pillar: Regulation	73	62.69
3rd sub-pillar: Inclusion	110	40.61
D. Impact pillar	**83**	**50.04**
1st sub-pillar: Economy	108	22.00
2nd sub-pillar: Quality of Life	61	67.92
3rd sub-pillar: SDG Contribution	76	60.19



Network Readiness Index in detail

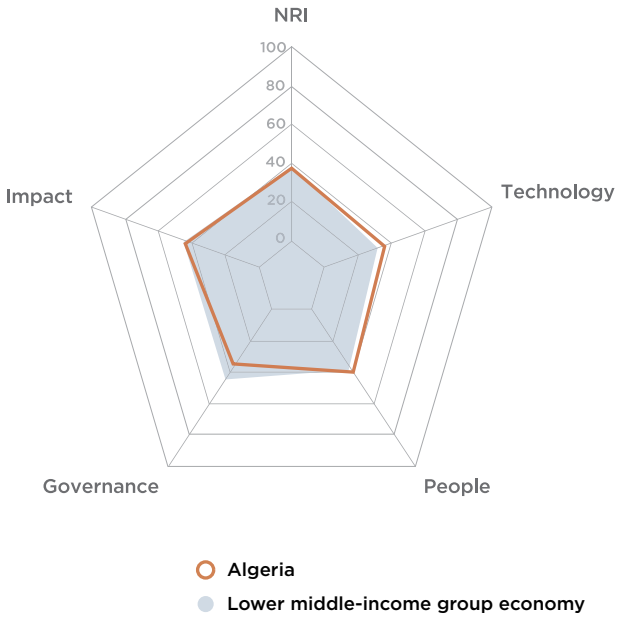
Indicator	Rank	Score	
A. Technology pillar	84	38.40	
1st sub-pillar: Access	62	66.76	
1.1.1 Mobile tariffs	80	51.79	
1.1.2 Handset prices	79	45.36	
1.1.3 Households with internet access	51	83.40	●
1.1.4 SMS sent by population 15-69	87	73.45	
1.1.5 Population covered by at least a 3G mobile network	47	99.79	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	43	46.77	
2nd sub-pillar: Content	82	31.77	
1.2.1 GitHub commits	75	2.41	
1.2.2 Wikipedia edits	55	57.44	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	64	77.50	
1.2.5 AI scientific publications	102	16.23	
3rd sub-pillar: Future Technologies	121	16.68	
1.3.1 Adoption of emerging technologies	115	19.18	○
1.3.2 Investment in emerging technologies	115	21.88	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	86	8.96	
B. People pillar	61	50.17	
1st sub-pillar: Individuals	84	56.70	
2.1.1 Active mobile broadband subscriptions	105	67.80	
2.1.2 ICT skills	59	21.66	
2.1.3 Use of virtual social networks	84	54.89	
2.1.4 Tertiary enrollment	50	41.51	●
2.1.5 Adult literacy rate	29	97.64	●
2nd sub-pillar: Businesses	55	44.35	
2.2.1 Firms with website	55	58.20	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	55	29.44	
2.2.4 Technicians and associate professionals	89	19.83	
2.2.5 Annual investment in telecommunication services	107	69.94	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	44	49.46	
2.3.1 Government online services	31	83.64	●
2.3.2 Publication and use of open data	50	32.24	
2.3.3 Government promotion of investment in emerging tech	80	32.49	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	95	45.68	
1st sub-pillar: Trust	86	33.74	
3.1.1 Secure Internet servers	66	54.14	
3.1.2 Cybersecurity	85	63.69	
3.1.3 Online access to financial account	109	8.62	
3.1.4 Internet shopping	78	8.51	
2nd sub-pillar: Regulation	73	62.69	
3.2.1 Regulatory quality	57	48.60	
3.2.2 ICT regulatory environment	45	87.06	●
3.2.3 Legal framework's adaptability to emerging technologies	101	20.74	
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	31	82.05	●
3rd sub-pillar: Inclusion	110	40.61	
3.3.1 E-Participation	36	83.95	●
3.3.2 Socioeconomic gap in use of digital payments	118	6.11	○
3.3.3 Availability of local online content	118	26.14	
3.3.4 Gender gap in Internet use	51	62.82	
3.3.5 Rural gap in use of digital payments	115	24.03	○
D. Impact pillar	83	50.04	
1st sub-pillar: Economy	108	22.00	
4.1.1 High-tech and medium-high-tech manufacturing	99	2.26	○
4.1.2 High-tech exports	126	0.27	○
4.1.3 PCT patent applications	85	18.45	
4.1.4 Growth rate of GDP per person engaged	87	51.84	
4.1.5 Prevalence of gig economy	98	28.16	
4.1.6 ICT services exports	59	31.03	
2nd sub-pillar: Quality of Life	61	67.92	
4.2.1 Happiness	80	46.62	
4.2.2 Freedom to make life choices	97	64.26	
4.2.3 Income inequality	41	77.60	●
4.2.4 Healthy life expectancy at birth	34	83.19	●
3rd sub-pillar: SDG Contribution	76	60.19	
4.3.1 SDG 3: Good Health and Well-Being	98	50.82	
4.3.2 SDG 4: Quality Education	54	34.98	
4.3.3 Females employed with advanced degrees	54	42.46	
4.3.4 SDG 7: Affordable and Clean Energy	17	88.10	●
4.3.5 SDG 11: Sustainable Cities and Communities	53	84.57	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Algeria

	Rank (out of 130)	Score
Network Readiness Index	**100**	**38.93**
Pillar/sub-pillar	**Rank**	**Score**
A. Technology pillar	**90**	**36.88**
1st sub-pillar: Access	81	57.34
2nd sub-pillar: Content	93	26.14
3rd sub-pillar: Future Technologies	88	27.16
B. People pillar	**89**	**40.61**
1st sub-pillar: Individuals	88	55.17
2nd sub-pillar: Businesses	106	26.66
3rd sub-pillar: Governments	76	40.00
C. Governance pillar	**118**	**35.20**
1st sub-pillar: Trust	117	17.84
2nd sub-pillar: Regulation	116	42.03
3rd sub-pillar: Inclusion	102	45.72
D. Impact pillar	**101**	**43.02**
1st sub-pillar: Economy	103	24.91
2nd sub-pillar: Quality of Life	106	50.42
3rd sub-pillar: SDG Contribution	93	53.72



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	90	36.88	
1st sub-pillar: Access	81	57.34	
1.1.1 Mobile tariffs	85	49.10	
1.1.2 Handset prices	108	32.86	
1.1.3 Households with internet access	68	74.47	
1.1.4 SMS sent by population 15-69	38	80.46	●
1.1.5 Population covered by at least a 3G mobile network	60	99.73	
1.1.6 International Internet bandwidth	28	7.44	●
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	93	26.14	
1.2.1 GitHub commits	112	0.31	
1.2.2 Wikipedia edits	103	27.64	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	118	45.03	
1.2.5 AI scientific publications	39	57.45	●
3rd sub-pillar: Future Technologies	88	27.16	
1.3.1 Adoption of emerging technologies	65	47.15	
1.3.2 Investment in emerging technologies	85	33.92	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	119	0.43	○
B. People pillar	89	40.61	
1st sub-pillar: Individuals	88	55.17	
2.1.1 Active mobile broadband subscriptions	26	83.08	●
2.1.2 ICT skills	57	24.38	
2.1.3 Use of virtual social networks	83	55.82	
2.1.4 Tertiary enrollment	58	36.47	
2.1.5 Adult literacy rate	75	76.09	
2nd sub-pillar: Businesses	106	26.66	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	82	8.29	
2.2.3 Professionals	70	23.59	
2.2.4 Technicians and associate professionals	88	19.84	
2.2.5 Annual investment in telecommunication services	43	80.87	
2.2.6 GERD performed by business enterprise	76	0.69	
3rd sub-pillar: Governments	76	40.00	
2.3.1 Government online services	123	25.46	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	41	48.75	
2.3.4 R&D expenditure by governments and higher education	37	45.78	●

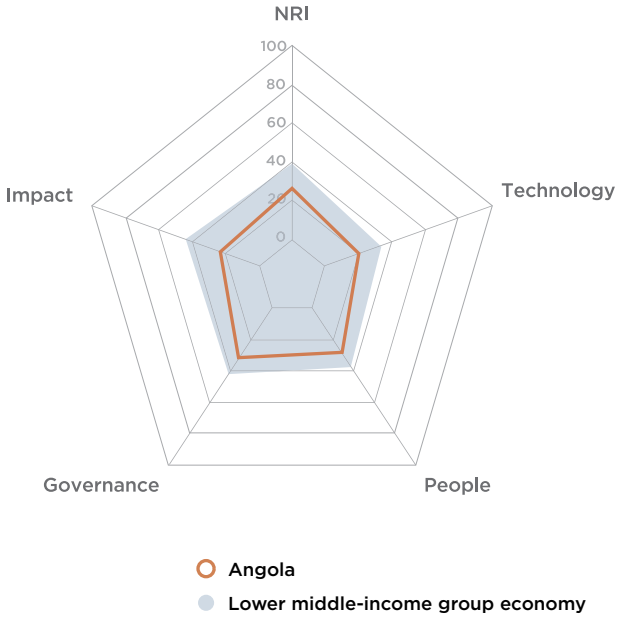
Indicator	Rank	Score	
C. Governance pillar	118	35.20	
1st sub-pillar: Trust	117	17.84	
3.1.1 Secure Internet servers	112	30.85	
3.1.2 Cybersecurity	103	32.79	
3.1.3 Online access to financial account	116	4.16	
3.1.4 Internet shopping	102	3.56	
2nd sub-pillar: Regulation	116	42.03	
3.2.1 Regulatory quality	127	5.62	○
3.2.2 ICT regulatory environment	110	62.35	
3.2.3 Legal framework's adaptability to emerging technologies	53	46.28	
3.2.4 E-commerce legislation	112	50.00	
3.2.5 Privacy protection by law content	107	45.90	
3rd sub-pillar: Inclusion	102	45.72	
3.3.1 E-Participation	128	12.35	○
3.3.2 Socioeconomic gap in use of digital payments	75	51.82	
3.3.3 Availability of local online content	93	47.78	
3.3.4 Gender gap in Internet use	89	26.67	
3.3.5 Rural gap in use of digital payments	3	89.99	●
D. Impact pillar	101	43.02	
1st sub-pillar: Economy	103	24.91	
4.1.1 High-tech and medium-high-tech manufacturing	100	2.24	
4.1.2 High-tech exports	125	0.49	○
4.1.3 PCT patent applications	82	19.67	
4.1.4 Growth rate of GDP per person engaged	74	55.39	
4.1.5 Prevalence of gig economy	32	62.63	●
4.1.6 ICT services exports	103	9.05	
2nd sub-pillar: Quality of Life	106	50.42	
4.2.1 Happiness	103	33.51	
4.2.2 Freedom to make life choices	127	1.79	○
4.2.3 Income inequality	10	92.19	●
4.2.4 Healthy life expectancy at birth	59	74.19	
3rd sub-pillar: SDG Contribution	93	53.72	
4.3.1 SDG 3: Good Health and Well-Being	30	81.97	●
4.3.2 SDG 4: Quality Education	75	11.28	
4.3.3 Females employed with advanced degrees	77	26.48	
4.3.4 SDG 7: Affordable and Clean Energy	55	78.99	
4.3.5 SDG 11: Sustainable Cities and Communities	92	69.87	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Angola

	Rank (out of 130)	Score
Network Readiness Index	**126**	**25.99**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**124**	**19.81**
1st sub-pillar: Access	113	37.39
2nd sub-pillar: Content	122	13.83
3rd sub-pillar: Future Technologies	129	8.21
B. People pillar	**115**	**28.46**
1st sub-pillar: Individuals	118	35.76
2nd sub-pillar: Businesses	93	30.85
3rd sub-pillar: Governments	122	18.76
C. Governance pillar	**122**	**32.20**
1st sub-pillar: Trust	119	17.64
2nd sub-pillar: Regulation	112	45.75
3rd sub-pillar: Inclusion	119	33.20
D. Impact pillar	**130**	**23.48**
1st sub-pillar: Economy	130	8.06
2nd sub-pillar: Quality of Life	130	19.85
3rd sub-pillar: SDG Contribution	113	42.54



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	124	19.81	
1st sub-pillar: Access	113	37.39	
1.1.1 Mobile tariffs	94	43.72	●
1.1.2 Handset prices	109	31.64	
1.1.3 Households with internet access	122	6.47	
1.1.4 SMS sent by population 15-69	39	80.34	●
1.1.5 Population covered by at least a 3G mobile network	100	96.32	
1.1.6 International Internet bandwidth	69	0.56	●
1.1.7 Internet access in schools	67	2.70	
2nd sub-pillar: Content	122	13.83	
1.2.1 GitHub commits	120	0.09	
1.2.2 Wikipedia edits	123	15.25	
1.2.3 Internet domain registrations	*	*	○
1.2.4 Mobile apps development	121	41.20	
1.2.5 AI scientific publications	108	12.60	
3rd sub-pillar: Future Technologies	129	8.21	
1.3.1 Adoption of emerging technologies	119	16.41	
1.3.2 Investment in emerging technologies	128	0.00	○
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	NA	NA	
B. People pillar	115	28.46	
1st sub-pillar: Individuals	118	35.76	
2.1.1 Active mobile broadband subscriptions	74	74.31	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	121	6.44	
2.1.4 Tertiary enrollment	110	5.99	
2.1.5 Adult literacy rate	93	56.29	
2nd sub-pillar: Businesses	93	30.85	
2.2.1 Firms with website	101	22.45	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	105	12.64	
2.2.4 Technicians and associate professionals	104	15.03	
2.2.5 Annual investment in telecommunication services	87	73.29	●
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	122	18.76	
2.3.1 Government online services	104	47.27	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	118	8.32	
2.3.4 R&D expenditure by governments and higher education	109	0.68	○

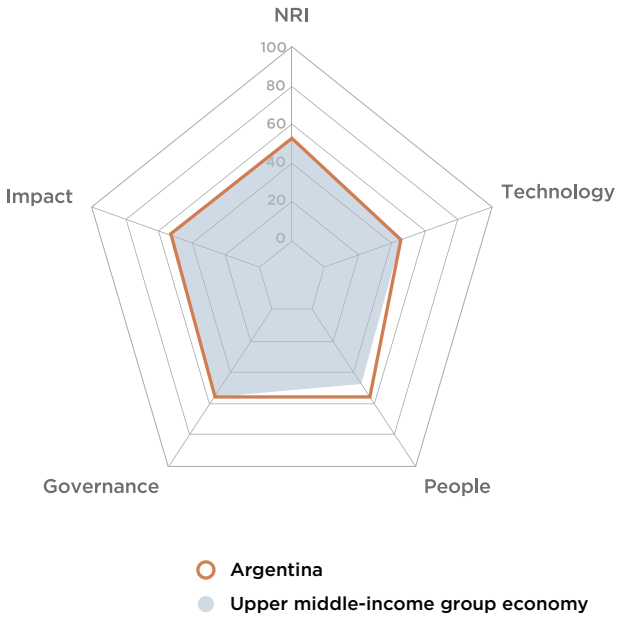
Indicator	Rank	Score	
C. Governance pillar	122	32.20	
1st sub-pillar: Trust	119	17.64	
3.1.1 Secure Internet servers	120	23.83	
3.1.2 Cybersecurity	123	11.46	
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	112	45.75	
3.2.1 Regulatory quality	121	16.77	
3.2.2 ICT regulatory environment	89	71.37	●
3.2.3 Legal framework's adaptability to emerging technologies	115	11.18	
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	94	54.40	●
3rd sub-pillar: Inclusion	119	33.20	
3.3.1 E-Participation	103	43.21	
3.3.2 Socioeconomic gap in use of digital payments	NA	NA	
3.3.3 Availability of local online content	122	23.19	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	NA	NA	
D. Impact pillar	130	23.48	
1st sub-pillar: Economy	130	8.06	
4.1.1 High-tech and medium-high-tech manufacturing	102	1.31	
4.1.2 High-tech exports	104	4.91	●
4.1.3 PCT patent applications	96	0.00	○
4.1.4 Growth rate of GDP per person engaged	113	34.66	
4.1.5 Prevalence of gig economy	120	5.46	
4.1.6 ICT services exports	125	2.02	
2nd sub-pillar: Quality of Life	130	19.85	
4.2.1 Happiness	122	13.43	
4.2.2 Freedom to make life choices	128	0.00	○
4.2.3 Income inequality	109	30.47	
4.2.4 Healthy life expectancy at birth	116	35.51	
3rd sub-pillar: SDG Contribution	113	42.54	
4.3.1 SDG 3: Good Health and Well-Being	123	19.67	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	108	4.89	
4.3.4 SDG 7: Affordable and Clean Energy	34	84.11	●
4.3.5 SDG 11: Sustainable Cities and Communities	104	61.50	●

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Argentina

	Rank (out of 130)	Score
Network Readiness Index	**58**	**52.92**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**66**	**44.92**
1st sub-pillar: Access	57	67.99
2nd sub-pillar: Content	54	38.72
3rd sub-pillar: Future Technologies	83	28.04
B. People pillar	**41**	**56.45**
1st sub-pillar: Individuals	2	80.73
2nd sub-pillar: Businesses	65	40.55
3rd sub-pillar: Governments	48	48.08
C. Governance pillar	**62**	**56.15**
1st sub-pillar: Trust	71	39.05
2nd sub-pillar: Regulation	74	62.27
3rd sub-pillar: Inclusion	50	67.12
D. Impact pillar	**69**	**54.15**
1st sub-pillar: Economy	72	34.34
2nd sub-pillar: Quality of Life	67	65.76
3rd sub-pillar: SDG Contribution	63	62.35



Network Readiness Index in detail

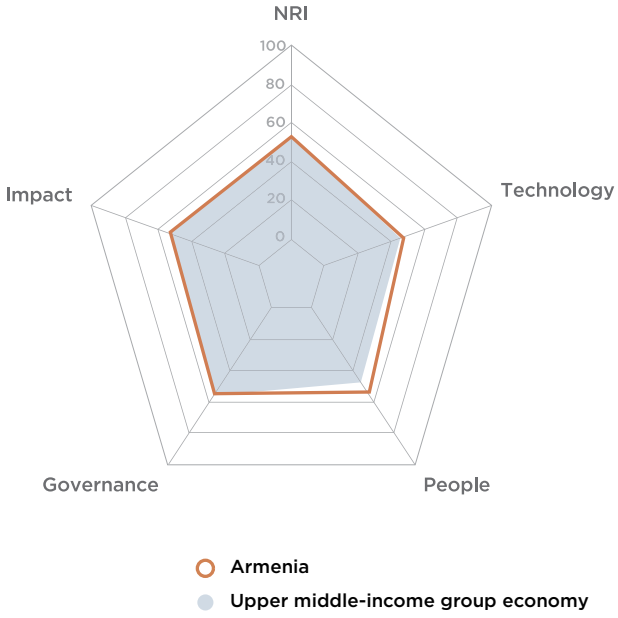
Indicator	Rank	Score	
A. Technology pillar	66	44.92	
1st sub-pillar: Access	57	67.99	
1.1.1 Mobile tariffs	74	55.95	
1.1.2 Handset prices	63	54.33	
1.1.3 Households with internet access	65	76.03	
1.1.4 SMS sent by population 15-69	28	82.06	●
1.1.5 Population covered by at least a 3G mobile network	65	99.60	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	47	39.98	
2nd sub-pillar: Content	54	38.72	
1.2.1 GitHub commits	49	8.24	
1.2.2 Wikipedia edits	56	56.30	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	56	79.23	
1.2.5 AI scientific publications	62	45.07	
3rd sub-pillar: Future Technologies	83	28.04	
1.3.1 Adoption of emerging technologies	51	51.97	
1.3.2 Investment in emerging technologies	83	34.66	
1.3.3 Robot density	38	5.69	
1.3.4 Computer software spending	63	19.84	
B. People pillar	41	56.45	
1st sub-pillar: Individuals	2	80.73	
2.1.1 Active mobile broadband subscriptions	NA	NA	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	28	79.52	●
2.1.4 Tertiary enrollment	6	63.91	●
2.1.5 Adult literacy rate	17	98.75	●
2nd sub-pillar: Businesses	65	40.55	
2.2.1 Firms with website	37	69.20	●
2.2.2 GERD financed by business enterprise	68	22.00	
2.2.3 Professionals	69	23.93	
2.2.4 Technicians and associate professionals	52	40.51	
2.2.5 Annual investment in telecommunication services	23	84.37	●
2.2.6 GERD performed by business enterprise	56	3.30	
3rd sub-pillar: Governments	48	48.08	
2.3.1 Government online services	30	84.25	●
2.3.2 Publication and use of open data	39	37.33	
2.3.3 Government promotion of investment in emerging tech	71	34.93	
2.3.4 R&D expenditure by governments and higher education	51	35.80	

Indicator	Rank	Score	
C. Governance pillar	62	56.15	
1st sub-pillar: Trust	71	39.05	
3.1.1 Secure Internet servers	49	65.53	
3.1.2 Cybersecurity	93	49.24	
3.1.3 Online access to financial account	74	22.93	
3.1.4 Internet shopping	60	18.52	
2nd sub-pillar: Regulation	74	62.27	
3.2.1 Regulatory quality	101	27.70	○
3.2.2 ICT regulatory environment	97	68.82	○
3.2.3 Legal framework's adaptability to emerging technologies	64	42.48	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	51	72.36	
3rd sub-pillar: Inclusion	50	67.12	
3.3.1 E-Participation	29	85.18	●
3.3.2 Socioeconomic gap in use of digital payments	71	54.18	
3.3.3 Availability of local online content	58	64.13	
3.3.4 Gender gap in Internet use	48	63.69	
3.3.5 Rural gap in use of digital payments	61	68.43	
D. Impact pillar	69	54.15	
1st sub-pillar: Economy	72	34.34	
4.1.1 High-tech and medium-high-tech manufacturing	44	34.82	
4.1.2 High-tech exports	76	15.38	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Growth rate of GDP per person engaged	103	45.96	○
4.1.5 Prevalence of gig economy	80	37.00	
4.1.6 ICT services exports	41	38.54	●
2nd sub-pillar: Quality of Life	67	65.76	
4.2.1 Happiness	58	57.95	
4.2.2 Freedom to make life choices	70	76.07	
4.2.3 Income inequality	93	52.34	○
4.2.4 Healthy life expectancy at birth	49	76.66	
3rd sub-pillar: SDG Contribution	63	62.35	
4.3.1 SDG 3: Good Health and Well-Being	39	78.69	●
4.3.2 SDG 4: Quality Education	67	24.86	○
4.3.3 Females employed with advanced degrees	48	50.27	
4.3.4 SDG 7: Affordable and Clean Energy	65	77.16	
4.3.5 SDG 11: Sustainable Cities and Communities	66	80.79	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Armenia

	Rank (out of 130)	Score
Network Readiness Index	**60**	**52.51**
Pillar/sub-pillar	**Rank**	**Score**
A. Technology pillar	**58**	**47.19**
1st sub-pillar: Access	68	64.92
2nd sub-pillar: Content	49	41.41
3rd sub-pillar: Future Technologies	55	35.24
B. People pillar	**47**	**54.30**
1st sub-pillar: Individuals	52	66.15
2nd sub-pillar: Businesses	45	49.53
3rd sub-pillar: Governments	52	47.21
C. Governance pillar	**72**	**52.60**
1st sub-pillar: Trust	90	32.22
2nd sub-pillar: Regulation	65	63.92
3rd sub-pillar: Inclusion	66	61.66
D. Impact pillar	**60**	**55.97**
1st sub-pillar: Economy	62	37.69
2nd sub-pillar: Quality of Life	48	72.92
3rd sub-pillar: SDG Contribution	83	57.30



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	58	47.19	
1st sub-pillar: Access	68	64.92	
1.1.1 Mobile tariffs	81	50.99	
1.1.2 Handset prices	73	49.40	
1.1.3 Households with internet access	63	76.48	
1.1.4 SMS sent by population 15-69	89	72.73	
1.1.5 Population covered by at least a 3G mobile network	1	100.00	●
1.1.6 International Internet bandwidth	42	4.86	
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	49	41.41	
1.2.1 GitHub commits	52	6.75	
1.2.2 Wikipedia edits	2	94.22	●
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	49	81.77	
1.2.5 AI scientific publications	96	19.94	
3rd sub-pillar: Future Technologies	55	35.24	
1.3.1 Adoption of emerging technologies	64	47.72	
1.3.2 Investment in emerging technologies	52	46.26	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	82	11.74	
B. People pillar	47	54.30	
1st sub-pillar: Individuals	52	66.15	
2.1.1 Active mobile broadband subscriptions	101	69.06	○
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	78	60.19	
2.1.4 Tertiary enrollment	60	35.67	
2.1.5 Adult literacy rate	8	99.69	●
2nd sub-pillar: Businesses	45	49.53	
2.2.1 Firms with website	27	76.49	●
2.2.2 GERD financed by business enterprise	70	20.60	
2.2.3 Professionals	40	40.67	
2.2.4 Technicians and associate professionals	57	39.10	
2.2.5 Annual investment in telecommunication services	103	70.81	○
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	52	47.21	
2.3.1 Government online services	67	69.09	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	28	56.93	
2.3.4 R&D expenditure by governments and higher education	83	15.61	

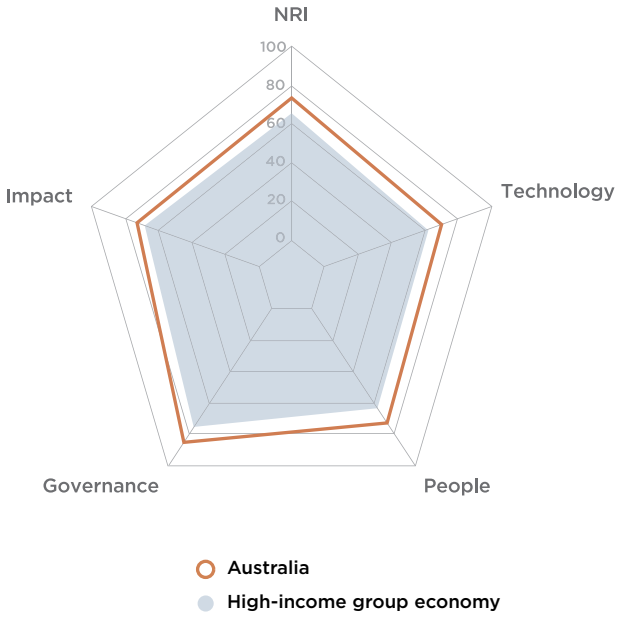
Indicator	Rank	Score	
C. Governance pillar	72	52.60	
1st sub-pillar: Trust	90	32.22	
3.1.1 Secure Internet servers	68	50.87	
3.1.2 Cybersecurity	92	49.60	
3.1.3 Online access to financial account	82	17.52	
3.1.4 Internet shopping	70	10.88	
2nd sub-pillar: Regulation	65	63.92	
3.2.1 Regulatory quality	58	47.92	
3.2.2 ICT regulatory environment	39	87.65	
3.2.3 Legal framework's adaptability to emerging technologies	58	43.81	
3.2.4 E-commerce legislation	76	75.00	○
3.2.5 Privacy protection by law content	69	65.21	
3rd sub-pillar: Inclusion	66	61.66	
3.3.1 E-Participation	56	74.07	
3.3.2 Socioeconomic gap in use of digital payments	94	34.44	○
3.3.3 Availability of local online content	71	59.29	
3.3.4 Gender gap in Internet use	10	71.87	●
3.3.5 Rural gap in use of digital payments	60	68.63	
D. Impact pillar	60	55.97	
1st sub-pillar: Economy	62	37.69	
4.1.1 High-tech and medium-high-tech manufacturing	98	3.06	○
4.1.2 High-tech exports	77	15.05	
4.1.3 PCT patent applications	65	34.62	
4.1.4 Growth rate of GDP per person engaged	13	77.59	●
4.1.5 Prevalence of gig economy	57	46.85	
4.1.6 ICT services exports	20	48.96	●
2nd sub-pillar: Quality of Life	48	72.92	
4.2.1 Happiness	74	49.23	
4.2.2 Freedom to make life choices	55	79.62	
4.2.3 Income inequality	19	86.20	●
4.2.4 Healthy life expectancy at birth	50	76.63	
3rd sub-pillar: SDG Contribution	83	57.30	
4.3.1 SDG 3: Good Health and Well-Being	71	67.21	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	85	20.66	
4.3.4 SDG 7: Affordable and Clean Energy	85	69.97	
4.3.5 SDG 11: Sustainable Cities and Communities	87	71.38	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Australia

	Rank (out of 130)	Score
Network Readiness Index	**13**	**74.96**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**15**	**71.41**
1st sub-pillar: Access	1	93.64
2nd sub-pillar: Content	11	73.31
3rd sub-pillar: Future Technologies	30	47.27
B. People pillar	**13**	**72.10**
1st sub-pillar: Individuals	7	79.18
2nd sub-pillar: Businesses	20	60.69
3rd sub-pillar: Governments	12	76.42
C. Governance pillar	**10**	**85.07**
1st sub-pillar: Trust	8	87.03
2nd sub-pillar: Regulation	14	84.54
3rd sub-pillar: Inclusion	11	83.65
D. Impact pillar	**23**	**71.27**
1st sub-pillar: Economy	38	47.90
2nd sub-pillar: Quality of Life	17	84.49
3rd sub-pillar: SDG Contribution	14	81.43



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	15	71.41	
1st sub-pillar: Access	1	93.64	
1.1.1 Mobile tariffs	17	82.07	
1.1.2 Handset prices	1	100.00	●
1.1.3 Households with internet access	41	86.25	
1.1.4 SMS sent by population 15-69	NA	NA	
1.1.5 Population covered by at least a 3G mobile network	44	99.87	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	11	73.31	
1.2.1 GitHub commits	12	59.95	
1.2.2 Wikipedia edits	21	79.36	
1.2.3 Internet domain registrations	*	*	●
1.2.4 Mobile apps development	16	95.29	
1.2.5 AI scientific publications	12	72.52	
3rd sub-pillar: Future Technologies	30	47.27	
1.3.1 Adoption of emerging technologies	15	82.33	
1.3.2 Investment in emerging technologies	24	65.76	
1.3.3 Robot density	24	20.47	
1.3.4 Computer software spending	61	20.51	
B. People pillar	13	72.10	
1st sub-pillar: Individuals	7	79.18	
2.1.1 Active mobile broadband subscriptions	29	82.07	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	26	80.15	
2.1.4 Tertiary enrollment	3	75.33	●
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	20	60.69	
2.2.1 Firms with website	18	82.01	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	18	53.66	
2.2.4 Technicians and associate professionals	31	55.89	
2.2.5 Annual investment in telecommunication services	6	90.51	●
2.2.6 GERD performed by business enterprise	22	21.39	
3rd sub-pillar: Governments	12	76.42	
2.3.1 Government online services	7	94.55	●
2.3.2 Publication and use of open data	6	81.10	●
2.3.3 Government promotion of investment in emerging tech	36	51.38	
2.3.4 R&D expenditure by governments and higher education	10	78.66	

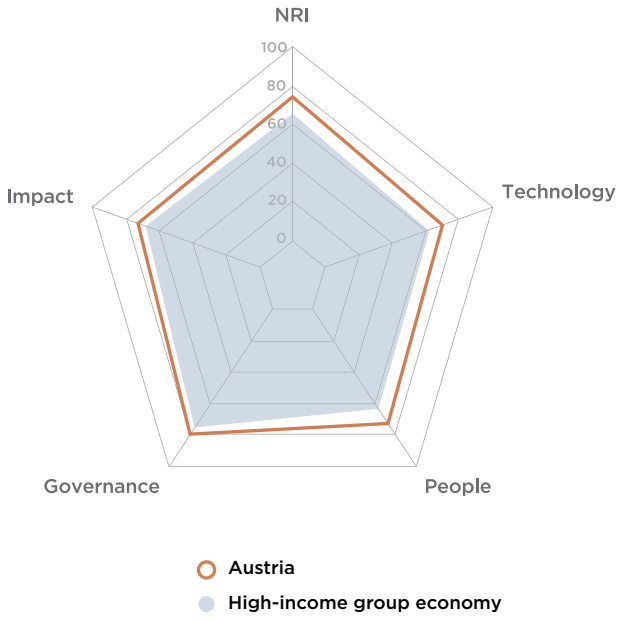
Indicator	Rank	Score	
C. Governance pillar	10	85.07	
1st sub-pillar: Trust	8	87.03	
3.1.1 Secure Internet servers	18	84.52	
3.1.2 Cybersecurity	17	97.43	
3.1.3 Online access to financial account	11	79.37	
3.1.4 Internet shopping	10	86.81	●
2nd sub-pillar: Regulation	14	84.54	
3.2.1 Regulatory quality	4	92.16	●
3.2.2 ICT regulatory environment	11	94.71	
3.2.3 Legal framework's adaptability to emerging technologies	17	70.66	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	70	65.16	○
3rd sub-pillar: Inclusion	11	83.65	
3.3.1 E-Participation	9	96.30	
3.3.2 Socioeconomic gap in use of digital payments	10	96.18	
3.3.3 Availability of local online content	8	93.01	●
3.3.4 Gender gap in Internet use	35	65.98	
3.3.5 Rural gap in use of digital payments	64	66.79	
D. Impact pillar	23	71.27	
1st sub-pillar: Economy	38	47.90	
4.1.1 High-tech and medium-high-tech manufacturing	49	30.02	
4.1.2 High-tech exports	57	29.58	
4.1.3 PCT patent applications	25	71.09	
4.1.4 Growth rate of GDP per person engaged	85	52.24	○
4.1.5 Prevalence of gig economy	11	82.16	
4.1.6 ICT services exports	77	22.30	○
2nd sub-pillar: Quality of Life	17	84.49	
4.2.1 Happiness	13	84.10	
4.2.2 Freedom to make life choices	31	89.95	
4.2.3 Income inequality	47	74.48	
4.2.4 Healthy life expectancy at birth	22	89.42	
3rd sub-pillar: SDG Contribution	14	81.43	
4.3.1 SDG 3: Good Health and Well-Being	2	96.72	●
4.3.2 SDG 4: Quality Education	20	67.32	
4.3.3 Females employed with advanced degrees	21	74.88	
4.3.4 SDG 7: Affordable and Clean Energy	79	72.84	○
4.3.5 SDG 11: Sustainable Cities and Communities	19	95.38	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Austria

	Rank (out of 130)	Score
Network Readiness Index	**15**	**74.37**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**17**	**70.66**
1st sub-pillar: Access	20	86.14
2nd sub-pillar: Content	15	66.53
3rd sub-pillar: Future Technologies	17	59.31
B. People pillar	**10**	**73.29**
1st sub-pillar: Individuals	18	74.57
2nd sub-pillar: Businesses	11	69.26
3rd sub-pillar: Governments	13	76.04
C. Governance pillar	**18**	**80.43**
1st sub-pillar: Trust	24	73.37
2nd sub-pillar: Regulation	15	84.46
3rd sub-pillar: Inclusion	12	83.47
D. Impact pillar	**19**	**73.12**
1st sub-pillar: Economy	23	54.81
2nd sub-pillar: Quality of Life	11	87.52
3rd sub-pillar: SDG Contribution	29	77.02



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	17	70.66	
1st sub-pillar: Access	20	86.14	
1.1.1 Mobile tariffs	7	89.96	●
1.1.2 Handset prices	24	74.97	
1.1.3 Households with internet access	30	90.56	
1.1.4 SMS sent by population 15-69	71	75.75	○
1.1.5 Population covered by at least a 3G mobile network	70	99.46	○
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	15	66.53	
1.2.1 GitHub commits	21	43.38	
1.2.2 Wikipedia edits	25	77.05	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	1	100.00	●
1.2.5 AI scientific publications	34	59.34	
3rd sub-pillar: Future Technologies	17	59.31	
1.3.1 Adoption of emerging technologies	21	74.59	
1.3.2 Investment in emerging technologies	26	64.42	
1.3.3 Robot density	13	51.90	
1.3.4 Computer software spending	16	46.33	
B. People pillar	10	73.29	
1st sub-pillar: Individuals	18	74.57	
2.1.1 Active mobile broadband subscriptions	56	76.19	
2.1.2 ICT skills	9	81.50	
2.1.3 Use of virtual social networks	26	80.15	
2.1.4 Tertiary enrollment	13	60.46	
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	11	69.26	
2.2.1 Firms with website	5	93.64	●
2.2.2 GERD financed by business enterprise	22	66.29	
2.2.3 Professionals	22	48.66	
2.2.4 Technicians and associate professionals	13	74.37	
2.2.5 Annual investment in telecommunication services	38	81.83	
2.2.6 GERD performed by business enterprise	7	50.76	●
3rd sub-pillar: Governments	13	76.04	
2.3.1 Government online services	7	94.55	●
2.3.2 Publication and use of open data	14	70.14	
2.3.3 Government promotion of investment in emerging tech	32	53.81	
2.3.4 R&D expenditure by governments and higher education	7	85.68	●

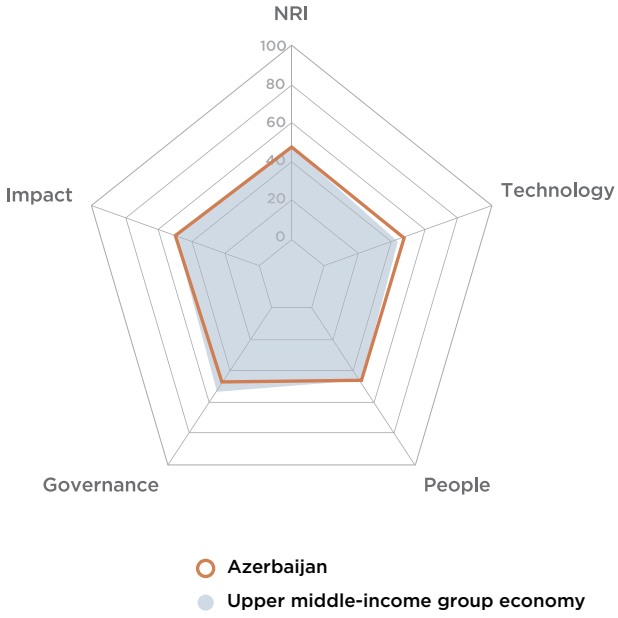
Indicator	Rank	Score	
C. Governance pillar	18	80.43	
1st sub-pillar: Trust	24	73.37	
3.1.1 Secure Internet servers	22	83.21	
3.1.2 Cybersecurity	36	93.78	
3.1.3 Online access to financial account	22	59.89	
3.1.4 Internet shopping	29	56.59	
2nd sub-pillar: Regulation	15	84.46	
3.2.1 Regulatory quality	17	80.87	
3.2.2 ICT regulatory environment	37	88.82	
3.2.3 Legal framework's adaptability to emerging technologies	18	67.88	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	24	84.74	
3rd sub-pillar: Inclusion	12	83.47	
3.3.1 E-Participation	6	97.53	●
3.3.2 Socioeconomic gap in use of digital payments	19	94.00	
3.3.3 Availability of local online content	22	85.27	
3.3.4 Gender gap in Internet use	58	61.01	○
3.3.5 Rural gap in use of digital payments	9	79.51	●
D. Impact pillar	19	73.12	
1st sub-pillar: Economy	23	54.81	
4.1.1 High-tech and medium-high-tech manufacturing	16	58.29	
4.1.2 High-tech exports	25	55.22	
4.1.3 PCT patent applications	11	83.42	●
4.1.4 Growth rate of GDP per person engaged	89	51.42	○
4.1.5 Prevalence of gig economy	78	37.17	○
4.1.6 ICT services exports	25	43.32	
2nd sub-pillar: Quality of Life	11	87.52	
4.2.1 Happiness	11	85.71	●
4.2.2 Freedom to make life choices	27	91.08	
4.2.3 Income inequality	23	83.85	
4.2.4 Healthy life expectancy at birth	21	89.44	
3rd sub-pillar: SDG Contribution	29	77.02	
4.3.1 SDG 3: Good Health and Well-Being	25	83.61	
4.3.2 SDG 4: Quality Education	28	64.07	
4.3.3 Females employed with advanced degrees	36	58.52	
4.3.4 SDG 7: Affordable and Clean Energy	39	83.39	
4.3.5 SDG 11: Sustainable Cities and Communities	18	95.50	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Azerbaijan

	Rank (out of 130)	Score
Network Readiness Index	**76**	**47.56**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**62**	**45.93**
1st sub-pillar: Access	76	59.94
2nd sub-pillar: Content	78	32.50
3rd sub-pillar: Future Technologies	34	45.35
B. People pillar	**77**	**45.19**
1st sub-pillar: Individuals	98	48.85
2nd sub-pillar: Businesses	74	35.45
3rd sub-pillar: Governments	41	51.26
C. Governance pillar	**88**	**47.24**
1st sub-pillar: Trust	74	36.92
2nd sub-pillar: Regulation	98	53.52
3rd sub-pillar: Inclusion	92	51.29
D. Impact pillar	**77**	**51.90**
1st sub-pillar: Economy	83	31.90
2nd sub-pillar: Quality of Life	79	62.96
3rd sub-pillar: SDG Contribution	72	60.83



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	62	45.93	
1st sub-pillar: Access	76	59.94	
1.1.1 Mobile tariffs	63	60.32	
1.1.2 Handset prices	65	52.84	
1.1.3 Households with internet access	59	79.20	
1.1.4 SMS sent by population 15-69	108	68.55	
1.1.5 Population covered by at least a 3G mobile network	75	99.36	
1.1.6 International Internet bandwidth	37	5.67	
1.1.7 Internet access in schools	40	53.63	
2nd sub-pillar: Content	78	32.50	
1.2.1 GitHub commits	97	0.92	
1.2.2 Wikipedia edits	52	60.54	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	77	70.61	
1.2.5 AI scientific publications	82	29.16	
3rd sub-pillar: Future Technologies	34	45.35	
1.3.1 Adoption of emerging technologies	34	62.72	●
1.3.2 Investment in emerging technologies	23	67.18	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	95	6.15	
B. People pillar	77	45.19	
1st sub-pillar: Individuals	98	48.85	
2.1.1 Active mobile broadband subscriptions	70	74.82	
2.1.2 ICT skills	66	7.08	○
2.1.3 Use of virtual social networks	97	40.96	
2.1.4 Tertiary enrollment	82	21.63	
2.1.5 Adult literacy rate	6	99.76	●
2nd sub-pillar: Businesses	74	35.45	
2.2.1 Firms with website	96	27.19	
2.2.2 GERD financed by business enterprise	56	38.04	
2.2.3 Professionals	53	30.04	
2.2.4 Technicians and associate professionals	54	39.90	
2.2.5 Annual investment in telecommunication services	66	77.37	
2.2.6 GERD performed by business enterprise	84	0.17	○
3rd sub-pillar: Governments	41	51.26	
2.3.1 Government online services	64	69.70	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	19	69.29	
2.3.4 R&D expenditure by governments and higher education	84	14.77	

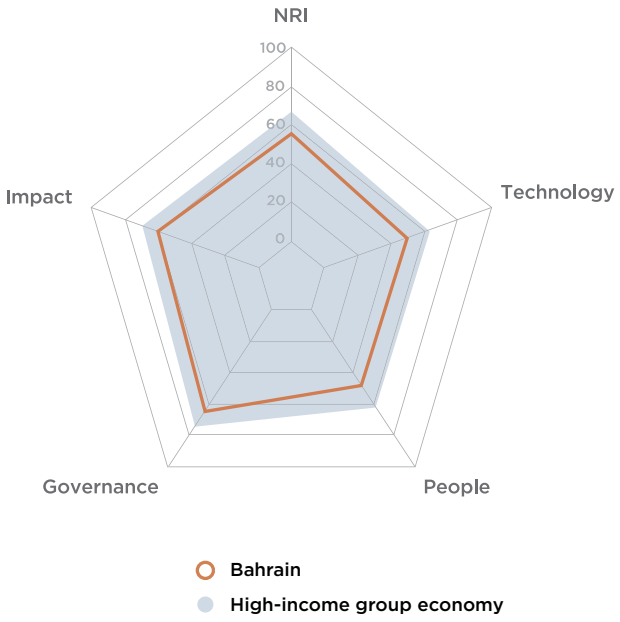
Indicator	Rank	Score	
C. Governance pillar	88	47.24	
1st sub-pillar: Trust	74	36.92	
3.1.1 Secure Internet servers	83	45.47	
3.1.2 Cybersecurity	48	89.12	●
3.1.3 Online access to financial account	111	6.93	○
3.1.4 Internet shopping	86	6.15	
2nd sub-pillar: Regulation	98	53.52	
3.2.1 Regulatory quality	88	34.95	
3.2.2 ICT regulatory environment	114	61.18	
3.2.3 Legal framework's adaptability to emerging technologies	26	64.46	●
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	121	32.00	○
3rd sub-pillar: Inclusion	92	51.29	
3.3.1 E-Participation	71	67.90	
3.3.2 Socioeconomic gap in use of digital payments	102	28.62	
3.3.3 Availability of local online content	23	85.01	●
3.3.4 Gender gap in Internet use	76	54.19	
3.3.5 Rural gap in use of digital payments	118	20.72	○
D. Impact pillar	77	51.90	
1st sub-pillar: Economy	83	31.90	
4.1.1 High-tech and medium-high-tech manufacturing	71	17.21	
4.1.2 High-tech exports	110	3.40	
4.1.3 PCT patent applications	76	25.52	
4.1.4 Growth rate of GDP per person engaged	44	64.67	●
4.1.5 Prevalence of gig economy	15	73.58	●
4.1.6 ICT services exports	109	7.03	
2nd sub-pillar: Quality of Life	79	62.96	
4.2.1 Happiness	90	42.57	
4.2.2 Freedom to make life choices	51	81.30	
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	88	65.00	
3rd sub-pillar: SDG Contribution	72	60.83	
4.3.1 SDG 3: Good Health and Well-Being	86	60.66	
4.3.2 SDG 4: Quality Education	63	27.81	
4.3.3 Females employed with advanced degrees	55	42.36	
4.3.4 SDG 7: Affordable and Clean Energy	51	80.83	
4.3.5 SDG 11: Sustainable Cities and Communities	31	92.51	●

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Bahrain

	Rank (out of 130)	Score
Network Readiness Index	**51**	**56.09**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**47**	**50.82**
1st sub-pillar: Access	49	71.35
2nd sub-pillar: Content	77	33.45
3rd sub-pillar: Future Technologies	27	47.66
B. People pillar	**66**	**48.58**
1st sub-pillar: Individuals	25	72.97
2nd sub-pillar: Businesses	97	29.46
3rd sub-pillar: Governments	67	43.31
C. Governance pillar	**46**	**63.93**
1st sub-pillar: Trust	56	49.30
2nd sub-pillar: Regulation	58	66.11
3rd sub-pillar: Inclusion	30	76.38
D. Impact pillar	**45**	**61.05**
1st sub-pillar: Economy	74	34.10
2nd sub-pillar: Quality of Life	32	77.64
3rd sub-pillar: SDG Contribution	36	71.41



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	47	50.82	
1st sub-pillar: Access	49	71.35	
1.1.1 Mobile tariffs	73	56.08	
1.1.2 Handset prices	29	73.29	
1.1.3 Households with internet access	3	99.87	●
1.1.4 SMS sent by population 15-69	117	63.83	○
1.1.5 Population covered by at least a 3G mobile network	1	100.00	●
1.1.6 International Internet bandwidth	30	6.35	
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	77	33.45	
1.2.1 GitHub commits	95	1.00	
1.2.2 Wikipedia edits	58	55.06	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	48	81.78	
1.2.5 AI scientific publications	86	26.84	
3rd sub-pillar: Future Technologies	27	47.66	
1.3.1 Adoption of emerging technologies	30	65.71	
1.3.2 Investment in emerging technologies	NA	NA	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	30	29.61	
B. People pillar	66	48.58	
1st sub-pillar: Individuals	25	72.97	
2.1.1 Active mobile broadband subscriptions	106	67.37	
2.1.2 ICT skills	16	74.61	●
2.1.3 Use of virtual social networks	7	87.53	●
2.1.4 Tertiary enrollment	52	38.59	
2.1.5 Adult literacy rate	33	96.77	
2nd sub-pillar: Businesses	97	29.46	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	64	26.89	
2.2.3 Professionals	87	17.86	
2.2.4 Technicians and associate professionals	75	26.16	
2.2.5 Annual investment in telecommunication services	72	76.08	
2.2.6 GERD performed by business enterprise	80	0.33	○
3rd sub-pillar: Governments	67	43.31	
2.3.1 Government online services	45	78.18	
2.3.2 Publication and use of open data	74	18.68	
2.3.3 Government promotion of investment in emerging tech	17	71.17	
2.3.4 R&D expenditure by governments and higher education	100	5.22	○

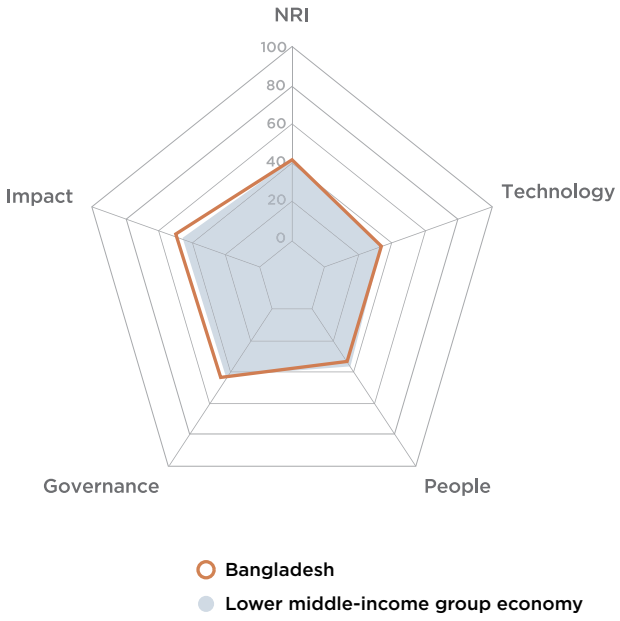
Indicator	Rank	Score	
C. Governance pillar	46	63.93	
1st sub-pillar: Trust	56	49.30	
3.1.1 Secure Internet servers	77	47.64	
3.1.2 Cybersecurity	67	77.47	
3.1.3 Online access to financial account	45	40.00	
3.1.4 Internet shopping	42	32.09	
2nd sub-pillar: Regulation	58	66.11	
3.2.1 Regulatory quality	50	54.34	
3.2.2 ICT regulatory environment	54	85.69	
3.2.3 Legal framework's adaptability to emerging technologies	25	64.62	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	123	25.90	○
3rd sub-pillar: Inclusion	30	76.38	
3.3.1 E-Participation	50	76.54	
3.3.2 Socioeconomic gap in use of digital payments	47	72.64	
3.3.3 Availability of local online content	13	88.80	●
3.3.4 Gender gap in Internet use	22	68.65	
3.3.5 Rural gap in use of digital payments	30	75.26	
D. Impact pillar	45	61.05	
1st sub-pillar: Economy	74	34.10	
4.1.1 High-tech and medium-high-tech manufacturing	85	10.05	
4.1.2 High-tech exports	89	8.90	
4.1.3 PCT patent applications	84	19.00	
4.1.4 Growth rate of GDP per person engaged	68	58.05	
4.1.5 Prevalence of gig economy	24	66.86	●
4.1.6 ICT services exports	31	41.73	
2nd sub-pillar: Quality of Life	32	77.64	
4.2.1 Happiness	41	63.71	
4.2.2 Freedom to make life choices	9	96.72	●
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	68	72.47	
3rd sub-pillar: SDG Contribution	36	71.41	
4.3.1 SDG 3: Good Health and Well-Being	34	80.33	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	NA	NA	
4.3.4 SDG 7: Affordable and Clean Energy	122	38.90	○
4.3.5 SDG 11: Sustainable Cities and Communities	23	95.00	●

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Bangladesh

	Rank (out of 130)	Score
Network Readiness Index	**95**	**40.93**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**94**	**33.82**
1st sub-pillar: Access	94	50.17
2nd sub-pillar: Content	91	27.34
3rd sub-pillar: Future Technologies	99	23.96
B. People pillar	**104**	**34.54**
1st sub-pillar: Individuals	113	39.00
2nd sub-pillar: Businesses	96	29.47
3rd sub-pillar: Governments	90	35.16
C. Governance pillar	**92**	**46.04**
1st sub-pillar: Trust	84	34.01
2nd sub-pillar: Regulation	113	44.45
3rd sub-pillar: Inclusion	75	59.66
D. Impact pillar	**85**	**49.31**
1st sub-pillar: Economy	82	32.13
2nd sub-pillar: Quality of Life	69	65.00
3rd sub-pillar: SDG Contribution	97	50.81



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	94	33.82	
1st sub-pillar: Access	94	50.17	
1.1.1 Mobile tariffs	54	65.23	●
1.1.2 Handset prices	92	39.43	
1.1.3 Households with internet access	93	37.50	
1.1.4 SMS sent by population 15-69	14	87.12	●
1.1.5 Population covered by at least a 3G mobile network	76	99.30	
1.1.6 International Internet bandwidth	20	18.43	●
1.1.7 Internet access in schools	66	4.14	
2nd sub-pillar: Content	91	27.34	
1.2.1 GitHub commits	96	0.94	
1.2.2 Wikipedia edits	107	26.57	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	107	53.02	
1.2.5 AI scientific publications	45	55.96	●
3rd sub-pillar: Future Technologies	99	23.96	
1.3.1 Adoption of emerging technologies	106	27.75	
1.3.2 Investment in emerging technologies	98	29.07	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	74	15.06	
B. People pillar	104	34.54	
1st sub-pillar: Individuals	113	39.00	
2.1.1 Active mobile broadband subscriptions	10	86.84	●
2.1.2 ICT skills	72	0.00	○
2.1.3 Use of virtual social networks	104	25.36	
2.1.4 Tertiary enrollment	91	16.33	
2.1.5 Adult literacy rate	87	66.44	
2nd sub-pillar: Businesses	96	29.47	
2.2.1 Firms with website	103	19.44	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	111	10.98	
2.2.4 Technicians and associate professionals	116	7.14	○
2.2.5 Annual investment in telecommunication services	45	80.32	●
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	90	35.16	
2.3.1 Government online services	83	60.00	
2.3.2 Publication and use of open data	90	10.32	
2.3.3 Government promotion of investment in emerging tech	70	35.16	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

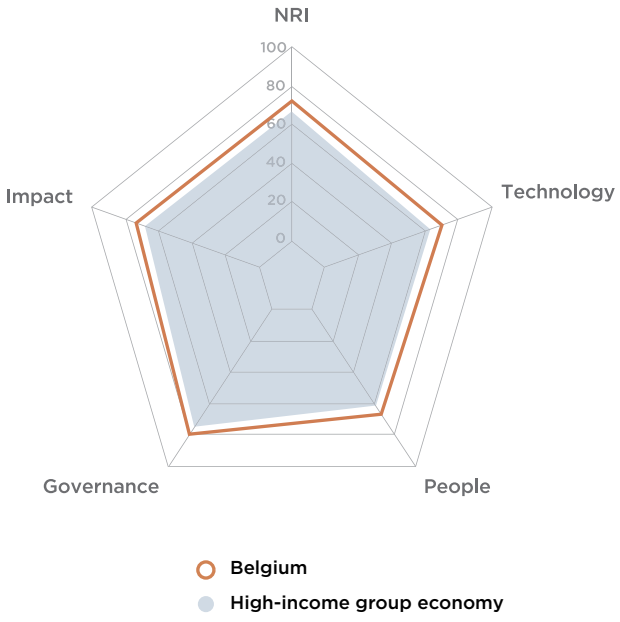
Indicator	Rank	Score	
C. Governance pillar	92	46.04	
1st sub-pillar: Trust	84	34.01	
3.1.1 Secure Internet servers	95	39.43	
3.1.2 Cybersecurity	61	80.94	
3.1.3 Online access to financial account	93	14.08	
3.1.4 Internet shopping	117	1.59	○
2nd sub-pillar: Regulation	113	44.45	
3.2.1 Regulatory quality	122	15.82	○
3.2.2 ICT regulatory environment	113	61.37	
3.2.3 Legal framework's adaptability to emerging technologies	104	18.21	
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	96	51.84	
3rd sub-pillar: Inclusion	75	59.66	
3.3.1 E-Participation	89	55.55	
3.3.2 Socioeconomic gap in use of digital payments	74	53.09	
3.3.3 Availability of local online content	89	50.03	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	7	79.95	●
D. Impact pillar	85	49.31	
1st sub-pillar: Economy	82	32.13	
4.1.1 High-tech and medium-high-tech manufacturing	87	9.50	
4.1.2 High-tech exports	101	5.71	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Growth rate of GDP per person engaged	1	100.00	●
4.1.5 Prevalence of gig economy	101	25.67	
4.1.6 ICT services exports	82	19.79	
2nd sub-pillar: Quality of Life	69	65.00	
4.2.1 Happiness	86	44.83	
4.2.2 Freedom to make life choices	84	68.29	
4.2.3 Income inequality	30	79.69	●
4.2.4 Healthy life expectancy at birth	82	67.17	
3rd sub-pillar: SDG Contribution	97	50.81	
4.3.1 SDG 3: Good Health and Well-Being	107	32.79	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	113	3.71	○
4.3.4 SDG 7: Affordable and Clean Energy	18	88.02	●
4.3.5 SDG 11: Sustainable Cities and Communities	71	78.74	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Belgium

	Rank (out of 130)	Score
Network Readiness Index	**18**	**72.57**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**19**	**69.55**
1st sub-pillar: Access	19	86.58
2nd sub-pillar: Content	20	63.26
3rd sub-pillar: Future Technologies	18	58.81
B. People pillar	**18**	**67.11**
1st sub-pillar: Individuals	43	69.33
2nd sub-pillar: Businesses	10	69.95
3rd sub-pillar: Governments	22	62.05
C. Governance pillar	**19**	**80.06**
1st sub-pillar: Trust	15	80.83
2nd sub-pillar: Regulation	24	81.25
3rd sub-pillar: Inclusion	23	78.10
D. Impact pillar	**17**	**73.55**
1st sub-pillar: Economy	21	57.02
2nd sub-pillar: Quality of Life	21	81.42
3rd sub-pillar: SDG Contribution	12	82.22



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	19	69.55	
1st sub-pillar: Access	19	86.58	
1.1.1 Mobile tariffs	46	69.65	
1.1.2 Handset prices	1	100.00	●
1.1.3 Households with internet access	28	91.02	
1.1.4 SMS sent by population 15-69	119	58.79	○
1.1.5 Population covered by at least a 3G mobile network	1	100.00	●
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	20	63.26	
1.2.1 GitHub commits	22	42.49	
1.2.2 Wikipedia edits	14	81.91	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	35	88.37	
1.2.5 AI scientific publications	33	59.36	
3rd sub-pillar: Future Technologies	18	58.81	
1.3.1 Adoption of emerging technologies	NA	NA	
1.3.2 Investment in emerging technologies	21	67.50	
1.3.3 Robot density	9	58.79	
1.3.4 Computer software spending	6	50.12	●
B. People pillar	18	67.11	
1st sub-pillar: Individuals	43	69.33	
2.1.1 Active mobile broadband subscriptions	50	76.53	
2.1.2 ICT skills	21	69.71	
2.1.3 Use of virtual social networks	42	76.09	
2.1.4 Tertiary enrollment	21	54.97	
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	10	69.95	
2.2.1 Firms with website	8	89.24	●
2.2.2 GERD financed by business enterprise	9	78.54	●
2.2.3 Professionals	11	61.46	●
2.2.4 Technicians and associate professionals	26	60.09	
2.2.5 Annual investment in telecommunication services	24	83.99	
2.2.6 GERD performed by business enterprise	9	46.38	●
3rd sub-pillar: Governments	22	62.05	
2.3.1 Government online services	74	64.85	
2.3.2 Publication and use of open data	29	45.13	
2.3.3 Government promotion of investment in emerging tech	NA	NA	
2.3.4 R&D expenditure by governments and higher education	11	76.18	●

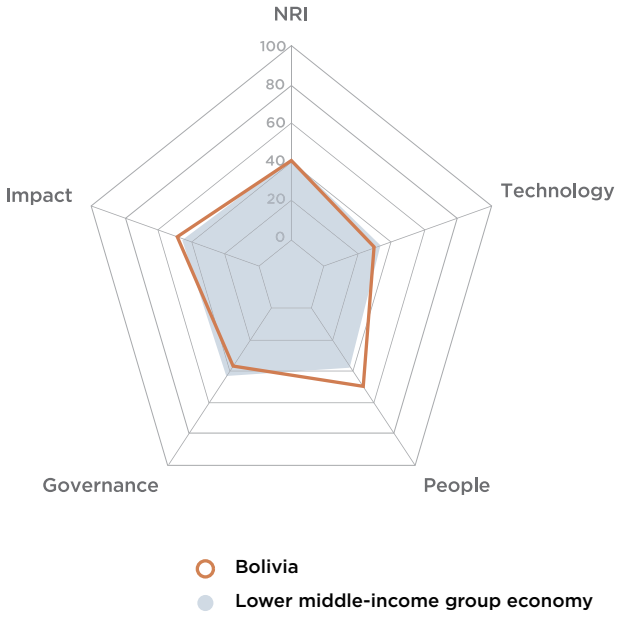
Indicator	Rank	Score	
C. Governance pillar	19	80.06	
1st sub-pillar: Trust	15	80.83	
3.1.1 Secure Internet servers	28	80.54	
3.1.2 Cybersecurity	26	96.18	
3.1.3 Online access to financial account	13	73.15	
3.1.4 Internet shopping	14	73.44	
2nd sub-pillar: Regulation	24	81.25	
3.2.1 Regulatory quality	22	76.29	
3.2.2 ICT regulatory environment	25	92.94	
3.2.3 Legal framework's adaptability to emerging technologies	NA	NA	
3.2.4 E-commerce legislation	76	75.00	○
3.2.5 Privacy protection by law content	32	80.77	
3rd sub-pillar: Inclusion	23	78.10	
3.3.1 E-Participation	75	64.20	○
3.3.2 Socioeconomic gap in use of digital payments	6	97.43	●
3.3.3 Availability of local online content	24	84.52	
3.3.4 Gender gap in Internet use	33	66.28	
3.3.5 Rural gap in use of digital payments	13	78.08	
D. Impact pillar	17	73.55	
1st sub-pillar: Economy	21	57.02	
4.1.1 High-tech and medium-high-tech manufacturing	26	51.45	
4.1.2 High-tech exports	16	63.66	
4.1.3 PCT patent applications	17	79.25	
4.1.4 Growth rate of GDP per person engaged	98	47.48	○
4.1.5 Prevalence of gig economy	NA	NA	
4.1.6 ICT services exports	26	43.26	
2nd sub-pillar: Quality of Life	21	81.42	
4.2.1 Happiness	20	77.79	
4.2.2 Freedom to make life choices	90	66.50	○
4.2.3 Income inequality	8	93.23	●
4.2.4 Healthy life expectancy at birth	26	88.15	
3rd sub-pillar: SDG Contribution	12	82.22	
4.3.1 SDG 3: Good Health and Well-Being	10	91.80	●
4.3.2 SDG 4: Quality Education	19	67.69	
4.3.3 Females employed with advanced degrees	13	84.16	
4.3.4 SDG 7: Affordable and Clean Energy	74	73.40	
4.3.5 SDG 11: Sustainable Cities and Communities	27	94.05	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Bolivia

	Rank (out of 130)	Score
Network Readiness Index	**94**	**41.08**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**105**	**29.49**
1st sub-pillar: Access	103	44.79
2nd sub-pillar: Content	101	22.51
3rd sub-pillar: Future Technologies	106	21.17
B. People pillar	**59**	**50.42**
1st sub-pillar: Individuals	8	78.75
2nd sub-pillar: Businesses	61	42.07
3rd sub-pillar: Governments	96	30.43
C. Governance pillar	**110**	**37.08**
1st sub-pillar: Trust	115	19.08
2nd sub-pillar: Regulation	117	39.17
3rd sub-pillar: Inclusion	84	53.00
D. Impact pillar	**91**	**47.31**
1st sub-pillar: Economy	111	19.97
2nd sub-pillar: Quality of Life	73	63.84
3rd sub-pillar: SDG Contribution	81	58.12



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	105	29.49	
1st sub-pillar: Access	103	44.79	
1.1.1 Mobile tariffs	91	45.23	
1.1.2 Handset prices	93	38.97	
1.1.3 Households with internet access	86	55.17	
1.1.4 SMS sent by population 15-69	110	67.71	
1.1.5 Population covered by at least a 3G mobile network	93	97.62	
1.1.6 International Internet bandwidth	58	1.28	
1.1.7 Internet access in schools	63	7.52	
2nd sub-pillar: Content	101	22.51	
1.2.1 GitHub commits	82	1.77	
1.2.2 Wikipedia edits	93	33.05	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	90	66.14	
1.2.5 AI scientific publications	113	10.59	
3rd sub-pillar: Future Technologies	106	21.17	
1.3.1 Adoption of emerging technologies	105	27.75	
1.3.2 Investment in emerging technologies	126	12.03	○
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	44	23.74	●
B. People pillar	59	50.42	
1st sub-pillar: Individuals	8	78.75	
2.1.1 Active mobile broadband subscriptions	55	76.28	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	57	69.65	●
2.1.4 Tertiary enrollment	NA	NA	
2.1.5 Adult literacy rate	59	90.32	
2nd sub-pillar: Businesses	61	42.07	
2.2.1 Firms with website	68	46.17	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	78	19.73	
2.2.4 Technicians and associate professionals	86	22.54	
2.2.5 Annual investment in telecommunication services	47	79.85	●
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	96	30.43	
2.3.1 Government online services	87	56.98	
2.3.2 Publication and use of open data	56	27.67	●
2.3.3 Government promotion of investment in emerging tech	121	6.63	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

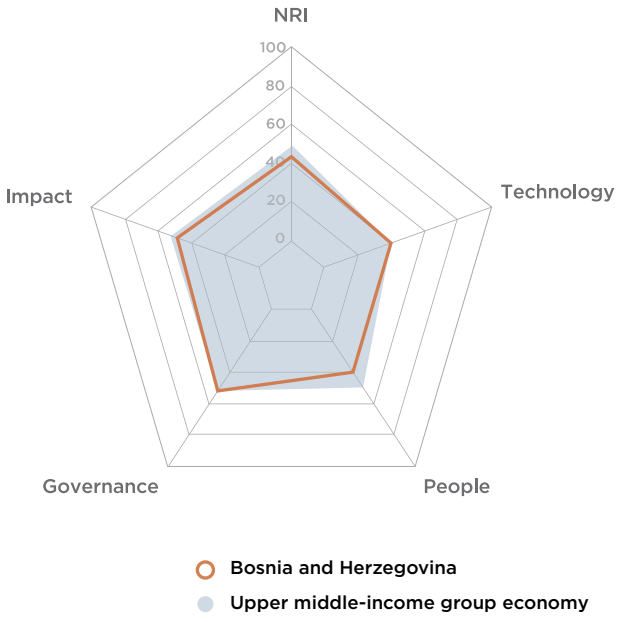
Indicator	Rank	Score	
C. Governance pillar	110	37.08	
1st sub-pillar: Trust	115	19.08	
3.1.1 Secure Internet servers	90	42.66	
3.1.2 Cybersecurity	120	14.66	
3.1.3 Online access to financial account	98	12.41	
3.1.4 Internet shopping	83	6.61	
2nd sub-pillar: Regulation	117	39.17	
3.2.1 Regulatory quality	124	14.06	○
3.2.2 ICT regulatory environment	119	57.06	
3.2.3 Legal framework's adaptability to emerging technologies	122	6.48	○
3.2.4 E-commerce legislation	112	50.00	
3.2.5 Privacy protection by law content	64	68.23	●
3rd sub-pillar: Inclusion	84	53.00	
3.3.1 E-Participation	85	58.02	
3.3.2 Socioeconomic gap in use of digital payments	79	47.57	
3.3.3 Availability of local online content	113	28.29	
3.3.4 Gender gap in Internet use	68	57.72	
3.3.5 Rural gap in use of digital payments	42	73.42	●
D. Impact pillar	91	47.31	
1st sub-pillar: Economy	111	19.97	
4.1.1 High-tech and medium-high-tech manufacturing	90	7.21	
4.1.2 High-tech exports	88	9.07	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Growth rate of GDP per person engaged	53	61.97	●
4.1.5 Prevalence of gig economy	121	5.31	○
4.1.6 ICT services exports	85	16.29	
2nd sub-pillar: Quality of Life	73	63.84	
4.2.1 Happiness	69	50.73	●
4.2.2 Freedom to make life choices	40	85.17	●
4.2.3 Income inequality	84	55.73	
4.2.4 Healthy life expectancy at birth	89	63.74	
3rd sub-pillar: SDG Contribution	81	58.12	
4.3.1 SDG 3: Good Health and Well-Being	77	65.57	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	80	25.24	
4.3.4 SDG 7: Affordable and Clean Energy	80	72.12	
4.3.5 SDG 11: Sustainable Cities and Communities	94	69.53	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Bosnia and Herzegovina

	Rank (out of 130)	Score
Network Readiness Index	**86**	**44.71**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**80**	**39.67**
1st sub-pillar: Access	61	66.97
2nd sub-pillar: Content	57	37.68
3rd sub-pillar: Future Technologies	125	14.34
B. People pillar	**93**	**39.58**
1st sub-pillar: Individuals	81	58.08
2nd sub-pillar: Businesses	60	42.11
3rd sub-pillar: Governments	123	18.54
C. Governance pillar	**81**	**50.43**
1st sub-pillar: Trust	97	29.57
2nd sub-pillar: Regulation	68	63.74
3rd sub-pillar: Inclusion	78	57.98
D. Impact pillar	**86**	**49.17**
1st sub-pillar: Economy	78	32.78
2nd sub-pillar: Quality of Life	64	66.70
3rd sub-pillar: SDG Contribution	103	48.05



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	80	39.67	
1st sub-pillar: Access	61	66.97	
1.1.1 Mobile tariffs	92	44.62	
1.1.2 Handset prices	75	47.94	
1.1.3 Households with internet access	71	72.91	
1.1.4 SMS sent by population 15-69	99	70.76	
1.1.5 Population covered by at least a 3G mobile network	82	98.64	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	57	37.68	
1.2.1 GitHub commits	54	6.66	
1.2.2 Wikipedia edits	42	68.74	●
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	78	70.13	
1.2.5 AI scientific publications	70	39.79	
3rd sub-pillar: Future Technologies	125	14.34	
1.3.1 Adoption of emerging technologies	95	33.05	
1.3.2 Investment in emerging technologies	123	16.99	○
1.3.3 Robot density	53	0.32	○
1.3.4 Computer software spending	92	7.00	
B. People pillar	93	39.58	
1st sub-pillar: Individuals	81	58.08	
2.1.1 Active mobile broadband subscriptions	110	66.26	○
2.1.2 ICT skills	44	45.98	
2.1.3 Use of virtual social networks	85	54.26	
2.1.4 Tertiary enrollment	73	27.72	
2.1.5 Adult literacy rate	35	96.16	●
2nd sub-pillar: Businesses	60	42.11	
2.2.1 Firms with website	40	67.81	●
2.2.2 GERD financed by business enterprise	51	44.63	
2.2.3 Professionals	68	24.57	
2.2.4 Technicians and associate professionals	56	39.38	
2.2.5 Annual investment in telecommunication services	81	74.78	
2.2.6 GERD performed by business enterprise	64	1.52	
3rd sub-pillar: Governments	123	18.54	
2.3.1 Government online services	94	52.12	
2.3.2 Publication and use of open data	95	7.76	○
2.3.3 Government promotion of investment in emerging tech	123	4.53	
2.3.4 R&D expenditure by governments and higher education	89	9.76	

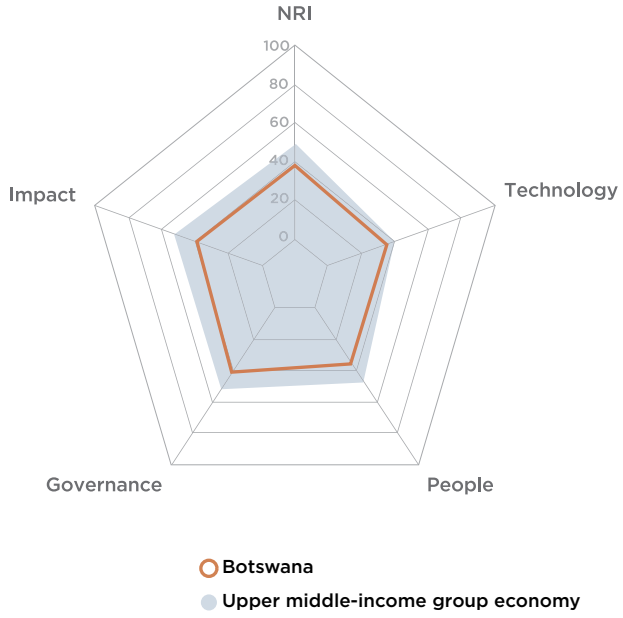
Indicator	Rank	Score	
C. Governance pillar	81	50.43	
1st sub-pillar: Trust	97	29.57	
3.1.1 Secure Internet servers	52	64.31	●
3.1.2 Cybersecurity	107	28.20	
3.1.3 Online access to financial account	100	10.71	
3.1.4 Internet shopping	66	15.07	
2nd sub-pillar: Regulation	68	63.74	
3.2.1 Regulatory quality	83	35.84	
3.2.2 ICT regulatory environment	35	89.41	●
3.2.3 Legal framework's adaptability to emerging technologies	103	19.36	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	48	74.11	●
3rd sub-pillar: Inclusion	78	57.98	
3.3.1 E-Participation	83	59.26	
3.3.2 Socioeconomic gap in use of digital payments	72	53.85	
3.3.3 Availability of local online content	76	54.25	
3.3.4 Gender gap in Internet use	81	47.56	
3.3.5 Rural gap in use of digital payments	32	75.01	●
D. Impact pillar	86	49.17	
1st sub-pillar: Economy	78	32.78	
4.1.1 High-tech and medium-high-tech manufacturing	74	15.97	
4.1.2 High-tech exports	50	34.86	●
4.1.3 PCT patent applications	58	39.71	
4.1.4 Growth rate of GDP per person engaged	76	54.44	
4.1.5 Prevalence of gig economy	107	22.92	
4.1.6 ICT services exports	64	28.78	
2nd sub-pillar: Quality of Life	64	66.70	
4.2.1 Happiness	70	49.81	
4.2.2 Freedom to make life choices	99	61.98	
4.2.3 Income inequality	38	78.12	●
4.2.4 Healthy life expectancy at birth	48	76.87	●
3rd sub-pillar: SDG Contribution	103	48.05	
4.3.1 SDG 3: Good Health and Well-Being	94	54.10	
4.3.2 SDG 4: Quality Education	61	27.97	
4.3.3 Females employed with advanced degrees	88	20.11	
4.3.4 SDG 7: Affordable and Clean Energy	108	56.39	
4.3.5 SDG 11: Sustainable Cities and Communities	63	81.68	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Botswana

	Rank (out of 130)	Score
Network Readiness Index	**102**	**38.03**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**91**	**36.25**
1st sub-pillar: Access	79	58.46
2nd sub-pillar: Content	90	27.88
3rd sub-pillar: Future Technologies	101	22.40
B. People pillar	**99**	**36.24**
1st sub-pillar: Individuals	89	54.52
2nd sub-pillar: Businesses	99	29.21
3rd sub-pillar: Governments	109	25.00
C. Governance pillar	**101**	**42.07**
1st sub-pillar: Trust	82	34.38
2nd sub-pillar: Regulation	97	53.68
3rd sub-pillar: Inclusion	111	38.15
D. Impact pillar	**115**	**37.58**
1st sub-pillar: Economy	127	11.68
2nd sub-pillar: Quality of Life	124	35.44
3rd sub-pillar: SDG Contribution	52	65.61



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	91	36.25	
1st sub-pillar: Access	79	58.46	
1.1.1 Mobile tariffs	83	50.55	
1.1.2 Handset prices	43	66.45	●
1.1.3 Households with internet access	81	63.48	
1.1.4 SMS sent by population 15-69	102	70.57	
1.1.5 Population covered by at least a 3G mobile network	77	99.19	
1.1.6 International Internet bandwidth	71	0.53	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	90	27.88	
1.2.1 GitHub commits	65	3.28	●
1.2.2 Wikipedia edits	61	53.44	●
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	99	60.25	
1.2.5 AI scientific publications	93	21.32	
3rd sub-pillar: Future Technologies	101	22.40	
1.3.1 Adoption of emerging technologies	108	26.73	
1.3.2 Investment in emerging technologies	95	30.84	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	85	9.62	
B. People pillar	99	36.24	
1st sub-pillar: Individuals	89	54.52	
2.1.1 Active mobile broadband subscriptions	103	68.36	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	90	49.58	
2.1.4 Tertiary enrollment	89	17.08	
2.1.5 Adult literacy rate	69	83.07	
2nd sub-pillar: Businesses	99	29.21	
2.2.1 Firms with website	89	31.36	
2.2.2 GERD financed by business enterprise	69	21.83	
2.2.3 Professionals	72	22.61	
2.2.4 Technicians and associate professionals	72	28.21	
2.2.5 Annual investment in telecommunication services	108	69.20	
2.2.6 GERD performed by business enterprise	63	2.03	
3rd sub-pillar: Governments	109	25.00	
2.3.1 Government online services	115	34.55	
2.3.2 Publication and use of open data	96	5.63	
2.3.3 Government promotion of investment in emerging tech	89	29.65	
2.3.4 R&D expenditure by governments and higher education	59	30.19	●

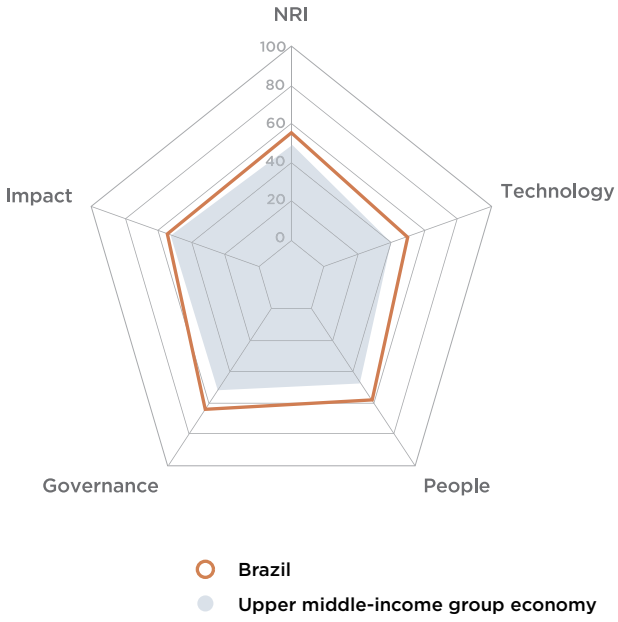
Indicator	Rank	Score	
C. Governance pillar	101	42.07	
1st sub-pillar: Trust	82	34.38	
3.1.1 Secure Internet servers	85	44.47	
3.1.2 Cybersecurity	91	52.23	
3.1.3 Online access to financial account	49	36.21	●
3.1.4 Internet shopping	95	4.60	
2nd sub-pillar: Regulation	97	53.68	
3.2.1 Regulatory quality	53	51.21	●
3.2.2 ICT regulatory environment	99	67.65	
3.2.3 Legal framework's adaptability to emerging technologies	100	22.24	
3.2.4 E-commerce legislation	112	50.00	
3.2.5 Privacy protection by law content	38	77.29	●
3rd sub-pillar: Inclusion	111	38.15	
3.3.1 E-Participation	112	34.56	
3.3.2 Socioeconomic gap in use of digital payments	95	32.01	
3.3.3 Availability of local online content	121	23.56	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	75	62.45	
D. Impact pillar	115	37.58	
1st sub-pillar: Economy	127	11.68	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	95	6.92	
4.1.3 PCT patent applications	96	0.00	○
4.1.4 Growth rate of GDP per person engaged	115	33.22	○
4.1.5 Prevalence of gig economy	116	12.56	
4.1.6 ICT services exports	118	5.70	
2nd sub-pillar: Quality of Life	124	35.44	
4.2.1 Happiness	126	6.58	○
4.2.2 Freedom to make life choices	62	77.62	●
4.2.3 Income inequality	111	25.26	○
4.2.4 Healthy life expectancy at birth	123	32.31	○
3rd sub-pillar: SDG Contribution	52	65.61	
4.3.1 SDG 3: Good Health and Well-Being	94	54.10	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	34	62.00	●
4.3.4 SDG 7: Affordable and Clean Energy	27	85.30	●
4.3.5 SDG 11: Sustainable Cities and Communities	105	61.05	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Brazil

	Rank (out of 130)	Score
Network Readiness Index	**52**	**55.86**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**53**	**49.08**
1st sub-pillar: Access	46	72.94
2nd sub-pillar: Content	47	41.92
3rd sub-pillar: Future Technologies	64	32.37
B. People pillar	**37**	**57.35**
1st sub-pillar: Individuals	67	62.10
2nd sub-pillar: Businesses	38	51.99
3rd sub-pillar: Governments	29	57.98
C. Governance pillar	**49**	**62.89**
1st sub-pillar: Trust	54	49.69
2nd sub-pillar: Regulation	50	69.48
3rd sub-pillar: Inclusion	44	69.49
D. Impact pillar	**70**	**54.12**
1st sub-pillar: Economy	55	41.93
2nd sub-pillar: Quality of Life	96	57.00
3rd sub-pillar: SDG Contribution	59	63.42



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	53	49.08	
1st sub-pillar: Access	46	72.94	
1.1.1 Mobile tariffsw	64	59.84	
1.1.2 Handset prices	49	63.39	
1.1.3 Households with internet access	73	71.45	
1.1.4 SMS sent by population 15-69	23	83.67	●
1.1.5 Population covered by at least a 3G mobile network	96	97.21	○
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	37	62.04	
2nd sub-pillar: Content	47	41.92	
1.2.1 GitHub commits	48	9.18	
1.2.2 Wikipedia edits	82	41.81	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	50	81.18	
1.2.5 AI scientific publications	15	71.73	●
3rd sub-pillar: Future Technologies	64	32.37	
1.3.1 Adoption of emerging technologies	46	55.65	
1.3.2 Investment in emerging technologies	66	38.96	
1.3.3 Robot density	43	3.81	○
1.3.4 Computer software spending	29	31.04	
B. People pillar	37	57.35	
1st sub-pillar: Individuals	67	62.10	
2.1.1 Active mobile broadband subscriptions	6	90.57	●
2.1.2 ICT skills	60	21.52	○
2.1.3 Use of virtual social networks	56	70.17	
2.1.4 Tertiary enrollment	57	36.92	
2.1.5 Adult literacy rate	56	91.31	
2nd sub-pillar: Businesses	38	51.99	
2.2.1 Firms with website	63	50.22	
2.2.2 GERD financed by business enterprise	34	53.77	
2.2.3 Professionals	52	30.27	
2.2.4 Technicians and associate professionals	59	36.13	
2.2.5 Annual investment in telecommunication services	10	89.58	●
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	29	57.98	
2.3.1 Government online services	20	86.67	●
2.3.2 Publication and use of open data	18	58.74	●
2.3.3 Government promotion of investment in emerging tech	93	28.51	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

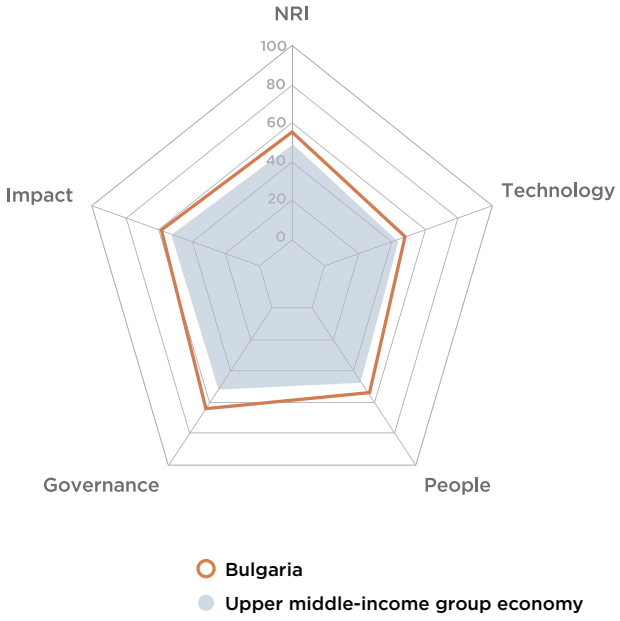
Indicator	Rank	Score	
C. Governance pillar	49	62.89	
1st sub-pillar: Trust	54	49.69	
3.1.1 Secure Internet servers	54	64.11	
3.1.2 Cybersecurity	25	96.54	●
3.1.3 Online access to financial account	76	19.93	
3.1.4 Internet shopping	62	18.19	
2nd sub-pillar: Regulation	50	69.48	
3.2.1 Regulatory quality	81	36.28	
3.2.2 ICT regulatory environment	28	91.76	●
3.2.3 Legal framework's adaptability to emerging technologies	48	48.36	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	56	71.01	
3rd sub-pillar: Inclusion	44	69.49	
3.3.1 E-Participation	18	90.13	●
3.3.2 Socioeconomic gap in use of digital payments	78	48.93	
3.3.3 Availability of local online content	50	67.46	
3.3.4 Gender gap in Internet use	37	65.65	
3.3.5 Rural gap in use of digital payments	29	75.26	
D. Impact pillar	70	54.12	
1st sub-pillar: Economy	55	41.93	
4.1.1 High-tech and medium-high-tech manufacturing	32	45.98	
4.1.2 High-tech exports	43	41.65	
4.1.3 PCT patent applications	47	46.01	
4.1.4 Growth rate of GDP per person engaged	33	66.81	
4.1.5 Prevalence of gig economy	92	31.02	
4.1.6 ICT services exports	81	20.09	
2nd sub-pillar: Quality of Life	96	57.00	
4.2.1 Happiness	48	62.37	
4.2.2 Freedom to make life choices	79	69.78	
4.2.3 Income inequality	112	25.00	○
4.2.4 Healthy life expectancy at birth	73	70.87	
3rd sub-pillar: SDG Contribution	59	63.42	
4.3.1 SDG 3: Good Health and Well-Being	25	83.61	●
4.3.2 SDG 4: Quality Education	66	26.91	○
4.3.3 Females employed with advanced degrees	45	50.46	
4.3.4 SDG 7: Affordable and Clean Energy	57	78.51	
4.3.5 SDG 11: Sustainable Cities and Communities	76	77.62	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Bulgaria

	Rank (out of 130)	Score
Network Readiness Index	**50**	**56.17**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**56**	**48.20**
1st sub-pillar: Access	67	65.71
2nd sub-pillar: Content	38	49.91
3rd sub-pillar: Future Technologies	78	28.98
B. People pillar	**50**	**53.13**
1st sub-pillar: Individuals	37	71.05
2nd sub-pillar: Businesses	56	43.96
3rd sub-pillar: Governments	65	44.37
C. Governance pillar	**47**	**63.61**
1st sub-pillar: Trust	57	49.24
2nd sub-pillar: Regulation	33	77.16
3rd sub-pillar: Inclusion	59	64.43
D. Impact pillar	**48**	**59.72**
1st sub-pillar: Economy	29	51.98
2nd sub-pillar: Quality of Life	71	64.27
3rd sub-pillar: SDG Contribution	61	62.91



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	56	48.20	
1st sub-pillar: Access	67	65.71	
1.1.1 Mobile tariffs	53	66.30	
1.1.2 Handset prices	60	57.00	
1.1.3 Households with internet access	60	78.95	
1.1.4 SMS sent by population 15-69	103	70.14	○
1.1.5 Population covered by at least a 3G mobile network	18	100.00	●
1.1.6 International Internet bandwidth	17	21.85	●
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	38	49.91	
1.2.1 GitHub commits	26	28.90	●
1.2.2 Wikipedia edits	38	72.21	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	27	91.92	●
1.2.5 AI scientific publications	64	42.90	
3rd sub-pillar: Future Technologies	78	28.98	
1.3.1 Adoption of emerging technologies	60	48.94	
1.3.2 Investment in emerging technologies	50	46.61	
1.3.3 Robot density	44	2.31	○
1.3.4 Computer software spending	68	18.06	
B. People pillar	50	53.13	
1st sub-pillar: Individuals	37	71.05	
2.1.1 Active mobile broadband subscriptions	69	74.86	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	75	61.64	
2.1.4 Tertiary enrollment	27	49.78	
2.1.5 Adult literacy rate	26	97.91	
2nd sub-pillar: Businesses	56	43.96	
2.2.1 Firms with website	74	41.89	
2.2.2 GERD financed by business enterprise	35	53.29	
2.2.3 Professionals	42	40.24	
2.2.4 Technicians and associate professionals	55	39.40	
2.2.5 Annual investment in telecommunication services	71	76.27	
2.2.6 GERD performed by business enterprise	37	12.69	
3rd sub-pillar: Governments	65	44.37	
2.3.1 Government online services	46	76.37	
2.3.2 Publication and use of open data	41	36.96	
2.3.3 Government promotion of investment in emerging tech	49	45.85	
2.3.4 R&D expenditure by governments and higher education	75	18.30	

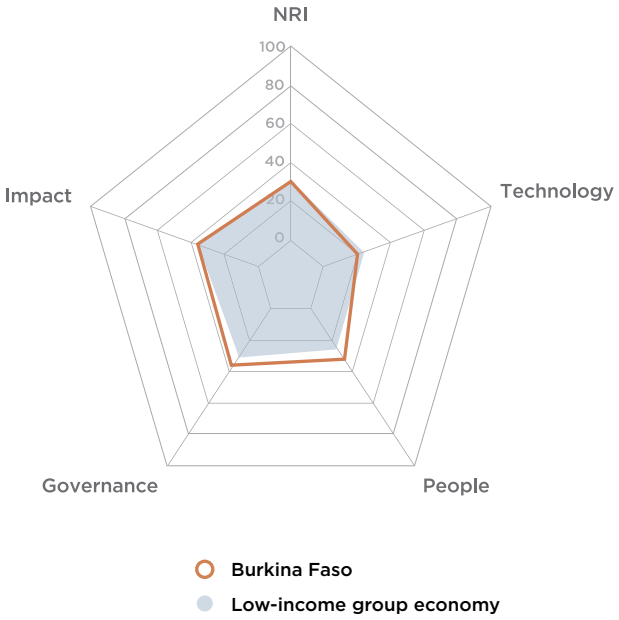
Indicator	Rank	Score	
C. Governance pillar	47	63.61	
1st sub-pillar: Trust	57	49.24	
3.1.1 Secure Internet servers	14	86.03	●
3.1.2 Cybersecurity	82	66.81	
3.1.3 Online access to financial account	89	16.23	○
3.1.4 Internet shopping	47	27.91	
2nd sub-pillar: Regulation	33	77.16	
3.2.1 Regulatory quality	45	55.61	
3.2.2 ICT regulatory environment	25	92.94	●
3.2.3 Legal framework's adaptability to emerging technologies	51	48.04	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	12	89.22	●
3rd sub-pillar: Inclusion	59	64.43	
3.3.1 E-Participation	23	88.89	●
3.3.2 Socioeconomic gap in use of digital payments	88	39.37	○
3.3.3 Availability of local online content	35	78.10	
3.3.4 Gender gap in Internet use	65	60.36	
3.3.5 Rural gap in use of digital payments	83	55.45	
D. Impact pillar	48	59.72	
1st sub-pillar: Economy	29	51.98	
4.1.1 High-tech and medium-high-tech manufacturing	54	27.78	
4.1.2 High-tech exports	36	48.53	
4.1.3 PCT patent applications	40	51.00	
4.1.4 Growth rate of GDP per person engaged	31	68.28	
4.1.5 Prevalence of gig economy	23	67.17	●
4.1.6 ICT services exports	19	49.13	●
2nd sub-pillar: Quality of Life	71	64.27	
4.2.1 Happiness	68	51.55	
4.2.2 Freedom to make life choices	74	75.20	
4.2.3 Income inequality	80	56.51	
4.2.4 Healthy life expectancy at birth	60	73.83	
3rd sub-pillar: SDG Contribution	61	62.91	
4.3.1 SDG 3: Good Health and Well-Being	83	62.30	
4.3.2 SDG 4: Quality Education	49	37.78	
4.3.3 Females employed with advanced degrees	33	62.26	
4.3.4 SDG 7: Affordable and Clean Energy	99	63.74	○
4.3.5 SDG 11: Sustainable Cities and Communities	44	88.50	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Burkina Faso

	Rank (out of 130)	Score
Network Readiness Index	**117**	**30.54**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**128**	**18.17**
1st sub-pillar: Access	119	31.25
2nd sub-pillar: Content	123	13.79
3rd sub-pillar: Future Technologies	128	9.46
B. People pillar	**110**	**31.25**
1st sub-pillar: Individuals	126	28.11
2nd sub-pillar: Businesses	101	28.78
3rd sub-pillar: Governments	83	36.85
C. Governance pillar	**112**	**36.59**
1st sub-pillar: Trust	113	20.52
2nd sub-pillar: Regulation	101	52.24
3rd sub-pillar: Inclusion	114	37.01
D. Impact pillar	**117**	**36.15**
1st sub-pillar: Economy	102	24.95
2nd sub-pillar: Quality of Life	110	48.12
3rd sub-pillar: SDG Contribution	122	35.38



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	128	18.17	
1st sub-pillar: Access	119	31.25	
1.1.1 Mobile tariffs	115	29.70	
1.1.2 Handset prices	122	16.76	
1.1.3 Households with internet access	117	12.68	
1.1.4 SMS sent by population 15-69	37	80.52	●
1.1.5 Population covered by at least a 3G mobile network	119	78.53	
1.1.6 International Internet bandwidth	72	0.43	
1.1.7 Internet access in schools	69	0.14	
2nd sub-pillar: Content	123	13.79	
1.2.1 GitHub commits	129	0.00	○
1.2.2 Wikipedia edits	115	21.14	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	124	36.26	
1.2.5 AI scientific publications	110	11.50	
3rd sub-pillar: Future Technologies	128	9.46	
1.3.1 Adoption of emerging technologies	124	2.44	○
1.3.2 Investment in emerging technologies	109	23.92	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	107	2.04	
B. People pillar	110	31.25	
1st sub-pillar: Individuals	126	28.11	
2.1.1 Active mobile broadband subscriptions	48	76.80	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	120	6.86	
2.1.4 Tertiary enrollment	114	4.42	
2.1.5 Adult literacy rate	102	24.35	
2nd sub-pillar: Businesses	101	28.78	
2.2.1 Firms with website	117	8.91	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	104	12.74	
2.2.4 Technicians and associate professionals	90	19.81	
2.2.5 Annual investment in telecommunication services	85	73.67	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	83	36.85	
2.3.1 Government online services	107	44.85	
2.3.2 Publication and use of open data	67	21.41	
2.3.3 Government promotion of investment in emerging tech	104	18.41	
2.3.4 R&D expenditure by governments and higher education	17	62.72	●

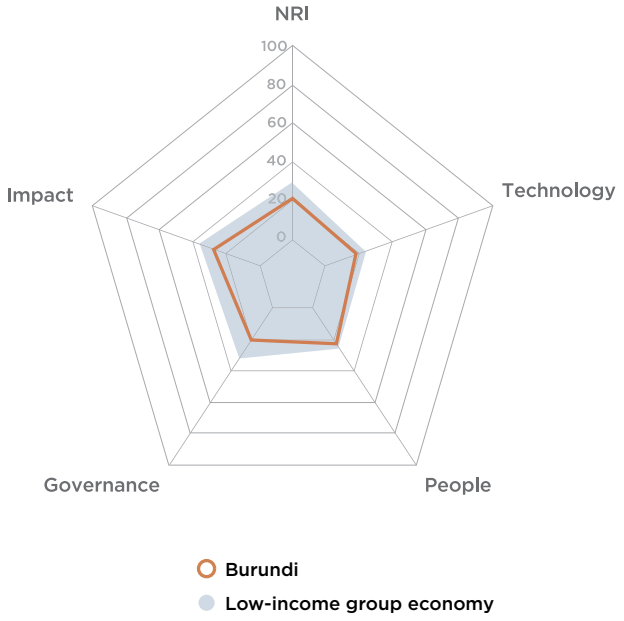
Indicator	Rank	Score	
C. Governance pillar	112	36.59	
1st sub-pillar: Trust	113	20.52	
3.1.1 Secure Internet servers	127	13.89	○
3.1.2 Cybersecurity	98	38.92	
3.1.3 Online access to financial account	66	27.27	●
3.1.4 Internet shopping	116	2.00	
2nd sub-pillar: Regulation	101	52.24	
3.2.1 Regulatory quality	96	30.87	
3.2.2 ICT regulatory environment	67	82.35	●
3.2.3 Legal framework's adaptability to emerging technologies	113	12.07	
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	85	60.92	
3rd sub-pillar: Inclusion	114	37.01	
3.3.1 E-Participation	95	49.38	
3.3.2 Socioeconomic gap in use of digital payments	108	27.20	
3.3.3 Availability of local online content	129	8.47	○
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	74	63.01	●
D. Impact pillar	117	36.15	
1st sub-pillar: Economy	102	24.95	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	78	14.87	●
4.1.3 PCT patent applications	96	0.00	○
4.1.4 Growth rate of GDP per person engaged	27	69.94	●
4.1.5 Prevalence of gig economy	113	16.77	
4.1.6 ICT services exports	74	23.18	●
2nd sub-pillar: Quality of Life	110	48.12	
4.2.1 Happiness	104	33.43	
4.2.2 Freedom to make life choices	112	51.36	
4.2.3 Income inequality	54	72.14	●
4.2.4 Healthy life expectancy at birth	115	35.57	
3rd sub-pillar: SDG Contribution	122	35.38	
4.3.1 SDG 3: Good Health and Well-Being	123	19.67	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	114	2.25	
4.3.4 SDG 7: Affordable and Clean Energy	93	65.89	
4.3.5 SDG 11: Sustainable Cities and Communities	117	53.69	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Burundi

	Rank (out of 130)	Score
Network Readiness Index	**128**	**22.48**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**126**	**18.86**
1st sub-pillar: Access	128	24.01
2nd sub-pillar: Content	115	17.20
3rd sub-pillar: Future Technologies	123	15.36
B. People pillar	**127**	**23.37**
1st sub-pillar: Individuals	121	32.41
2nd sub-pillar: Businesses	128	16.31
3rd sub-pillar: Governments	115	21.39
C. Governance pillar	**129**	**20.85**
1st sub-pillar: Trust	130	8.48
2nd sub-pillar: Regulation	129	25.56
3rd sub-pillar: Inclusion	125	28.52
D. Impact pillar	**127**	**26.85**
1st sub-pillar: Economy	124	12.55
2nd sub-pillar: Quality of Life	120	40.16
3rd sub-pillar: SDG Contribution	126	27.85



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	126	18.86	
1st sub-pillar: Access	128	24.01	
1.1.1 Mobile tariffs	126	9.69	
1.1.2 Handset prices	129	0.00	○
1.1.3 Households with internet access	128	0.00	○
1.1.4 SMS sent by population 15-69	50	78.34	●
1.1.5 Population covered by at least a 3G mobile network	118	80.03	
1.1.6 International Internet bandwidth	86	0.00	○
1.1.7 Internet access in schools	70	0.00	○
2nd sub-pillar: Content	115	17.20	
1.2.1 GitHub commits	128	0.01	○
1.2.2 Wikipedia edits	97	29.91	●
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	108	52.81	●
1.2.5 AI scientific publications	124	3.19	
3rd sub-pillar: Future Technologies	123	15.36	
1.3.1 Adoption of emerging technologies	116	17.31	
1.3.2 Investment in emerging technologies	111	23.48	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	96	5.30	●
B. People pillar	127	23.37	
1st sub-pillar: Individuals	121	32.41	
2.1.1 Active mobile broadband subscriptions	113	65.05	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	127	3.01	
2.1.4 Tertiary enrollment	122	2.28	
2.1.5 Adult literacy rate	91	59.31	
2nd sub-pillar: Businesses	128	16.31	
2.2.1 Firms with website	105	18.63	
2.2.2 GERD financed by business enterprise	78	10.85	●
2.2.3 Professionals	125	0.00	○
2.2.4 Technicians and associate professionals	117	6.09	
2.2.5 Annual investment in telecommunication services	113	62.02	
2.2.6 GERD performed by business enterprise	81	0.29	
3rd sub-pillar: Governments	115	21.39	
2.3.1 Government online services	118	33.33	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	101	21.23	
2.3.4 R&D expenditure by governments and higher education	90	9.62	●

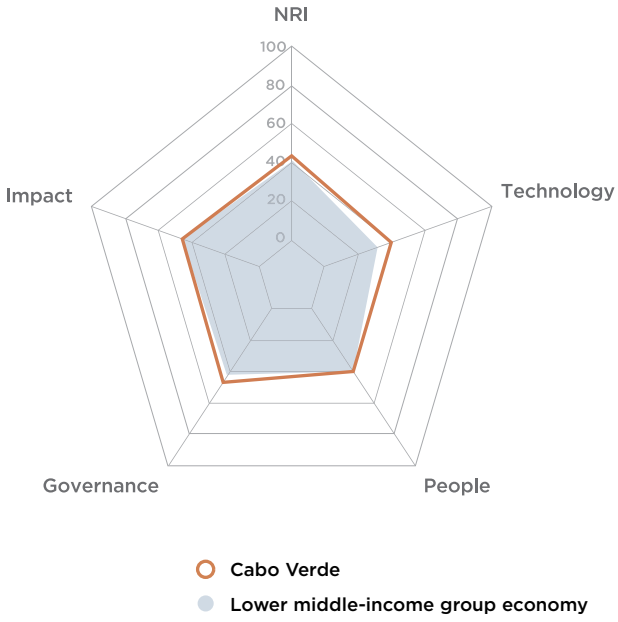
Indicator	Rank	Score	
C. Governance pillar	129	20.85	
1st sub-pillar: Trust	130	8.48	
3.1.1 Secure Internet servers	125	16.97	
3.1.2 Cybersecurity	129	0.00	○
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	129	25.56	
3.2.1 Regulatory quality	123	15.26	
3.2.2 ICT regulatory environment	117	57.65	
3.2.3 Legal framework's adaptability to emerging technologies	107	15.98	
3.2.4 E-commerce legislation	123	25.00	
3.2.5 Privacy protection by law content	128	13.90	○
3rd sub-pillar: Inclusion	125	28.52	
3.3.1 E-Participation	117	30.86	
3.3.2 Socioeconomic gap in use of digital payments	NA	NA	
3.3.3 Availability of local online content	117	26.19	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	NA	NA	
D. Impact pillar	127	26.85	
1st sub-pillar: Economy	124	12.55	
4.1.1 High-tech and medium-high-tech manufacturing	101	1.96	
4.1.2 High-tech exports	123	1.07	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Growth rate of GDP per person engaged	NA	NA	
4.1.5 Prevalence of gig economy	89	32.45	●
4.1.6 ICT services exports	91	14.71	●
2nd sub-pillar: Quality of Life	120	40.16	
4.2.1 Happiness	124	13.01	
4.2.2 Freedom to make life choices	118	46.08	
4.2.3 Income inequality	69	63.54	●
4.2.4 Healthy life expectancy at birth	114	37.99	
3rd sub-pillar: SDG Contribution	126	27.85	
4.3.1 SDG 3: Good Health and Well-Being	120	22.95	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	122	0.34	
4.3.4 SDG 7: Affordable and Clean Energy	120	41.53	
4.3.5 SDG 11: Sustainable Cities and Communities	126	46.58	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Cabo Verde

	Rank (out of 130)	Score
Network Readiness Index	**91**	**42.33**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**82**	**38.85**
1st sub-pillar: Access	97	47.46
2nd sub-pillar: Content	60	37.19
3rd sub-pillar: Future Technologies	66	31.90
B. People pillar	**96**	**37.69**
1st sub-pillar: Individuals	104	45.43
2nd sub-pillar: Businesses	95	30.18
3rd sub-pillar: Governments	81	37.45
C. Governance pillar	**87**	**47.26**
1st sub-pillar: Trust	100	28.82
2nd sub-pillar: Regulation	75	62.24
3rd sub-pillar: Inclusion	93	50.72
D. Impact pillar	**96**	**45.52**
1st sub-pillar: Economy	123	15.07
2nd sub-pillar: Quality of Life	85	61.26
3rd sub-pillar: SDG Contribution	75	60.24



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	82	38.85	
1st sub-pillar: Access	97	47.46	
1.1.1 Mobile tariffs	103	40.28	
1.1.2 Handset prices	87	41.35	
1.1.3 Households with internet access	77	67.02	●
1.1.4 SMS sent by population 15-69	106	69.33	
1.1.5 Population covered by at least a 3G mobile network	91	98.28	
1.1.6 International Internet bandwidth	82	0.10	○
1.1.7 Internet access in schools	55	15.85	
2nd sub-pillar: Content	60	37.19	
1.2.1 GitHub commits	99	0.85	
1.2.2 Wikipedia edits	27	76.55	●
1.2.3 Internet domain registrations	*	*	●
1.2.4 Mobile apps development	80	69.35	●
1.2.5 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	66	31.90	
1.3.1 Adoption of emerging technologies	101	29.74	
1.3.2 Investment in emerging technologies	84	34.06	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	NA	NA	
B. People pillar	96	37.69	
1st sub-pillar: Individuals	104	45.43	
2.1.1 Active mobile broadband subscriptions	122	29.72	○
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	86	52.91	
2.1.4 Tertiary enrollment	93	16.05	
2.1.5 Adult literacy rate	70	83.02	
2nd sub-pillar: Businesses	95	30.18	
2.2.1 Firms with website	112	11.22	○
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	80	19.47	
2.2.4 Technicians and associate professionals	85	22.79	
2.2.5 Annual investment in telecommunication services	112	67.25	○
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	81	37.45	
2.3.1 Government online services	102	48.49	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	97	26.42	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

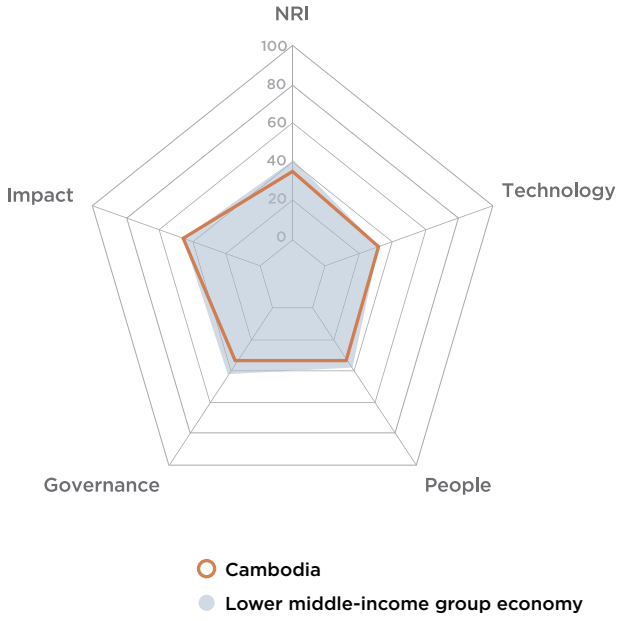
Indicator	Rank	Score	
C. Governance pillar	87	47.26	
1st sub-pillar: Trust	100	28.82	
3.1.1 Secure Internet servers	93	41.34	
3.1.2 Cybersecurity	118	16.29	
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	75	62.24	
3.2.1 Regulatory quality	86	35.01	
3.2.2 ICT regulatory environment	81	75.69	
3.2.3 Legal framework's adaptability to emerging technologies	93	26.27	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	46	74.22	●
3rd sub-pillar: Inclusion	93	50.72	
3.3.1 E-Participation	107	39.51	
3.3.2 Socioeconomic gap in use of digital payments	NA	NA	
3.3.3 Availability of local online content	88	50.38	
3.3.4 Gender gap in Internet use	54	62.28	●
3.3.5 Rural gap in use of digital payments	NA	NA	
D. Impact pillar	96	45.52	
1st sub-pillar: Economy	123	15.07	
4.1.1 High-tech and medium-high-tech manufacturing	93	6.47	
4.1.2 High-tech exports	128	0.00	○
4.1.3 PCT patent applications	NA	NA	
4.1.4 Growth rate of GDP per person engaged	NA	NA	
4.1.5 Prevalence of gig economy	82	35.88	
4.1.6 ICT services exports	84	17.92	
2nd sub-pillar: Quality of Life	85	61.26	
4.2.1 Happiness	NA	NA	
4.2.2 Freedom to make life choices	NA	NA	
4.2.3 Income inequality	90	53.65	
4.2.4 Healthy life expectancy at birth	77	68.87	●
3rd sub-pillar: SDG Contribution	75	60.24	
4.3.1 SDG 3: Good Health and Well-Being	71	67.21	●
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	82	24.69	
4.3.4 SDG 7: Affordable and Clean Energy	15	88.58	●
4.3.5 SDG 11: Sustainable Cities and Communities	106	60.46	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Cambodia

	Rank (out of 130)	Score
Network Readiness Index	**106**	**36.39**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**98**	**32.62**
1st sub-pillar: Access	89	53.09
2nd sub-pillar: Content	113	18.75
3rd sub-pillar: Future Technologies	95	26.01
B. People pillar	**107**	**32.62**
1st sub-pillar: Individuals	97	49.95
2nd sub-pillar: Businesses	120	21.88
3rd sub-pillar: Governments	103	26.03
C. Governance pillar	**120**	**34.17**
1st sub-pillar: Trust	120	17.16
2nd sub-pillar: Regulation	123	36.33
3rd sub-pillar: Inclusion	96	49.03
D. Impact pillar	**94**	**46.14**
1st sub-pillar: Economy	92	28.20
2nd sub-pillar: Quality of Life	86	61.11
3rd sub-pillar: SDG Contribution	99	49.10



Network Readiness Index in detail

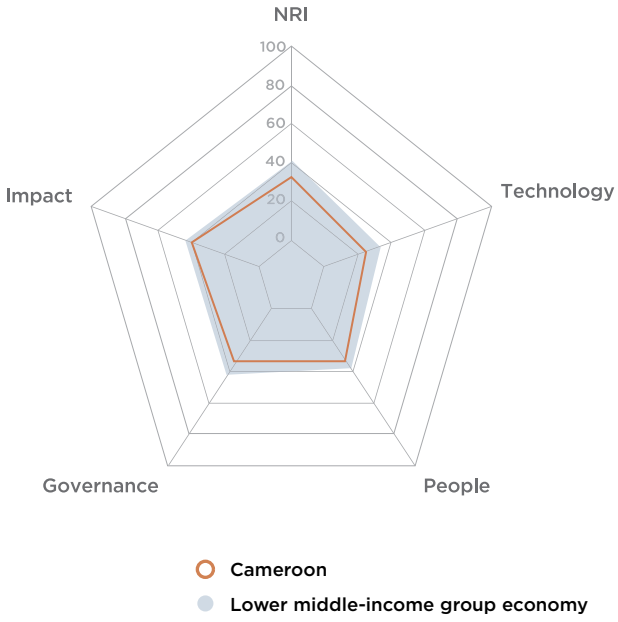
Indicator	Rank	Score	
A. Technology pillar	98	32.62	
1st sub-pillar: Access	89	53.09	
1.1.1 Mobile tariffs	89	47.30	
1.1.2 Handset prices	99	36.79	
1.1.3 Households with internet access	69	73.68	●
1.1.4 SMS sent by population 15-69	118	61.89	○
1.1.5 Population covered by at least a 3G mobile network	103	95.65	
1.1.6 International Internet bandwidth	47	3.24	●
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	113	18.75	
1.2.1 GitHub commits	100	0.80	
1.2.2 Wikipedia edits	114	21.46	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	93	65.10	
1.2.5 AI scientific publications	120	6.01	
3rd sub-pillar: Future Technologies	95	26.01	
1.3.1 Adoption of emerging technologies	98	32.06	
1.3.2 Investment in emerging technologies	55	43.85	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	106	2.12	
B. People pillar	107	32.62	
1st sub-pillar: Individuals	97	49.95	
2.1.1 Active mobile broadband subscriptions	42	78.65	●
2.1.2 ICT skills	62	15.13	
2.1.3 Use of virtual social networks	53	71.21	●
2.1.4 Tertiary enrollment	99	9.80	
2.1.5 Adult literacy rate	77	74.96	
2nd sub-pillar: Businesses	120	21.88	
2.2.1 Firms with website	106	17.01	
2.2.2 GERD financed by business enterprise	65	24.01	
2.2.3 Professionals	115	7.42	
2.2.4 Technicians and associate professionals	121	5.08	○
2.2.5 Annual investment in telecommunication services	64	77.51	●
2.2.6 GERD performed by business enterprise	83	0.22	
3rd sub-pillar: Governments	103	26.03	
2.3.1 Government online services	109	43.63	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	84	31.28	
2.3.4 R&D expenditure by governments and higher education	106	3.17	○

Indicator	Rank	Score	
C. Governance pillar	120	34.17	
1st sub-pillar: Trust	120	17.16	
3.1.1 Secure Internet servers	92	41.79	
3.1.2 Cybersecurity	116	17.70	
3.1.3 Online access to financial account	114	5.27	○
3.1.4 Internet shopping	99	3.88	
2nd sub-pillar: Regulation	123	36.33	
3.2.1 Regulatory quality	104	25.63	
3.2.2 ICT regulatory environment	106	62.75	
3.2.3 Legal framework's adaptability to emerging technologies	99	22.46	
3.2.4 E-commerce legislation	112	50.00	
3.2.5 Privacy protection by law content	127	20.82	○
3rd sub-pillar: Inclusion	96	49.03	
3.3.1 E-Participation	107	39.51	
3.3.2 Socioeconomic gap in use of digital payments	86	39.61	
3.3.3 Availability of local online content	95	45.15	
3.3.4 Gender gap in Internet use	26	67.90	●
3.3.5 Rural gap in use of digital payments	92	52.97	
D. Impact pillar	94	46.14	
1st sub-pillar: Economy	92	28.20	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	79	14.24	●
4.1.3 PCT patent applications	92	12.39	
4.1.4 Growth rate of GDP per person engaged	17	75.29	●
4.1.5 Prevalence of gig economy	95	29.12	
4.1.6 ICT services exports	100	9.97	
2nd sub-pillar: Quality of Life	86	61.11	
4.2.1 Happiness	113	25.74	
4.2.2 Freedom to make life choices	2	99.75	●
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	96	57.83	
3rd sub-pillar: SDG Contribution	99	49.10	
4.3.1 SDG 3: Good Health and Well-Being	97	52.46	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	105	6.83	
4.3.4 SDG 7: Affordable and Clean Energy	95	65.10	
4.3.5 SDG 11: Sustainable Cities and Communities	85	72.02	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Cameroon

	Rank (out of 130)	Score
Network Readiness Index	**114**	**32.76**
Pillar/sub-pillar	**Rank**	**Score**
A. Technology pillar	**112**	**25.77**
1st sub-pillar: Access	121	30.62
2nd sub-pillar: Content	112	19.52
3rd sub-pillar: Future Technologies	87	27.18
B. People pillar	**109**	**32.50**
1st sub-pillar: Individuals	107	41.38
2nd sub-pillar: Businesses	98	29.43
3rd sub-pillar: Governments	102	26.70
C. Governance pillar	**121**	**33.32**
1st sub-pillar: Trust	109	23.67
2nd sub-pillar: Regulation	111	47.07
3rd sub-pillar: Inclusion	123	29.23
D. Impact pillar	**110**	**39.46**
1st sub-pillar: Economy	71	34.41
2nd sub-pillar: Quality of Life	115	42.99
3rd sub-pillar: SDG Contribution	115	40.98



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	112	25.77	
1st sub-pillar: Access	121	30.62	
1.1.1 Mobile tariffs	106	39.07	
1.1.2 Handset prices	95	38.03	
1.1.3 Households with internet access	106	21.53	
1.1.4 SMS sent by population 15-69	19	84.89	●
1.1.5 Population covered by at least a 3G mobile network	122	0.00	○
1.1.6 International Internet bandwidth	76	0.22	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	112	19.52	
1.2.1 GitHub commits	108	0.47	
1.2.2 Wikipedia edits	117	17.17	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	113	50.26	
1.2.5 AI scientific publications	83	29.08	●
3rd sub-pillar: Future Technologies	87	27.18	
1.3.1 Adoption of emerging technologies	92	36.36	
1.3.2 Investment in emerging technologies	88	33.24	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	81	11.93	●
B. People pillar	109	32.50	
1st sub-pillar: Individuals	107	41.38	
2.1.1 Active mobile broadband subscriptions	89	71.83	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	112	13.72	
2.1.4 Tertiary enrollment	101	9.47	
2.1.5 Adult literacy rate	81	70.51	
2nd sub-pillar: Businesses	98	29.43	
2.2.1 Firms with website	107	15.16	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	109	11.51	
2.2.4 Technicians and associate professionals	109	11.64	
2.2.5 Annual investment in telecommunication services	52	79.40	●
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	102	26.70	
2.3.1 Government online services	106	45.46	
2.3.2 Publication and use of open data	98	4.88	○
2.3.3 Government promotion of investment in emerging tech	88	29.75	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

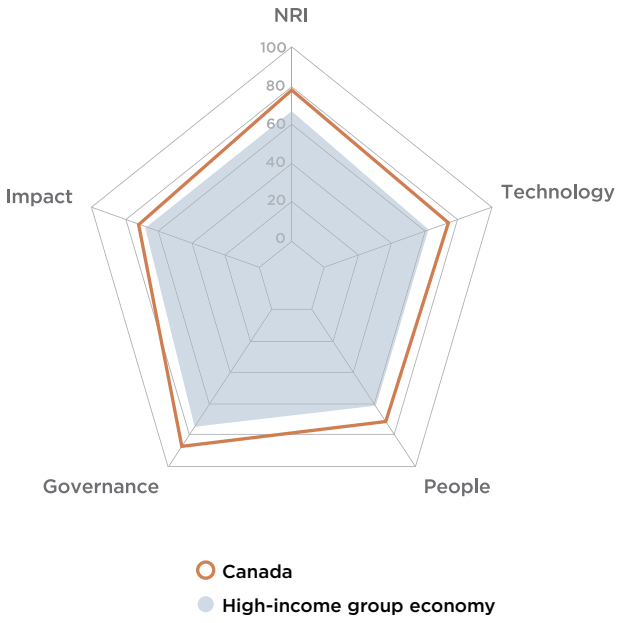
Indicator	Rank	Score	
C. Governance pillar	121	33.32	
1st sub-pillar: Trust	109	23.67	
3.1.1 Secure Internet servers	122	22.34	○
3.1.2 Cybersecurity	95	44.67	
3.1.3 Online access to financial account	70	24.15	●
3.1.4 Internet shopping	103	3.51	
2nd sub-pillar: Regulation	111	47.07	
3.2.1 Regulatory quality	117	18.60	
3.2.2 ICT regulatory environment	96	69.80	
3.2.3 Legal framework's adaptability to emerging technologies	92	26.29	
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	108	45.65	
3rd sub-pillar: Inclusion	123	29.23	
3.3.1 E-Participation	107	39.51	
3.3.2 Socioeconomic gap in use of digital payments	105	28.24	
3.3.3 Availability of local online content	119	24.87	
3.3.4 Gender gap in Internet use	90	12.16	○
3.3.5 Rural gap in use of digital payments	107	41.37	
D. Impact pillar	110	39.46	
1st sub-pillar: Economy	71	34.41	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	103	5.34	
4.1.3 PCT patent applications	88	16.27	
4.1.4 Growth rate of GDP per person engaged	35	66.51	●
4.1.5 Prevalence of gig economy	41	58.96	●
4.1.6 ICT services exports	69	24.98	●
2nd sub-pillar: Quality of Life	115	42.99	
4.2.1 Happiness	89	44.01	
4.2.2 Freedom to make life choices	114	50.84	
4.2.3 Income inequality	103	42.71	
4.2.4 Healthy life expectancy at birth	119	34.42	○
3rd sub-pillar: SDG Contribution	115	40.98	
4.3.1 SDG 3: Good Health and Well-Being	112	29.51	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	106	6.16	
4.3.4 SDG 7: Affordable and Clean Energy	75	73.24	●
4.3.5 SDG 11: Sustainable Cities and Communities	115	55.02	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Canada

	Rank (out of 130)	Score
Network Readiness Index	**11**	**76.48**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**9**	**75.30**
1st sub-pillar: Access	11	88.48
2nd sub-pillar: Content	10	73.63
3rd sub-pillar: Future Technologies	10	63.80
B. People pillar	**15**	**70.35**
1st sub-pillar: Individuals	31	72.04
2nd sub-pillar: Businesses	22	60.14
3rd sub-pillar: Governments	7	78.87
C. Governance pillar	**6**	**87.27**
1st sub-pillar: Trust	7	87.91
2nd sub-pillar: Regulation	16	84.19
3rd sub-pillar: Inclusion	2	89.71
D. Impact pillar	**20**	**73.00**
1st sub-pillar: Economy	20	58.24
2nd sub-pillar: Quality of Life	19	84.10
3rd sub-pillar: SDG Contribution	32	76.65



Network Readiness Index in detail

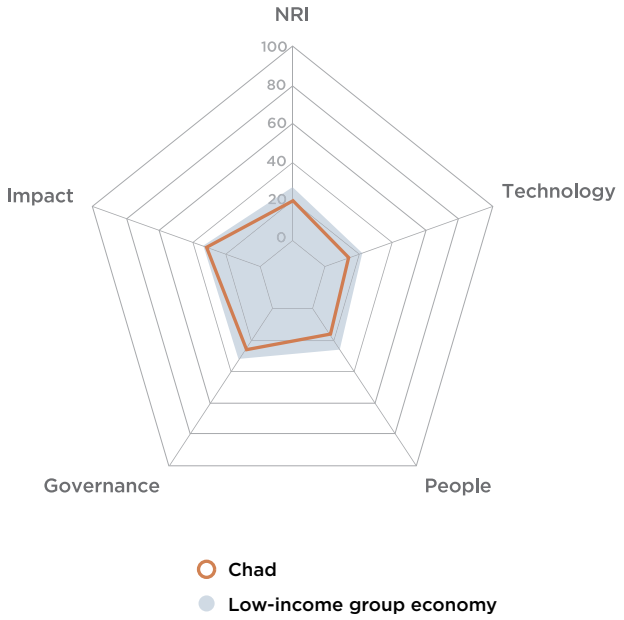
Indicator	Rank	Score	
A. Technology pillar	9	75.30	
1st sub-pillar: Access	11	88.48	
1.1.1 Mobile tariffs	28	78.55	
1.1.2 Handset prices	12	84.30	
1.1.3 Households with internet access	27	91.15	
1.1.4 SMS sent by population 15-69	NA	NA	
1.1.5 Population covered by at least a 3G mobile network	40	99.92	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	10	73.63	
1.2.1 GitHub commits	9	65.06	●
1.2.2 Wikipedia edits	28	76.44	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	23	93.94	
1.2.5 AI scientific publications	9	75.11	●
3rd sub-pillar: Future Technologies	10	63.80	
1.3.1 Adoption of emerging technologies	11	85.04	
1.3.2 Investment in emerging technologies	20	68.25	
1.3.3 Robot density	17	45.26	
1.3.4 Computer software spending	5	56.65	●
B. People pillar	15	70.35	
1st sub-pillar: Individuals	31	72.04	
2.1.1 Active mobile broadband subscriptions	30	82.00	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	10	85.34	●
2.1.4 Tertiary enrollment	33	48.79	
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	22	60.14	
2.2.1 Firms with website	16	83.66	
2.2.2 GERD financed by business enterprise	40	50.70	
2.2.3 Professionals	28	45.28	
2.2.4 Technicians and associate professionals	16	72.81	
2.2.5 Annual investment in telecommunication services	7	90.50	●
2.2.6 GERD performed by business enterprise	30	17.89	
3rd sub-pillar: Governments	7	78.87	
2.3.1 Government online services	31	83.64	
2.3.2 Publication and use of open data	2	89.51	●
2.3.3 Government promotion of investment in emerging tech	12	74.41	
2.3.4 R&D expenditure by governments and higher education	14	67.91	

Indicator	Rank	Score	
C. Governance pillar	6	87.27	
1st sub-pillar: Trust	7	87.91	
3.1.1 Secure Internet servers	17	84.53	
3.1.2 Cybersecurity	13	97.63	
3.1.3 Online access to financial account	10	81.53	
3.1.4 Internet shopping	9	87.95	●
2nd sub-pillar: Regulation	16	84.19	
3.2.1 Regulatory quality	10	87.87	
3.2.2 ICT regulatory environment	60	84.12	○
3.2.3 Legal framework's adaptability to emerging technologies	10	77.69	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	53	71.28	
3rd sub-pillar: Inclusion	2	89.71	
3.3.1 E-Participation	16	93.83	
3.3.2 Socioeconomic gap in use of digital payments	3	99.38	●
3.3.3 Availability of local online content	14	88.53	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	15	77.09	
D. Impact pillar	20	73.00	
1st sub-pillar: Economy	20	58.24	
4.1.1 High-tech and medium-high-tech manufacturing	31	47.65	
4.1.2 High-tech exports	27	55.00	
4.1.3 PCT patent applications	23	72.51	
4.1.4 Growth rate of GDP per person engaged	58	60.36	○
4.1.5 Prevalence of gig economy	8	86.07	●
4.1.6 ICT services exports	66	27.85	○
2nd sub-pillar: Quality of Life	19	84.10	
4.2.1 Happiness	16	81.72	
4.2.2 Freedom to make life choices	35	86.84	
4.2.3 Income inequality	42	77.34	
4.2.4 Healthy life expectancy at birth	16	90.48	
3rd sub-pillar: SDG Contribution	32	76.65	
4.3.1 SDG 3: Good Health and Well-Being	1	100.00	●
4.3.2 SDG 4: Quality Education	7	74.55	
4.3.3 Females employed with advanced degrees	32	62.92	
4.3.4 SDG 7: Affordable and Clean Energy	111	51.04	○
4.3.5 SDG 11: Sustainable Cities and Communities	25	94.74	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Chad

	Rank (out of 130)	Score
Network Readiness Index	**130**	**21.85**
Pillar/sub-pillar	**Rank**	**Score**
A. Technology pillar	**130**	**14.61**
1st sub-pillar: Access	124	28.00
2nd sub-pillar: Content	129	7.74
3rd sub-pillar: Future Technologies	130	8.08
B. People pillar	**130**	**16.61**
1st sub-pillar: Individuals	130	13.51
2nd sub-pillar: Businesses	126	18.68
3rd sub-pillar: Governments	124	17.65
C. Governance pillar	**127**	**25.06**
1st sub-pillar: Trust	124	13.83
2nd sub-pillar: Regulation	125	32.04
3rd sub-pillar: Inclusion	122	29.30
D. Impact pillar	**123**	**31.13**
1st sub-pillar: Economy	96	26.79
2nd sub-pillar: Quality of Life	125	32.00
3rd sub-pillar: SDG Contribution	123	34.59



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	130	14.61	
1st sub-pillar: Access	124	28.00	
1.1.1 Mobile tariffs	124	10.72	
1.1.2 Handset prices	129	0.00	○
1.1.3 Households with internet access	123	3.18	
1.1.4 SMS sent by population 15-69	73	75.69	●
1.1.5 Population covered by at least a 3G mobile network	120	78.24	
1.1.6 International Internet bandwidth	79	0.16	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	129	7.74	
1.2.1 GitHub commits	127	0.01	
1.2.2 Wikipedia edits	109	25.34	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	129	11.50	○
1.2.5 AI scientific publications	126	1.81	
3rd sub-pillar: Future Technologies	130	8.08	
1.3.1 Adoption of emerging technologies	123	3.37	
1.3.2 Investment in emerging technologies	124	12.79	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	NA	NA	
B. People pillar	130	16.61	
1st sub-pillar: Individuals	130	13.51	
2.1.1 Active mobile broadband subscriptions	120	52.35	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	130	0.00	○
2.1.4 Tertiary enrollment	123	1.71	
2.1.5 Adult literacy rate	105	0.00	
2nd sub-pillar: Businesses	126	18.68	
2.2.1 Firms with website	120	0.00	○
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	121	4.12	
2.2.4 Technicians and associate professionals	125	1.61	
2.2.5 Annual investment in telecommunication services	109	68.98	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	124	17.65	
2.3.1 Government online services	126	17.58	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	116	9.15	
2.3.4 R&D expenditure by governments and higher education	64	26.21	●

Indicator	Rank	Score	
C. Governance pillar	127	25.06	
1st sub-pillar: Trust	124	13.83	
3.1.1 Secure Internet servers	130	0.00	○
3.1.2 Cybersecurity	97	39.39	●
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	114	2.10	
2nd sub-pillar: Regulation	125	32.04	
3.2.1 Regulatory quality	126	10.64	
3.2.2 ICT regulatory environment	122	55.69	
3.2.3 Legal framework's adaptability to emerging technologies	123	5.30	
3.2.4 E-commerce legislation	123	25.00	
3.2.5 Privacy protection by law content	75	63.60	●
3rd sub-pillar: Inclusion	122	29.30	
3.3.1 E-Participation	125	23.46	
3.3.2 Socioeconomic gap in use of digital payments	100	29.28	●
3.3.3 Availability of local online content	130	0.00	○
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	68	64.45	●
D. Impact pillar	123	31.13	
1st sub-pillar: Economy	96	26.79	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	NA	NA	
4.1.3 PCT patent applications	96	0.00	○
4.1.4 Growth rate of GDP per person engaged	73	56.70	●
4.1.5 Prevalence of gig economy	117	11.52	
4.1.6 ICT services exports	39	38.95	●
2nd sub-pillar: Quality of Life	125	32.00	
4.2.1 Happiness	116	23.07	
4.2.2 Freedom to make life choices	124	27.58	
4.2.3 Income inequality	94	51.30	●
4.2.4 Healthy life expectancy at birth	126	26.04	
3rd sub-pillar: SDG Contribution	123	34.59	
4.3.1 SDG 3: Good Health and Well-Being	128	0.00	○
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	116	1.54	
4.3.4 SDG 7: Affordable and Clean Energy	26	85.38	●
4.3.5 SDG 11: Sustainable Cities and Communities	121	51.43	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Chile

	Rank (out of 130)	Score
Network Readiness Index	**44**	**56.89**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**54**	**49.01**
1st sub-pillar: Access	54	68.56
2nd sub-pillar: Content	51	41.29
3rd sub-pillar: Future Technologies	50	37.19
B. People pillar	**38**	**57.22**
1st sub-pillar: Individuals	16	75.71
2nd sub-pillar: Businesses	46	49.24
3rd sub-pillar: Governments	54	46.70
C. Governance pillar	**42**	**65.78**
1st sub-pillar: Trust	48	53.15
2nd sub-pillar: Regulation	35	76.09
3rd sub-pillar: Inclusion	49	68.10
D. Impact pillar	**61**	**55.56**
1st sub-pillar: Economy	61	37.89
2nd sub-pillar: Quality of Life	63	66.77
3rd sub-pillar: SDG Contribution	66	62.01



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	54	49.01	
1st sub-pillar: Access	54	68.56	
1.1.1 Mobile tariffs	56	64.85	
1.1.2 Handset prices	45	65.99	
1.1.3 Households with internet access	38	87.68	
1.1.4 SMS sent by population 15-69	85	73.86	
1.1.5 Population covered by at least a 3G mobile network	82	98.64	○
1.1.6 International Internet bandwidth	19	20.35	●
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	51	41.29	
1.2.1 GitHub commits	53	6.67	
1.2.2 Wikipedia edits	50	61.78	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	61	78.45	
1.2.5 AI scientific publications	55	50.21	
3rd sub-pillar: Future Technologies	50	37.19	
1.3.1 Adoption of emerging technologies	36	61.55	
1.3.2 Investment in emerging technologies	69	38.42	
1.3.3 Robot density	52	0.55	○
1.3.4 Computer software spending	7	48.23	●
B. People pillar	38	57.22	
1st sub-pillar: Individuals	16	75.71	
2.1.1 Active mobile broadband subscriptions	40	79.60	
2.1.2 ICT skills	33	56.25	
2.1.3 Use of virtual social networks	14	83.89	●
2.1.4 Tertiary enrollment	8	63.42	●
2.1.5 Adult literacy rate	37	95.40	
2nd sub-pillar: Businesses	46	49.24	
2.2.1 Firms with website	22	80.07	●
2.2.2 GERD financed by business enterprise	60	36.96	
2.2.3 Professionals	47	37.38	
2.2.4 Technicians and associate professionals	36	54.64	
2.2.5 Annual investment in telecommunication services	26	83.85	●
2.2.6 GERD performed by business enterprise	59	2.54	
3rd sub-pillar: Governments	54	46.70	
2.3.1 Government online services	24	84.84	●
2.3.2 Publication and use of open data	27	47.26	●
2.3.3 Government promotion of investment in emerging tech	63	38.15	
2.3.4 R&D expenditure by governments and higher education	79	16.56	○

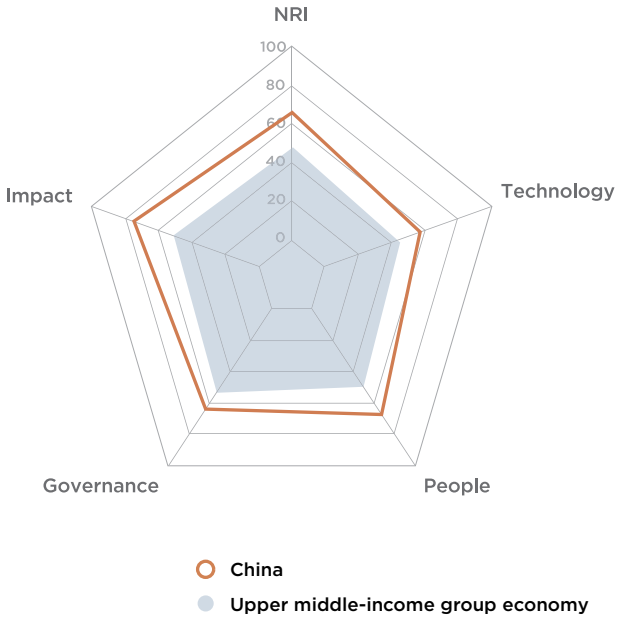
Indicator	Rank	Score	
C. Governance pillar	42	65.78	
1st sub-pillar: Trust	48	53.15	
3.1.1 Secure Internet servers	40	75.53	
3.1.2 Cybersecurity	79	68.28	
3.1.3 Online access to financial account	46	39.41	
3.1.4 Internet shopping	45	29.38	
2nd sub-pillar: Regulation	35	76.09	
3.2.1 Regulatory quality	25	74.47	●
3.2.2 ICT regulatory environment	50	85.88	
3.2.3 Legal framework's adaptability to emerging technologies	45	49.56	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	60	70.54	
3rd sub-pillar: Inclusion	49	68.10	
3.3.1 E-Participation	29	85.18	
3.3.2 Socioeconomic gap in use of digital payments	50	69.73	
3.3.3 Availability of local online content	54	66.30	
3.3.4 Gender gap in Internet use	60	60.59	
3.3.5 Rural gap in use of digital payments	79	58.69	
D. Impact pillar	61	55.56	
1st sub-pillar: Economy	61	37.89	
4.1.1 High-tech and medium-high-tech manufacturing	52	29.08	
4.1.2 High-tech exports	72	16.41	
4.1.3 PCT patent applications	33	59.17	
4.1.4 Growth rate of GDP per person engaged	32	67.32	
4.1.5 Prevalence of gig economy	63	42.48	
4.1.6 ICT services exports	97	12.87	○
2nd sub-pillar: Quality of Life	63	66.77	
4.2.1 Happiness	44	63.24	
4.2.2 Freedom to make life choices	82	68.95	
4.2.3 Income inequality	97	48.44	○
4.2.4 Healthy life expectancy at birth	30	86.45	●
3rd sub-pillar: SDG Contribution	66	62.01	
4.3.1 SDG 3: Good Health and Well-Being	67	68.85	
4.3.2 SDG 4: Quality Education	45	42.32	
4.3.3 Females employed with advanced degrees	61	39.26	
4.3.4 SDG 7: Affordable and Clean Energy	53	80.19	
4.3.5 SDG 11: Sustainable Cities and Communities	69	79.43	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

China

	Rank (out of 130)	Score
Network Readiness Index	**29**	**65.62**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**33**	**57.27**
1st sub-pillar: Access	31	80.65
2nd sub-pillar: Content	43	45.16
3rd sub-pillar: Future Technologies	32	45.99
B. People pillar	**20**	**66.48**
1st sub-pillar: Individuals	19	74.37
2nd sub-pillar: Businesses	6	74.05
3rd sub-pillar: Governments	43	51.03
C. Governance pillar	**45**	**63.98**
1st sub-pillar: Trust	36	65.68
2nd sub-pillar: Regulation	87	57.66
3rd sub-pillar: Inclusion	48	68.59
D. Impact pillar	**13**	**74.77**
1st sub-pillar: Economy	3	71.80
2nd sub-pillar: Quality of Life	54	71.98
3rd sub-pillar: SDG Contribution	17	80.52



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	33	57.27	
1st sub-pillar: Access	31	80.65	
1.1.1 Mobile tariffs	29	78.17	
1.1.2 Handset prices	48	63.74	
1.1.3 Households with internet access	85	59.58	
1.1.4 SMS sent by population 15-69	116	66.82	○
1.1.5 Population covered by at least a 3G mobile network	24	99.97	
1.1.6 International Internet bandwidth	1	100.00	●
1.1.7 Internet access in schools	29	96.25	
2nd sub-pillar: Content	43	45.16	
1.2.1 GitHub commits	67	3.13	
1.2.2 Wikipedia edits	NA	NA	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	71	72.64	
1.2.5 AI scientific publications	1	100.00	●
3rd sub-pillar: Future Technologies	32	45.99	
1.3.1 Adoption of emerging technologies	NA	NA	
1.3.2 Investment in emerging technologies	33	59.71	
1.3.3 Robot density	14	51.35	
1.3.4 Computer software spending	39	26.90	
B. People pillar	20	66.48	
1st sub-pillar: Individuals	19	74.37	
2.1.1 Active mobile broadband subscriptions	1	100.00	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	69	64.24	
2.1.4 Tertiary enrollment	56	37.28	
2.1.5 Adult literacy rate	36	95.97	
2nd sub-pillar: Businesses	6	74.05	
2.2.1 Firms with website	46	65.49	
2.2.2 GERD financed by business enterprise	4	94.33	●
2.2.3 Professionals	NA	NA	
2.2.4 Technicians and associate professionals	NA	NA	
2.2.5 Annual investment in telecommunication services	2	97.53	●
2.2.6 GERD performed by business enterprise	12	38.84	
3rd sub-pillar: Governments	43	51.03	
2.3.1 Government online services	12	90.30	●
2.3.2 Publication and use of open data	71	19.41	
2.3.3 Government promotion of investment in emerging tech	NA	NA	
2.3.4 R&D expenditure by governments and higher education	42	43.37	

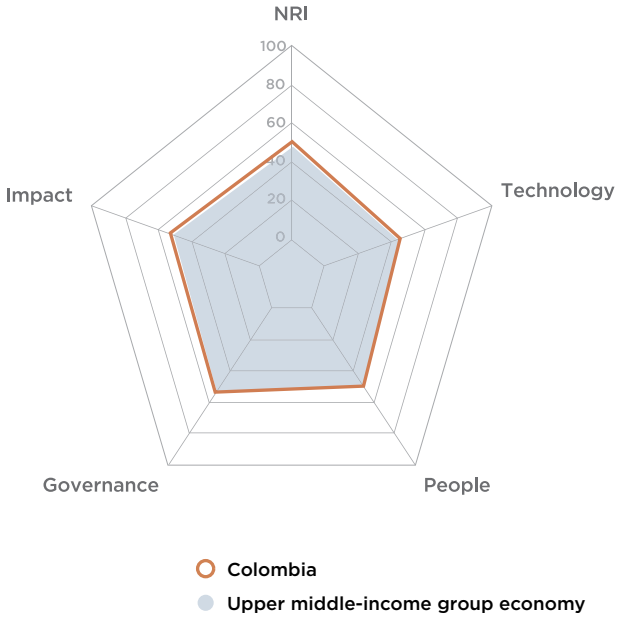
Indicator	Rank	Score	
C. Governance pillar	45	63.98	
1st sub-pillar: Trust	36	65.68	
3.1.1 Secure Internet servers	64	54.75	
3.1.2 Cybersecurity	40	92.40	
3.1.3 Online access to financial account	26	57.53	
3.1.4 Internet shopping	28	58.06	
2nd sub-pillar: Regulation	87	57.66	
3.2.1 Regulatory quality	90	34.46	○
3.2.2 ICT regulatory environment	123	54.12	○
3.2.3 Legal framework's adaptability to emerging technologies	NA	NA	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	111	42.04	○
3rd sub-pillar: Inclusion	48	68.59	
3.3.1 E-Participation	9	96.30	●
3.3.2 Socioeconomic gap in use of digital payments	77	49.23	
3.3.3 Availability of local online content	60	63.41	
3.3.4 Gender gap in Internet use	14	69.77	
3.3.5 Rural gap in use of digital payments	69	64.25	
D. Impact pillar	13	74.77	
1st sub-pillar: Economy	3	71.80	
4.1.1 High-tech and medium-high-tech manufacturing	14	62.47	
4.1.2 High-tech exports	4	91.31	●
4.1.3 PCT patent applications	13	82.26	
4.1.4 Growth rate of GDP per person engaged	5	89.72	●
4.1.5 Prevalence of gig economy	NA	NA	
4.1.6 ICT services exports	52	33.26	
2nd sub-pillar: Quality of Life	54	71.98	
4.2.1 Happiness	63	55.21	
4.2.2 Freedom to make life choices	33	87.55	
4.2.3 Income inequality	67	63.80	
4.2.4 Healthy life expectancy at birth	41	81.36	
3rd sub-pillar: SDG Contribution	17	80.52	
4.3.1 SDG 3: Good Health and Well-Being	25	83.61	
4.3.2 SDG 4: Quality Education	1	100.00	●
4.3.3 Females employed with advanced degrees	NA	NA	
4.3.4 SDG 7: Affordable and Clean Energy	101	62.94	○
4.3.5 SDG 11: Sustainable Cities and Communities	83	75.52	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Colombia

	Rank (out of 130)	Score
Network Readiness Index	**65**	**50.55**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**67**	**44.42**
1st sub-pillar: Access	71	62.38
2nd sub-pillar: Content	61	36.47
3rd sub-pillar: Future Technologies	59	34.40
B. People pillar	**64**	**49.11**
1st sub-pillar: Individuals	60	63.58
2nd sub-pillar: Businesses	64	41.02
3rd sub-pillar: Governments	69	42.72
C. Governance pillar	**71**	**54.11**
1st sub-pillar: Trust	81	34.73
2nd sub-pillar: Regulation	55	66.53
3rd sub-pillar: Inclusion	70	61.08
D. Impact pillar	**67**	**54.58**
1st sub-pillar: Economy	66	37.16
2nd sub-pillar: Quality of Life	84	61.53
3rd sub-pillar: SDG Contribution	54	65.05



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	67	44.42	
1st sub-pillar: Access	71	62.38	
1.1.1 Mobile tariffs	78	52.98	
1.1.2 Handset prices	62	54.83	
1.1.3 Households with internet access	89	52.13	
1.1.4 SMS sent by population 15-69	69	75.89	
1.1.5 Population covered by at least a 3G mobile network	1	100.00	●
1.1.6 International Internet bandwidth	11	57.74	●
1.1.7 Internet access in schools	44	43.05	
2nd sub-pillar: Content	61	36.47	
1.2.1 GitHub commits	59	4.08	
1.2.2 Wikipedia edits	81	42.16	
1.2.3 Internet domain registrations	*	*	●
1.2.4 Mobile apps development	89	66.89	
1.2.5 AI scientific publications	47	55.61	
3rd sub-pillar: Future Technologies	59	34.40	
1.3.1 Adoption of emerging technologies	67	46.99	
1.3.2 Investment in emerging technologies	67	38.85	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	70	17.38	
B. People pillar	64	49.11	
1st sub-pillar: Individuals	60	63.58	
2.1.1 Active mobile broadband subscriptions	31	81.95	●
2.1.2 ICT skills	50	27.62	
2.1.3 Use of virtual social networks	39	76.51	
2.1.4 Tertiary enrollment	54	38.13	
2.1.5 Adult literacy rate	46	93.71	
2nd sub-pillar: Businesses	64	41.02	
2.2.1 Firms with website	41	67.47	
2.2.2 GERD financed by business enterprise	36	53.13	
2.2.3 Professionals	NA	NA	
2.2.4 Technicians and associate professionals	NA	NA	
2.2.5 Annual investment in telecommunication services	NA	NA	
2.2.6 GERD performed by business enterprise	60	2.46	
3rd sub-pillar: Governments	69	42.72	
2.3.1 Government online services	48	75.76	
2.3.2 Publication and use of open data	24	51.51	●
2.3.3 Government promotion of investment in emerging tech	64	38.06	
2.3.4 R&D expenditure by governments and higher education	99	5.56	○

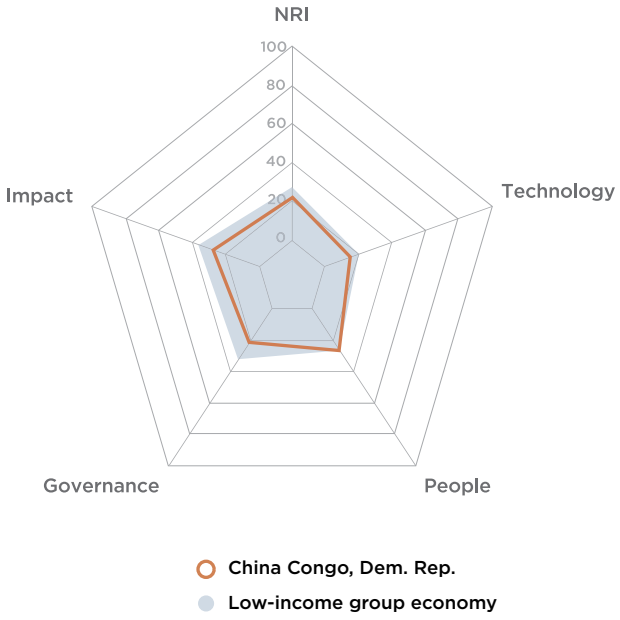
Indicator	Rank	Score	
C. Governance pillar	71	54.11	
1st sub-pillar: Trust	81	34.73	
3.1.1 Secure Internet servers	76	47.92	
3.1.2 Cybersecurity	86	63.08	
3.1.3 Online access to financial account	83	17.15	○
3.1.4 Internet shopping	71	10.78	
2nd sub-pillar: Regulation	55	66.53	
3.2.1 Regulatory quality	52	51.93	
3.2.2 ICT regulatory environment	67	82.35	
3.2.3 Legal framework's adaptability to emerging technologies	69	39.33	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	87	59.06	
3rd sub-pillar: Inclusion	70	61.08	
3.3.1 E-Participation	27	86.42	●
3.3.2 Socioeconomic gap in use of digital payments	80	46.32	
3.3.3 Availability of local online content	78	53.85	
3.3.4 Gender gap in Internet use	6	73.13	●
3.3.5 Rural gap in use of digital payments	103	45.66	○
D. Impact pillar	67	54.58	
1st sub-pillar: Economy	66	37.16	
4.1.1 High-tech and medium-high-tech manufacturing	61	23.89	
4.1.2 High-tech exports	65	22.32	
4.1.3 PCT patent applications	53	43.10	
4.1.4 Growth rate of GDP per person engaged	11	80.49	●
4.1.5 Prevalence of gig economy	79	37.01	
4.1.6 ICT services exports	87	16.15	
2nd sub-pillar: Quality of Life	84	61.53	
4.2.1 Happiness	66	53.90	
4.2.2 Freedom to make life choices	59	78.92	
4.2.3 Income inequality	109	30.47	○
4.2.4 Healthy life expectancy at birth	35	82.82	●
3rd sub-pillar: SDG Contribution	54	65.05	
4.3.1 SDG 3: Good Health and Well-Being	39	78.69	
4.3.2 SDG 4: Quality Education	60	29.15	○
4.3.3 Females employed with advanced degrees	51	47.32	
4.3.4 SDG 7: Affordable and Clean Energy	9	91.45	●
4.3.5 SDG 11: Sustainable Cities and Communities	72	78.62	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Congo, Dem. Rep.

	Rank (out of 130)	Score
Network Readiness Index	**129**	**22.31**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**129**	**15.36**
1st sub-pillar: Access	127	25.39
2nd sub-pillar: Content	130	5.19
3rd sub-pillar: Future Technologies	122	15.48
B. People pillar	**121**	**26.13**
1st sub-pillar: Individuals	112	39.04
2nd sub-pillar: Businesses	118	22.91
3rd sub-pillar: Governments	126	16.43
C. Governance pillar	**130**	**20.84**
1st sub-pillar: Trust	128	12.40
2nd sub-pillar: Regulation	130	23.81
3rd sub-pillar: Inclusion	127	26.30
D. Impact pillar	**125**	**26.92**
1st sub-pillar: Economy	110	20.60
2nd sub-pillar: Quality of Life	117	41.91
3rd sub-pillar: SDG Contribution	130	18.25



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	129	15.36	
1st sub-pillar: Access	127	25.39	
1.1.1 Mobile tariffs	129	1.10	○
1.1.2 Handset prices	125	11.29	
1.1.3 Households with internet access	127	1.00	
1.1.4 SMS sent by population 15-69	32	81.27	
1.1.5 Population covered by at least a 3G mobile network	117	82.18	
1.1.6 International Internet bandwidth	64	0.90	
1.1.7 Internet access in schools	70	0.00	
2nd sub-pillar: Content	130	5.19	
1.2.1 GitHub commits	130	0.00	○
1.2.2 Wikipedia edits	128	3.25	○
1.2.3 Internet domain registrations	*	*	○
1.2.4 Mobile apps development	128	21.86	○
1.2.5 AI scientific publications	128	0.85	○
3rd sub-pillar: Future Technologies	122	15.48	
1.3.1 Adoption of emerging technologies	121	13.47	
1.3.2 Investment in emerging technologies	121	17.50	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	NA	NA	
B. People pillar	121	26.13	
1st sub-pillar: Individuals	112	39.04	
2.1.1 Active mobile broadband subscriptions	38	79.97	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	128	1.66	○
2.1.4 Tertiary enrollment	116	4.07	
2.1.5 Adult literacy rate	82	70.47	
2nd sub-pillar: Businesses	118	22.91	
2.2.1 Firms with website	118	8.68	
2.2.2 GERD financed by business enterprise	103	0.00	○
2.2.3 Professionals	118	5.01	
2.2.4 Technicians and associate professionals	82	23.37	
2.2.5 Annual investment in telecommunication services	65	77.51	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	126	16.43	
2.3.1 Government online services	128	10.30	○
2.3.2 Publication and use of open data	87	12.13	
2.3.3 Government promotion of investment in emerging tech	119	7.94	
2.3.4 R&D expenditure by governments and higher education	52	35.36	

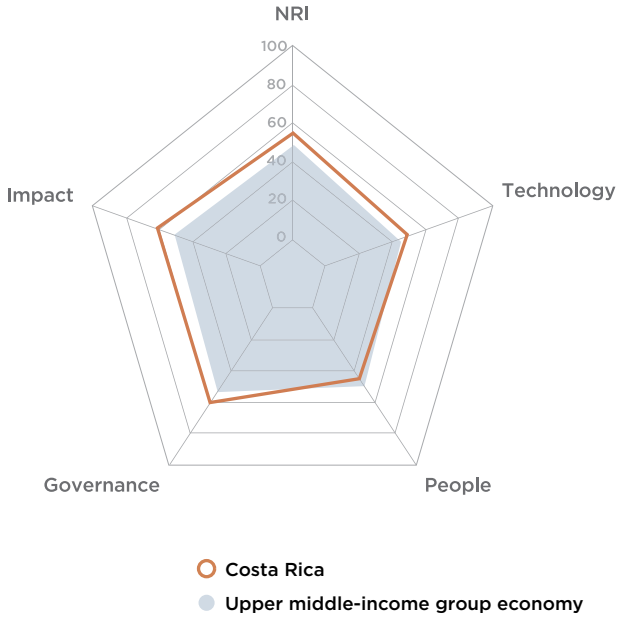
Indicator	Rank	Score	
C. Governance pillar	130	20.84	
1st sub-pillar: Trust	128	12.40	
3.1.1 Secure Internet servers	129	10.16	○
3.1.2 Cybersecurity	127	3.63	
3.1.3 Online access to financial account	55	33.51	
3.1.4 Internet shopping	112	2.31	
2nd sub-pillar: Regulation	130	23.81	
3.2.1 Regulatory quality	130	0.00	○
3.2.2 ICT regulatory environment	98	68.63	
3.2.3 Legal framework's adaptability to emerging technologies	120	8.86	
3.2.4 E-commerce legislation	127	0.00	○
3.2.5 Privacy protection by law content	112	41.57	
3rd sub-pillar: Inclusion	127	26.30	
3.3.1 E-Participation	127	17.29	
3.3.2 Socioeconomic gap in use of digital payments	84	44.17	
3.3.3 Availability of local online content	128	10.40	○
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	111	33.34	
D. Impact pillar	125	26.92	
1st sub-pillar: Economy	110	20.60	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	100	5.96	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Growth rate of GDP per person engaged	56	61.78	
4.1.5 Prevalence of gig economy	115	14.10	
4.1.6 ICT services exports	127	0.54	
2nd sub-pillar: Quality of Life	117	41.91	
4.2.1 Happiness	115	24.34	
4.2.2 Freedom to make life choices	107	55.88	
4.2.3 Income inequality	88	54.43	
4.2.4 Healthy life expectancy at birth	122	33.00	
3rd sub-pillar: SDG Contribution	130	18.25	
4.3.1 SDG 3: Good Health and Well-Being	122	21.31	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	111	4.13	
4.3.4 SDG 7: Affordable and Clean Energy	128	0.00	○
4.3.5 SDG 11: Sustainable Cities and Communities	125	47.54	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Costa Rica

	Rank (out of 130)	Score
Network Readiness Index	**56**	**53.81**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**55**	**48.56**
1st sub-pillar: Access	69	64.85
2nd sub-pillar: Content	66	35.74
3rd sub-pillar: Future Technologies	35	45.10
B. People pillar	**78**	**45.05**
1st sub-pillar: Individuals	66	62.71
2nd sub-pillar: Businesses	72	35.76
3rd sub-pillar: Governments	85	36.68
C. Governance pillar	**56**	**59.72**
1st sub-pillar: Trust	66	44.20
2nd sub-pillar: Regulation	42	72.70
3rd sub-pillar: Inclusion	64	62.26
D. Impact pillar	**42**	**61.89**
1st sub-pillar: Economy	43	46.32
2nd sub-pillar: Quality of Life	40	74.87
3rd sub-pillar: SDG Contribution	58	64.49



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	55	48.56	
1st sub-pillar: Access	69	64.85	
1.1.1 Mobile tariffs	48	68.33	
1.1.2 Handset prices	57	58.78	
1.1.3 Households with internet access	45	84.82	
1.1.4 SMS sent by population 15-69	75	75.66	
1.1.5 Population covered by at least a 3G mobile network	73	99.44	
1.1.6 International Internet bandwidth	27	7.69	
1.1.7 Internet access in schools	38	59.24	
2nd sub-pillar: Content	66	35.74	
1.2.1 GitHub commits	47	9.33	
1.2.2 Wikipedia edits	64	51.06	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	53	80.12	
1.2.5 AI scientific publications	80	31.74	
3rd sub-pillar: Future Technologies	35	45.10	
1.3.1 Adoption of emerging technologies	43	57.76	
1.3.2 Investment in emerging technologies	48	48.38	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	31	29.16	●
B. People pillar	78	45.05	
1st sub-pillar: Individuals	66	62.71	
2.1.1 Active mobile broadband subscriptions	85	72.48	
2.1.2 ICT skills	51	27.44	
2.1.3 Use of virtual social networks	41	76.30	
2.1.4 Tertiary enrollment	51	40.03	
2.1.5 Adult literacy rate	31	97.28	
2nd sub-pillar: Businesses	72	35.76	
2.2.1 Firms with website	61	51.49	
2.2.2 GERD financed by business enterprise	93	1.52	○
2.2.3 Professionals	65	25.53	
2.2.4 Technicians and associate professionals	34	55.11	●
2.2.5 Annual investment in telecommunication services	63	77.78	
2.2.6 GERD performed by business enterprise	57	3.13	
3rd sub-pillar: Governments	85	36.68	
2.3.1 Government online services	70	67.28	
2.3.2 Publication and use of open data	70	19.65	
2.3.3 Government promotion of investment in emerging tech	73	34.38	
2.3.4 R&D expenditure by governments and higher education	65	25.40	

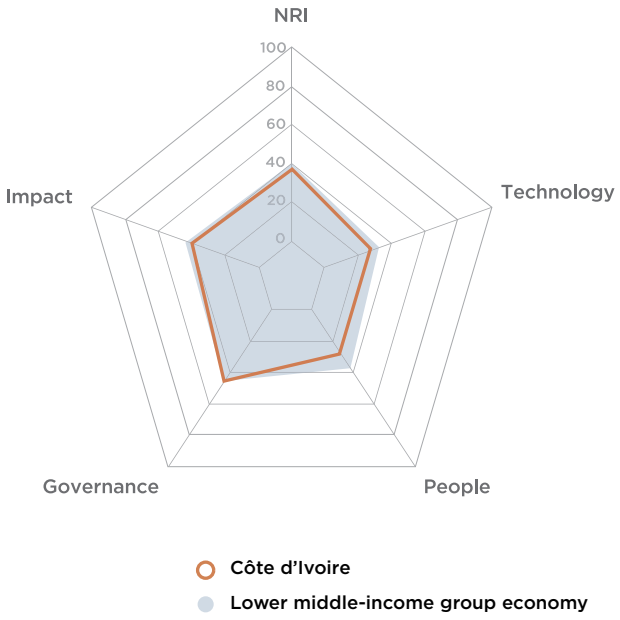
Indicator	Rank	Score	
C. Governance pillar	56	59.72	
1st sub-pillar: Trust	66	44.20	
3.1.1 Secure Internet servers	62	57.33	
3.1.2 Cybersecurity	81	66.88	
3.1.3 Online access to financial account	62	29.47	
3.1.4 Internet shopping	54	23.13	
2nd sub-pillar: Regulation	42	72.70	
3.2.1 Regulatory quality	49	54.69	
3.2.2 ICT regulatory environment	38	88.24	
3.2.3 Legal framework's adaptability to emerging technologies	60	43.34	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	39	77.25	
3rd sub-pillar: Inclusion	64	62.26	
3.3.1 E-Participation	75	64.20	
3.3.2 Socioeconomic gap in use of digital payments	57	64.62	
3.3.3 Availability of local online content	67	60.19	
3.3.4 Gender gap in Internet use	15	69.76	●
3.3.5 Rural gap in use of digital payments	94	52.52	○
D. Impact pillar	42	61.89	
1st sub-pillar: Economy	43	46.32	
4.1.1 High-tech and medium-high-tech manufacturing	80	14.70	○
4.1.2 High-tech exports	31	51.37	●
4.1.3 PCT patent applications	63	35.01	
4.1.4 Growth rate of GDP per person engaged	30	68.57	●
4.1.5 Prevalence of gig economy	51	48.05	
4.1.6 ICT services exports	7	60.19	●
2nd sub-pillar: Quality of Life	40	74.87	
4.2.1 Happiness	17	81.15	●
4.2.2 Freedom to make life choices	18	93.61	●
4.2.3 Income inequality	104	38.54	○
4.2.4 Healthy life expectancy at birth	31	86.20	●
3rd sub-pillar: SDG Contribution	58	64.49	
4.3.1 SDG 3: Good Health and Well-Being	34	80.33	
4.3.2 SDG 4: Quality Education	57	32.95	○
4.3.3 Females employed with advanced degrees	60	40.17	
4.3.4 SDG 7: Affordable and Clean Energy	13	89.38	●
4.3.5 SDG 11: Sustainable Cities and Communities	67	79.65	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Côte d'Ivoire

	Rank (out of 130)	Score
Network Readiness Index	**108**	**35.69**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**111**	**27.94**
1st sub-pillar: Access	101	46.19
2nd sub-pillar: Content	120	15.27
3rd sub-pillar: Future Technologies	102	22.36
B. People pillar	**117**	**27.62**
1st sub-pillar: Individuals	125	29.01
2nd sub-pillar: Businesses	102	28.57
3rd sub-pillar: Governments	108	25.29
C. Governance pillar	**96**	**45.17**
1st sub-pillar: Trust	92	31.85
2nd sub-pillar: Regulation	79	60.34
3rd sub-pillar: Inclusion	105	43.31
D. Impact pillar	**105**	**42.05**
1st sub-pillar: Economy	79	32.71
2nd sub-pillar: Quality of Life	103	50.68
3rd sub-pillar: SDG Contribution	112	42.76



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	111	27.94	
1st sub-pillar: Access	101	46.19	
1.1.1 Mobile tariffs	100	41.96	
1.1.2 Handset prices	104	33.91	
1.1.3 Households with internet access	113	16.68	
1.1.4 SMS sent by population 15-69	20	84.22	●
1.1.5 Population covered by at least a 3G mobile network	89	98.52	
1.1.6 International Internet bandwidth	55	1.87	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	120	15.27	
1.2.1 GitHub commits	117	0.12	
1.2.2 Wikipedia edits	118	17.13	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	123	37.08	○
1.2.5 AI scientific publications	91	21.78	
3rd sub-pillar: Future Technologies	102	22.36	
1.3.1 Adoption of emerging technologies	88	37.49	
1.3.2 Investment in emerging technologies	99	28.47	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	115	1.11	○
B. People pillar	117	27.62	
1st sub-pillar: Individuals	125	29.01	
2.1.1 Active mobile broadband subscriptions	39	79.68	●
2.1.2 ICT skills	67	6.86	
2.1.3 Use of virtual social networks	108	20.06	
2.1.4 Tertiary enrollment	109	6.43	
2.1.5 Adult literacy rate	101	32.00	○
2nd sub-pillar: Businesses	102	28.57	
2.2.1 Firms with website	116	9.95	○
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	112	10.77	
2.2.4 Technicians and associate professionals	97	17.96	
2.2.5 Annual investment in telecommunication services	76	75.59	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	108	25.29	
2.3.1 Government online services	109	43.63	
2.3.2 Publication and use of open data	89	11.23	
2.3.3 Government promotion of investment in emerging tech	57	39.73	
2.3.4 R&D expenditure by governments and higher education	97	6.55	

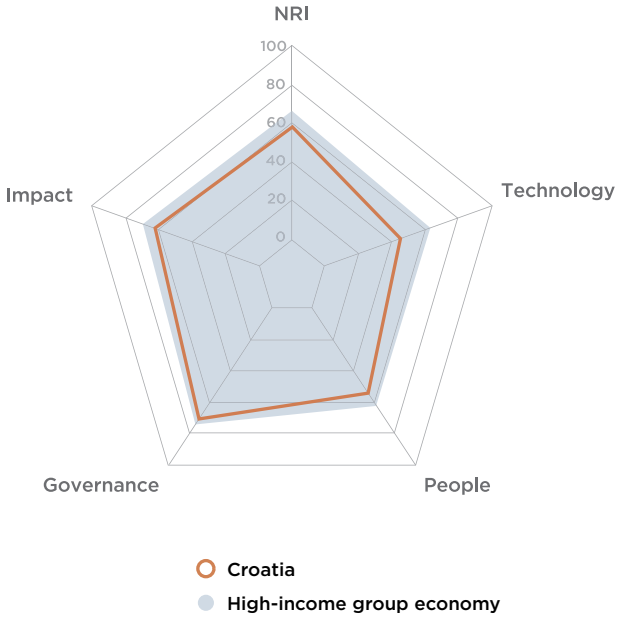
Indicator	Rank	Score	
C. Governance pillar	96	45.17	
1st sub-pillar: Trust	92	31.85	
3.1.1 Secure Internet servers	110	32.17	
3.1.2 Cybersecurity	80	67.25	
3.1.3 Online access to financial account	71	23.87	
3.1.4 Internet shopping	97	4.12	
2nd sub-pillar: Regulation	79	60.34	
3.2.1 Regulatory quality	89	34.51	
3.2.2 ICT regulatory environment	106	62.75	
3.2.3 Legal framework's adaptability to emerging technologies	83	30.90	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	49	73.57	●
3rd sub-pillar: Inclusion	105	43.31	
3.3.1 E-Participation	111	38.28	
3.3.2 Socioeconomic gap in use of digital payments	69	54.88	●
3.3.3 Availability of local online content	110	33.20	
3.3.4 Gender gap in Internet use	87	35.61	
3.3.5 Rural gap in use of digital payments	86	54.56	
D. Impact pillar	105	42.05	
1st sub-pillar: Economy	79	32.71	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	67	19.66	●
4.1.3 PCT patent applications	96	0.00	○
4.1.4 Growth rate of GDP per person engaged	14	77.44	●
4.1.5 Prevalence of gig economy	62	42.96	●
4.1.6 ICT services exports	73	23.47	●
2nd sub-pillar: Quality of Life	103	50.68	
4.2.1 Happiness	88	44.33	
4.2.2 Freedom to make life choices	86	67.02	
4.2.3 Income inequality	82	55.99	
4.2.4 Healthy life expectancy at birth	117	35.38	
3rd sub-pillar: SDG Contribution	112	42.76	
4.3.1 SDG 3: Good Health and Well-Being	110	31.15	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	112	3.94	
4.3.4 SDG 7: Affordable and Clean Energy	81	71.25	
4.3.5 SDG 11: Sustainable Cities and Communities	102	64.72	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Croatia

	Rank (out of 130)	Score
Network Readiness Index	**41**	**58.29**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**64**	**45.40**
1st sub-pillar: Access	58	67.70
2nd sub-pillar: Content	39	48.09
3rd sub-pillar: Future Technologies	108	20.42
B. People pillar	**46**	**54.70**
1st sub-pillar: Individuals	29	72.27
2nd sub-pillar: Businesses	39	51.99
3rd sub-pillar: Governments	77	39.85
C. Governance pillar	**37**	**70.41**
1st sub-pillar: Trust	41	63.54
2nd sub-pillar: Regulation	38	73.49
3rd sub-pillar: Inclusion	38	74.21
D. Impact pillar	**40**	**62.63**
1st sub-pillar: Economy	65	37.41
2nd sub-pillar: Quality of Life	27	79.38
3rd sub-pillar: SDG Contribution	39	71.11



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	64	45.40	
1st sub-pillar: Access	58	67.70	
1.1.1 Mobile tariffs	10	88.02	●
1.1.2 Handset prices	70	51.53	
1.1.3 Households with internet access	44	85.13	
1.1.4 SMS sent by population 15-69	72	75.73	
1.1.5 Population covered by at least a 3G mobile network	35	99.96	
1.1.6 International Internet bandwidth	35	5.86	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	39	48.09	
1.2.1 GitHub commits	34	20.26	
1.2.2 Wikipedia edits	34	73.29	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	39	85.83	
1.2.5 AI scientific publications	60	47.46	
3rd sub-pillar: Future Technologies	108	20.42	
1.3.1 Adoption of emerging technologies	57	49.87	
1.3.2 Investment in emerging technologies	107	25.34	○
1.3.3 Robot density	45	1.97	
1.3.4 Computer software spending	97	4.48	
B. People pillar	46	54.70	
1st sub-pillar: Individuals	29	72.27	
2.1.1 Active mobile broadband subscriptions	87	72.12	
2.1.2 ICT skills	15	75.09	●
2.1.3 Use of virtual social networks	63	68.19	
2.1.4 Tertiary enrollment	36	47.05	
2.1.5 Adult literacy rate	15	98.91	●
2nd sub-pillar: Businesses	39	51.99	
2.2.1 Firms with website	30	75.68	
2.2.2 GERD financed by business enterprise	54	41.04	
2.2.3 Professionals	32	43.54	
2.2.4 Technicians and associate professionals	25	61.01	●
2.2.5 Annual investment in telecommunication services	59	78.43	
2.2.6 GERD performed by business enterprise	38	12.24	
3rd sub-pillar: Governments	77	39.85	
2.3.1 Government online services	51	74.54	
2.3.2 Publication and use of open data	58	26.54	
2.3.3 Government promotion of investment in emerging tech	105	18.23	
2.3.4 R&D expenditure by governments and higher education	46	40.07	

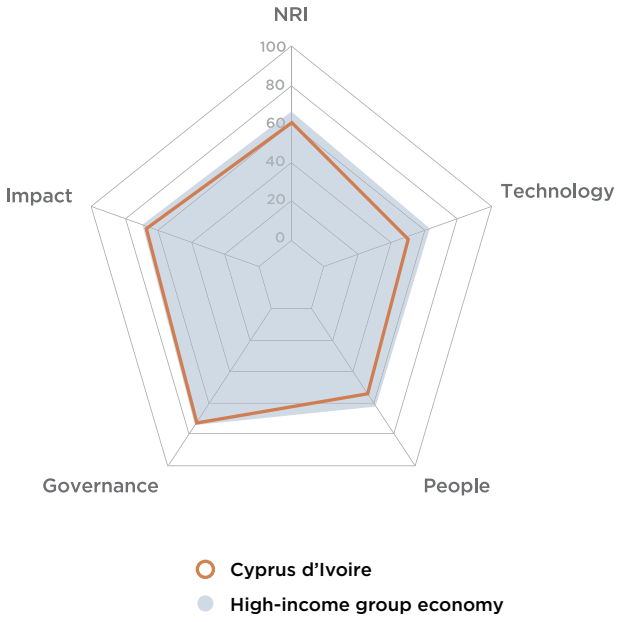
Indicator	Rank	Score	
C. Governance pillar	37	70.41	
1st sub-pillar: Trust	41	63.54	
3.1.1 Secure Internet servers	30	79.91	
3.1.2 Cybersecurity	40	92.40	
3.1.3 Online access to financial account	38	43.89	
3.1.4 Internet shopping	37	37.96	
2nd sub-pillar: Regulation	38	73.49	
3.2.1 Regulatory quality	43	57.22	
3.2.2 ICT regulatory environment	14	94.12	●
3.2.3 Legal framework's adaptability to emerging technologies	79	33.24	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	28	82.86	●
3rd sub-pillar: Inclusion	38	74.21	
3.3.1 E-Participation	23	88.89	●
3.3.2 Socioeconomic gap in use of digital payments	28	83.67	
3.3.3 Availability of local online content	55	65.84	
3.3.4 Gender gap in Internet use	78	52.19	○
3.3.5 Rural gap in use of digital payments	6	80.46	●
D. Impact pillar	40	62.63	
1st sub-pillar: Economy	65	37.41	
4.1.1 High-tech and medium-high-tech manufacturing	46	32.25	
4.1.2 High-tech exports	47	37.73	
4.1.3 PCT patent applications	52	43.40	
4.1.4 Growth rate of GDP per person engaged	106	44.76	○
4.1.5 Prevalence of gig economy	102	24.91	○
4.1.6 ICT services exports	32	41.40	
2nd sub-pillar: Quality of Life	27	79.38	
4.2.1 Happiness	25	70.79	●
4.2.2 Freedom to make life choices	60	78.32	
4.2.3 Income inequality	17	86.72	●
4.2.4 Healthy life expectancy at birth	39	81.67	
3rd sub-pillar: SDG Contribution	39	71.11	
4.3.1 SDG 3: Good Health and Well-Being	65	70.49	
4.3.2 SDG 4: Quality Education	36	56.24	
4.3.3 Females employed with advanced degrees	37	57.96	
4.3.4 SDG 7: Affordable and Clean Energy	52	80.27	
4.3.5 SDG 11: Sustainable Cities and Communities	37	90.57	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Cyprus

	Rank (out of 130)	Score
Network Readiness Index	**39**	**61.09**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**52**	**49.14**
1st sub-pillar: Access	64	66.40
2nd sub-pillar: Content	36	51.11
3rd sub-pillar: Future Technologies	73	29.93
B. People pillar	**43**	**55.98**
1st sub-pillar: Individuals	30	72.09
2nd sub-pillar: Businesses	47	48.56
3rd sub-pillar: Governments	51	47.29
C. Governance pillar	**35**	**72.37**
1st sub-pillar: Trust	42	63.25
2nd sub-pillar: Regulation	34	76.91
3rd sub-pillar: Inclusion	26	76.95
D. Impact pillar	**34**	**66.87**
1st sub-pillar: Economy	41	46.80
2nd sub-pillar: Quality of Life	37	76.16
3rd sub-pillar: SDG Contribution	23	77.65



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	52	49.14	
1st sub-pillar: Access	64	66.40	
1.1.1 Mobile tariffs	77	53.20	
1.1.2 Handset prices	38	68.61	
1.1.3 Households with internet access	19	92.94	●
1.1.4 SMS sent by population 15-69	83	74.17	
1.1.5 Population covered by at least a 3G mobile network	23	99.98	
1.1.6 International Internet bandwidth	24	9.49	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	36	51.11	
1.2.1 GitHub commits	39	13.43	
1.2.2 Wikipedia edits	49	62.31	
1.2.3 Internet domain registrations	*	*	●
1.2.4 Mobile apps development	12	97.06	●
1.2.5 AI scientific publications	65	42.66	
3rd sub-pillar: Future Technologies	73	29.93	
1.3.1 Adoption of emerging technologies	72	44.07	
1.3.2 Investment in emerging technologies	92	31.37	○
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	75	14.34	
B. People pillar	43	55.98	
1st sub-pillar: Individuals	30	72.09	
2.1.1 Active mobile broadband subscriptions	115	63.44	○
2.1.2 ICT skills	29	59.14	
2.1.3 Use of virtual social networks	17	82.85	●
2.1.4 Tertiary enrollment	18	56.69	●
2.1.5 Adult literacy rate	23	98.33	
2nd sub-pillar: Businesses	47	48.56	
2.2.1 Firms with website	34	71.74	
2.2.2 GERD financed by business enterprise	53	43.02	
2.2.3 Professionals	25	46.00	
2.2.4 Technicians and associate professionals	38	53.04	
2.2.5 Annual investment in telecommunication services	97	71.85	○
2.2.6 GERD performed by business enterprise	49	5.70	
3rd sub-pillar: Governments	51	47.29	
2.3.1 Government online services	20	86.67	●
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	86	30.41	
2.3.4 R&D expenditure by governments and higher education	66	24.78	

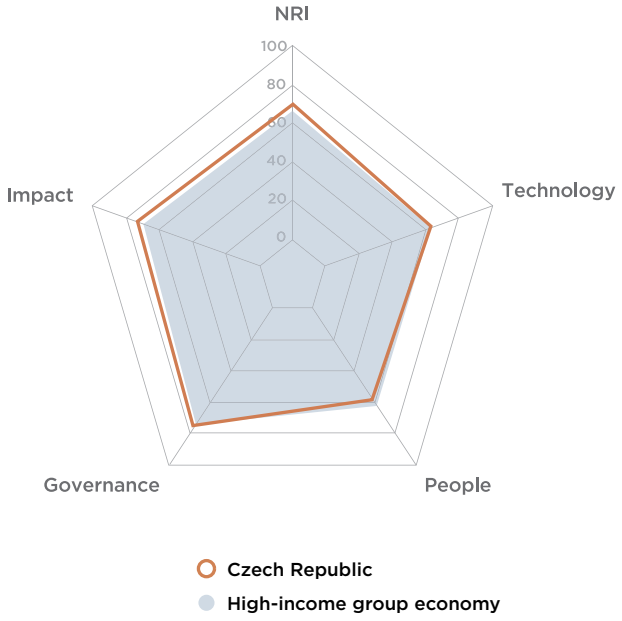
Indicator	Rank	Score	
C. Governance pillar	35	72.37	
1st sub-pillar: Trust	42	63.25	
3.1.1 Secure Internet servers	27	80.80	
3.1.2 Cybersecurity	49	88.62	
3.1.3 Online access to financial account	42	42.11	
3.1.4 Internet shopping	36	41.45	
2nd sub-pillar: Regulation	34	76.91	
3.2.1 Regulatory quality	32	68.70	
3.2.2 ICT regulatory environment	55	85.49	
3.2.3 Legal framework's adaptability to emerging technologies	49	48.15	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	30	82.23	
3rd sub-pillar: Inclusion	26	76.95	
3.3.1 E-Participation	14	95.06	●
3.3.2 Socioeconomic gap in use of digital payments	36	78.28	
3.3.3 Availability of local online content	43	72.24	
3.3.4 Gender gap in Internet use	19	69.14	
3.3.5 Rural gap in use of digital payments	54	70.01	
D. Impact pillar	34	66.87	
1st sub-pillar: Economy	41	46.80	
4.1.1 High-tech and medium-high-tech manufacturing	62	22.77	
4.1.2 High-tech exports	68	17.69	
4.1.3 PCT patent applications	26	69.93	
4.1.4 Growth rate of GDP per person engaged	93	49.86	○
4.1.5 Prevalence of gig economy	85	35.44	
4.1.6 ICT services exports	2	85.10	●
2nd sub-pillar: Quality of Life	37	76.16	
4.2.1 Happiness	37	65.55	
4.2.2 Freedom to make life choices	93	65.80	○
4.2.3 Income inequality	32	78.91	
4.2.4 Healthy life expectancy at birth	5	94.37	●
3rd sub-pillar: SDG Contribution	23	77.65	
4.3.1 SDG 3: Good Health and Well-Being	30	81.97	
4.3.2 SDG 4: Quality Education	44	42.42	
4.3.3 Females employed with advanced degrees	12	84.48	●
4.3.4 SDG 7: Affordable and Clean Energy	27	85.30	
4.3.5 SDG 11: Sustainable Cities and Communities	26	94.08	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Czech Republic

	Rank (out of 130)	Score
Network Readiness Index	**24**	**68.11**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**23**	**64.23**
1st sub-pillar: Access	28	82.37
2nd sub-pillar: Content	21	62.84
3rd sub-pillar: Future Technologies	29	47.48
B. People pillar	**36**	**58.76**
1st sub-pillar: Individuals	71	61.14
2nd sub-pillar: Businesses	25	58.77
3rd sub-pillar: Governments	33	56.38
C. Governance pillar	**25**	**76.78**
1st sub-pillar: Trust	20	76.90
2nd sub-pillar: Regulation	23	81.56
3rd sub-pillar: Inclusion	41	71.89
D. Impact pillar	**21**	**72.67**
1st sub-pillar: Economy	15	60.79
2nd sub-pillar: Quality of Life	10	87.59
3rd sub-pillar: SDG Contribution	44	69.62



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	23	64.23	
1st sub-pillar: Access	28	82.37	
1.1.1 Mobile tariffs	34	74.78	
1.1.2 Handset prices	25	74.66	
1.1.3 Households with internet access	53	81.79	
1.1.4 SMS sent by population 15-69	36	80.70	
1.1.5 Population covered by at least a 3G mobile network	36	99.95	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	21	62.84	
1.2.1 GitHub commits	18	48.97	●
1.2.2 Wikipedia edits	18	79.99	●
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	28	91.41	
1.2.5 AI scientific publications	46	55.86	
3rd sub-pillar: Future Technologies	29	47.48	
1.3.1 Adoption of emerging technologies	24	72.11	
1.3.2 Investment in emerging technologies	36	55.17	
1.3.3 Robot density	21	40.26	
1.3.4 Computer software spending	54	22.38	
B. People pillar	36	58.76	
1st sub-pillar: Individuals	71	61.14	
2.1.1 Active mobile broadband subscriptions	52	76.42	
2.1.2 ICT skills	34	55.01	
2.1.3 Use of virtual social networks	59	68.81	
2.1.4 Tertiary enrollment	43	44.32	
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	25	58.77	
2.2.1 Firms with website	12	85.42	●
2.2.2 GERD financed by business enterprise	45	47.23	
2.2.3 Professionals	43	38.85	
2.2.4 Technicians and associate professionals	14	74.12	●
2.2.5 Annual investment in telecommunication services	48	79.82	
2.2.6 GERD performed by business enterprise	17	27.18	
3rd sub-pillar: Governments	33	56.38	
2.3.1 Government online services	60	71.51	
2.3.2 Publication and use of open data	31	44.28	
2.3.3 Government promotion of investment in emerging tech	39	49.29	
2.3.4 R&D expenditure by governments and higher education	19	60.45	

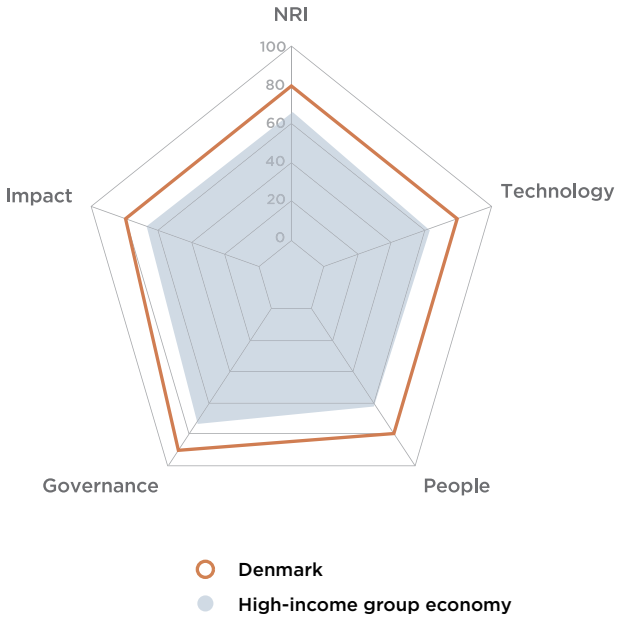
Indicator	Rank	Score	
C. Governance pillar	25	76.78	
1st sub-pillar: Trust	20	76.90	
3.1.1 Secure Internet servers	12	88.74	●
3.1.2 Cybersecurity	75	73.92	○
3.1.3 Online access to financial account	12	75.65	●
3.1.4 Internet shopping	19	69.31	
2nd sub-pillar: Regulation	23	81.56	
3.2.1 Regulatory quality	24	75.04	
3.2.2 ICT regulatory environment	45	87.06	
3.2.3 Legal framework's adaptability to emerging technologies	33	59.08	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	19	86.63	
3rd sub-pillar: Inclusion	41	71.89	
3.3.1 E-Participation	63	71.61	
3.3.2 Socioeconomic gap in use of digital payments	49	70.99	
3.3.3 Availability of local online content	18	86.28	●
3.3.4 Gender gap in Internet use	63	60.50	○
3.3.5 Rural gap in use of digital payments	53	70.07	
D. Impact pillar	21	72.67	
1st sub-pillar: Economy	15	60.79	
4.1.1 High-tech and medium-high-tech manufacturing	3	79.51	●
4.1.2 High-tech exports	7	83.99	●
4.1.3 PCT patent applications	35	57.43	
4.1.4 Growth rate of GDP per person engaged	62	58.57	○
4.1.5 Prevalence of gig economy	53	47.65	
4.1.6 ICT services exports	43	37.58	
2nd sub-pillar: Quality of Life	10	87.59	
4.2.1 Happiness	18	79.02	
4.2.2 Freedom to make life choices	29	90.15	
4.2.3 Income inequality	2	98.96	●
4.2.4 Healthy life expectancy at birth	36	82.23	
3rd sub-pillar: SDG Contribution	44	69.62	
4.3.1 SDG 3: Good Health and Well-Being	39	78.69	
4.3.2 SDG 4: Quality Education	23	65.89	
4.3.3 Females employed with advanced degrees	59	40.43	
4.3.4 SDG 7: Affordable and Clean Energy	87	69.33	○
4.3.5 SDG 11: Sustainable Cities and Communities	28	93.76	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Denmark

	Rank (out of 130)	Score
Network Readiness Index	**3**	**81.24**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**7**	**76.76**
1st sub-pillar: Access	21	86.04
2nd sub-pillar: Content	8	75.61
3rd sub-pillar: Future Technologies	8	68.64
B. People pillar	**2**	**79.53**
1st sub-pillar: Individuals	15	76.07
2nd sub-pillar: Businesses	7	73.40
3rd sub-pillar: Governments	1	89.14
C. Governance pillar	**3**	**90.13**
1st sub-pillar: Trust	1	97.43
2nd sub-pillar: Regulation	6	89.69
3rd sub-pillar: Inclusion	14	83.26
D. Impact pillar	**7**	**78.52**
1st sub-pillar: Economy	17	59.82
2nd sub-pillar: Quality of Life	5	91.99
3rd sub-pillar: SDG Contribution	7	83.75



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	7	76.76	
1st sub-pillar: Access	21	86.04	
1.1.1 Mobile tariffs	31	78.03	
1.1.2 Handset prices	46	65.99	○
1.1.3 Households with internet access	20	92.70	
1.1.4 SMS sent by population 15-69	42	79.51	
1.1.5 Population covered by at least a 3G mobile network	1	100.00	●
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	8	75.61	
1.2.1 GitHub commits	7	69.52	
1.2.2 Wikipedia edits	31	75.08	
1.2.3 Internet domain registrations	*	*	●
1.2.4 Mobile apps development	7	99.92	
1.2.5 AI scientific publications	44	55.98	
3rd sub-pillar: Future Technologies	8	68.64	
1.3.1 Adoption of emerging technologies	13	84.22	
1.3.2 Investment in emerging technologies	14	76.91	
1.3.3 Robot density	6	66.68	
1.3.4 Computer software spending	13	46.77	
B. People pillar	2	79.53	
1st sub-pillar: Individuals	15	76.07	
2.1.1 Active mobile broadband subscriptions	66	75.21	○
2.1.2 ICT skills	5	88.48	
2.1.3 Use of virtual social networks	13	83.99	
2.1.4 Tertiary enrollment	19	56.58	
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	7	73.40	
2.2.1 Firms with website	2	96.35	●
2.2.2 GERD financed by business enterprise	13	74.70	
2.2.3 Professionals	3	67.43	●
2.2.4 Technicians and associate professionals	9	77.58	
2.2.5 Annual investment in telecommunication services	34	82.87	
2.2.6 GERD performed by business enterprise	11	41.45	
3rd sub-pillar: Governments	1	89.14	
2.3.1 Government online services	3	96.97	●
2.3.2 Publication and use of open data	13	70.44	
2.3.3 Government promotion of investment in emerging tech	NA	NA	
2.3.4 R&D expenditure by governments and higher education	1	100.00	●

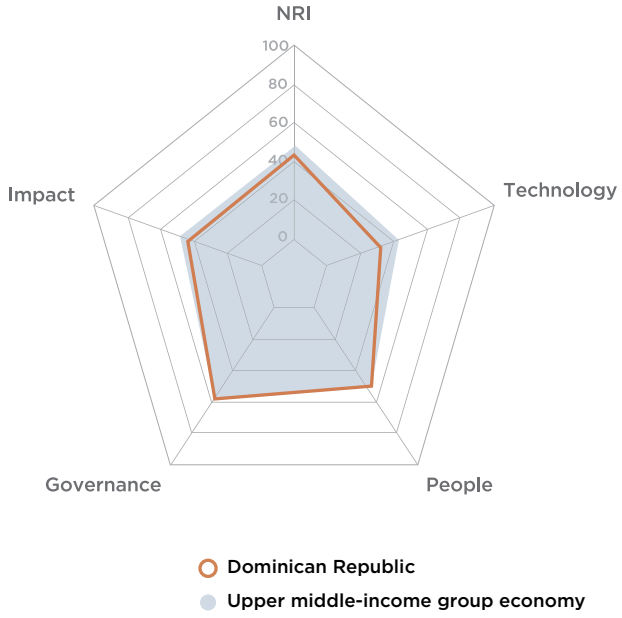
Indicator	Rank	Score	
C. Governance pillar	3	90.13	
1st sub-pillar: Trust	1	97.43	
3.1.1 Secure Internet servers	1	100.00	●
3.1.2 Cybersecurity	39	92.47	
3.1.3 Online access to financial account	2	97.24	●
3.1.4 Internet shopping	1	100.00	●
2nd sub-pillar: Regulation	6	89.69	
3.2.1 Regulatory quality	16	83.75	
3.2.2 ICT regulatory environment	6	96.47	
3.2.3 Legal framework's adaptability to emerging technologies	NA	NA	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	36	78.53	
3rd sub-pillar: Inclusion	14	83.26	
3.3.1 E-Participation	9	96.30	
3.3.2 Socioeconomic gap in use of digital payments	2	99.74	●
3.3.3 Availability of local online content	33	79.08	
3.3.4 Gender gap in Internet use	43	64.65	○
3.3.5 Rural gap in use of digital payments	18	76.53	
D. Impact pillar	7	78.52	
1st sub-pillar: Economy	17	59.82	
4.1.1 High-tech and medium-high-tech manufacturing	13	62.82	
4.1.2 High-tech exports	33	49.56	
4.1.3 PCT patent applications	7	89.30	
4.1.4 Growth rate of GDP per person engaged	66	58.23	○
4.1.5 Prevalence of gig economy	NA	NA	
4.1.6 ICT services exports	37	39.21	
2nd sub-pillar: Quality of Life	5	91.99	
4.2.1 Happiness	3	92.08	●
4.2.2 Freedom to make life choices	12	95.49	
4.2.3 Income inequality	14	90.62	
4.2.4 Healthy life expectancy at birth	18	89.75	
3rd sub-pillar: SDG Contribution	7	83.75	
4.3.1 SDG 3: Good Health and Well-Being	22	86.89	
4.3.2 SDG 4: Quality Education	17	68.16	
4.3.3 Females employed with advanced degrees	20	75.85	
4.3.4 SDG 7: Affordable and Clean Energy	11	90.50	
4.3.5 SDG 11: Sustainable Cities and Communities	9	97.36	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Dominican Republic

	Rank (out of 130)	Score
Network Readiness Index	**82**	**45.33**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**99**	**32.19**
1st sub-pillar: Access	96	48.87
2nd sub-pillar: Content	103	21.49
3rd sub-pillar: Future Technologies	94	26.22
B. People pillar	**65**	**48.63**
1st sub-pillar: Individuals	76	59.61
2nd sub-pillar: Businesses	67	39.82
3rd sub-pillar: Governments	58	46.45
C. Governance pillar	**66**	**55.66**
1st sub-pillar: Trust	85	33.93
2nd sub-pillar: Regulation	41	72.77
3rd sub-pillar: Inclusion	73	60.28
D. Impact pillar	**97**	**44.83**
1st sub-pillar: Economy	73	34.22
2nd sub-pillar: Quality of Life	88	60.38
3rd sub-pillar: SDG Contribution	116	39.90



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	99	32.19	
1st sub-pillar: Access	96	48.87	
1.1.1 Mobile tariffs	82	50.65	
1.1.2 Handset prices	58	58.37	●
1.1.3 Households with internet access	98	33.57	
1.1.4 SMS sent by population 15-69	96	71.43	
1.1.5 Population covered by at least a 3G mobile network	44	99.87	●
1.1.6 International Internet bandwidth	40	5.01	
1.1.7 Internet access in schools	53	23.16	
2nd sub-pillar: Content	103	21.49	
1.2.1 GitHub commits	70	2.81	
1.2.2 Wikipedia edits	95	31.51	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	84	68.04	
1.2.5 AI scientific publications	123	3.24	○
3rd sub-pillar: Future Technologies	94	26.22	
1.3.1 Adoption of emerging technologies	62	48.00	
1.3.2 Investment in emerging technologies	97	29.14	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	112	1.51	○
B. People pillar	65	48.63	
1st sub-pillar: Individuals	76	59.61	
2.1.1 Active mobile broadband subscriptions	68	75.06	
2.1.2 ICT skills	53	25.54	
2.1.3 Use of virtual social networks	72	63.83	
2.1.4 Tertiary enrollment	49	41.61	●
2.1.5 Adult literacy rate	53	92.02	
2nd sub-pillar: Businesses	67	39.82	
2.2.1 Firms with website	81	37.61	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	82	19.30	
2.2.4 Technicians and associate professionals	78	25.10	
2.2.5 Annual investment in telecommunication services	67	77.29	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	58	46.45	
2.3.1 Government online services	48	75.76	●
2.3.2 Publication and use of open data	51	32.02	
2.3.3 Government promotion of investment in emerging tech	83	31.57	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

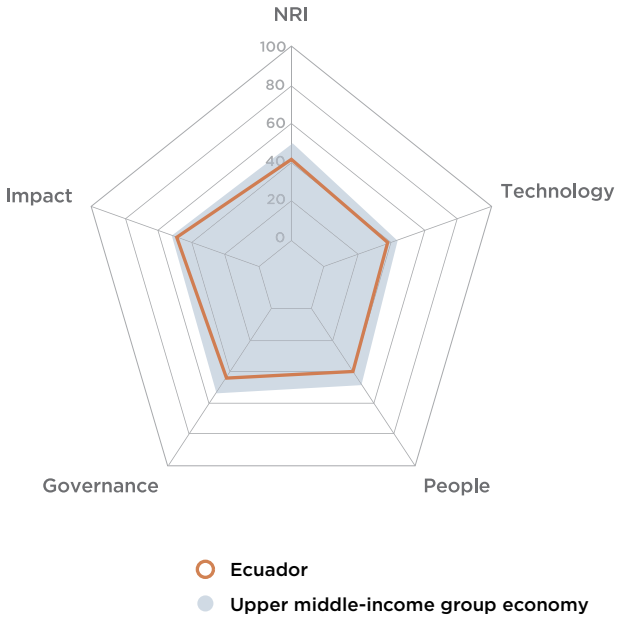
Indicator	Rank	Score	
C. Governance pillar	66	55.66	
1st sub-pillar: Trust	85	33.93	
3.1.1 Secure Internet servers	98	38.62	
3.1.2 Cybersecurity	73	74.61	
3.1.3 Online access to financial account	96	12.98	○
3.1.4 Internet shopping	74	9.51	
2nd sub-pillar: Regulation	41	72.77	
3.2.1 Regulatory quality	73	39.66	
3.2.2 ICT regulatory environment	5	97.06	●
3.2.3 Legal framework's adaptability to emerging technologies	75	35.81	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	7	91.34	●
3rd sub-pillar: Inclusion	73	60.28	
3.3.1 E-Participation	50	76.54	●
3.3.2 Socioeconomic gap in use of digital payments	89	38.95	
3.3.3 Availability of local online content	68	59.97	
3.3.4 Gender gap in Internet use	21	68.90	●
3.3.5 Rural gap in use of digital payments	82	57.03	
D. Impact pillar	97	44.83	
1st sub-pillar: Economy	73	34.22	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	60	27.45	
4.1.3 PCT patent applications	75	26.28	
4.1.4 Growth rate of GDP per person engaged	26	70.09	●
4.1.5 Prevalence of gig economy	77	37.45	
4.1.6 ICT services exports	101	9.84	
2nd sub-pillar: Quality of Life	88	60.38	
4.2.1 Happiness	91	42.47	
4.2.2 Freedom to make life choices	61	77.98	
4.2.3 Income inequality	85	54.95	
4.2.4 Healthy life expectancy at birth	85	66.11	
3rd sub-pillar: SDG Contribution	116	39.90	
4.3.1 SDG 3: Good Health and Well-Being	53	75.41	
4.3.2 SDG 4: Quality Education	77	0.00	○
4.3.3 Females employed with advanced degrees	71	31.28	
4.3.4 SDG 7: Affordable and Clean Energy	8	92.81	●
4.3.5 SDG 11: Sustainable Cities and Communities	129	0.00	○

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Ecuador

	Rank (out of 130)	Score
Network Readiness Index	**90**	**42.74**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**87**	**37.59**
1st sub-pillar: Access	91	53.03
2nd sub-pillar: Content	79	32.39
3rd sub-pillar: Future Technologies	86	27.34
B. People pillar	**90**	**40.52**
1st sub-pillar: Individuals	72	60.84
2nd sub-pillar: Businesses	114	24.45
3rd sub-pillar: Governments	88	36.27
C. Governance pillar	**100**	**43.46**
1st sub-pillar: Trust	111	22.48
2nd sub-pillar: Regulation	91	57.34
3rd sub-pillar: Inclusion	94	50.57
D. Impact pillar	**84**	**49.40**
1st sub-pillar: Economy	112	19.85
2nd sub-pillar: Quality of Life	81	62.40
3rd sub-pillar: SDG Contribution	50	65.94



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	87	37.59	
1st sub-pillar: Access	91	53.03	
1.1.1 Mobile tariffs	79	52.52	
1.1.2 Handset prices	69	51.77	
1.1.3 Households with internet access	87	53.19	
1.1.4 SMS sent by population 15-69	78	74.89	
1.1.5 Population covered by at least a 3G mobile network	88	98.57	
1.1.6 International Internet bandwidth	62	0.96	
1.1.7 Internet access in schools	48	39.28	
2nd sub-pillar: Content	79	32.39	
1.2.1 GitHub commits	74	2.61	
1.2.2 Wikipedia edits	84	39.66	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	79	69.85	
1.2.5 AI scientific publications	58	48.34	●
3rd sub-pillar: Future Technologies	86	27.34	
1.3.1 Adoption of emerging technologies	82	38.94	
1.3.2 Investment in emerging technologies	112	23.33	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	64	19.77	
B. People pillar	90	40.52	
1st sub-pillar: Individuals	72	60.84	
2.1.1 Active mobile broadband subscriptions	54	76.29	●
2.1.2 ICT skills	54	25.18	
2.1.3 Use of virtual social networks	30	79.00	●
2.1.4 Tertiary enrollment	65	32.93	
2.1.5 Adult literacy rate	58	90.80	
2nd sub-pillar: Businesses	114	24.45	
2.2.1 Firms with website	23	79.61	●
2.2.2 GERD financed by business enterprise	100	0.09	○
2.2.3 Professionals	79	19.63	
2.2.4 Technicians and associate professionals	91	18.81	
2.2.5 Annual investment in telecommunication services	NA	NA	
2.2.6 GERD performed by business enterprise	54	4.13	
3rd sub-pillar: Governments	88	36.27	
2.3.1 Government online services	40	80.61	●
2.3.2 Publication and use of open data	68	21.40	
2.3.3 Government promotion of investment in emerging tech	100	21.76	
2.3.4 R&D expenditure by governments and higher education	71	21.32	

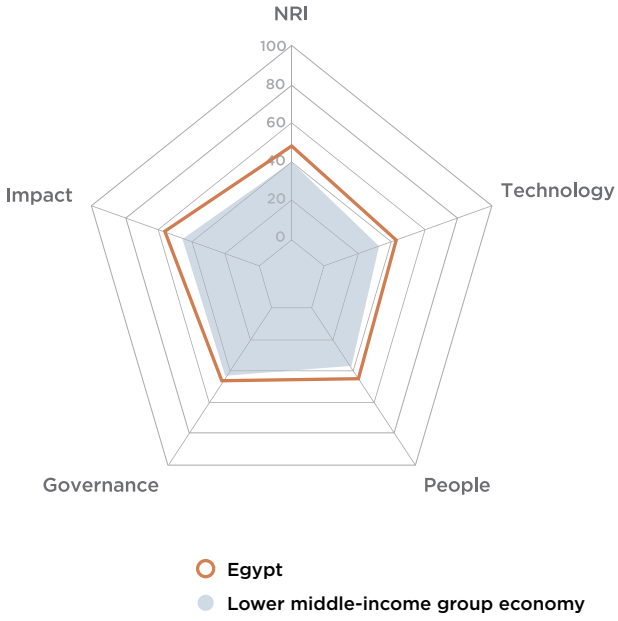
Indicator	Rank	Score	
C. Governance pillar	100	43.46	
1st sub-pillar: Trust	111	22.48	
3.1.1 Secure Internet servers	79	47.40	
3.1.2 Cybersecurity	109	25.00	
3.1.3 Online access to financial account	106	9.80	○
3.1.4 Internet shopping	80	7.70	
2nd sub-pillar: Regulation	91	57.34	
3.2.1 Regulatory quality	116	18.69	○
3.2.2 ICT regulatory environment	76	76.47	
3.2.3 Legal framework's adaptability to emerging technologies	86	30.08	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	83	61.46	
3rd sub-pillar: Inclusion	94	50.57	
3.3.1 E-Participation	48	79.01	●
3.3.2 Socioeconomic gap in use of digital payments	115	18.00	○
3.3.3 Availability of local online content	101	39.20	
3.3.4 Gender gap in Internet use	47	64.15	●
3.3.5 Rural gap in use of digital payments	95	52.47	
D. Impact pillar	84	49.40	
1st sub-pillar: Economy	112	19.85	
4.1.1 High-tech and medium-high-tech manufacturing	79	14.77	
4.1.2 High-tech exports	99	6.25	
4.1.3 PCT patent applications	87	16.69	
4.1.4 Growth rate of GDP per person engaged	59	59.97	
4.1.5 Prevalence of gig economy	114	15.46	○
4.1.6 ICT services exports	114	5.98	
2nd sub-pillar: Quality of Life	81	62.40	
4.2.1 Happiness	81	46.40	
4.2.2 Freedom to make life choices	66	76.94	
4.2.3 Income inequality	101	45.05	
4.2.4 Healthy life expectancy at birth	42	81.20	●
3rd sub-pillar: SDG Contribution	50	65.94	
4.3.1 SDG 3: Good Health and Well-Being	34	80.33	●
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	75	28.56	
4.3.4 SDG 7: Affordable and Clean Energy	35	83.71	●
4.3.5 SDG 11: Sustainable Cities and Communities	88	71.16	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Egypt

	Rank (out of 130)	Score
Network Readiness Index	**77**	**47.56**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**72**	**42.49**
1st sub-pillar: Access	66	65.94
2nd sub-pillar: Content	71	34.36
3rd sub-pillar: Future Technologies	89	27.15
B. People pillar	**75**	**45.54**
1st sub-pillar: Individuals	80	58.24
2nd sub-pillar: Businesses	85	33.11
3rd sub-pillar: Governments	60	45.28
C. Governance pillar	**90**	**46.86**
1st sub-pillar: Trust	88	33.00
2nd sub-pillar: Regulation	95	54.32
3rd sub-pillar: Inclusion	83	53.24
D. Impact pillar	**62**	**55.36**
1st sub-pillar: Economy	53	43.00
2nd sub-pillar: Quality of Life	91	59.87
3rd sub-pillar: SDG Contribution	60	63.20



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	72	42.49	
1st sub-pillar: Access	66	65.94	
1.1.1 Mobile tariffs	14	84.99	●
1.1.2 Handset prices	77	47.11	
1.1.3 Households with internet access	70	73.08	
1.1.4 SMS sent by population 15-69	44	79.07	
1.1.5 Population covered by at least a 3G mobile network	47	99.79	
1.1.6 International Internet bandwidth	14	29.96	●
1.1.7 Internet access in schools	42	47.58	
2nd sub-pillar: Content	71	34.36	
1.2.1 GitHub commits	93	1.07	
1.2.2 Wikipedia edits	77	44.43	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	96	62.59	
1.2.5 AI scientific publications	26	63.21	●
3rd sub-pillar: Future Technologies	89	27.15	
1.3.1 Adoption of emerging technologies	48	54.92	
1.3.2 Investment in emerging technologies	74	37.05	
1.3.3 Robot density	55	0.02	○
1.3.4 Computer software spending	72	16.61	
B. People pillar	75	45.54	
1st sub-pillar: Individuals	80	58.24	
2.1.1 Active mobile broadband subscriptions	17	85.53	●
2.1.2 ICT skills	22	69.58	
2.1.3 Use of virtual social networks	94	46.36	
2.1.4 Tertiary enrollment	75	26.81	
2.1.5 Adult literacy rate	90	62.91	
2nd sub-pillar: Businesses	85	33.11	
2.2.1 Firms with website	65	48.83	
2.2.2 GERD financed by business enterprise	86	4.81	
2.2.3 Professionals	59	28.15	
2.2.4 Technicians and associate professionals	63	32.92	
2.2.5 Annual investment in telecommunication services	31	83.42	
2.2.6 GERD performed by business enterprise	77	0.50	
3rd sub-pillar: Governments	60	45.28	
2.3.1 Government online services	91	55.76	
2.3.2 Publication and use of open data	83	13.65	
2.3.3 Government promotion of investment in emerging tech	43	47.89	
2.3.4 R&D expenditure by governments and higher education	16	63.81	●

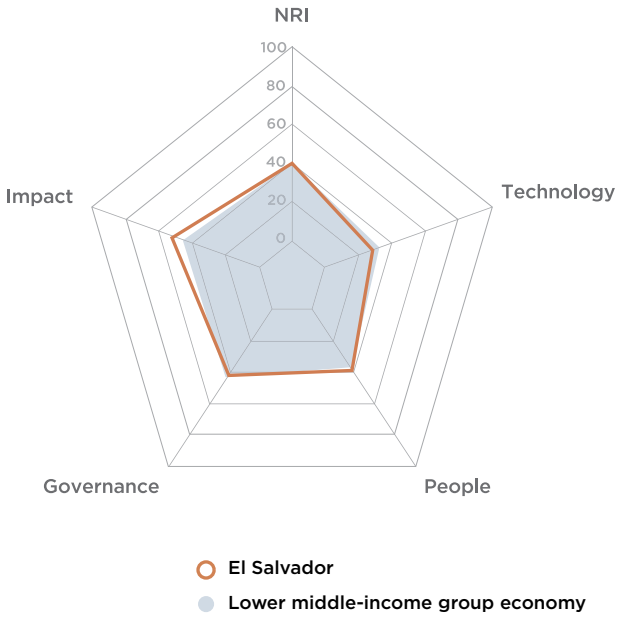
Indicator	Rank	Score	
C. Governance pillar	90	46.86	
1st sub-pillar: Trust	88	33.00	
3.1.1 Secure Internet servers	113	30.15	
3.1.2 Cybersecurity	30	95.40	●
3.1.3 Online access to financial account	118	3.38	○
3.1.4 Internet shopping	109	3.09	○
2nd sub-pillar: Regulation	95	54.32	
3.2.1 Regulatory quality	118	18.58	○
3.2.2 ICT regulatory environment	39	87.65	
3.2.3 Legal framework's adaptability to emerging technologies	55	45.87	
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	109	44.51	
3rd sub-pillar: Inclusion	83	53.24	
3.3.1 E-Participation	95	49.38	
3.3.2 Socioeconomic gap in use of digital payments	111	24.19	○
3.3.3 Availability of local online content	34	78.50	●
3.3.4 Gender gap in Internet use	57	61.03	
3.3.5 Rural gap in use of digital payments	91	53.11	
D. Impact pillar	62	55.36	
1st sub-pillar: Economy	53	43.00	
4.1.1 High-tech and medium-high-tech manufacturing	56	26.27	
4.1.2 High-tech exports	85	10.79	
4.1.3 PCT patent applications	77	22.07	
4.1.4 Growth rate of GDP per person engaged	7	85.68	●
4.1.5 Prevalence of gig economy	6	89.46	●
4.1.6 ICT services exports	72	23.75	
2nd sub-pillar: Quality of Life	91	59.87	
4.2.1 Happiness	109	27.75	
4.2.2 Freedom to make life choices	87	66.95	
4.2.3 Income inequality	26	82.03	●
4.2.4 Healthy life expectancy at birth	91	62.73	
3rd sub-pillar: SDG Contribution	60	63.20	
4.3.1 SDG 3: Good Health and Well-Being	77	65.57	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	90	18.87	
4.3.4 SDG 7: Affordable and Clean Energy	47	81.23	
4.3.5 SDG 11: Sustainable Cities and Communities	48	87.13	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

El Salvador

	Rank (out of 130)	Score
Network Readiness Index	**98**	**40.14**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**106**	**29.35**
1st sub-pillar: Access	106	42.88
2nd sub-pillar: Content	95	25.36
3rd sub-pillar: Future Technologies	109	19.83
B. People pillar	**95**	**38.03**
1st sub-pillar: Individuals	73	60.84
2nd sub-pillar: Businesses	89	31.91
3rd sub-pillar: Governments	116	21.35
C. Governance pillar	**102**	**41.45**
1st sub-pillar: Trust	118	17.77
2nd sub-pillar: Regulation	83	59.15
3rd sub-pillar: Inclusion	100	47.42
D. Impact pillar	**78**	**51.72**
1st sub-pillar: Economy	99	25.67
2nd sub-pillar: Quality of Life	59	68.48
3rd sub-pillar: SDG Contribution	71	61.02



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	106	29.35	
1st sub-pillar: Access	106	42.88	
1.1.1 Mobile tariffs	107	38.93	
1.1.2 Handset prices	81	45.26	
1.1.3 Households with internet access	104	23.34	
1.1.4 SMS sent by population 15-69	97	71.01	
1.1.5 Population covered by at least a 3G mobile network	101	96.26	
1.1.6 International Internet bandwidth	52	2.10	
1.1.7 Internet access in schools	52	23.24	
2nd sub-pillar: Content	95	25.36	
1.2.1 GitHub commits	80	1.95	
1.2.2 Wikipedia edits	88	36.50	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	81	69.23	
1.2.5 AI scientific publications	100	17.65	
3rd sub-pillar: Future Technologies	109	19.83	
1.3.1 Adoption of emerging technologies	91	36.60	
1.3.2 Investment in emerging technologies	120	18.90	○
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	98	3.98	
B. People pillar	95	38.03	
1st sub-pillar: Individuals	73	60.84	
2.1.1 Active mobile broadband subscriptions	91	71.58	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	67	65.80	●
2.1.4 Tertiary enrollment	84	20.10	
2.1.5 Adult literacy rate	63	85.88	
2nd sub-pillar: Businesses	89	31.91	
2.2.1 Firms with website	79	38.19	
2.2.2 GERD financed by business enterprise	52	43.51	●
2.2.3 Professionals	94	15.78	
2.2.4 Technicians and associate professionals	100	17.07	
2.2.5 Annual investment in telecommunication services	73	75.80	
2.2.6 GERD performed by business enterprise	70	1.08	
3rd sub-pillar: Governments	116	21.35	
2.3.1 Government online services	90	56.37	
2.3.2 Publication and use of open data	84	13.64	
2.3.3 Government promotion of investment in emerging tech	122	5.88	
2.3.4 R&D expenditure by governments and higher education	91	9.51	

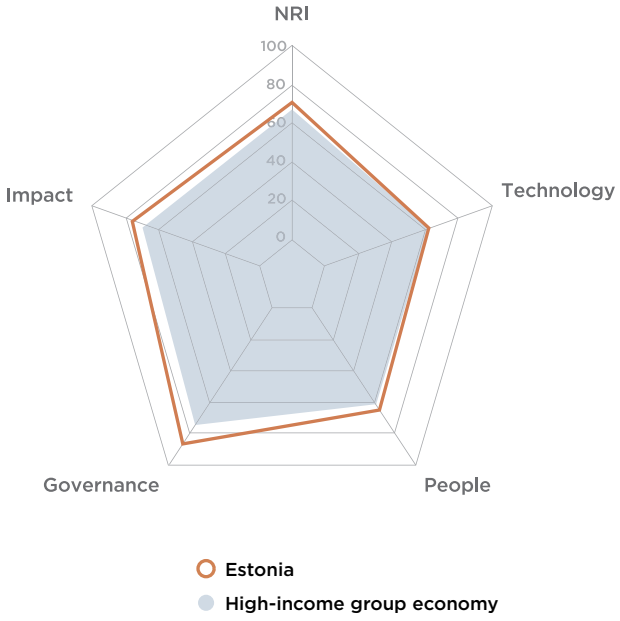
Indicator	Rank	Score	
C. Governance pillar	102	41.45	
1st sub-pillar: Trust	118	17.77	
3.1.1 Secure Internet servers	97	39.13	
3.1.2 Cybersecurity	121	11.77	○
3.1.3 Online access to financial account	88	16.25	
3.1.4 Internet shopping	98	3.91	
2nd sub-pillar: Regulation	83	59.15	
3.2.1 Regulatory quality	68	41.71	●
3.2.2 ICT regulatory environment	104	65.29	
3.2.3 Legal framework's adaptability to emerging technologies	102	20.21	
3.2.4 E-commerce legislation	76	75.00	○
3.2.5 Privacy protection by law content	6	93.55	●
3rd sub-pillar: Inclusion	100	47.42	
3.3.1 E-Participation	73	66.67	●
3.3.2 Socioeconomic gap in use of digital payments	104	28.25	
3.3.3 Availability of local online content	107	35.79	
3.3.4 Gender gap in Internet use	72	55.46	
3.3.5 Rural gap in use of digital payments	97	50.94	
D. Impact pillar	78	51.72	
1st sub-pillar: Economy	99	25.67	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	52	31.56	●
4.1.3 PCT patent applications	89	15.16	
4.1.4 Growth rate of GDP per person engaged	NA	NA	
4.1.5 Prevalence of gig economy	109	20.27	○
4.1.6 ICT services exports	46	35.69	●
2nd sub-pillar: Quality of Life	59	68.48	
4.2.1 Happiness	76	48.68	
4.2.2 Freedom to make life choices	20	93.12	●
4.2.3 Income inequality	70	63.02	
4.2.4 Healthy life expectancy at birth	76	69.10	
3rd sub-pillar: SDG Contribution	71	61.02	
4.3.1 SDG 3: Good Health and Well-Being	39	78.69	●
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	96	13.92	
4.3.4 SDG 7: Affordable and Clean Energy	46	81.55	●
4.3.5 SDG 11: Sustainable Cities and Communities	91	69.91	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Estonia

	Rank (out of 130)	Score
Network Readiness Index	**21**	**71.62**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**27**	**62.46**
1st sub-pillar: Access	23	85.80
2nd sub-pillar: Content	19	63.72
3rd sub-pillar: Future Technologies	49	37.87
B. People pillar	**23**	**63.67**
1st sub-pillar: Individuals	27	72.44
2nd sub-pillar: Businesses	29	56.51
3rd sub-pillar: Governments	23	62.04
C. Governance pillar	**9**	**85.44**
1st sub-pillar: Trust	14	83.17
2nd sub-pillar: Regulation	9	87.70
3rd sub-pillar: Inclusion	5	85.45
D. Impact pillar	**12**	**74.92**
1st sub-pillar: Economy	16	59.88
2nd sub-pillar: Quality of Life	18	84.19
3rd sub-pillar: SDG Contribution	16	80.70



Network Readiness Index in detail

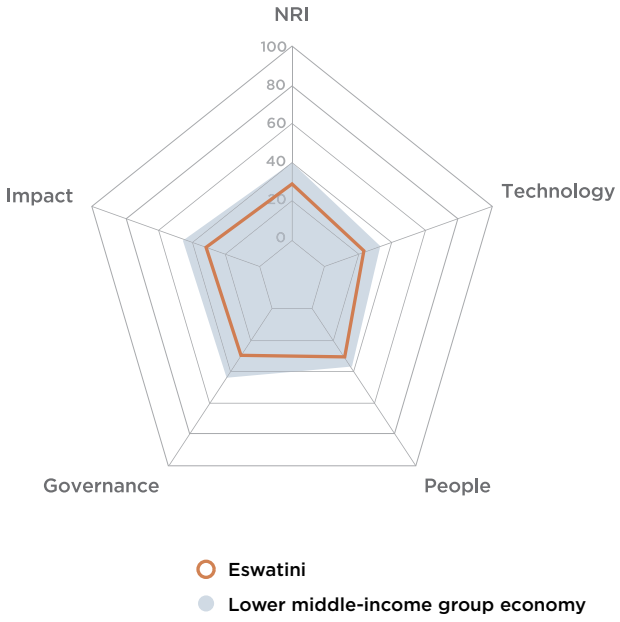
Indicator	Rank	Score	
A. Technology pillar	27	62.46	
1st sub-pillar: Access	23	85.80	
1.1.1 Mobile tariffs	38	73.81	
1.1.2 Handset prices	21	78.19	
1.1.3 Households with internet access	33	90.15	
1.1.4 SMS sent by population 15-69	91	72.63	○
1.1.5 Population covered by at least a 3G mobile network	1	100.00	●
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	19	63.72	
1.2.1 GitHub commits	11	62.01	
1.2.2 Wikipedia edits	3	94.03	●
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	18	94.28	
1.2.5 AI scientific publications	71	39.41	
3rd sub-pillar: Future Technologies	49	37.87	
1.3.1 Adoption of emerging technologies	22	73.19	
1.3.2 Investment in emerging technologies	35	58.91	
1.3.3 Robot density	36	6.81	
1.3.4 Computer software spending	78	12.56	○
B. People pillar	23	63.67	
1st sub-pillar: Individuals	27	72.44	
2.1.1 Active mobile broadband subscriptions	104	68.35	○
2.1.2 ICT skills	19	70.58	
2.1.3 Use of virtual social networks	45	74.43	
2.1.4 Tertiary enrollment	31	48.96	
2.1.5 Adult literacy rate	3	99.89	●
2nd sub-pillar: Businesses	29	56.51	
2.2.1 Firms with website	19	81.34	
2.2.2 GERD financed by business enterprise	41	50.44	
2.2.3 Professionals	19	51.96	
2.2.4 Technicians and associate professionals	23	62.92	
2.2.5 Annual investment in telecommunication services	88	72.95	○
2.2.6 GERD performed by business enterprise	25	19.47	
3rd sub-pillar: Governments	23	62.04	
2.3.1 Government online services	2	99.39	●
2.3.2 Publication and use of open data	44	36.13	
2.3.3 Government promotion of investment in emerging tech	34	52.01	
2.3.4 R&D expenditure by governments and higher education	18	60.65	

Indicator	Rank	Score	
C. Governance pillar	9	85.44	
1st sub-pillar: Trust	14	83.17	
3.1.1 Secure Internet servers	8	90.50	●
3.1.2 Cybersecurity	4	99.47	●
3.1.3 Online access to financial account	8	82.82	●
3.1.4 Internet shopping	24	59.87	
2nd sub-pillar: Regulation	9	87.70	
3.2.1 Regulatory quality	15	84.47	
3.2.2 ICT regulatory environment	29	91.18	
3.2.3 Legal framework's adaptability to emerging technologies	15	74.05	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	14	88.80	
3rd sub-pillar: Inclusion	5	85.45	
3.3.1 E-Participation	1	100.00	●
3.3.2 Socioeconomic gap in use of digital payments	16	94.49	
3.3.3 Availability of local online content	19	85.94	
3.3.4 Gender gap in Internet use	12	70.22	
3.3.5 Rural gap in use of digital payments	17	76.59	
D. Impact pillar	12	74.92	
1st sub-pillar: Economy	16	59.88	
4.1.1 High-tech and medium-high-tech manufacturing	40	40.38	
4.1.2 High-tech exports	20	60.74	
4.1.3 PCT patent applications	27	68.78	
4.1.4 Growth rate of GDP per person engaged	23	71.99	
4.1.5 Prevalence of gig economy	26	66.54	
4.1.6 ICT services exports	18	50.87	
2nd sub-pillar: Quality of Life	18	84.19	
4.2.1 Happiness	30	69.62	
4.2.2 Freedom to make life choices	5	98.24	●
4.2.3 Income inequality	22	85.16	
4.2.4 Healthy life expectancy at birth	33	83.73	
3rd sub-pillar: SDG Contribution	16	80.70	
4.3.1 SDG 3: Good Health and Well-Being	49	77.05	
4.3.2 SDG 4: Quality Education	4	78.15	●
4.3.3 Females employed with advanced degrees	6	89.24	●
4.3.4 SDG 7: Affordable and Clean Energy	101	62.94	○
4.3.5 SDG 11: Sustainable Cities and Communities	17	96.14	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Eswatini

	Rank (out of 130)	Score
Network Readiness Index	**121**	**28.76**
Pillar/sub-pillar	**Rank**	**Score**
A. Technology pillar	**119**	**23.36**
1st sub-pillar: Access	125	26.91
2nd sub-pillar: Content	94	25.91
3rd sub-pillar: Future Technologies	118	17.26
B. People pillar	**111**	**31.22**
1st sub-pillar: Individuals	111	39.19
2nd sub-pillar: Businesses	84	33.56
3rd sub-pillar: Governments	118	20.90
C. Governance pillar	**124**	**30.01**
1st sub-pillar: Trust	104	27.15
2nd sub-pillar: Regulation	126	30.51
3rd sub-pillar: Inclusion	121	32.35
D. Impact pillar	**124**	**30.44**
1st sub-pillar: Economy	129	11.07
2nd sub-pillar: Quality of Life	129	26.29
3rd sub-pillar: SDG Contribution	91	53.96



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	119	23.36	
1st sub-pillar: Access	125	26.91	
1.1.1 Mobile tariffs	105	39.69	
1.1.2 Handset prices	115	25.50	
1.1.3 Households with internet access	101	26.85	
1.1.4 SMS sent by population 15-69	NA	NA	
1.1.5 Population covered by at least a 3G mobile network	NA	NA	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	56	15.59	
2nd sub-pillar: Content	94	25.91	
1.2.1 GitHub commits	68	3.08	●
1.2.2 Wikipedia edits	45	66.45	●
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	106	54.62	
1.2.5 AI scientific publications	121	4.86	
3rd sub-pillar: Future Technologies	118	17.26	
1.3.1 Adoption of emerging technologies	113	22.76	
1.3.2 Investment in emerging technologies	127	11.76	○
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	NA	NA	
B. People pillar	111	31.22	
1st sub-pillar: Individuals	111	39.19	
2.1.1 Active mobile broadband subscriptions	NA	NA	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	103	28.27	
2.1.4 Tertiary enrollment	115	4.17	
2.1.5 Adult literacy rate	65	85.12	●
2nd sub-pillar: Businesses	84	33.56	
2.2.1 Firms with website	52	61.33	●
2.2.2 GERD financed by business enterprise	62	27.59	●
2.2.3 Professionals	58	28.53	●
2.2.4 Technicians and associate professionals	101	16.80	
2.2.5 Annual investment in telecommunication services	NA	NA	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	118	20.90	
2.3.1 Government online services	104	47.27	
2.3.2 Publication and use of open data	104	0.00	○
2.3.3 Government promotion of investment in emerging tech	102	20.34	
2.3.4 R&D expenditure by governments and higher education	82	15.98	

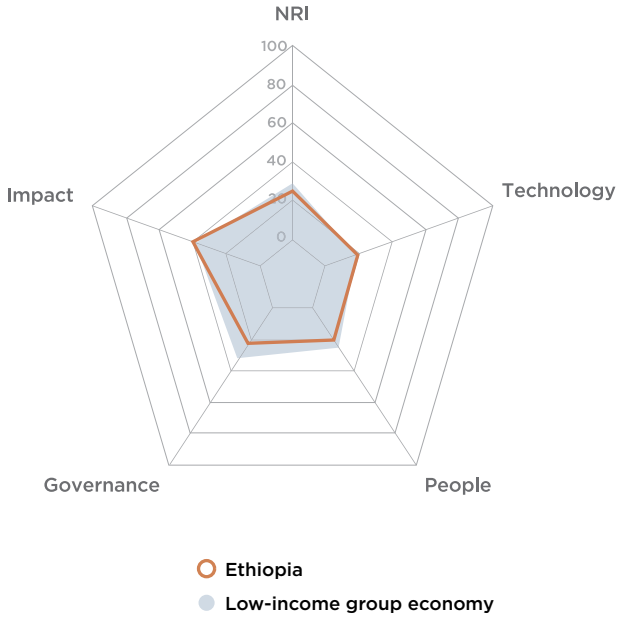
Indicator	Rank	Score	
C. Governance pillar	124	30.01	
1st sub-pillar: Trust	104	27.15	
3.1.1 Secure Internet servers	100	37.51	
3.1.2 Cybersecurity	117	16.79	
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	126	30.51	
3.2.1 Regulatory quality	106	24.45	
3.2.2 ICT regulatory environment	111	61.96	
3.2.3 Legal framework's adaptability to emerging technologies	114	11.50	
3.2.4 E-commerce legislation	127	0.00	○
3.2.5 Privacy protection by law content	93	54.64	
3rd sub-pillar: Inclusion	121	32.35	
3.3.1 E-Participation	103	43.21	
3.3.2 Socioeconomic gap in use of digital payments	NA	NA	
3.3.3 Availability of local online content	123	21.50	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	NA	NA	
D. Impact pillar	124	30.44	
1st sub-pillar: Economy	129	11.07	
4.1.1 High-tech and medium-high-tech manufacturing	104	1.04	○
4.1.2 High-tech exports	105	4.43	
4.1.3 PCT patent applications	64	34.76	●
4.1.4 Growth rate of GDP per person engaged	NA	NA	
4.1.5 Prevalence of gig economy	118	10.79	
4.1.6 ICT services exports	121	4.34	
2nd sub-pillar: Quality of Life	129	26.29	
4.2.1 Happiness	112	26.14	
4.2.2 Freedom to make life choices	121	37.65	
4.2.3 Income inequality	114	21.88	
4.2.4 Healthy life expectancy at birth	128	19.48	○
3rd sub-pillar: SDG Contribution	91	53.96	
4.3.1 SDG 3: Good Health and Well-Being	90	57.38	●
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	73	29.71	●
4.3.4 SDG 7: Affordable and Clean Energy	55	78.99	●
4.3.5 SDG 11: Sustainable Cities and Communities	123	49.76	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Ethiopia

	Rank (out of 130)	Score
Network Readiness Index	**127**	**24.90**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**125**	**18.97**
1st sub-pillar: Access	126	25.98
2nd sub-pillar: Content	126	12.90
3rd sub-pillar: Future Technologies	116	18.02
B. People pillar	**129**	**19.87**
1st sub-pillar: Individuals	129	15.39
2nd sub-pillar: Businesses	125	18.69
3rd sub-pillar: Governments	107	25.54
C. Governance pillar	**128**	**22.60**
1st sub-pillar: Trust	129	9.98
2nd sub-pillar: Regulation	128	29.41
3rd sub-pillar: Inclusion	126	28.40
D. Impact pillar	**113**	**38.15**
1st sub-pillar: Economy	88	31.32
2nd sub-pillar: Quality of Life	98	55.38
3rd sub-pillar: SDG Contribution	127	27.75



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	125	18.97	
1st sub-pillar: Access	126	25.98	
1.1.1 Mobile tariffs	121	18.22	
1.1.2 Handset prices	123	16.25	
1.1.3 Households with internet access	108	17.79	
1.1.4 SMS sent by population 15-69	58	77.47	●
1.1.5 Population covered by at least a 3G mobile network	NA	NA	
1.1.6 International Internet bandwidth	78	0.16	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	126	12.90	
1.2.1 GitHub commits	125	0.06	
1.2.2 Wikipedia edits	129	0.00	○
1.2.3 Internet domain registrations	*	*	○
1.2.4 Mobile apps development	125	31.06	
1.2.5 AI scientific publications	77	33.37	●
3rd sub-pillar: Future Technologies	116	18.02	
1.3.1 Adoption of emerging technologies	111	25.79	
1.3.2 Investment in emerging technologies	101	28.27	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	121	0.00	○
B. People pillar	129	19.87	
1st sub-pillar: Individuals	129	15.39	
2.1.1 Active mobile broadband subscriptions	NA	NA	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	126	3.12	
2.1.4 Tertiary enrollment	112	5.13	
2.1.5 Adult literacy rate	99	37.93	
2nd sub-pillar: Businesses	125	18.69	
2.2.1 Firms with website	93	29.28	
2.2.2 GERD financed by business enterprise	92	1.82	
2.2.3 Professionals	117	5.39	
2.2.4 Technicians and associate professionals	122	4.67	
2.2.5 Annual investment in telecommunication services	101	70.98	
2.2.6 GERD performed by business enterprise	87	0.00	
3rd sub-pillar: Governments	107	25.54	
2.3.1 Government online services	115	34.55	
2.3.2 Publication and use of open data	80	15.90	
2.3.3 Government promotion of investment in emerging tech	90	29.60	
2.3.4 R&D expenditure by governments and higher education	69	22.11	●

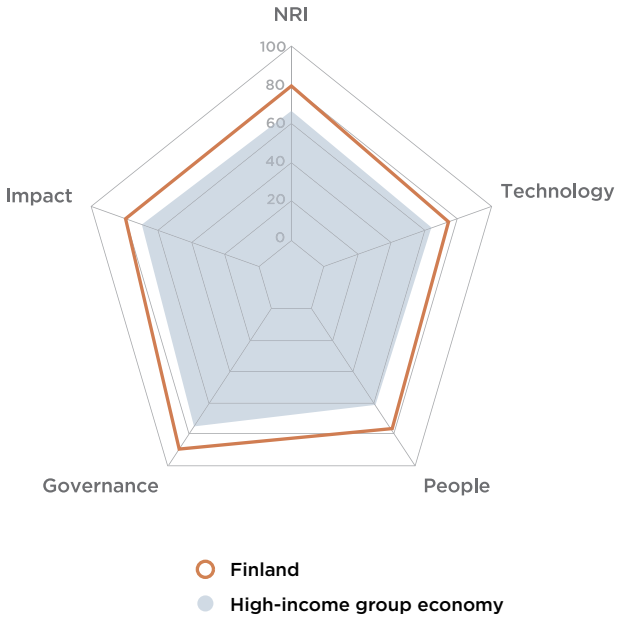
Indicator	Rank	Score	
C. Governance pillar	128	22.60	
1st sub-pillar: Trust	129	9.98	
3.1.1 Secure Internet servers	128	13.47	○
3.1.2 Cybersecurity	108	26.47	
3.1.3 Online access to financial account	119	0.00	○
3.1.4 Internet shopping	121	0.00	○
2nd sub-pillar: Regulation	128	29.41	
3.2.1 Regulatory quality	120	16.91	
3.2.2 ICT regulatory environment	128	22.35	○
3.2.3 Legal framework's adaptability to emerging technologies	94	24.93	
3.2.4 E-commerce legislation	112	50.00	
3.2.5 Privacy protection by law content	120	32.86	
3rd sub-pillar: Inclusion	126	28.40	
3.3.1 E-Participation	117	30.86	
3.3.2 Socioeconomic gap in use of digital payments	120	2.03	
3.3.3 Availability of local online content	111	30.50	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	98	50.20	
D. Impact pillar	113	38.15	
1st sub-pillar: Economy	88	31.32	
4.1.1 High-tech and medium-high-tech manufacturing	76	15.22	●
4.1.2 High-tech exports	92	7.97	●
4.1.3 PCT patent applications	NA	NA	
4.1.4 Growth rate of GDP per person engaged	4	90.42	●
4.1.5 Prevalence of gig economy	94	29.51	
4.1.6 ICT services exports	95	13.51	●
2nd sub-pillar: Quality of Life	98	55.38	
4.2.1 Happiness	107	29.38	
4.2.2 Freedom to make life choices	88	66.80	●
4.2.3 Income inequality	50	72.92	●
4.2.4 Healthy life expectancy at birth	102	52.43	
3rd sub-pillar: SDG Contribution	127	27.75	
4.3.1 SDG 3: Good Health and Well-Being	125	18.03	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	121	0.54	
4.3.4 SDG 7: Affordable and Clean Energy	124	34.19	
4.3.5 SDG 11: Sustainable Cities and Communities	107	58.25	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Finland

	Rank (out of 130)	Score
Network Readiness Index	**5**	**80.47**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**10**	**75.13**
1st sub-pillar: Access	13	87.73
2nd sub-pillar: Content	13	71.19
3rd sub-pillar: Future Technologies	9	66.48
B. People pillar	**3**	**76.51**
1st sub-pillar: Individuals	14	76.15
2nd sub-pillar: Businesses	8	72.68
3rd sub-pillar: Governments	5	80.70
C. Governance pillar	**4**	**89.71**
1st sub-pillar: Trust	6	89.46
2nd sub-pillar: Regulation	2	94.72
3rd sub-pillar: Inclusion	7	84.96
D. Impact pillar	**5**	**80.54**
1st sub-pillar: Economy	11	64.33
2nd sub-pillar: Quality of Life	1	95.56
3rd sub-pillar: SDG Contribution	13	81.73



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	10	75.13	
1st sub-pillar: Access	13	87.73	
1.1.1 Mobile tariffs	27	78.92	
1.1.2 Handset prices	18	81.11	
1.1.3 Households with internet access	26	91.23	
1.1.4 SMS sent by population 15-69	77	75.14	○
1.1.5 Population covered by at least a 3G mobile network	24	99.97	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	13	71.19	
1.2.1 GitHub commits	3	81.00	●
1.2.2 Wikipedia edits	7	88.44	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	22	94.08	
1.2.5 AI scientific publications	38	57.46	
3rd sub-pillar: Future Technologies	9	66.48	
1.3.1 Adoption of emerging technologies	3	96.95	●
1.3.2 Investment in emerging technologies	6	87.87	
1.3.3 Robot density	20	40.83	
1.3.4 Computer software spending	21	40.26	
B. People pillar	3	76.51	
1st sub-pillar: Individuals	14	76.15	
2.1.1 Active mobile broadband subscriptions	62	75.64	○
2.1.2 ICT skills	7	85.34	
2.1.3 Use of virtual social networks	23	80.67	
2.1.4 Tertiary enrollment	9	62.97	
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	8	72.68	
2.2.1 Firms with website	1	100.00	●
2.2.2 GERD financed by business enterprise	21	67.15	
2.2.3 Professionals	8	63.92	
2.2.4 Technicians and associate professionals	7	83.80	
2.2.5 Annual investment in telecommunication services	50	79.50	
2.2.6 GERD performed by business enterprise	10	41.74	
3rd sub-pillar: Governments	5	80.70	
2.3.1 Government online services	3	96.97	●
2.3.2 Publication and use of open data	21	55.77	
2.3.3 Government promotion of investment in emerging tech	6	83.42	
2.3.4 R&D expenditure by governments and higher education	4	86.63	●

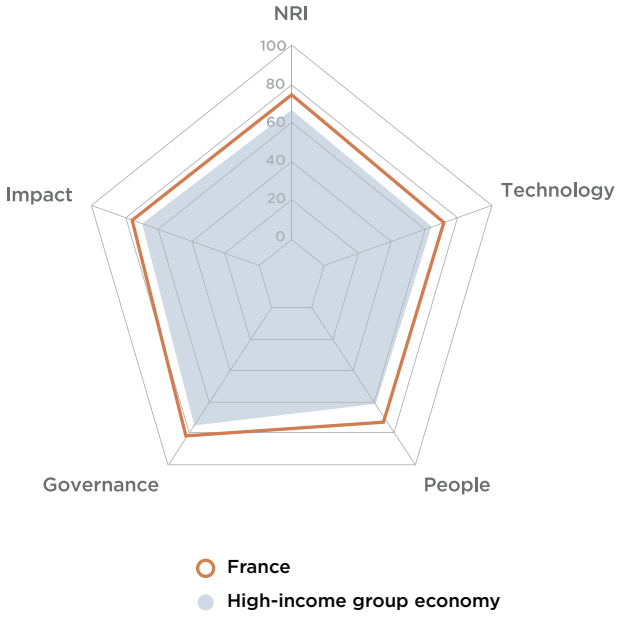
Indicator	Rank	Score	
C. Governance pillar	4	89.71	
1st sub-pillar: Trust	6	89.46	
3.1.1 Secure Internet servers	9	90.25	
3.1.2 Cybersecurity	29	95.71	
3.1.3 Online access to financial account	3	93.95	●
3.1.4 Internet shopping	12	77.92	
2nd sub-pillar: Regulation	2	94.72	
3.2.1 Regulatory quality	6	91.55	
3.2.2 ICT regulatory environment	6	96.47	
3.2.3 Legal framework's adaptability to emerging technologies	1	100.00	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	21	85.58	
3rd sub-pillar: Inclusion	7	84.96	
3.3.1 E-Participation	14	95.06	
3.3.2 Socioeconomic gap in use of digital payments	5	98.34	
3.3.3 Availability of local online content	12	89.99	
3.3.4 Gender gap in Internet use	42	64.70	
3.3.5 Rural gap in use of digital payments	16	76.73	
D. Impact pillar	5	80.54	
1st sub-pillar: Economy	11	64.33	
4.1.1 High-tech and medium-high-tech manufacturing	25	51.50	
4.1.2 High-tech exports	37	45.00	
4.1.3 PCT patent applications	5	93.39	
4.1.4 Growth rate of GDP per person engaged	80	53.16	○
4.1.5 Prevalence of gig economy	22	68.15	
4.1.6 ICT services exports	5	74.76	
2nd sub-pillar: Quality of Life	1	95.56	
4.2.1 Happiness	1	100.00	●
4.2.2 Freedom to make life choices	3	99.64	●
4.2.3 Income inequality	9	92.97	
4.2.4 Healthy life expectancy at birth	19	89.62	
3rd sub-pillar: SDG Contribution	13	81.73	
4.3.1 SDG 3: Good Health and Well-Being	30	81.97	
4.3.2 SDG 4: Quality Education	8	74.44	
4.3.3 Females employed with advanced degrees	3	92.87	●
4.3.4 SDG 7: Affordable and Clean Energy	104	62.30	○
4.3.5 SDG 11: Sustainable Cities and Communities	11	97.06	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

France

	Rank (out of 130)	Score
Network Readiness Index	**14**	**74.79**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**14**	**71.46**
1st sub-pillar: Access	16	87.51
2nd sub-pillar: Content	17	65.01
3rd sub-pillar: Future Technologies	14	61.87
B. People pillar	**14**	**71.47**
1st sub-pillar: Individuals	42	69.48
2nd sub-pillar: Businesses	14	66.18
3rd sub-pillar: Governments	8	78.76
C. Governance pillar	**16**	**81.97**
1st sub-pillar: Trust	18	78.28
2nd sub-pillar: Regulation	11	86.00
3rd sub-pillar: Inclusion	17	81.64
D. Impact pillar	**14**	**74.25**
1st sub-pillar: Economy	14	61.88
2nd sub-pillar: Quality of Life	22	81.04
3rd sub-pillar: SDG Contribution	19	79.84



Network Readiness Index in detail

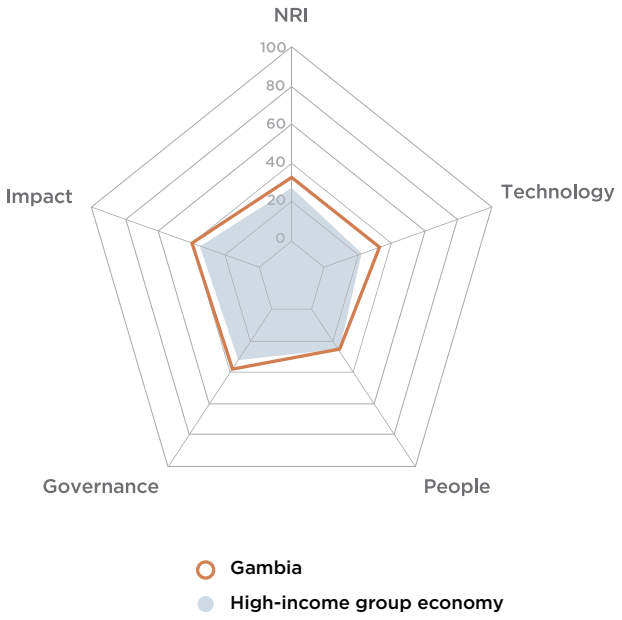
Indicator	Rank	Score	
A. Technology pillar	52	49.14	
1st sub-pillar: Access	64	66.40	
1.1.1 Mobile tariffs	77	53.20	
1.1.2 Handset prices	38	68.61	
1.1.3 Households with internet access	19	92.94	●
1.1.4 SMS sent by population 15-69	83	74.17	
1.1.5 Population covered by at least a 3G mobile network	23	99.98	
1.1.6 International Internet bandwidth	24	9.49	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	36	51.11	
1.2.1 GitHub commits	39	13.43	
1.2.2 Wikipedia edits	49	62.31	
1.2.3 Internet domain registrations	*	*	●
1.2.4 Mobile apps development	12	97.06	●
1.2.5 AI scientific publications	65	42.66	
3rd sub-pillar: Future Technologies	73	29.93	
1.3.1 Adoption of emerging technologies	72	44.07	
1.3.2 Investment in emerging technologies	92	31.37	○
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	75	14.34	
B. People pillar	43	55.98	
1st sub-pillar: Individuals	30	72.09	
2.1.1 Active mobile broadband subscriptions	115	63.44	○
2.1.2 ICT skills	29	59.14	
2.1.3 Use of virtual social networks	17	82.85	●
2.1.4 Tertiary enrollment	18	56.69	●
2.1.5 Adult literacy rate	23	98.33	
2nd sub-pillar: Businesses	47	48.56	
2.2.1 Firms with website	34	71.74	
2.2.2 GERD financed by business enterprise	53	43.02	
2.2.3 Professionals	25	46.00	
2.2.4 Technicians and associate professionals	38	53.04	
2.2.5 Annual investment in telecommunication services	97	71.85	○
2.2.6 GERD performed by business enterprise	49	5.70	
3rd sub-pillar: Governments	51	47.29	
2.3.1 Government online services	20	86.67	●
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	86	30.41	
2.3.4 R&D expenditure by governments and higher education	66	24.78	

Indicator	Rank	Score	
C. Governance pillar	35	72.37	
1st sub-pillar: Trust	42	63.25	
3.1.1 Secure Internet servers	27	80.80	
3.1.2 Cybersecurity	49	88.62	
3.1.3 Online access to financial account	42	42.11	
3.1.4 Internet shopping	36	41.45	
2nd sub-pillar: Regulation	34	76.91	
3.2.1 Regulatory quality	32	68.70	
3.2.2 ICT regulatory environment	55	85.49	
3.2.3 Legal framework's adaptability to emerging technologies	49	48.15	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	30	82.23	
3rd sub-pillar: Inclusion	26	76.95	
3.3.1 E-Participation	14	95.06	●
3.3.2 Socioeconomic gap in use of digital payments	36	78.28	
3.3.3 Availability of local online content	43	72.24	
3.3.4 Gender gap in Internet use	19	69.14	
3.3.5 Rural gap in use of digital payments	54	70.01	
D. Impact pillar	34	66.87	
1st sub-pillar: Economy	41	46.80	
4.1.1 High-tech and medium-high-tech manufacturing	62	22.77	
4.1.2 High-tech exports	68	17.69	
4.1.3 PCT patent applications	26	69.93	
4.1.4 Growth rate of GDP per person engaged	93	49.86	○
4.1.5 Prevalence of gig economy	85	35.44	
4.1.6 ICT services exports	2	85.10	●
2nd sub-pillar: Quality of Life	37	76.16	
4.2.1 Happiness	37	65.55	
4.2.2 Freedom to make life choices	93	65.80	○
4.2.3 Income inequality	32	78.91	
4.2.4 Healthy life expectancy at birth	5	94.37	●
3rd sub-pillar: SDG Contribution	23	77.65	
4.3.1 SDG 3: Good Health and Well-Being	30	81.97	
4.3.2 SDG 4: Quality Education	44	42.42	
4.3.3 Females employed with advanced degrees	12	84.48	●
4.3.4 SDG 7: Affordable and Clean Energy	27	85.30	
4.3.5 SDG 11: Sustainable Cities and Communities	26	94.08	

Gambia

	Rank (out of 130)	Score
Network Readiness Index	**113**	**33.68**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**96**	**32.96**
1st sub-pillar: Access	107	42.41
2nd sub-pillar: Content	107	20.59
3rd sub-pillar: Future Technologies	53	35.89
B. People pillar	**125**	**25.22**
1st sub-pillar: Individuals	124	29.03
2nd sub-pillar: Businesses	92	31.00
3rd sub-pillar: Governments	128	15.62
C. Governance pillar	**109**	**37.09**
1st sub-pillar: Trust	99	28.85
2nd sub-pillar: Regulation	69	63.62
3rd sub-pillar: Inclusion	130	18.80
D. Impact pillar	**109**	**39.47**
1st sub-pillar: Economy	104	23.81
2nd sub-pillar: Quality of Life	101	51.75
3rd sub-pillar: SDG Contribution	111	42.84



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	96	32.96	
1st sub-pillar: Access	107	42.41	
1.1.1 Mobile tariffs	122	15.04	
1.1.2 Handset prices	127	7.62	
1.1.3 Households with internet access	82	63.28	
1.1.4 SMS sent by population 15-69	94	71.82	
1.1.5 Population covered by at least a 3G mobile network	99	96.57	
1.1.6 International Internet bandwidth	81	0.12	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	107	20.59	
1.2.1 GitHub commits	111	0.32	
1.2.2 Wikipedia edits	57	55.66	●
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	117	46.80	
1.2.5 AI scientific publications	129	0.00	○
3rd sub-pillar: Future Technologies	53	35.89	
1.3.1 Adoption of emerging technologies	94	35.57	
1.3.2 Investment in emerging technologies	76	36.20	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	NA	NA	
B. People pillar	125	25.22	
1st sub-pillar: Individuals	124	29.03	
2.1.1 Active mobile broadband subscriptions	116	62.86	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	111	15.28	
2.1.4 Tertiary enrollment	125	1.34	○
2.1.5 Adult literacy rate	100	36.65	
2nd sub-pillar: Businesses	92	31.00	
2.2.1 Firms with website	109	14.93	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	63	26.19	●
2.2.4 Technicians and associate professionals	79	24.47	
2.2.5 Annual investment in telecommunication services	115	58.40	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	128	15.62	
2.3.1 Government online services	129	0.00	○
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	85	31.24	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

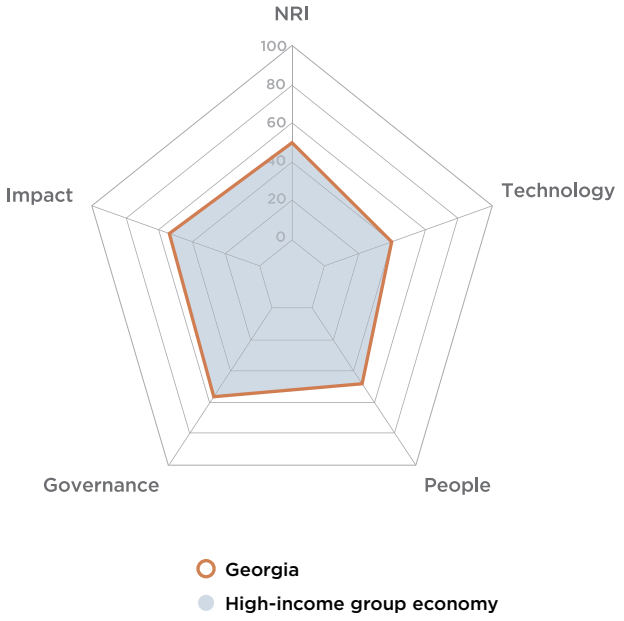
Indicator	Rank	Score	
C. Governance pillar	109	37.09	
1st sub-pillar: Trust	99	28.85	
3.1.1 Secure Internet servers	118	26.78	
3.1.2 Cybersecurity	105	30.93	
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	69	63.62	
3.2.1 Regulatory quality	109	23.01	
3.2.2 ICT regulatory environment	93	70.20	
3.2.3 Legal framework's adaptability to emerging technologies	66	40.81	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	25	84.10	●
3rd sub-pillar: Inclusion	130	18.80	
3.3.1 E-Participation	129	0.00	○
3.3.2 Socioeconomic gap in use of digital payments	NA	NA	
3.3.3 Availability of local online content	104	37.61	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	NA	NA	
D. Impact pillar	109	39.47	
1st sub-pillar: Economy	104	23.81	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	127	0.00	○
4.1.3 PCT patent applications	NA	NA	
4.1.4 Growth rate of GDP per person engaged	NA	NA	
4.1.5 Prevalence of gig economy	72	39.39	●
4.1.6 ICT services exports	58	32.05	●
2nd sub-pillar: Quality of Life	101	51.75	
4.2.1 Happiness	92	42.37	
4.2.2 Freedom to make life choices	113	51.19	
4.2.3 Income inequality	60	70.57	●
4.2.4 Healthy life expectancy at birth	110	42.87	
3rd sub-pillar: SDG Contribution	111	42.84	
4.3.1 SDG 3: Good Health and Well-Being	118	26.23	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	97	13.16	
4.3.4 SDG 7: Affordable and Clean Energy	69	76.04	●
4.3.5 SDG 11: Sustainable Cities and Communities	112	55.92	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Georgia

	Rank (out of 130)	Score
Network Readiness Index	**68**	**49.10**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**77**	**40.84**
1st sub-pillar: Access	63	66.47
2nd sub-pillar: Content	59	37.47
3rd sub-pillar: Future Technologies	114	18.59
B. People pillar	**67**	**48.32**
1st sub-pillar: Individuals	62	63.38
2nd sub-pillar: Businesses	63	41.11
3rd sub-pillar: Governments	75	40.48
C. Governance pillar	**65**	**55.74**
1st sub-pillar: Trust	67	41.82
2nd sub-pillar: Regulation	45	71.26
3rd sub-pillar: Inclusion	82	54.13
D. Impact pillar	**80**	**51.48**
1st sub-pillar: Economy	89	31.11
2nd sub-pillar: Quality of Life	83	61.65
3rd sub-pillar: SDG Contribution	68	61.67



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	77	40.84	
1st sub-pillar: Access	63	66.47	
1.1.1 Mobile tariffs	67	58.25	
1.1.2 Handset prices	89	41.04	
1.1.3 Households with internet access	50	83.97	
1.1.4 SMS sent by population 15-69	56	77.74	
1.1.5 Population covered by at least a 3G mobile network	20	99.99	●
1.1.6 International Internet bandwidth	45	4.27	
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	59	37.47	
1.2.1 GitHub commits	88	1.43	
1.2.2 Wikipedia edits	29	76.32	●
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	59	78.54	
1.2.5 AI scientific publications	84	27.82	
3rd sub-pillar: Future Technologies	114	18.59	
1.3.1 Adoption of emerging technologies	NA	NA	
1.3.2 Investment in emerging technologies	96	29.90	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	90	7.28	
B. People pillar	67	48.32	
1st sub-pillar: Individuals	62	63.38	
2.1.1 Active mobile broadband subscriptions	97	70.59	
2.1.2 ICT skills	56	24.73	
2.1.3 Use of virtual social networks	36	77.96	●
2.1.4 Tertiary enrollment	42	44.42	
2.1.5 Adult literacy rate	12	99.21	●
2nd sub-pillar: Businesses	63	41.11	
2.2.1 Firms with website	66	48.25	
2.2.2 GERD financed by business enterprise	89	2.06	○
2.2.3 Professionals	35	42.33	●
2.2.4 Technicians and associate professionals	53	40.07	
2.2.5 Annual investment in telecommunication services	89	72.83	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	75	40.48	
2.3.1 Government online services	85	57.57	
2.3.2 Publication and use of open data	40	37.26	
2.3.3 Government promotion of investment in emerging tech	NA	NA	
2.3.4 R&D expenditure by governments and higher education	63	26.60	

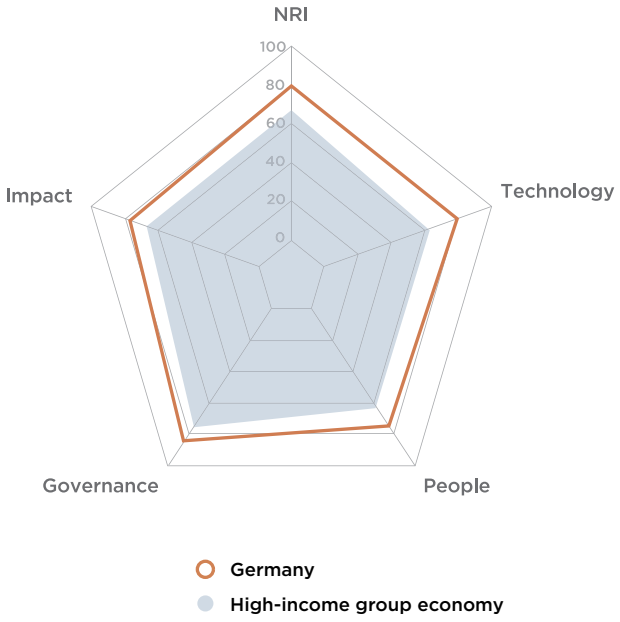
Indicator	Rank	Score	
C. Governance pillar	65	55.74	
1st sub-pillar: Trust	67	41.82	
3.1.1 Secure Internet servers	50	65.13	
3.1.2 Cybersecurity	63	80.73	
3.1.3 Online access to financial account	90	15.90	
3.1.4 Internet shopping	89	5.54	
2nd sub-pillar: Regulation	45	71.26	
3.2.1 Regulatory quality	28	71.69	●
3.2.2 ICT regulatory environment	27	92.35	●
3.2.3 Legal framework's adaptability to emerging technologies	NA	NA	
3.2.4 E-commerce legislation	112	50.00	○
3.2.5 Privacy protection by law content	57	71.00	
3rd sub-pillar: Inclusion	82	54.13	
3.3.1 E-Participation	78	62.97	
3.3.2 Socioeconomic gap in use of digital payments	83	44.43	
3.3.3 Availability of local online content	81	51.78	
3.3.4 Gender gap in Internet use	45	64.35	
3.3.5 Rural gap in use of digital payments	102	47.13	○
D. Impact pillar	80	51.48	
1st sub-pillar: Economy	89	31.11	
4.1.1 High-tech and medium-high-tech manufacturing	86	10.02	○
4.1.2 High-tech exports	75	15.80	
4.1.3 PCT patent applications	62	35.78	
4.1.4 Growth rate of GDP per person engaged	22	72.09	●
4.1.5 Prevalence of gig economy	NA	NA	
4.1.6 ICT services exports	79	21.84	
2nd sub-pillar: Quality of Life	83	61.65	
4.2.1 Happiness	93	41.51	
4.2.2 Freedom to make life choices	92	66.07	
4.2.3 Income inequality	60	70.57	
4.2.4 Healthy life expectancy at birth	78	68.46	
3rd sub-pillar: SDG Contribution	68	61.67	
4.3.1 SDG 3: Good Health and Well-Being	83	62.30	
4.3.2 SDG 4: Quality Education	68	21.46	○
4.3.3 Females employed with advanced degrees	22	74.30	●
4.3.4 SDG 7: Affordable and Clean Energy	92	66.85	
4.3.5 SDG 11: Sustainable Cities and Communities	57	83.43	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Germany

	Rank (out of 130)	Score
Network Readiness Index	**8**	**78.95**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**5**	**80.03**
1st sub-pillar: Access	24	85.79
2nd sub-pillar: Content	6	76.83
3rd sub-pillar: Future Technologies	3	77.47
B. People pillar	**8**	**75.12**
1st sub-pillar: Individuals	23	73.63
2nd sub-pillar: Businesses	4	76.30
3rd sub-pillar: Governments	14	75.45
C. Governance pillar	**13**	**84.22**
1st sub-pillar: Trust	9	86.49
2nd sub-pillar: Regulation	8	88.85
3rd sub-pillar: Inclusion	25	77.31
D. Impact pillar	**10**	**76.41**
1st sub-pillar: Economy	10	66.97
2nd sub-pillar: Quality of Life	14	85.27
3rd sub-pillar: SDG Contribution	30	76.99



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	5	80.03	
1st sub-pillar: Access	24	85.79	
1.1.1 Mobile tariffs	2	95.99	●
1.1.2 Handset prices	26	74.04	
1.1.3 Households with internet access	22	92.24	
1.1.4 SMS sent by population 15-69	35	80.91	
1.1.5 Population covered by at least a 3G mobile network	NA	NA	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	6	76.83	
1.2.1 GitHub commits	13	58.54	
1.2.2 Wikipedia edits	15	81.29	
1.2.3 Internet domain registrations	*	*	●
1.2.4 Mobile apps development	19	94.26	
1.2.5 AI scientific publications	6	78.41	●
3rd sub-pillar: Future Technologies	3	77.47	
1.3.1 Adoption of emerging technologies	9	85.48	
1.3.2 Investment in emerging technologies	7	86.85	●
1.3.3 Robot density	4	95.11	●
1.3.4 Computer software spending	19	42.45	
B. People pillar	8	75.12	
1st sub-pillar: Individuals	23	73.63	
2.1.1 Active mobile broadband subscriptions	14	86.18	
2.1.2 ICT skills	10	80.48	
2.1.3 Use of virtual social networks	31	78.90	
2.1.4 Tertiary enrollment	32	48.95	
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	4	76.30	
2.2.1 Firms with website	7	91.24	●
2.2.2 GERD financed by business enterprise	7	81.63	
2.2.3 Professionals	31	43.82	
2.2.4 Technicians and associate professionals	1	100.00	●
2.2.5 Annual investment in telecommunication services	5	91.23	●
2.2.6 GERD performed by business enterprise	8	49.87	
3rd sub-pillar: Governments	14	75.45	
2.3.1 Government online services	58	72.73	○
2.3.2 Publication and use of open data	16	69.43	
2.3.3 Government promotion of investment in emerging tech	13	73.70	
2.3.4 R&D expenditure by governments and higher education	6	85.92	●

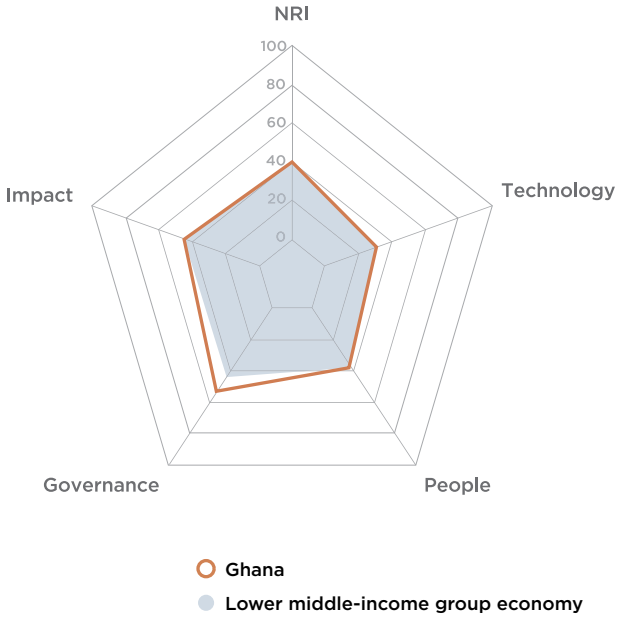
Indicator	Rank	Score	
C. Governance pillar	13	84.22	
1st sub-pillar: Trust	9	86.49	
3.1.1 Secure Internet servers	7	91.66	●
3.1.2 Cybersecurity	18	97.36	
3.1.3 Online access to financial account	14	71.20	
3.1.4 Internet shopping	11	85.73	
2nd sub-pillar: Regulation	8	88.85	
3.2.1 Regulatory quality	9	88.06	
3.2.2 ICT regulatory environment	20	93.53	
3.2.3 Legal framework's adaptability to emerging technologies	11	77.61	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	22	85.05	
3rd sub-pillar: Inclusion	25	77.31	
3.3.1 E-Participation	56	74.07	○
3.3.2 Socioeconomic gap in use of digital payments	13	95.28	
3.3.3 Availability of local online content	25	84.39	
3.3.4 Gender gap in Internet use	69	57.62	○
3.3.5 Rural gap in use of digital payments	31	75.20	
D. Impact pillar	10	76.41	
1st sub-pillar: Economy	10	66.97	
4.1.1 High-tech and medium-high-tech manufacturing	7	74.15	
4.1.2 High-tech exports	12	70.20	
4.1.3 PCT patent applications	9	87.87	
4.1.4 Growth rate of GDP per person engaged	92	50.58	○
4.1.5 Prevalence of gig economy	12	82.07	
4.1.6 ICT services exports	44	36.96	
2nd sub-pillar: Quality of Life	14	85.27	
4.2.1 Happiness	8	87.79	
4.2.2 Freedom to make life choices	48	83.02	
4.2.3 Income inequality	29	80.99	
4.2.4 Healthy life expectancy at birth	23	89.27	
3rd sub-pillar: SDG Contribution	30	76.99	
4.3.1 SDG 3: Good Health and Well-Being	13	90.16	
4.3.2 SDG 4: Quality Education	18	67.91	
4.3.3 Females employed with advanced degrees	52	46.03	
4.3.4 SDG 7: Affordable and Clean Energy	37	83.63	
4.3.5 SDG 11: Sustainable Cities and Communities	10	97.23	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Ghana

	Rank (out of 130)	Score
Network Readiness Index	**96**	**40.86**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**103**	**31.30**
1st sub-pillar: Access	102	45.55
2nd sub-pillar: Content	106	20.94
3rd sub-pillar: Future Technologies	85	27.42
B. People pillar	**98**	**36.80**
1st sub-pillar: Individuals	99	47.49
2nd sub-pillar: Businesses	108	25.82
3rd sub-pillar: Governments	82	37.09
C. Governance pillar	**74**	**52.48**
1st sub-pillar: Trust	69	39.18
2nd sub-pillar: Regulation	66	63.90
3rd sub-pillar: Inclusion	81	54.36
D. Impact pillar	**102**	**42.87**
1st sub-pillar: Economy	97	26.52
2nd sub-pillar: Quality of Life	99	54.65
3rd sub-pillar: SDG Contribution	105	47.45



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	103	31.30	
1st sub-pillar: Access	102	45.55	
1.1.1 Mobile tariffs	62	60.49	●
1.1.2 Handset prices	94	38.73	
1.1.3 Households with internet access	100	28.86	
1.1.4 SMS sent by population 15-69	61	77.19	
1.1.5 Population covered by at least a 3G mobile network	78	98.87	
1.1.6 International Internet bandwidth	32	6.27	●
1.1.7 Internet access in schools	62	8.41	
2nd sub-pillar: Content	106	20.94	
1.2.1 GitHub commits	102	0.72	
1.2.2 Wikipedia edits	119	16.64	○
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	110	52.74	
1.2.5 AI scientific publications	76	34.32	
3rd sub-pillar: Future Technologies	85	27.42	
1.3.1 Adoption of emerging technologies	97	32.17	
1.3.2 Investment in emerging technologies	45	49.40	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	118	0.68	○
B. People pillar	98	36.80	
1st sub-pillar: Individuals	99	47.49	
2.1.1 Active mobile broadband subscriptions	33	81.13	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	105	24.22	
2.1.4 Tertiary enrollment	98	11.55	
2.1.5 Adult literacy rate	78	73.04	
2nd sub-pillar: Businesses	108	25.82	
2.2.1 Firms with website	95	27.42	
2.2.2 GERD financed by business enterprise	101	0.07	○
2.2.3 Professionals	91	17.48	
2.2.4 Technicians and associate professionals	113	10.14	
2.2.5 Annual investment in telecommunication services	83	73.99	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	82	37.09	
2.3.1 Government online services	78	62.43	
2.3.2 Publication and use of open data	62	25.75	
2.3.3 Government promotion of investment in emerging tech	96	26.81	
2.3.4 R&D expenditure by governments and higher education	54	33.39	

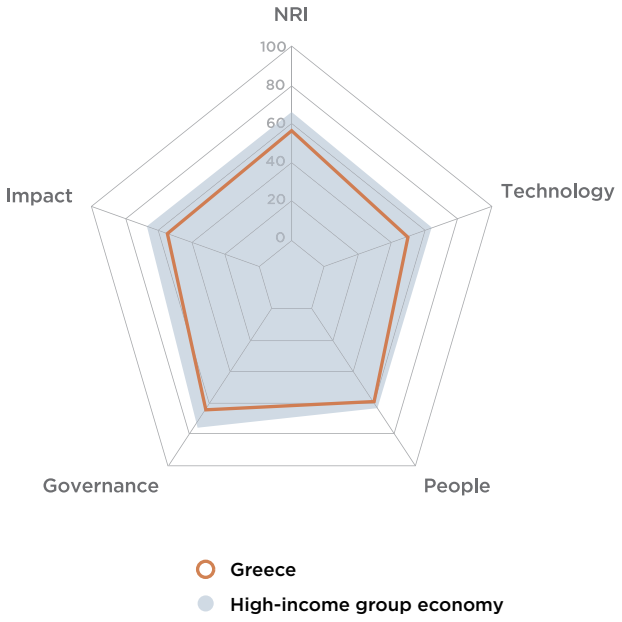
Indicator	Rank	Score	
C. Governance pillar	74	52.48	
1st sub-pillar: Trust	69	39.18	
3.1.1 Secure Internet servers	109	32.55	
3.1.2 Cybersecurity	51	86.46	●
3.1.3 Online access to financial account	57	32.31	●
3.1.4 Internet shopping	91	5.41	
2nd sub-pillar: Regulation	66	63.90	
3.2.1 Regulatory quality	77	38.10	
3.2.2 ICT regulatory environment	76	76.47	
3.2.3 Legal framework's adaptability to emerging technologies	89	29.16	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	42	75.80	●
3rd sub-pillar: Inclusion	81	54.36	
3.3.1 E-Participation	80	61.73	
3.3.2 Socioeconomic gap in use of digital payments	58	64.02	●
3.3.3 Availability of local online content	105	37.56	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	88	54.14	
D. Impact pillar	102	42.87	
1st sub-pillar: Economy	97	26.52	
4.1.1 High-tech and medium-high-tech manufacturing	82	11.61	
4.1.2 High-tech exports	122	1.07	○
4.1.3 PCT patent applications	96	0.00	○
4.1.4 Growth rate of GDP per person engaged	9	81.32	●
4.1.5 Prevalence of gig economy	73	38.59	
4.1.6 ICT services exports	NA	NA	
2nd sub-pillar: Quality of Life	99	54.65	
4.2.1 Happiness	83	45.66	
4.2.2 Freedom to make life choices	69	76.13	
4.2.3 Income inequality	95	50.78	
4.2.4 Healthy life expectancy at birth	106	46.02	
3rd sub-pillar: SDG Contribution	105	47.45	
4.3.1 SDG 3: Good Health and Well-Being	110	31.15	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	99	11.28	
4.3.4 SDG 7: Affordable and Clean Energy	29	85.14	●
4.3.5 SDG 11: Sustainable Cities and Communities	103	62.24	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Greece

	Rank (out of 130)	Score
Network Readiness Index	**46**	**56.64**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**51**	**49.15**
1st sub-pillar: Access	59	67.29
2nd sub-pillar: Content	33	51.66
3rd sub-pillar: Future Technologies	80	28.51
B. People pillar	**40**	**57.12**
1st sub-pillar: Individuals	6	79.32
2nd sub-pillar: Businesses	49	47.52
3rd sub-pillar: Governments	64	44.53
C. Governance pillar	**44**	**64.22**
1st sub-pillar: Trust	46	54.54
2nd sub-pillar: Regulation	44	71.61
3rd sub-pillar: Inclusion	54	66.51
D. Impact pillar	**59**	**56.06**
1st sub-pillar: Economy	80	32.69
2nd sub-pillar: Quality of Life	74	63.84
3rd sub-pillar: SDG Contribution	35	71.63



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	51	49.15	
1st sub-pillar: Access	59	67.29	
1.1.1 Mobile tariffs	59	62.06	
1.1.2 Handset prices	34	70.73	●
1.1.3 Households with internet access	55	80.49	
1.1.4 SMS sent by population 15-69	66	76.61	
1.1.5 Population covered by at least a 3G mobile network	40	99.92	
1.1.6 International Internet bandwidth	21	13.90	●
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	33	51.66	
1.2.1 GitHub commits	35	17.32	●
1.2.2 Wikipedia edits	33	73.31	●
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	37	87.49	
1.2.5 AI scientific publications	27	63.11	●
3rd sub-pillar: Future Technologies	80	28.51	
1.3.1 Adoption of emerging technologies	85	38.50	
1.3.2 Investment in emerging technologies	110	23.53	○
1.3.3 Robot density	42	4.63	
1.3.4 Computer software spending	10	47.37	●
B. People pillar	40	57.12	
1st sub-pillar: Individuals	6	79.32	
2.1.1 Active mobile broadband subscriptions	58	75.97	
2.1.2 ICT skills	38	52.15	
2.1.3 Use of virtual social networks	54	71.10	
2.1.4 Tertiary enrollment	1	100.00	●
2.1.5 Adult literacy rate	30	97.38	
2nd sub-pillar: Businesses	49	47.52	
2.2.1 Firms with website	54	58.55	
2.2.2 GERD financed by business enterprise	38	51.43	
2.2.3 Professionals	24	46.56	●
2.2.4 Technicians and associate professionals	61	33.96	
2.2.5 Annual investment in telecommunication services	39	81.37	
2.2.6 GERD performed by business enterprise	36	13.21	
3rd sub-pillar: Governments	64	44.53	
2.3.1 Government online services	64	69.70	
2.3.2 Publication and use of open data	36	38.77	
2.3.3 Government promotion of investment in emerging tech	106	17.86	
2.3.4 R&D expenditure by governments and higher education	30	51.79	

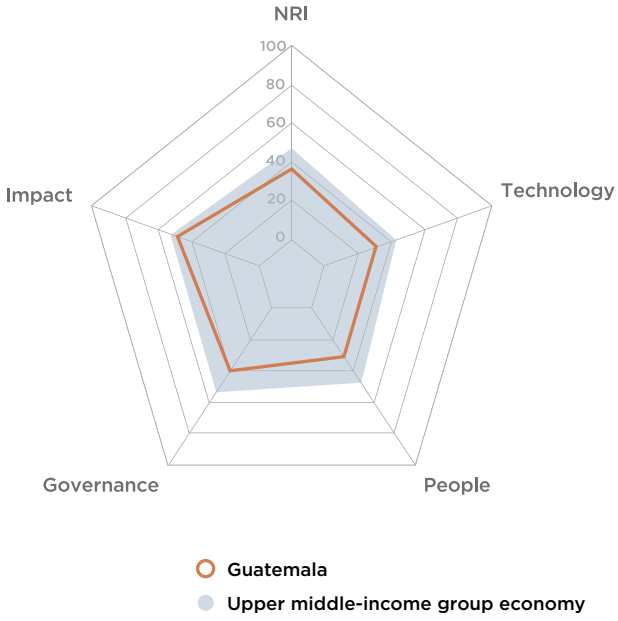
Indicator	Rank	Score	
C. Governance pillar	44	64.22	
1st sub-pillar: Trust	46	54.54	
3.1.1 Secure Internet servers	44	72.56	
3.1.2 Cybersecurity	35	93.87	
3.1.3 Online access to financial account	73	23.33	
3.1.4 Internet shopping	46	28.40	
2nd sub-pillar: Regulation	44	71.61	
3.2.1 Regulatory quality	46	55.56	
3.2.2 ICT regulatory environment	34	89.80	●
3.2.3 Legal framework's adaptability to emerging technologies	78	33.58	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	35	79.11	
3rd sub-pillar: Inclusion	54	66.51	
3.3.1 E-Participation	49	77.78	
3.3.2 Socioeconomic gap in use of digital payments	44	74.22	
3.3.3 Availability of local online content	63	61.34	
3.3.4 Gender gap in Internet use	71	55.47	
3.3.5 Rural gap in use of digital payments	72	63.76	
D. Impact pillar	59	56.06	
1st sub-pillar: Economy	80	32.69	
4.1.1 High-tech and medium-high-tech manufacturing	75	15.82	
4.1.2 High-tech exports	54	31.05	
4.1.3 PCT patent applications	39	51.36	
4.1.4 Growth rate of GDP per person engaged	102	46.71	○
4.1.5 Prevalence of gig economy	103	24.40	○
4.1.6 ICT services exports	68	26.80	
2nd sub-pillar: Quality of Life	74	63.84	
4.2.1 Happiness	62	55.56	
4.2.2 Freedom to make life choices	122	32.21	○
4.2.3 Income inequality	36	78.39	
4.2.4 Healthy life expectancy at birth	24	89.21	●
3rd sub-pillar: SDG Contribution	35	71.63	
4.3.1 SDG 3: Good Health and Well-Being	49	77.05	
4.3.2 SDG 4: Quality Education	42	48.73	
4.3.3 Females employed with advanced degrees	35	60.45	
4.3.4 SDG 7: Affordable and Clean Energy	44	81.95	
4.3.5 SDG 11: Sustainable Cities and Communities	41	89.99	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Guatemala

	Rank (out of 130)	Score
Network Readiness Index	**105**	**37.35**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**102**	**31.42**
1st sub-pillar: Access	98	47.24
2nd sub-pillar: Content	108	20.42
3rd sub-pillar: Future Technologies	91	26.58
B. People pillar	**113**	**30.59**
1st sub-pillar: Individuals	101	47.07
2nd sub-pillar: Businesses	115	24.17
3rd sub-pillar: Governments	119	20.52
C. Governance pillar	**106**	**38.32**
1st sub-pillar: Trust	121	15.74
2nd sub-pillar: Regulation	103	51.07
3rd sub-pillar: Inclusion	98	48.14
D. Impact pillar	**87**	**49.10**
1st sub-pillar: Economy	69	35.33
2nd sub-pillar: Quality of Life	78	63.39
3rd sub-pillar: SDG Contribution	100	48.58



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	102	31.42	
1st sub-pillar: Access	98	47.24	
1.1.1 Mobile tariffs	117	27.96	
1.1.2 Handset prices	71	50.56	●
1.1.3 Households with internet access	105	22.56	
1.1.4 SMS sent by population 15-69	80	74.61	
1.1.5 Population covered by at least a 3G mobile network	82	98.64	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	61	9.12	
2nd sub-pillar: Content	108	20.42	
1.2.1 GitHub commits	90	1.37	
1.2.2 Wikipedia edits	102	27.80	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	95	63.75	
1.2.5 AI scientific publications	117	7.17	
3rd sub-pillar: Future Technologies	91	26.58	
1.3.1 Adoption of emerging technologies	78	41.14	
1.3.2 Investment in emerging technologies	72	37.54	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	116	1.07	○
B. People pillar	113	30.59	
1st sub-pillar: Individuals	101	47.07	
2.1.1 Active mobile broadband subscriptions	NA	NA	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	88	50.52	
2.1.4 Tertiary enrollment	94	14.76	
2.1.5 Adult literacy rate	76	75.94	
2nd sub-pillar: Businesses	115	24.17	
2.2.1 Firms with website	58	56.12	●
2.2.2 GERD financed by business enterprise	73	15.46	
2.2.3 Professionals	110	11.46	
2.2.4 Technicians and associate professionals	106	13.63	
2.2.5 Annual investment in telecommunication services	NA	NA	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	119	20.52	
2.3.1 Government online services	101	49.70	
2.3.2 Publication and use of open data	63	23.51	
2.3.3 Government promotion of investment in emerging tech	117	8.87	
2.3.4 R&D expenditure by governments and higher education	111	0.00	○

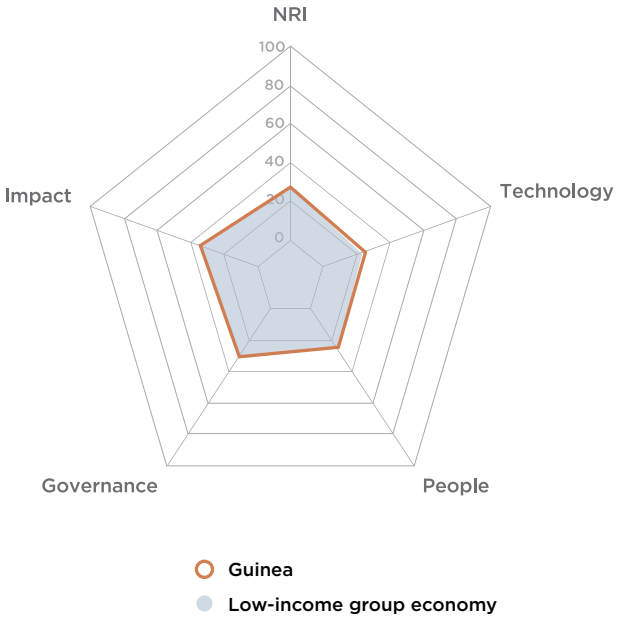
Indicator	Rank	Score	
C. Governance pillar	106	38.32	
1st sub-pillar: Trust	121	15.74	
3.1.1 Secure Internet servers	101	37.24	
3.1.2 Cybersecurity	122	11.60	○
3.1.3 Online access to financial account	110	7.65	
3.1.4 Internet shopping	85	6.47	
2nd sub-pillar: Regulation	103	51.07	
3.2.1 Regulatory quality	87	34.99	
3.2.2 ICT regulatory environment	124	52.55	○
3.2.3 Legal framework's adaptability to emerging technologies	82	30.99	
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	80	61.81	
3rd sub-pillar: Inclusion	98	48.14	
3.3.1 E-Participation	98	48.15	
3.3.2 Socioeconomic gap in use of digital payments	85	43.69	
3.3.3 Availability of local online content	102	38.74	
3.3.4 Gender gap in Internet use	82	46.25	
3.3.5 Rural gap in use of digital payments	71	63.86	●
D. Impact pillar	87	49.10	
1st sub-pillar: Economy	69	35.33	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	64	23.33	●
4.1.3 PCT patent applications	91	12.40	
4.1.4 Growth rate of GDP per person engaged	18	74.33	●
4.1.5 Prevalence of gig economy	108	20.84	
4.1.6 ICT services exports	21	45.77	●
2nd sub-pillar: Quality of Life	78	63.39	
4.2.1 Happiness	36	65.60	●
4.2.2 Freedom to make life choices	32	89.17	●
4.2.3 Income inequality	106	38.28	
4.2.4 Healthy life expectancy at birth	93	60.50	
3rd sub-pillar: SDG Contribution	100	48.58	
4.3.1 SDG 3: Good Health and Well-Being	101	44.26	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	102	8.56	
4.3.4 SDG 7: Affordable and Clean Energy	73	74.84	●
4.3.5 SDG 11: Sustainable Cities and Communities	100	66.66	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Guinea

	Rank (out of 130)	Score
Network Readiness Index	**124**	**28.50**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**117**	**24.37**
1st sub-pillar: Access	117	34.27
2nd sub-pillar: Content	128	10.55
3rd sub-pillar: Future Technologies	81	28.30
B. People pillar	**124**	**25.30**
1st sub-pillar: Individuals	128	25.70
2nd sub-pillar: Businesses	113	24.48
3rd sub-pillar: Governments	106	25.73
C. Governance pillar	**125**	**29.90**
1st sub-pillar: Trust	126	13.61
2nd sub-pillar: Regulation	100	52.25
3rd sub-pillar: Inclusion	128	23.84
D. Impact pillar	**118**	**34.43**
1st sub-pillar: Economy	116	19.15
2nd sub-pillar: Quality of Life	109	48.60
3rd sub-pillar: SDG Contribution	121	35.55



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	117	24.37	
1st sub-pillar: Access	117	34.27	
1.1.1 Mobile tariffs	96	43.47	●
1.1.2 Handset prices	105	33.31	
1.1.3 Households with internet access	116	12.79	
1.1.4 SMS sent by population 15-69	48	78.49	●
1.1.5 Population covered by at least a 3G mobile network	121	71.55	○
1.1.6 International Internet bandwidth	75	0.28	
1.1.7 Internet access in schools	70	0.00	○
2nd sub-pillar: Content	128	10.55	
1.2.1 GitHub commits	126	0.03	
1.2.2 Wikipedia edits	101	27.85	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	127	23.53	
1.2.5 AI scientific publications	127	1.32	
3rd sub-pillar: Future Technologies	81	28.30	
1.3.1 Adoption of emerging technologies	93	36.01	
1.3.2 Investment in emerging technologies	53	45.81	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	103	3.07	
B. People pillar	124	25.30	
1st sub-pillar: Individuals	128	25.70	
2.1.1 Active mobile broadband subscriptions	99	70.06	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	114	12.68	
2.1.4 Tertiary enrollment	104	7.56	
2.1.5 Adult literacy rate	104	12.48	○
2nd sub-pillar: Businesses	113	24.48	
2.2.1 Firms with website	114	10.99	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	106	12.49	
2.2.4 Technicians and associate professionals	123	4.13	
2.2.5 Annual investment in telecommunication services	106	70.30	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	106	25.73	
2.3.1 Government online services	125	19.39	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	81	32.07	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

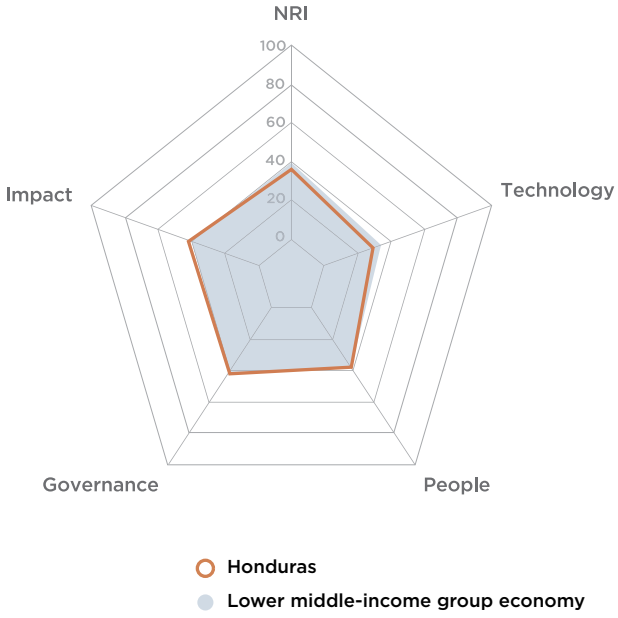
Indicator	Rank	Score	
C. Governance pillar	125	29.90	
1st sub-pillar: Trust	126	13.61	
3.1.1 Secure Internet servers	126	14.93	
3.1.2 Cybersecurity	114	19.13	
3.1.3 Online access to financial account	84	16.91	●
3.1.4 Internet shopping	104	3.47	
2nd sub-pillar: Regulation	100	52.25	
3.2.1 Regulatory quality	115	20.15	
3.2.2 ICT regulatory environment	115	60.39	
3.2.3 Legal framework's adaptability to emerging technologies	106	17.06	
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	15	88.66	●
3rd sub-pillar: Inclusion	128	23.84	
3.3.1 E-Participation	122	28.39	
3.3.2 Socioeconomic gap in use of digital payments	65	58.26	●
3.3.3 Availability of local online content	127	10.64	
3.3.4 Gender gap in Internet use	91	0.00	○
3.3.5 Rural gap in use of digital payments	116	21.90	
D. Impact pillar	118	34.43	
1st sub-pillar: Economy	116	19.15	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	124	0.56	
4.1.3 PCT patent applications	96	0.00	○
4.1.4 Growth rate of GDP per person engaged	NA	NA	
4.1.5 Prevalence of gig economy	34	61.34	●
4.1.6 ICT services exports	90	14.71	●
2nd sub-pillar: Quality of Life	109	48.60	
4.2.1 Happiness	102	34.00	
4.2.2 Freedom to make life choices	109	53.70	
4.2.3 Income inequality	44	76.30	●
4.2.4 Healthy life expectancy at birth	124	30.41	
3rd sub-pillar: SDG Contribution	121	35.55	
4.3.1 SDG 3: Good Health and Well-Being	127	14.75	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	104	6.96	
4.3.4 SDG 7: Affordable and Clean Energy	96	64.62	
4.3.5 SDG 11: Sustainable Cities and Communities	113	55.85	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Honduras

	Rank (out of 130)	Score
Network Readiness Index	**104**	**37.37**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**108**	**29.02**
1st sub-pillar: Access	116	35.08
2nd sub-pillar: Content	102	22.50
3rd sub-pillar: Future Technologies	75	29.49
B. People pillar	**97**	**36.94**
1st sub-pillar: Individuals	87	55.22
2nd sub-pillar: Businesses	86	32.95
3rd sub-pillar: Governments	113	22.66
C. Governance pillar	**103**	**41.44**
1st sub-pillar: Trust	127	12.90
2nd sub-pillar: Regulation	47	70.06
3rd sub-pillar: Inclusion	108	41.36
D. Impact pillar	**104**	**42.06**
1st sub-pillar: Economy	126	11.86
2nd sub-pillar: Quality of Life	90	59.96
3rd sub-pillar: SDG Contribution	89	54.36



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	108	29.02	
1st sub-pillar: Access	116	35.08	
1.1.1 Mobile tariffs	125	10.37	○
1.1.2 Handset prices	113	27.14	
1.1.3 Households with internet access	103	26.33	
1.1.4 SMS sent by population 15-69	114	67.42	○
1.1.5 Population covered by at least a 3G mobile network	109	94.19	
1.1.6 International Internet bandwidth	46	3.93	●
1.1.7 Internet access in schools	54	16.14	
2nd sub-pillar: Content	102	22.50	
1.2.1 GitHub commits	98	0.91	
1.2.2 Wikipedia edits	98	29.43	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	97	61.75	
1.2.5 AI scientific publications	95	19.98	
3rd sub-pillar: Future Technologies	75	29.49	
1.3.1 Adoption of emerging technologies	NA	NA	
1.3.2 Investment in emerging technologies	78	35.90	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	47	23.08	●
B. People pillar	97	36.94	
1st sub-pillar: Individuals	87	55.22	
2.1.1 Active mobile broadband subscriptions	83	72.89	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	93	47.09	
2.1.4 Tertiary enrollment	88	17.34	
2.1.5 Adult literacy rate	67	83.56	
2nd sub-pillar: Businesses	86	32.95	
2.2.1 Firms with website	77	39.34	
2.2.2 GERD financed by business enterprise	75	12.82	
2.2.3 Professionals	108	11.63	
2.2.4 Technicians and associate professionals	76	25.90	●
2.2.5 Annual investment in telecommunication services	79	75.06	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	113	22.66	
2.3.1 Government online services	107	44.85	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	NA	NA	
2.3.4 R&D expenditure by governments and higher education	110	0.46	○

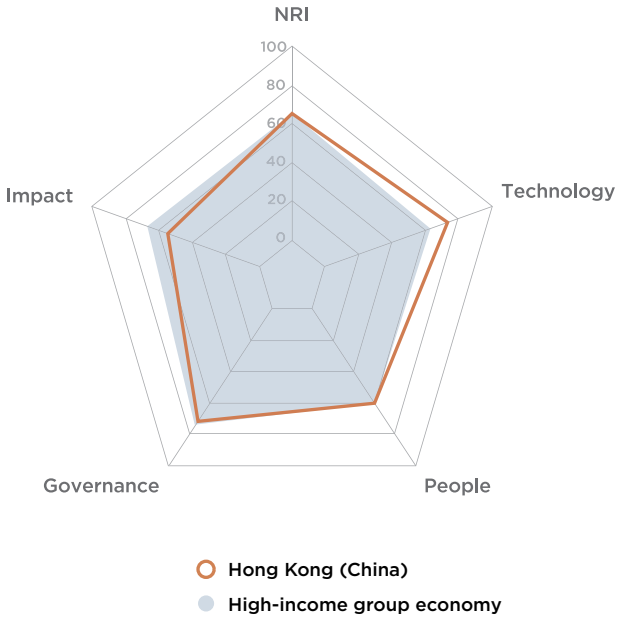
Indicator	Rank	Score	
C. Governance pillar	103	41.44	
1st sub-pillar: Trust	127	12.90	
3.1.1 Secure Internet servers	102	36.68	
3.1.2 Cybersecurity	128	0.48	○
3.1.3 Online access to financial account	105	9.92	
3.1.4 Internet shopping	96	4.53	
2nd sub-pillar: Regulation	47	70.06	
3.2.1 Regulatory quality	100	27.70	
3.2.2 ICT regulatory environment	76	76.47	●
3.2.3 Legal framework's adaptability to emerging technologies	NA	NA	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	40	76.06	●
3rd sub-pillar: Inclusion	108	41.36	
3.3.1 E-Participation	100	46.91	
3.3.2 Socioeconomic gap in use of digital payments	93	36.02	
3.3.3 Availability of local online content	97	43.45	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	108	39.05	
D. Impact pillar	104	42.06	
1st sub-pillar: Economy	126	11.86	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	112	3.36	
4.1.3 PCT patent applications	96	0.00	○
4.1.4 Growth rate of GDP per person engaged	NA	NA	
4.1.5 Prevalence of gig economy	NA	NA	
4.1.6 ICT services exports	56	32.24	●
2nd sub-pillar: Quality of Life	90	59.96	
4.2.1 Happiness	57	58.57	●
4.2.2 Freedom to make life choices	54	79.94	●
4.2.3 Income inequality	104	38.54	
4.2.4 Healthy life expectancy at birth	90	62.78	
3rd sub-pillar: SDG Contribution	89	54.36	
4.3.1 SDG 3: Good Health and Well-Being	86	60.66	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	93	15.81	
4.3.4 SDG 7: Affordable and Clean Energy	100	63.50	
4.3.5 SDG 11: Sustainable Cities and Communities	77	77.49	●

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Hong Kong (China)

	Rank (out of 130)	Score
Network Readiness Index	**32**	**64.91**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**12**	**73.29**
1st sub-pillar: Access	5	92.26
2nd sub-pillar: Content	18	64.92
3rd sub-pillar: Future Technologies	12	62.68
B. People pillar	**32**	**59.89**
1st sub-pillar: Individuals	48	67.93
2nd sub-pillar: Businesses	43	51.04
3rd sub-pillar: Governments	26	60.68
C. Governance pillar	**34**	**72.77**
1st sub-pillar: Trust	37	65.39
2nd sub-pillar: Regulation	32	77.61
3rd sub-pillar: Inclusion	33	75.32
D. Impact pillar	**71**	**53.69**
1st sub-pillar: Economy	77	32.83
2nd sub-pillar: Quality of Life	105	50.62
3rd sub-pillar: SDG Contribution	24	77.62



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	12	73.29	
1st sub-pillar: Access	5	92.26	
1.1.1 Mobile tariffs	6	90.73	●
1.1.2 Handset prices	10	84.57	
1.1.3 Households with internet access	15	94.09	
1.1.4 SMS sent by population 15-69	57	77.49	
1.1.5 Population covered by at least a 3G mobile network	51	99.73	
1.1.6 International Internet bandwidth	1	100.00	●
1.1.7 Internet access in schools	25	99.22	
2nd sub-pillar: Content	18	64.92	
1.2.1 GitHub commits	30	24.52	
1.2.2 Wikipedia edits	4	91.84	●
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	1	100.00	●
1.2.5 AI scientific publications	30	62.61	
3rd sub-pillar: Future Technologies	12	62.68	
1.3.1 Adoption of emerging technologies	19	76.65	
1.3.2 Investment in emerging technologies	15	74.83	
1.3.3 Robot density	7	66.46	
1.3.4 Computer software spending	25	32.79	
B. People pillar	32	59.89	
1st sub-pillar: Individuals	48	67.93	
2.1.1 Active mobile broadband subscriptions	49	76.62	
2.1.2 ICT skills	37	52.60	
2.1.3 Use of virtual social networks	9	86.07	
2.1.4 Tertiary enrollment	20	56.44	
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	43	51.04	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	29	60.89	
2.2.3 Professionals	89	17.79	○
2.2.4 Technicians and associate professionals	6	85.54	●
2.2.5 Annual investment in telecommunication services	36	82.29	
2.2.6 GERD performed by business enterprise	42	8.71	
3rd sub-pillar: Governments	26	60.68	
2.3.1 Government online services	NA	NA	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	8	78.57	
2.3.4 R&D expenditure by governments and higher education	43	42.78	

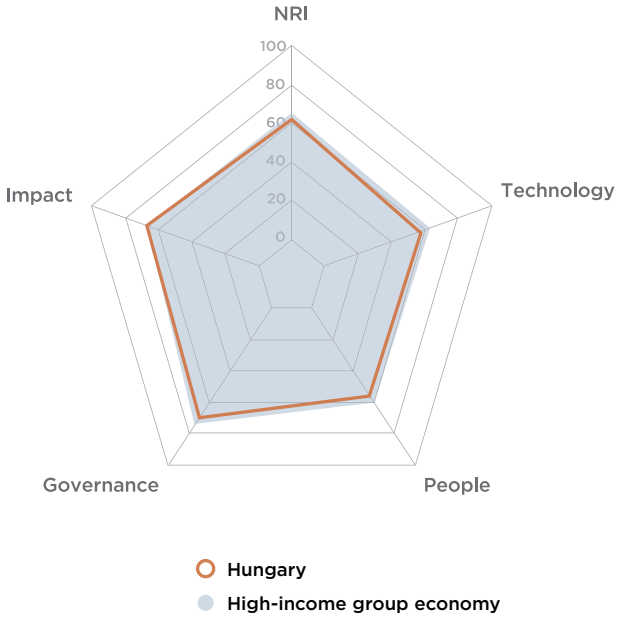
Indicator	Rank	Score	
C. Governance pillar	34	72.77	
1st sub-pillar: Trust	37	65.39	
3.1.1 Secure Internet servers	11	89.09	
3.1.2 Cybersecurity	NA	NA	
3.1.3 Online access to financial account	29	52.51	
3.1.4 Internet shopping	30	54.55	
2nd sub-pillar: Regulation	32	77.61	
3.2.1 Regulatory quality	2	95.15	●
3.2.2 ICT regulatory environment	72	80.98	
3.2.3 Legal framework's adaptability to emerging technologies	16	72.79	
3.2.4 E-commerce legislation	NA	NA	
3.2.5 Privacy protection by law content	82	61.53	
3rd sub-pillar: Inclusion	33	75.32	
3.3.1 E-Participation	NA	NA	
3.3.2 Socioeconomic gap in use of digital payments	43	74.80	
3.3.3 Availability of local online content	7	93.10	●
3.3.4 Gender gap in Internet use	50	63.13	
3.3.5 Rural gap in use of digital payments	52	70.25	
D. Impact pillar	71	53.69	
1st sub-pillar: Economy	77	32.83	
4.1.1 High-tech and medium-high-tech manufacturing	64	21.31	
4.1.2 High-tech exports	117	2.36	○
4.1.3 PCT patent applications	NA	NA	
4.1.4 Growth rate of GDP per person engaged	71	57.34	
4.1.5 Prevalence of gig economy	17	72.50	
4.1.6 ICT services exports	99	10.63	○
2nd sub-pillar: Quality of Life	105	50.62	
4.2.1 Happiness	84	45.15	○
4.2.2 Freedom to make life choices	106	56.08	○
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	NA	NA	
3rd sub-pillar: SDG Contribution	24	77.62	
4.3.1 SDG 3: Good Health and Well-Being	NA	NA	
4.3.2 SDG 4: Quality Education	3	80.27	●
4.3.3 Females employed with advanced degrees	43	52.59	
4.3.4 SDG 7: Affordable and Clean Energy	1	100.00	●
4.3.5 SDG 11: Sustainable Cities and Communities	NA	NA	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Hungary

	Rank (out of 130)	Score
Network Readiness Index	**37**	**62.14**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**34**	**57.00**
1st sub-pillar: Access	25	85.73
2nd sub-pillar: Content	32	53.40
3rd sub-pillar: Future Technologies	67	31.87
B. People pillar	**44**	**55.54**
1st sub-pillar: Individuals	49	67.28
2nd sub-pillar: Businesses	31	55.73
3rd sub-pillar: Governments	66	43.61
C. Governance pillar	**38**	**69.68**
1st sub-pillar: Trust	40	63.69
2nd sub-pillar: Regulation	27	78.93
3rd sub-pillar: Inclusion	55	66.42
D. Impact pillar	**36**	**66.34**
1st sub-pillar: Economy	22	55.06
2nd sub-pillar: Quality of Life	47	72.98
3rd sub-pillar: SDG Contribution	42	70.99



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	34	57.00	
1st sub-pillar: Access	25	85.73	
1.1.1 Mobile tariffs	20	80.61	●
1.1.2 Handset prices	36	70.35	
1.1.3 Households with internet access	37	87.77	
1.1.4 SMS sent by population 15-69	70	75.89	
1.1.5 Population covered by at least a 3G mobile network	47	99.79	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	32	53.40	
1.2.1 GitHub commits	32	23.69	
1.2.2 Wikipedia edits	19	79.65	●
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	38	86.39	
1.2.5 AI scientific publications	52	52.55	
3rd sub-pillar: Future Technologies	67	31.87	
1.3.1 Adoption of emerging technologies	63	47.82	
1.3.2 Investment in emerging technologies	100	28.34	○
1.3.3 Robot density	22	28.90	
1.3.4 Computer software spending	53	22.41	
B. People pillar	44	55.54	
1st sub-pillar: Individuals	49	67.28	
2.1.1 Active mobile broadband subscriptions	71	74.67	
2.1.2 ICT skills	35	54.53	
2.1.3 Use of virtual social networks	49	73.49	
2.1.4 Tertiary enrollment	62	34.84	
2.1.5 Adult literacy rate	16	98.87	●
2nd sub-pillar: Businesses	31	55.73	
2.2.1 Firms with website	50	62.17	
2.2.2 GERD financed by business enterprise	25	64.80	
2.2.3 Professionals	41	40.43	
2.2.4 Technicians and associate professionals	24	62.51	
2.2.5 Annual investment in telecommunication services	53	79.27	
2.2.6 GERD performed by business enterprise	21	25.19	
3rd sub-pillar: Governments	66	43.61	
2.3.1 Government online services	54	73.94	
2.3.2 Publication and use of open data	64	23.08	○
2.3.3 Government promotion of investment in emerging tech	46	46.64	
2.3.4 R&D expenditure by governments and higher education	58	30.79	

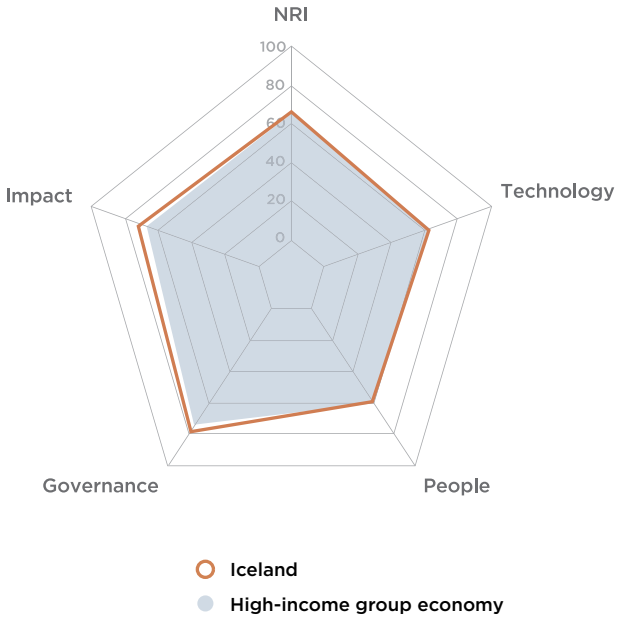
Indicator	Rank	Score	
C. Governance pillar	38	69.68	
1st sub-pillar: Trust	40	63.69	
3.1.1 Secure Internet servers	23	82.98	●
3.1.2 Cybersecurity	43	91.13	
3.1.3 Online access to financial account	39	43.79	
3.1.4 Internet shopping	38	36.86	
2nd sub-pillar: Regulation	27	78.93	
3.2.1 Regulatory quality	42	57.56	
3.2.2 ICT regulatory environment	14	94.12	●
3.2.3 Legal framework's adaptability to emerging technologies	37	54.01	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	13	88.94	●
3rd sub-pillar: Inclusion	55	66.42	
3.3.1 E-Participation	73	66.67	
3.3.2 Socioeconomic gap in use of digital payments	40	74.90	
3.3.3 Availability of local online content	57	65.42	
3.3.4 Gender gap in Internet use	16	69.67	●
3.3.5 Rural gap in use of digital payments	84	55.43	○
D. Impact pillar	36	66.34	
1st sub-pillar: Economy	22	55.06	
4.1.1 High-tech and medium-high-tech manufacturing	8	73.55	●
4.1.2 High-tech exports	9	73.67	●
4.1.3 PCT patent applications	36	55.36	
4.1.4 Growth rate of GDP per person engaged	37	66.02	
4.1.5 Prevalence of gig economy	97	28.80	○
4.1.6 ICT services exports	53	32.93	
2nd sub-pillar: Quality of Life	47	72.98	
4.2.1 Happiness	52	60.86	
4.2.2 Freedom to make life choices	85	67.19	○
4.2.3 Income inequality	16	86.98	●
4.2.4 Healthy life expectancy at birth	47	76.88	
3rd sub-pillar: SDG Contribution	42	70.99	
4.3.1 SDG 3: Good Health and Well-Being	53	75.41	
4.3.2 SDG 4: Quality Education	33	59.29	
4.3.3 Females employed with advanced degrees	44	51.87	
4.3.4 SDG 7: Affordable and Clean Energy	64	77.48	
4.3.5 SDG 11: Sustainable Cities and Communities	36	90.90	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Iceland

	Rank (out of 130)	Score
Network Readiness Index	**25**	**67.69**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**25**	**62.59**
1st sub-pillar: Access	51	70.50
2nd sub-pillar: Content	9	74.13
3rd sub-pillar: Future Technologies	38	43.13
B. People pillar	**34**	**59.06**
1st sub-pillar: Individuals	79	58.65
2nd sub-pillar: Businesses	23	60.12
3rd sub-pillar: Governments	28	58.42
C. Governance pillar	**23**	**77.85**
1st sub-pillar: Trust	12	84.54
2nd sub-pillar: Regulation	37	73.96
3rd sub-pillar: Inclusion	34	75.05
D. Impact pillar	**24**	**71.25**
1st sub-pillar: Economy	32	51.28
2nd sub-pillar: Quality of Life	2	94.92
3rd sub-pillar: SDG Contribution	46	67.56



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	25	62.59	
1st sub-pillar: Access	51	70.50	
1.1.1 Mobile tariffs	36	73.85	
1.1.2 Handset prices	17	82.20	
1.1.3 Households with internet access	7	98.05	●
1.1.4 SMS sent by population 15-69	112	67.59	○
1.1.5 Population covered by at least a 3G mobile network	20	99.99	
1.1.6 International Internet bandwidth	59	1.28	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	9	74.13	
1.2.1 GitHub commits	14	55.85	
1.2.2 Wikipedia edits	5	90.39	●
1.2.3 Internet domain registrations	*	*	●
1.2.4 Mobile apps development	10	98.15	
1.2.5 AI scientific publications	88	26.24	
3rd sub-pillar: Future Technologies	38	43.13	
1.3.1 Adoption of emerging technologies	16	78.69	
1.3.2 Investment in emerging technologies	25	65.70	
1.3.3 Robot density	39	5.20	
1.3.4 Computer software spending	48	22.94	
B. People pillar	34	59.06	
1st sub-pillar: Individuals	79	58.65	
2.1.1 Active mobile broadband subscriptions	123	0.00	○
2.1.2 ICT skills	3	98.58	●
2.1.3 Use of virtual social networks	11	85.14	
2.1.4 Tertiary enrollment	25	50.89	
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	23	60.12	
2.2.1 Firms with website	15	84.56	
2.2.2 GERD financed by business enterprise	43	48.09	
2.2.3 Professionals	9	63.78	●
2.2.4 Technicians and associate professionals	32	55.77	
2.2.5 Annual investment in telecommunication services	93	72.20	○
2.2.6 GERD performed by business enterprise	13	36.33	
3rd sub-pillar: Governments	28	58.42	
2.3.1 Government online services	42	78.79	
2.3.2 Publication and use of open data	37	38.70	
2.3.3 Government promotion of investment in emerging tech	45	47.11	
2.3.4 R&D expenditure by governments and higher education	13	69.07	

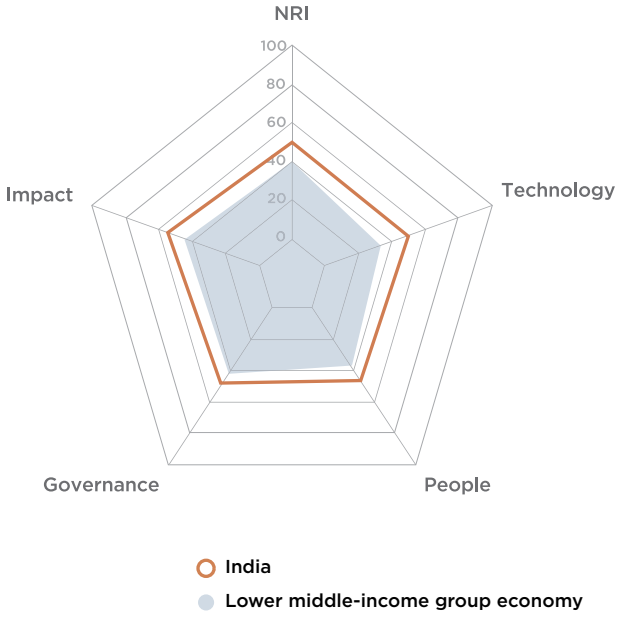
Indicator	Rank	Score	
C. Governance pillar	23	77.85	
1st sub-pillar: Trust	12	84.54	
3.1.1 Secure Internet servers	10	89.63	
3.1.2 Cybersecurity	65	79.45	
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	37	73.96	
3.2.1 Regulatory quality	19	78.52	
3.2.2 ICT regulatory environment	45	87.06	
3.2.3 Legal framework's adaptability to emerging technologies	24	64.65	
3.2.4 E-commerce legislation	76	75.00	○
3.2.5 Privacy protection by law content	72	64.58	
3rd sub-pillar: Inclusion	34	75.05	
3.3.1 E-Participation	50	76.54	
3.3.2 Socioeconomic gap in use of digital payments	NA	NA	
3.3.3 Availability of local online content	32	79.20	
3.3.4 Gender gap in Internet use	18	69.42	
3.3.5 Rural gap in use of digital payments	NA	NA	
D. Impact pillar	24	71.25	
1st sub-pillar: Economy	32	51.28	
4.1.1 High-tech and medium-high-tech manufacturing	72	17.13	
4.1.2 High-tech exports	48	37.02	
4.1.3 PCT patent applications	15	80.81	
4.1.4 Growth rate of GDP per person engaged	51	62.18	
4.1.5 Prevalence of gig economy	28	65.25	
4.1.6 ICT services exports	23	45.28	
2nd sub-pillar: Quality of Life	2	94.92	
4.2.1 Happiness	2	93.36	●
4.2.2 Freedom to make life choices	8	97.30	●
4.2.3 Income inequality	6	96.09	●
4.2.4 Healthy life expectancy at birth	9	92.92	●
3rd sub-pillar: SDG Contribution	46	67.56	
4.3.1 SDG 3: Good Health and Well-Being	10	91.80	
4.3.2 SDG 4: Quality Education	30	60.14	
4.3.3 Females employed with advanced degrees	10	85.88	
4.3.4 SDG 7: Affordable and Clean Energy	128	0.00	○
4.3.5 SDG 11: Sustainable Cities and Communities	1	100.00	●

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

India

	Rank (out of 130)	Score
Network Readiness Index	**67**	**49.74**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**49**	**49.24**
1st sub-pillar: Access	40	76.51
2nd sub-pillar: Content	63	36.21
3rd sub-pillar: Future Technologies	56	35.01
B. People pillar	**73**	**45.96**
1st sub-pillar: Individuals	93	53.54
2nd sub-pillar: Businesses	76	35.19
3rd sub-pillar: Governments	46	49.15
C. Governance pillar	**82**	**48.71**
1st sub-pillar: Trust	70	39.08
2nd sub-pillar: Regulation	84	58.93
3rd sub-pillar: Inclusion	99	48.11
D. Impact pillar	**63**	**55.07**
1st sub-pillar: Economy	24	53.92
2nd sub-pillar: Quality of Life	92	59.42
3rd sub-pillar: SDG Contribution	95	51.87



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	49	49.24	
1st sub-pillar: Access	40	76.51	
1.1.1 Mobile tariffs	42	71.13	
1.1.2 Handset prices	52	61.77	
1.1.3 Households with internet access	97	33.89	
1.1.4 SMS sent by population 15-69	3	92.78	●
1.1.5 Population covered by at least a 3G mobile network	67	99.51	
1.1.6 International Internet bandwidth	1	100.00	●
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	63	36.21	
1.2.1 GitHub commits	83	1.73	
1.2.2 Wikipedia edits	116	19.66	○
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	86	67.96	
1.2.5 AI scientific publications	3	90.86	●
3rd sub-pillar: Future Technologies	56	35.01	
1.3.1 Adoption of emerging technologies	53	51.54	
1.3.2 Investment in emerging technologies	27	64.29	●
1.3.3 Robot density	48	1.42	
1.3.4 Computer software spending	51	22.76	
B. People pillar	73	45.96	
1st sub-pillar: Individuals	93	53.54	
2.1.1 Active mobile broadband subscriptions	2	96.92	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	101	30.67	
2.1.4 Tertiary enrollment	86	19.54	
2.1.5 Adult literacy rate	86	67.04	
2nd sub-pillar: Businesses	76	35.19	
2.2.1 Firms with website	69	45.59	
2.2.2 GERD financed by business enterprise	49	45.46	
2.2.3 Professionals	113	9.65	○
2.2.4 Technicians and associate professionals	98	17.52	
2.2.5 Annual investment in telecommunication services	15	87.55	●
2.2.6 GERD performed by business enterprise	50	5.34	
3rd sub-pillar: Governments	46	49.15	
2.3.1 Government online services	24	84.84	●
2.3.2 Publication and use of open data	33	42.64	
2.3.3 Government promotion of investment in emerging tech	69	35.57	
2.3.4 R&D expenditure by governments and higher education	53	33.56	

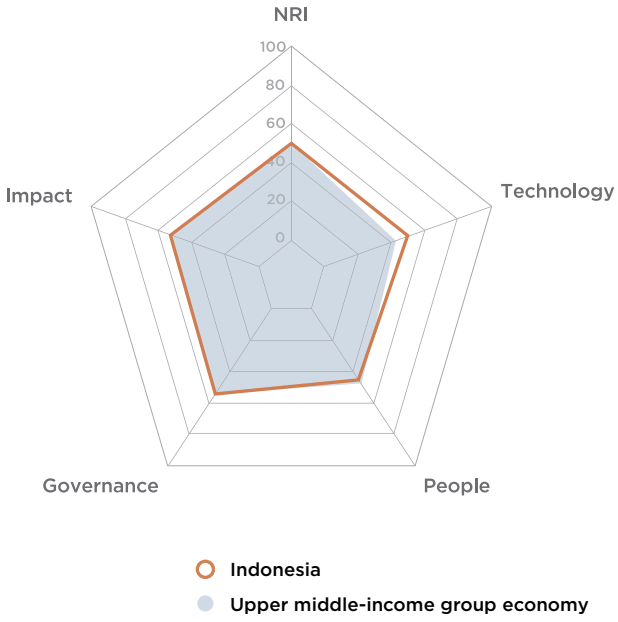
Indicator	Rank	Score	
C. Governance pillar	82	48.71	
1st sub-pillar: Trust	70	39.08	
3.1.1 Secure Internet servers	69	49.26	
3.1.2 Cybersecurity	15	97.46	●
3.1.3 Online access to financial account	113	5.99	○
3.1.4 Internet shopping	100	3.63	
2nd sub-pillar: Regulation	84	58.93	
3.2.1 Regulatory quality	80	36.75	
3.2.2 ICT regulatory environment	64	83.53	
3.2.3 Legal framework's adaptability to emerging technologies	63	42.78	
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	88	56.59	
3rd sub-pillar: Inclusion	99	48.11	
3.3.1 E-Participation	29	85.18	
3.3.2 Socioeconomic gap in use of digital payments	87	39.38	
3.3.3 Availability of local online content	72	58.20	
3.3.4 Gender gap in Internet use	91	0.00	○
3.3.5 Rural gap in use of digital payments	80	57.80	
D. Impact pillar	63	55.07	
1st sub-pillar: Economy	24	53.92	
4.1.1 High-tech and medium-high-tech manufacturing	36	43.00	
4.1.2 High-tech exports	38	43.74	
4.1.3 PCT patent applications	48	45.64	
4.1.4 Growth rate of GDP per person engaged	15	75.76	●
4.1.5 Prevalence of gig economy	69	39.56	
4.1.6 ICT services exports	4	75.84	●
2nd sub-pillar: Quality of Life	92	59.42	
4.2.1 Happiness	117	22.53	○
4.2.2 Freedom to make life choices	30	90.14	
4.2.3 Income inequality	56	71.09	
4.2.4 Healthy life expectancy at birth	99	53.91	
3rd sub-pillar: SDG Contribution	95	51.87	
4.3.1 SDG 3: Good Health and Well-Being	101	44.26	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	103	7.24	
4.3.4 SDG 7: Affordable and Clean Energy	63	77.56	
4.3.5 SDG 11: Sustainable Cities and Communities	74	78.40	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Indonesia

	Rank (out of 130)	Score
Network Readiness Index	**66**	**50.37**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**48**	**50.07**
1st sub-pillar: Access	39	77.75
2nd sub-pillar: Content	75	33.61
3rd sub-pillar: Future Technologies	46	38.85
B. People pillar	**79**	**44.69**
1st sub-pillar: Individuals	55	64.49
2nd sub-pillar: Businesses	119	22.75
3rd sub-pillar: Governments	53	46.83
C. Governance pillar	**68**	**55.02**
1st sub-pillar: Trust	65	45.63
2nd sub-pillar: Regulation	77	61.28
3rd sub-pillar: Inclusion	77	58.15
D. Impact pillar	**79**	**51.70**
1st sub-pillar: Economy	57	39.70
2nd sub-pillar: Quality of Life	72	64.09
3rd sub-pillar: SDG Contribution	96	51.30



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	48	50.07	
1st sub-pillar: Access	39	77.75	
1.1.1 Mobile tariffs	58	63.09	
1.1.2 Handset prices	96	37.87	
1.1.3 Households with internet access	61	78.27	
1.1.4 SMS sent by population 15-69	11	87.86	●
1.1.5 Population covered by at least a 3G mobile network	74	99.38	
1.1.6 International Internet bandwidth	1	100.00	●
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	75	33.61	
1.2.1 GitHub commits	87	1.52	
1.2.2 Wikipedia edits	96	30.51	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	85	67.98	
1.2.5 AI scientific publications	18	66.91	●
3rd sub-pillar: Future Technologies	46	38.85	
1.3.1 Adoption of emerging technologies	41	59.47	
1.3.2 Investment in emerging technologies	28	62.78	●
1.3.3 Robot density	49	1.33	○
1.3.4 Computer software spending	27	31.83	●
B. People pillar	79	44.69	
1st sub-pillar: Individuals	55	64.49	
2.1.1 Active mobile broadband subscriptions	5	91.73	●
2.1.2 ICT skills	41	49.98	
2.1.3 Use of virtual social networks	76	61.33	
2.1.4 Tertiary enrollment	77	24.99	
2.1.5 Adult literacy rate	41	94.44	
2nd sub-pillar: Businesses	119	22.75	
2.2.1 Firms with website	111	12.73	○
2.2.2 GERD financed by business enterprise	80	9.81	
2.2.3 Professionals	101	13.84	
2.2.4 Technicians and associate professionals	108	11.66	
2.2.5 Annual investment in telecommunication services	13	88.24	●
2.2.6 GERD performed by business enterprise	82	0.24	○
3rd sub-pillar: Governments	53	46.83	
2.3.1 Government online services	70	67.28	
2.3.2 Publication and use of open data	38	38.18	
2.3.3 Government promotion of investment in emerging tech	24	60.59	
2.3.4 R&D expenditure by governments and higher education	72	21.25	

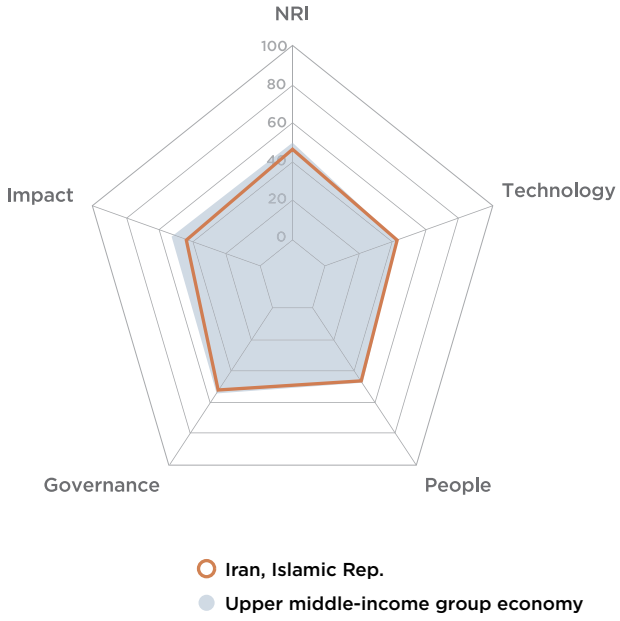
Indicator	Rank	Score	
C. Governance pillar	68	55.02	
1st sub-pillar: Trust	65	45.63	
3.1.1 Secure Internet servers	58	60.15	
3.1.2 Cybersecurity	31	94.79	●
3.1.3 Online access to financial account	91	14.96	
3.1.4 Internet shopping	67	12.64	
2nd sub-pillar: Regulation	77	61.28	
3.2.1 Regulatory quality	75	38.58	
3.2.2 ICT regulatory environment	121	56.47	○
3.2.3 Legal framework's adaptability to emerging technologies	36	55.08	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	91	56.29	
3rd sub-pillar: Inclusion	77	58.15	
3.3.1 E-Participation	56	74.07	
3.3.2 Socioeconomic gap in use of digital payments	101	28.66	
3.3.3 Availability of local online content	45	70.21	
3.3.4 Gender gap in Internet use	80	48.52	
3.3.5 Rural gap in use of digital payments	58	69.30	
D. Impact pillar	79	51.70	
1st sub-pillar: Economy	57	39.70	
4.1.1 High-tech and medium-high-tech manufacturing	41	39.92	
4.1.2 High-tech exports	46	38.17	
4.1.3 PCT patent applications	94	5.71	
4.1.4 Growth rate of GDP per person engaged	34	66.73	
4.1.5 Prevalence of gig economy	16	73.20	●
4.1.6 ICT services exports	93	14.48	
2nd sub-pillar: Quality of Life	72	64.09	
4.2.1 Happiness	82	46.24	
4.2.2 Freedom to make life choices	47	83.27	
4.2.3 Income inequality	66	64.58	
4.2.4 Healthy life expectancy at birth	92	62.27	
3rd sub-pillar: SDG Contribution	96	51.30	
4.3.1 SDG 3: Good Health and Well-Being	99	47.54	
4.3.2 SDG 4: Quality Education	70	19.51	○
4.3.3 Females employed with advanced degrees	86	20.58	
4.3.4 SDG 7: Affordable and Clean Energy	35	83.71	
4.3.5 SDG 11: Sustainable Cities and Communities	52	85.16	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Iran, Islamic Rep.

	Rank (out of 130)	Score
Network Readiness Index	**79**	**46.29**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**70**	**42.84**
1st sub-pillar: Access	77	59.59
2nd sub-pillar: Content	58	37.52
3rd sub-pillar: Future Technologies	69	31.42
B. People pillar	**71**	**46.00**
1st sub-pillar: Individuals	91	54.16
2nd sub-pillar: Businesses	77	34.68
3rd sub-pillar: Governments	45	49.16
C. Governance pillar	**77**	**51.99**
1st sub-pillar: Trust	45	56.65
2nd sub-pillar: Regulation	120	38.35
3rd sub-pillar: Inclusion	71	60.95
D. Impact pillar	**99**	**44.34**
1st sub-pillar: Economy	95	27.02
2nd sub-pillar: Quality of Life	104	50.66
3rd sub-pillar: SDG Contribution	85	55.33



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	70	42.84	
1st sub-pillar: Access	77	59.59	
1.1.1 Mobile tariffs	51	66.44	
1.1.2 Handset prices	111	31.17	
1.1.3 Households with internet access	18	93.47	●
1.1.4 SMS sent by population 15-69	2	92.94	●
1.1.5 Population covered by at least a 3G mobile network	104	95.62	
1.1.6 International Internet bandwidth	15	26.92	●
1.1.7 Internet access in schools	60	10.55	
2nd sub-pillar: Content	58	37.52	
1.2.1 GitHub commits	85	1.61	
1.2.2 Wikipedia edits	65	50.77	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	105	55.99	
1.2.5 AI scientific publications	10	74.87	●
3rd sub-pillar: Future Technologies	69	31.42	
1.3.1 Adoption of emerging technologies	81	39.26	
1.3.2 Investment in emerging technologies	102	27.77	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	38	27.23	
B. People pillar	71	46.00	
1st sub-pillar: Individuals	91	54.16	
2.1.1 Active mobile broadband subscriptions	13	86.29	●
2.1.2 ICT skills	61	18.09	
2.1.3 Use of virtual social networks	96	41.37	
2.1.4 Tertiary enrollment	45	43.63	
2.1.5 Adult literacy rate	72	81.42	
2nd sub-pillar: Businesses	77	34.68	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	62	26.75	
2.2.4 Technicians and associate professionals	84	22.79	
2.2.5 Annual investment in telecommunication services	22	84.56	●
2.2.6 GERD performed by business enterprise	52	4.62	
3rd sub-pillar: Governments	45	49.16	
2.3.1 Government online services	85	57.57	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	75	33.85	
2.3.4 R&D expenditure by governments and higher education	25	56.05	●

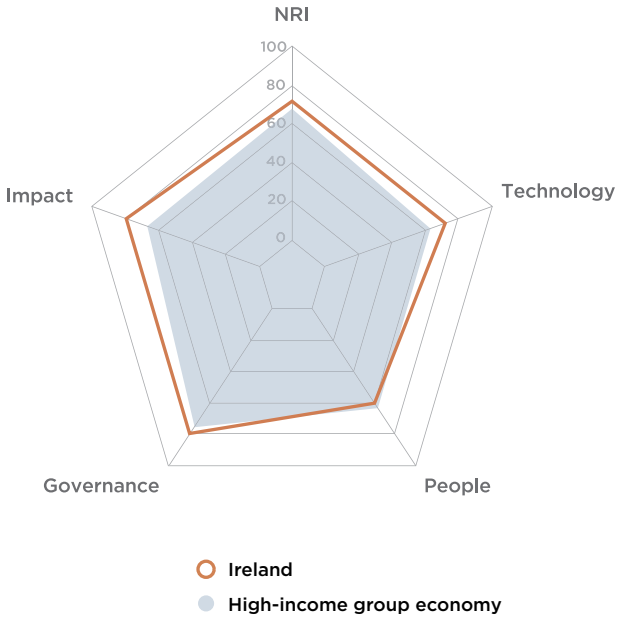
Indicator	Rank	Score	
C. Governance pillar	77	51.99	
1st sub-pillar: Trust	45	56.65	
3.1.1 Secure Internet servers	55	62.18	
3.1.2 Cybersecurity	62	80.74	
3.1.3 Online access to financial account	33	50.73	
3.1.4 Internet shopping	40	32.95	
2nd sub-pillar: Regulation	120	38.35	
3.2.1 Regulatory quality	128	2.36	○
3.2.2 ICT regulatory environment	57	84.71	
3.2.3 Legal framework's adaptability to emerging technologies	88	29.70	
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	129	0.00	○
3rd sub-pillar: Inclusion	71	60.95	
3.3.1 E-Participation	102	44.45	
3.3.2 Socioeconomic gap in use of digital payments	18	94.13	●
3.3.3 Availability of local online content	92	47.81	
3.3.4 Gender gap in Internet use	85	39.63	
3.3.5 Rural gap in use of digital payments	11	78.75	●
D. Impact pillar	99	44.34	
1st sub-pillar: Economy	95	27.02	
4.1.1 High-tech and medium-high-tech manufacturing	28	48.99	●
4.1.2 High-tech exports	114	3.18	
4.1.3 PCT patent applications	44	49.04	
4.1.4 Growth rate of GDP per person engaged	116	29.98	○
4.1.5 Prevalence of gig economy	99	27.55	
4.1.6 ICT services exports	123	3.39	○
2nd sub-pillar: Quality of Life	104	50.66	
4.2.1 Happiness	98	36.04	
4.2.2 Freedom to make life choices	120	38.14	○
4.2.3 Income inequality	87	54.69	
4.2.4 Healthy life expectancy at birth	61	73.75	
3rd sub-pillar: SDG Contribution	85	55.33	
4.3.1 SDG 3: Good Health and Well-Being	63	72.13	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	79	25.71	
4.3.4 SDG 7: Affordable and Clean Energy	109	54.55	
4.3.5 SDG 11: Sustainable Cities and Communities	95	68.95	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Ireland

	Rank (out of 130)	Score
Network Readiness Index	**19**	**72.26**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**18**	**70.37**
1st sub-pillar: Access	6	91.97
2nd sub-pillar: Content	16	66.38
3rd sub-pillar: Future Technologies	24	52.75
B. People pillar	**33**	**59.63**
1st sub-pillar: Individuals	45	68.79
2nd sub-pillar: Businesses	26	58.03
3rd sub-pillar: Governments	40	52.06
C. Governance pillar	**21**	**78.21**
1st sub-pillar: Trust	22	76.46
2nd sub-pillar: Regulation	28	78.66
3rd sub-pillar: Inclusion	19	79.50
D. Impact pillar	**4**	**80.82**
1st sub-pillar: Economy	4	71.38
2nd sub-pillar: Quality of Life	15	85.03
3rd sub-pillar: SDG Contribution	4	86.04



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	18	70.37	
1st sub-pillar: Access	6	91.97	
1.1.1 Mobile tariffs	3	95.43	●
1.1.2 Handset prices	6	95.42	●
1.1.3 Households with internet access	23	92.16	
1.1.4 SMS sent by population 15-69	52	78.18	
1.1.5 Population covered by at least a 3G mobile network	82	98.64	○
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	16	66.38	
1.2.1 GitHub commits	15	54.20	
1.2.2 Wikipedia edits	20	79.43	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	1	100.00	●
1.2.5 AI scientific publications	48	55.53	
3rd sub-pillar: Future Technologies	24	52.75	
1.3.1 Adoption of emerging technologies	26	71.34	
1.3.2 Investment in emerging technologies	18	70.53	
1.3.3 Robot density	32	12.01	
1.3.4 Computer software spending	3	57.14	●
B. People pillar	33	59.63	
1st sub-pillar: Individuals	45	68.79	
2.1.1 Active mobile broadband subscriptions	82	72.99	○
2.1.2 ICT skills	18	71.83	
2.1.3 Use of virtual social networks	39	76.51	
2.1.4 Tertiary enrollment	22	53.83	
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	26	58.03	
2.2.1 Firms with website	29	76.10	
2.2.2 GERD financed by business enterprise	26	63.93	
2.2.3 Professionals	13	58.49	
2.2.4 Technicians and associate professionals	43	48.87	
2.2.5 Annual investment in telecommunication services	46	80.06	
2.2.6 GERD performed by business enterprise	23	20.73	
3rd sub-pillar: Governments	40	52.06	
2.3.1 Government online services	46	76.37	
2.3.2 Publication and use of open data	26	47.29	
2.3.3 Government promotion of investment in emerging tech	26	57.94	
2.3.4 R&D expenditure by governments and higher education	62	26.66	

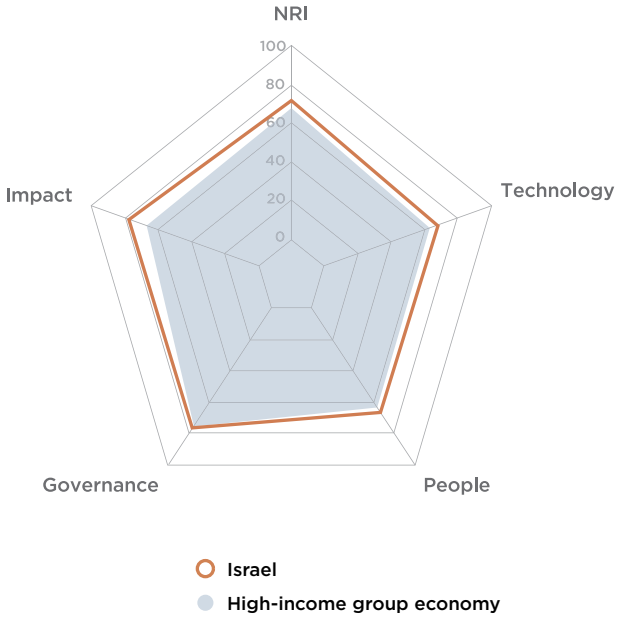
Indicator	Rank	Score	
C. Governance pillar	21	78.21	
1st sub-pillar: Trust	22	76.46	
3.1.1 Secure Internet servers	6	93.02	●
3.1.2 Cybersecurity	54	85.61	
3.1.3 Online access to financial account	32	50.93	
3.1.4 Internet shopping	13	76.29	
2nd sub-pillar: Regulation	28	78.66	
3.2.1 Regulatory quality	14	84.76	
3.2.2 ICT regulatory environment	4	97.65	●
3.2.3 Legal framework's adaptability to emerging technologies	32	60.15	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	98	50.74	○
3rd sub-pillar: Inclusion	19	79.50	
3.3.1 E-Participation	29	85.18	
3.3.2 Socioeconomic gap in use of digital payments	24	88.85	
3.3.3 Availability of local online content	37	77.00	
3.3.4 Gender gap in Internet use	9	72.00	
3.3.5 Rural gap in use of digital payments	36	74.48	
D. Impact pillar	4	80.82	
1st sub-pillar: Economy	4	71.38	
4.1.1 High-tech and medium-high-tech manufacturing	6	76.02	●
4.1.2 High-tech exports	19	60.86	
4.1.3 PCT patent applications	21	75.40	
4.1.4 Growth rate of GDP per person engaged	90	51.31	○
4.1.5 Prevalence of gig economy	30	64.67	
4.1.6 ICT services exports	1	100.00	●
2nd sub-pillar: Quality of Life	15	85.03	
4.2.1 Happiness	14	81.93	
4.2.2 Freedom to make life choices	39	86.02	
4.2.3 Income inequality	24	82.29	
4.2.4 Healthy life expectancy at birth	17	89.89	
3rd sub-pillar: SDG Contribution	4	86.04	
4.3.1 SDG 3: Good Health and Well-Being	39	78.69	
4.3.2 SDG 4: Quality Education	10	69.61	
4.3.3 Females employed with advanced degrees	8	86.68	
4.3.4 SDG 7: Affordable and Clean Energy	3	96.96	●
4.3.5 SDG 11: Sustainable Cities and Communities	5	98.27	●

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Israel

	Rank (out of 130)	Score
Network Readiness Index	**22**	**71.51**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**21**	**67.31**
1st sub-pillar: Access	26	84.36
2nd sub-pillar: Content	24	60.53
3rd sub-pillar: Future Technologies	19	57.04
B. People pillar	**22**	**65.35**
1st sub-pillar: Individuals	53	65.78
2nd sub-pillar: Businesses	15	65.93
3rd sub-pillar: Governments	19	64.33
C. Governance pillar	**28**	**75.91**
1st sub-pillar: Trust	31	69.00
2nd sub-pillar: Regulation	18	83.94
3rd sub-pillar: Inclusion	36	74.78
D. Impact pillar	**8**	**77.47**
1st sub-pillar: Economy	2	72.95
2nd sub-pillar: Quality of Life	24	79.87
3rd sub-pillar: SDG Contribution	20	79.58



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	21	67.31	
1st sub-pillar: Access	26	84.36	
1.1.1 Mobile tariffs	9	88.74	
1.1.2 Handset prices	31	72.32	
1.1.3 Households with internet access	66	76.02	
1.1.4 SMS sent by population 15-69	NA	NA	
1.1.5 Population covered by at least a 3G mobile network	51	99.73	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	32	85.00	
2nd sub-pillar: Content	24	60.53	
1.2.1 GitHub commits	25	29.22	
1.2.2 Wikipedia edits	1	100.00	●
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	9	98.64	
1.2.5 AI scientific publications	36	58.03	
3rd sub-pillar: Future Technologies	19	57.04	
1.3.1 Adoption of emerging technologies	4	96.84	●
1.3.2 Investment in emerging technologies	2	96.21	●
1.3.3 Robot density	30	13.19	○
1.3.4 Computer software spending	56	21.93	
B. People pillar	22	65.35	
1st sub-pillar: Individuals	53	65.78	
2.1.1 Active mobile broadband subscriptions	53	76.37	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	34	78.27	
2.1.4 Tertiary enrollment	46	42.70	
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	15	65.93	
2.2.1 Firms with website	43	66.77	
2.2.2 GERD financed by business enterprise	50	45.20	
2.2.3 Professionals	10	62.24	
2.2.4 Technicians and associate professionals	33	55.43	
2.2.5 Annual investment in telecommunication services	NA	NA	
2.2.6 GERD performed by business enterprise	1	100.00	●
3rd sub-pillar: Governments	19	64.33	
2.3.1 Government online services	54	73.94	
2.3.2 Publication and use of open data	28	46.11	
2.3.3 Government promotion of investment in emerging tech	5	83.58	
2.3.4 R&D expenditure by governments and higher education	27	53.68	

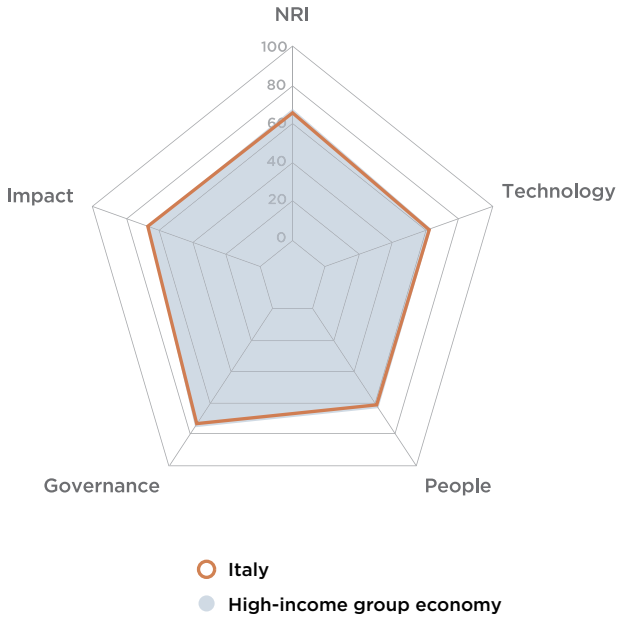
Indicator	Rank	Score	
C. Governance pillar	28	75.91	
1st sub-pillar: Trust	31	69.00	
3.1.1 Secure Internet servers	41	75.18	
3.1.2 Cybersecurity	44	90.77	
3.1.3 Online access to financial account	25	58.49	
3.1.4 Internet shopping	33	51.57	
2nd sub-pillar: Regulation	18	83.94	
3.2.1 Regulatory quality	23	76.02	
3.2.2 ICT regulatory environment	90	71.18	○
3.2.3 Legal framework's adaptability to emerging technologies	6	85.12	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	17	87.36	
3rd sub-pillar: Inclusion	36	74.78	
3.3.1 E-Participation	64	70.37	
3.3.2 Socioeconomic gap in use of digital payments	37	77.27	
3.3.3 Availability of local online content	4	95.79	●
3.3.4 Gender gap in Internet use	40	64.92	
3.3.5 Rural gap in use of digital payments	67	65.55	○
D. Impact pillar	8	77.47	
1st sub-pillar: Economy	2	72.95	
4.1.1 High-tech and medium-high-tech manufacturing	37	41.40	
4.1.2 High-tech exports	14	68.18	
4.1.3 PCT patent applications	6	91.56	●
4.1.4 Growth rate of GDP per person engaged	42	64.81	
4.1.5 Prevalence of gig economy	7	88.42	
4.1.6 ICT services exports	3	83.34	●
2nd sub-pillar: Quality of Life	24	79.87	
4.2.1 Happiness	12	85.32	
4.2.2 Freedom to make life choices	64	77.42	
4.2.3 Income inequality	72	62.50	○
4.2.4 Healthy life expectancy at birth	6	94.25	●
3rd sub-pillar: SDG Contribution	20	79.58	
4.3.1 SDG 3: Good Health and Well-Being	18	88.52	
4.3.2 SDG 4: Quality Education	38	53.53	
4.3.3 Females employed with advanced degrees	24	74.08	
4.3.4 SDG 7: Affordable and Clean Energy	32	84.74	
4.3.5 SDG 11: Sustainable Cities and Communities	12	97.03	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Italy

	Rank (out of 130)	Score
Network Readiness Index	**28**	**66.25**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**26**	**62.47**
1st sub-pillar: Access	35	78.68
2nd sub-pillar: Content	28	55.91
3rd sub-pillar: Future Technologies	23	52.83
B. People pillar	**28**	**61.72**
1st sub-pillar: Individuals	41	69.56
2nd sub-pillar: Businesses	19	60.81
3rd sub-pillar: Governments	36	54.78
C. Governance pillar	**31**	**74.28**
1st sub-pillar: Trust	33	68.12
2nd sub-pillar: Regulation	30	78.21
3rd sub-pillar: Inclusion	29	76.51
D. Impact pillar	**35**	**66.54**
1st sub-pillar: Economy	27	52.17
2nd sub-pillar: Quality of Life	46	72.98
3rd sub-pillar: SDG Contribution	34	74.48



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	26	62.47	
1st sub-pillar: Access	35	78.68	
1.1.1 Mobile tariffs	12	86.92	●
1.1.2 Handset prices	14	83.90	●
1.1.3 Households with internet access	64	76.24	
1.1.4 SMS sent by population 15-69	120	55.02	○
1.1.5 Population covered by at least a 3G mobile network	1	100.00	●
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	36	70.00	
2nd sub-pillar: Content	28	55.91	
1.2.1 GitHub commits	45	12.24	
1.2.2 Wikipedia edits	23	77.97	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	30	89.93	
1.2.5 AI scientific publications	8	75.32	●
3rd sub-pillar: Future Technologies	23	52.83	
1.3.1 Adoption of emerging technologies	32	65.18	
1.3.2 Investment in emerging technologies	61	41.08	
1.3.3 Robot density	10	58.14	
1.3.4 Computer software spending	12	46.90	●
B. People pillar	28	61.72	
1st sub-pillar: Individuals	41	69.56	
2.1.1 Active mobile broadband subscriptions	23	84.80	
2.1.2 ICT skills	40	51.72	
2.1.3 Use of virtual social networks	64	67.67	
2.1.4 Tertiary enrollment	41	44.69	
2.1.5 Adult literacy rate	14	98.95	●
2nd sub-pillar: Businesses	19	60.81	
2.2.1 Firms with website	31	73.61	
2.2.2 GERD financed by business enterprise	20	67.40	
2.2.3 Professionals	49	36.91	
2.2.4 Technicians and associate professionals	10	75.97	●
2.2.5 Annual investment in telecommunication services	8	90.44	●
2.2.6 GERD performed by business enterprise	24	20.55	
3rd sub-pillar: Governments	36	54.78	
2.3.1 Government online services	36	82.42	
2.3.2 Publication and use of open data	20	55.81	
2.3.3 Government promotion of investment in emerging tech	68	35.82	
2.3.4 R&D expenditure by governments and higher education	40	45.06	

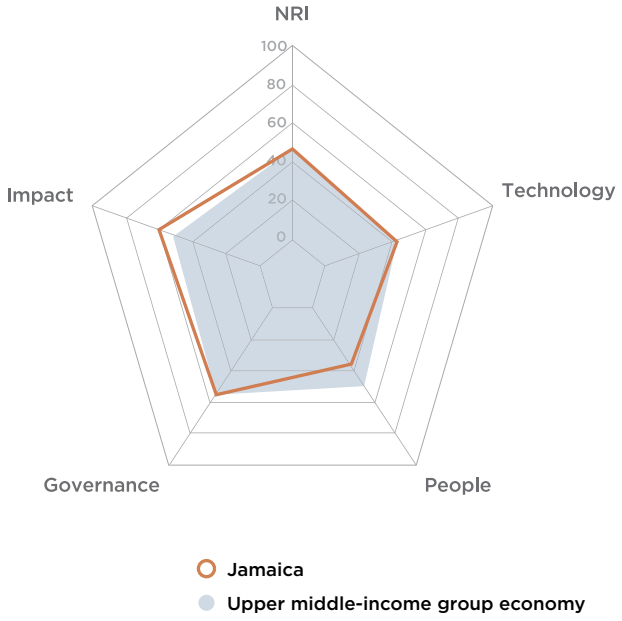
Indicator	Rank	Score	
C. Governance pillar	31	74.28	
1st sub-pillar: Trust	33	68.12	
3.1.1 Secure Internet servers	34	79.28	
3.1.2 Cybersecurity	27	96.06	
3.1.3 Online access to financial account	67	26.71	
3.1.4 Internet shopping	17	70.45	
2nd sub-pillar: Regulation	30	78.21	
3.2.1 Regulatory quality	39	67.14	
3.2.2 ICT regulatory environment	1	100.00	●
3.2.3 Legal framework's adaptability to emerging technologies	39	51.95	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	52	71.96	
3rd sub-pillar: Inclusion	29	76.51	
3.3.1 E-Participation	41	81.48	
3.3.2 Socioeconomic gap in use of digital payments	22	91.23	
3.3.3 Availability of local online content	40	74.99	
3.3.4 Gender gap in Internet use	73	55.10	○
3.3.5 Rural gap in use of digital payments	8	79.77	●
D. Impact pillar	35	66.54	
1st sub-pillar: Economy	27	52.17	
4.1.1 High-tech and medium-high-tech manufacturing	24	52.13	
4.1.2 High-tech exports	30	52.49	
4.1.3 PCT patent applications	24	72.08	
4.1.4 Growth rate of GDP per person engaged	104	44.90	○
4.1.5 Prevalence of gig economy	31	64.53	
4.1.6 ICT services exports	67	26.90	
2nd sub-pillar: Quality of Life	46	72.98	
4.2.1 Happiness	27	70.38	
4.2.2 Freedom to make life choices	101	58.24	○
4.2.3 Income inequality	60	70.57	
4.2.4 Healthy life expectancy at birth	10	92.72	●
3rd sub-pillar: SDG Contribution	34	74.48	
4.3.1 SDG 3: Good Health and Well-Being	18	88.52	
4.3.2 SDG 4: Quality Education	34	58.33	
4.3.3 Females employed with advanced degrees	53	43.38	
4.3.4 SDG 7: Affordable and Clean Energy	19	87.38	
4.3.5 SDG 11: Sustainable Cities and Communities	24	94.77	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Jamaica

	Rank (out of 130)	Score
Network Readiness Index	**74**	**47.95**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**75**	**41.70**
1st sub-pillar: Access	75	60.07
2nd sub-pillar: Content	92	26.82
3rd sub-pillar: Future Technologies	47	38.20
B. People pillar	**101**	**35.65**
1st sub-pillar: Individuals	102	45.91
2nd sub-pillar: Businesses	110	25.26
3rd sub-pillar: Governments	89	35.77
C. Governance pillar	**69**	**54.82**
1st sub-pillar: Trust	77	35.92
2nd sub-pillar: Regulation	52	67.75
3rd sub-pillar: Inclusion	72	60.80
D. Impact pillar	**49**	**59.62**
1st sub-pillar: Economy	87	31.58
2nd sub-pillar: Quality of Life	36	76.27
3rd sub-pillar: SDG Contribution	41	71.03



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	75	41.70	
1st sub-pillar: Access	75	60.07	
1.1.1 Mobile tariffs	110	36.73	
1.1.2 Handset prices	50	62.76	●
1.1.3 Households with internet access	80	64.44	
1.1.4 SMS sent by population 15-69	101	70.62	
1.1.5 Population covered by at least a 3G mobile network	51	99.73	
1.1.6 International Internet bandwidth	54	1.92	
1.1.7 Internet access in schools	33	84.31	
2nd sub-pillar: Content	92	26.82	
1.2.1 GitHub commits	73	2.65	
1.2.2 Wikipedia edits	70	47.95	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	92	65.85	
1.2.5 AI scientific publications	102	16.23	
3rd sub-pillar: Future Technologies	47	38.20	
1.3.1 Adoption of emerging technologies	75	43.00	
1.3.2 Investment in emerging technologies	71	38.07	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	23	33.54	●
B. People pillar	101	35.65	
1st sub-pillar: Individuals	102	45.91	
2.1.1 Active mobile broadband subscriptions	109	66.96	○
2.1.2 ICT skills	64	9.69	○
2.1.3 Use of virtual social networks	89	49.69	
2.1.4 Tertiary enrollment	87	18.52	
2.1.5 Adult literacy rate	66	84.71	
2nd sub-pillar: Businesses	110	25.26	
2.2.1 Firms with website	90	31.13	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	76	21.07	
2.2.4 Technicians and associate professionals	81	23.58	
2.2.5 Annual investment in telecommunication services	NA	NA	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	89	35.77	
2.3.1 Government online services	114	36.97	○
2.3.2 Publication and use of open data	42	36.77	●
2.3.3 Government promotion of investment in emerging tech	77	33.58	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

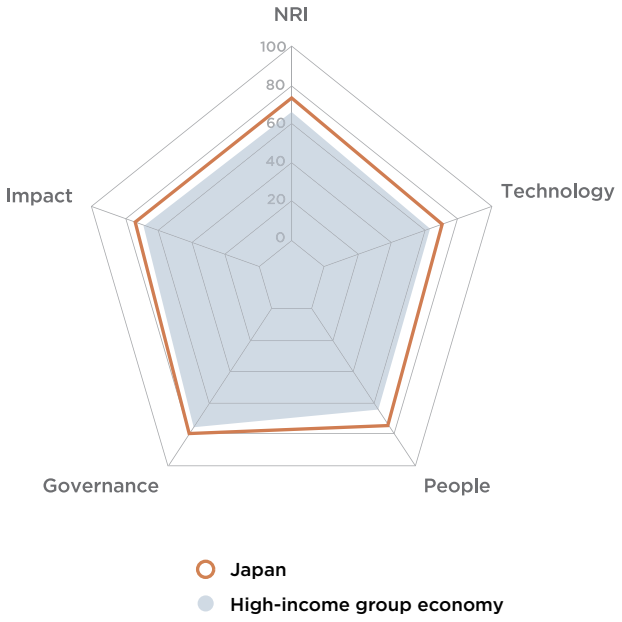
Indicator	Rank	Score	
C. Governance pillar	69	54.82	
1st sub-pillar: Trust	77	35.92	
3.1.1 Secure Internet servers	94	40.50	
3.1.2 Cybersecurity	104	31.34	
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	52	67.75	
3.2.1 Regulatory quality	59	45.69	
3.2.2 ICT regulatory environment	84	74.71	
3.2.3 Legal framework's adaptability to emerging technologies	97	23.96	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	3	94.41	●
3rd sub-pillar: Inclusion	72	60.80	
3.3.1 E-Participation	112	34.56	○
3.3.2 Socioeconomic gap in use of digital payments	NA	NA	
3.3.3 Availability of local online content	65	60.38	
3.3.4 Gender gap in Internet use	2	87.45	●
3.3.5 Rural gap in use of digital payments	NA	NA	
D. Impact pillar	49	59.62	
1st sub-pillar: Economy	87	31.58	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	107	4.20	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Growth rate of GDP per person engaged	109	42.76	○
4.1.5 Prevalence of gig economy	56	46.94	●
4.1.6 ICT services exports	54	32.40	●
2nd sub-pillar: Quality of Life	36	76.27	
4.2.1 Happiness	35	66.59	●
4.2.2 Freedom to make life choices	34	87.48	●
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	58	74.73	●
3rd sub-pillar: SDG Contribution	41	71.03	
4.3.1 SDG 3: Good Health and Well-Being	86	60.66	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	NA	NA	
4.3.4 SDG 7: Affordable and Clean Energy	75	73.24	
4.3.5 SDG 11: Sustainable Cities and Communities	70	79.20	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Japan

	Rank (out of 130)	Score
Network Readiness Index	**16**	**73.92**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**16**	**70.81**
1st sub-pillar: Access	10	89.07
2nd sub-pillar: Content	35	51.17
3rd sub-pillar: Future Technologies	5	72.18
B. People pillar	**11**	**73.20**
1st sub-pillar: Individuals	83	57.33
2nd sub-pillar: Businesses	1	88.39
3rd sub-pillar: Governments	16	73.88
C. Governance pillar	**24**	**77.71**
1st sub-pillar: Trust	32	68.90
2nd sub-pillar: Regulation	26	79.51
3rd sub-pillar: Inclusion	9	84.72
D. Impact pillar	**15**	**73.97**
1st sub-pillar: Economy	18	59.43
2nd sub-pillar: Quality of Life	30	78.52
3rd sub-pillar: SDG Contribution	6	83.95



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	16	70.81	
1st sub-pillar: Access	10	89.07	
1.1.1 Mobile tariffs	40	72.21	
1.1.2 Handset prices	9	87.08	
1.1.3 Households with internet access	8	97.04	
1.1.4 SMS sent by population 15-69	NA	NA	
1.1.5 Population covered by at least a 3G mobile network	24	99.97	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	35	51.17	
1.2.1 GitHub commits	38	14.78	
1.2.2 Wikipedia edits	46	65.32	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	32	89.29	
1.2.5 AI scientific publications	7	76.45	
3rd sub-pillar: Future Technologies	5	72.18	
1.3.1 Adoption of emerging technologies	10	85.26	
1.3.2 Investment in emerging technologies	9	79.99	
1.3.3 Robot density	1	100.00	●
1.3.4 Computer software spending	46	23.46	
B. People pillar	11	73.20	
1st sub-pillar: Individuals	83	57.33	
2.1.1 Active mobile broadband subscriptions	4	92.06	●
2.1.2 ICT skills	68	5.61	○
2.1.3 Use of virtual social networks	46	74.32	
2.1.4 Tertiary enrollment	NA	NA	
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	1	88.39	
2.2.1 Firms with website	4	94.89	●
2.2.2 GERD financed by business enterprise	2	97.61	●
2.2.3 Professionals	NA	NA	
2.2.4 Technicians and associate professionals	2	99.01	●
2.2.5 Annual investment in telecommunication services	3	92.02	●
2.2.6 GERD performed by business enterprise	3	58.41	●
3rd sub-pillar: Governments	16	73.88	
2.3.1 Government online services	12	90.30	
2.3.2 Publication and use of open data	8	75.09	
2.3.3 Government promotion of investment in emerging tech	15	71.90	
2.3.4 R&D expenditure by governments and higher education	20	58.23	

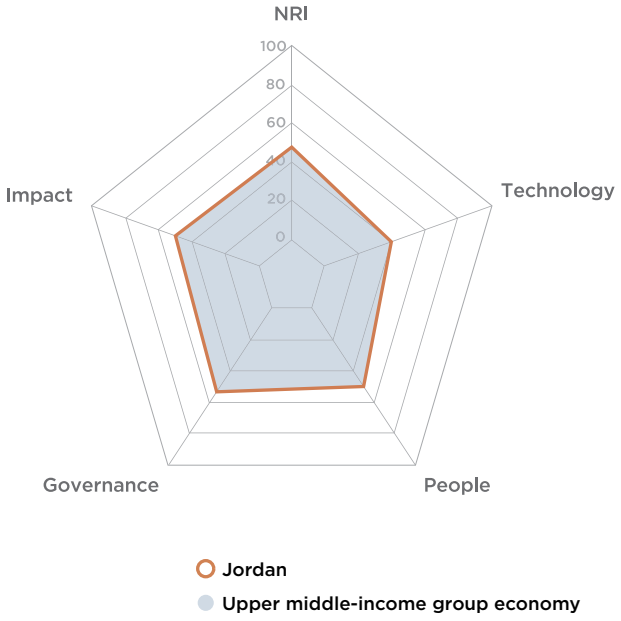
Indicator	Rank	Score	
C. Governance pillar	24	77.71	
1st sub-pillar: Trust	32	68.90	
3.1.1 Secure Internet servers	29	80.11	
3.1.2 Cybersecurity	12	97.78	
3.1.3 Online access to financial account	47	38.84	
3.1.4 Internet shopping	26	58.85	
2nd sub-pillar: Regulation	26	79.51	
3.2.1 Regulatory quality	21	77.27	
3.2.2 ICT regulatory environment	95	70.00	○
3.2.3 Legal framework's adaptability to emerging technologies	27	63.37	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	18	86.93	
3rd sub-pillar: Inclusion	9	84.72	
3.3.1 E-Participation	4	98.77	●
3.3.2 Socioeconomic gap in use of digital payments	14	94.76	
3.3.3 Availability of local online content	2	97.51	●
3.3.4 Gender gap in Internet use	59	60.82	○
3.3.5 Rural gap in use of digital payments	47	71.73	
D. Impact pillar	15	73.97	
1st sub-pillar: Economy	18	59.43	
4.1.1 High-tech and medium-high-tech manufacturing	9	71.35	
4.1.2 High-tech exports	13	68.67	
4.1.3 PCT patent applications	1	100.00	●
4.1.4 Growth rate of GDP per person engaged	100	47.32	○
4.1.5 Prevalence of gig economy	49	52.99	
4.1.6 ICT services exports	86	16.25	○
2nd sub-pillar: Quality of Life	30	78.52	
4.2.1 Happiness	47	62.55	
4.2.2 Freedom to make life choices	76	73.13	
4.2.3 Income inequality	36	78.39	
4.2.4 Healthy life expectancy at birth	1	100.00	●
3rd sub-pillar: SDG Contribution	6	83.95	
4.3.1 SDG 3: Good Health and Well-Being	13	90.16	
4.3.2 SDG 4: Quality Education	5	75.89	
4.3.3 Females employed with advanced degrees	23	74.17	
4.3.4 SDG 7: Affordable and Clean Energy	43	82.03	
4.3.5 SDG 11: Sustainable Cities and Communities	8	97.52	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Jordan

	Rank (out of 130)	Score
Network Readiness Index	**72**	**48.14**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**78**	**40.24**
1st sub-pillar: Access	105	44.42
2nd sub-pillar: Content	67	35.46
3rd sub-pillar: Future Technologies	42	40.85
B. People pillar	**63**	**49.22**
1st sub-pillar: Individuals	57	64.01
2nd sub-pillar: Businesses	37	52.74
3rd sub-pillar: Governments	95	30.91
C. Governance pillar	**76**	**52.07**
1st sub-pillar: Trust	91	31.98
2nd sub-pillar: Regulation	76	61.71
3rd sub-pillar: Inclusion	63	62.53
D. Impact pillar	**81**	**51.02**
1st sub-pillar: Economy	70	35.14
2nd sub-pillar: Quality of Life	87	60.69
3rd sub-pillar: SDG Contribution	84	57.22



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	78	40.24	
1st sub-pillar: Access	105	44.42	
1.1.1 Mobile tariffs	109	37.23	
1.1.2 Handset prices	86	42.79	
1.1.3 Households with internet access	94	37.34	
1.1.4 SMS sent by population 15-69	68	75.98	
1.1.5 Population covered by at least a 3G mobile network	36	99.95	●
1.1.6 International Internet bandwidth	41	4.90	
1.1.7 Internet access in schools	57	12.74	
2nd sub-pillar: Content	67	35.46	
1.2.1 GitHub commits	91	1.32	
1.2.2 Wikipedia edits	75	44.90	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	66	75.65	
1.2.5 AI scientific publications	51	53.15	
3rd sub-pillar: Future Technologies	42	40.85	
1.3.1 Adoption of emerging technologies	59	49.03	
1.3.2 Investment in emerging technologies	46	49.20	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	42	24.33	●
B. People pillar	63	49.22	
1st sub-pillar: Individuals	57	64.01	
2.1.1 Active mobile broadband subscriptions	72	74.58	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	77	61.02	
2.1.4 Tertiary enrollment	80	22.70	
2.1.5 Adult literacy rate	27	97.75	●
2nd sub-pillar: Businesses	37	52.74	
2.2.1 Firms with website	25	78.22	●
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	37	41.20	●
2.2.4 Technicians and associate professionals	102	16.53	
2.2.5 Annual investment in telecommunication services	80	75.01	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	95	30.91	
2.3.1 Government online services	117	33.94	○
2.3.2 Publication and use of open data	86	12.33	
2.3.3 Government promotion of investment in emerging tech	47	46.46	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

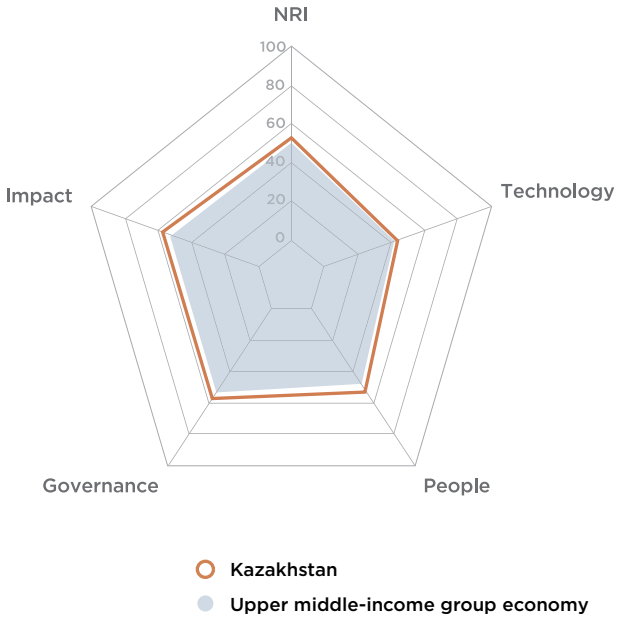
Indicator	Rank	Score	
C. Governance pillar	76	52.07	
1st sub-pillar: Trust	91	31.98	
3.1.1 Secure Internet servers	96	39.17	
3.1.2 Cybersecurity	76	70.45	
3.1.3 Online access to financial account	108	9.24	○
3.1.4 Internet shopping	76	9.08	
2nd sub-pillar: Regulation	76	61.71	
3.2.1 Regulatory quality	67	42.07	
3.2.2 ICT regulatory environment	14	94.12	●
3.2.3 Legal framework's adaptability to emerging technologies	46	49.14	
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	101	48.25	
3rd sub-pillar: Inclusion	63	62.53	
3.3.1 E-Participation	117	30.86	○
3.3.2 Socioeconomic gap in use of digital payments	82	44.82	
3.3.3 Availability of local online content	42	74.42	●
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	1	100.00	●
D. Impact pillar	81	51.02	
1st sub-pillar: Economy	70	35.14	
4.1.1 High-tech and medium-high-tech manufacturing	55	26.72	
4.1.2 High-tech exports	63	23.81	
4.1.3 PCT patent applications	50	43.99	
4.1.4 Growth rate of GDP per person engaged	77	54.40	
4.1.5 Prevalence of gig economy	38	60.24	●
4.1.6 ICT services exports	126	1.70	○
2nd sub-pillar: Quality of Life	87	60.69	
4.2.1 Happiness	119	19.75	○
4.2.2 Freedom to make life choices	83	68.47	
4.2.3 Income inequality	44	76.30	
4.2.4 Healthy life expectancy at birth	45	78.25	●
3rd sub-pillar: SDG Contribution	84	57.22	
4.3.1 SDG 3: Good Health and Well-Being	39	78.69	
4.3.2 SDG 4: Quality Education	56	33.44	
4.3.3 Females employed with advanced degrees	81	24.71	
4.3.4 SDG 7: Affordable and Clean Energy	78	73.16	
4.3.5 SDG 11: Sustainable Cities and Communities	82	76.10	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Kazakhstan

	Rank (out of 130)	Score
Network Readiness Index	**61**	**52.17**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**68**	**43.11**
1st sub-pillar: Access	53	70.01
2nd sub-pillar: Content	73	33.73
3rd sub-pillar: Future Technologies	96	25.60
B. People pillar	**54**	**51.54**
1st sub-pillar: Individuals	61	63.47
2nd sub-pillar: Businesses	52	45.90
3rd sub-pillar: Governments	61	45.24
C. Governance pillar	**60**	**57.25**
1st sub-pillar: Trust	49	52.95
2nd sub-pillar: Regulation	106	49.75
3rd sub-pillar: Inclusion	46	69.06
D. Impact pillar	**58**	**56.79**
1st sub-pillar: Economy	81	32.31
2nd sub-pillar: Quality of Life	34	77.28
3rd sub-pillar: SDG Contribution	73	60.80



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	68	43.11	
1st sub-pillar: Access	53	70.01	
1.1.1 Mobile tariffs	13	86.25	●
1.1.2 Handset prices	56	59.06	
1.1.3 Households with internet access	21	92.56	●
1.1.4 SMS sent by population 15-69	82	74.23	
1.1.5 Population covered by at least a 3G mobile network	98	96.82	
1.1.6 International Internet bandwidth	23	11.14	●
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	73	33.73	
1.2.1 GitHub commits	55	5.67	
1.2.2 Wikipedia edits	78	44.09	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	73	72.61	
1.2.5 AI scientific publications	63	44.22	
3rd sub-pillar: Future Technologies	96	25.60	
1.3.1 Adoption of emerging technologies	84	38.60	
1.3.2 Investment in emerging technologies	75	37.04	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	114	1.16	○
B. People pillar	54	51.54	
1st sub-pillar: Individuals	61	63.47	
2.1.1 Active mobile broadband subscriptions	43	78.59	
2.1.2 ICT skills	52	26.72	
2.1.3 Use of virtual social networks	73	63.10	
2.1.4 Tertiary enrollment	30	49.18	●
2.1.5 Adult literacy rate	7	99.75	●
2nd sub-pillar: Businesses	52	45.90	
2.2.1 Firms with website	67	47.33	
2.2.2 GERD financed by business enterprise	31	58.64	
2.2.3 Professionals	38	41.09	
2.2.4 Technicians and associate professionals	39	51.59	
2.2.5 Annual investment in telecommunication services	75	75.74	
2.2.6 GERD performed by business enterprise	72	1.00	
3rd sub-pillar: Governments	61	45.24	
2.3.1 Government online services	11	92.12	●
2.3.2 Publication and use of open data	61	25.89	
2.3.3 Government promotion of investment in emerging tech	25	59.92	
2.3.4 R&D expenditure by governments and higher education	107	3.05	○

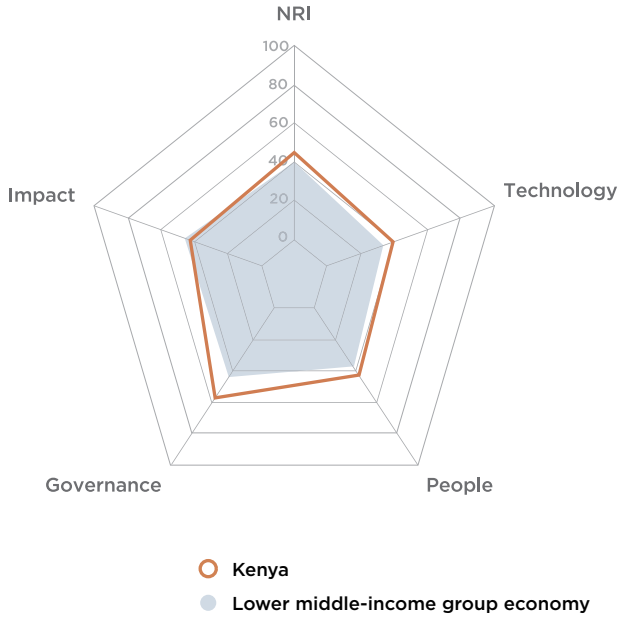
Indicator	Rank	Score	
C. Governance pillar	60	57.25	
1st sub-pillar: Trust	49	52.95	
3.1.1 Secure Internet servers	51	64.67	
3.1.2 Cybersecurity	38	93.03	
3.1.3 Online access to financial account	51	35.30	
3.1.4 Internet shopping	59	18.79	
2nd sub-pillar: Regulation	106	49.75	
3.2.1 Regulatory quality	61	44.86	
3.2.2 ICT regulatory environment	126	48.24	○
3.2.3 Legal framework's adaptability to emerging technologies	62	42.88	
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	117	37.78	
3rd sub-pillar: Inclusion	46	69.06	
3.3.1 E-Participation	26	87.66	●
3.3.2 Socioeconomic gap in use of digital payments	62	61.36	
3.3.3 Availability of local online content	70	59.91	
3.3.4 Gender gap in Internet use	49	63.20	
3.3.5 Rural gap in use of digital payments	43	73.16	
D. Impact pillar	58	56.79	
1st sub-pillar: Economy	81	32.31	
4.1.1 High-tech and medium-high-tech manufacturing	78	15.07	
4.1.2 High-tech exports	41	42.92	
4.1.3 PCT patent applications	73	28.26	
4.1.4 Growth rate of GDP per person engaged	45	64.30	
4.1.5 Prevalence of gig economy	76	37.65	
4.1.6 ICT services exports	119	5.65	○
2nd sub-pillar: Quality of Life	34	77.28	
4.2.1 Happiness	42	63.61	
4.2.2 Freedom to make life choices	43	84.33	
4.2.3 Income inequality	12	91.67	●
4.2.4 Healthy life expectancy at birth	75	69.50	
3rd sub-pillar: SDG Contribution	73	60.80	
4.3.1 SDG 3: Good Health and Well-Being	39	78.69	
4.3.2 SDG 4: Quality Education	62	27.87	
4.3.3 Females employed with advanced degrees	28	68.49	●
4.3.4 SDG 7: Affordable and Clean Energy	118	45.93	○
4.3.5 SDG 11: Sustainable Cities and Communities	60	83.00	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Kenya

	Rank (out of 130)	Score
Network Readiness Index	**84**	**45.18**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**83**	**38.79**
1st sub-pillar: Access	87	54.09
2nd sub-pillar: Content	105	20.94
3rd sub-pillar: Future Technologies	41	41.35
B. People pillar	**83**	**43.01**
1st sub-pillar: Individuals	103	45.68
2nd sub-pillar: Businesses	88	32.10
3rd sub-pillar: Governments	42	51.25
C. Governance pillar	**59**	**57.25**
1st sub-pillar: Trust	52	50.82
2nd sub-pillar: Regulation	63	64.67
3rd sub-pillar: Inclusion	79	56.28
D. Impact pillar	**106**	**41.66**
1st sub-pillar: Economy	59	38.74
2nd sub-pillar: Quality of Life	112	46.91
3rd sub-pillar: SDG Contribution	118	39.33



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	83	38.79	
1st sub-pillar: Access	87	54.09	
1.1.1 Mobile tariffs	95	43.71	
1.1.2 Handset prices	107	33.05	
1.1.3 Households with internet access	109	17.76	○
1.1.4 SMS sent by population 15-69	7	88.41	●
1.1.5 Population covered by at least a 3G mobile network	90	98.35	
1.1.6 International Internet bandwidth	13	43.24	●
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	105	20.94	
1.2.1 GitHub commits	76	2.39	
1.2.2 Wikipedia edits	126	7.29	○
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	98	61.66	
1.2.5 AI scientific publications	79	32.56	
3rd sub-pillar: Future Technologies	41	41.35	
1.3.1 Adoption of emerging technologies	55	50.77	
1.3.2 Investment in emerging technologies	32	60.12	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	77	13.16	
B. People pillar	83	43.01	
1st sub-pillar: Individuals	103	45.68	
2.1.1 Active mobile broadband subscriptions	34	80.87	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	110	18.09	
2.1.4 Tertiary enrollment	105	7.49	
2.1.5 Adult literacy rate	74	76.26	
2nd sub-pillar: Businesses	88	32.10	
2.2.1 Firms with website	72	43.74	
2.2.2 GERD financed by business enterprise	84	5.32	
2.2.3 Professionals	NA	NA	
2.2.4 Technicians and associate professionals	NA	NA	
2.2.5 Annual investment in telecommunication services	62	77.94	
2.2.6 GERD performed by business enterprise	66	1.41	
3rd sub-pillar: Governments	42	51.25	
2.3.1 Government online services	73	66.67	
2.3.2 Publication and use of open data	35	40.25	
2.3.3 Government promotion of investment in emerging tech	56	40.85	
2.3.4 R&D expenditure by governments and higher education	23	57.21	●

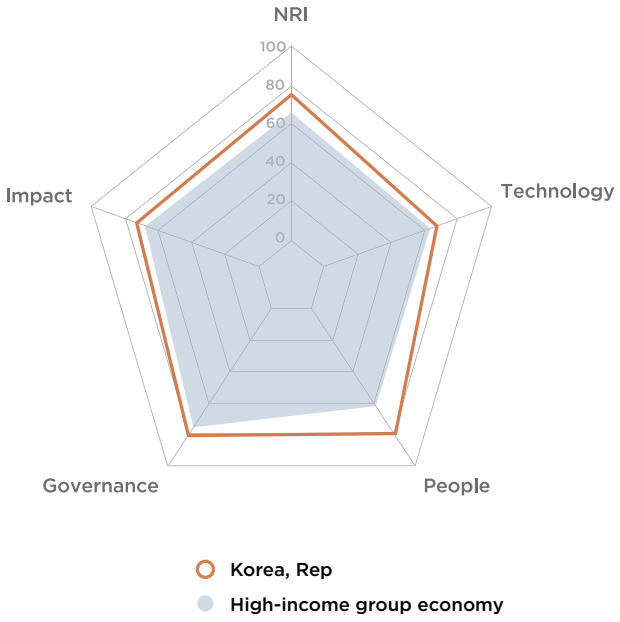
Indicator	Rank	Score	
C. Governance pillar	59	57.25	
1st sub-pillar: Trust	52	50.82	
3.1.1 Secure Internet servers	86	43.71	
3.1.2 Cybersecurity	59	81.38	
3.1.3 Online access to financial account	18	66.35	●
3.1.4 Internet shopping	68	11.83	
2nd sub-pillar: Regulation	63	64.67	
3.2.1 Regulatory quality	93	33.58	
3.2.2 ICT regulatory environment	32	90.00	●
3.2.3 Legal framework's adaptability to emerging technologies	74	37.75	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	79	62.00	
3rd sub-pillar: Inclusion	79	56.28	
3.3.1 E-Participation	85	58.02	
3.3.2 Socioeconomic gap in use of digital payments	55	65.63	
3.3.3 Availability of local online content	86	51.38	
3.3.4 Gender gap in Internet use	88	30.80	○
3.3.5 Rural gap in use of digital payments	26	75.56	●
D. Impact pillar	106	41.66	
1st sub-pillar: Economy	59	38.74	
4.1.1 High-tech and medium-high-tech manufacturing	81	11.80	
4.1.2 High-tech exports	84	11.72	
4.1.3 PCT patent applications	81	19.72	
4.1.4 Growth rate of GDP per person engaged	16	75.29	●
4.1.5 Prevalence of gig economy	40	59.10	
4.1.6 ICT services exports	13	54.84	●
2nd sub-pillar: Quality of Life	112	46.91	
4.2.1 Happiness	108	29.32	
4.2.2 Freedom to make life choices	108	55.51	
4.2.3 Income inequality	78	57.81	
4.2.4 Healthy life expectancy at birth	107	45.01	
3rd sub-pillar: SDG Contribution	118	39.33	
4.3.1 SDG 3: Good Health and Well-Being	101	44.26	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	110	4.48	○
4.3.4 SDG 7: Affordable and Clean Energy	112	50.56	○
4.3.5 SDG 11: Sustainable Cities and Communities	108	58.02	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Korea, Rep

	Rank (out of 130)	Score
Network Readiness Index	**12**	**75.56**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**20**	**67.53**
1st sub-pillar: Access	14	87.70
2nd sub-pillar: Content	34	51.50
3rd sub-pillar: Future Technologies	11	63.38
B. People pillar	**1**	**80.63**
1st sub-pillar: Individuals	4	80.20
2nd sub-pillar: Businesses	2	76.80
3rd sub-pillar: Governments	2	84.89
C. Governance pillar	**17**	**80.69**
1st sub-pillar: Trust	10	85.86
2nd sub-pillar: Regulation	36	75.41
3rd sub-pillar: Inclusion	18	80.80
D. Impact pillar	**18**	**73.38**
1st sub-pillar: Economy	5	69.75
2nd sub-pillar: Quality of Life	49	72.90
3rd sub-pillar: SDG Contribution	27	77.50



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	20	67.53	
1st sub-pillar: Access	14	87.70	
1.1.1 Mobile tariffs	43	70.30	
1.1.2 Handset prices	39	68.06	
1.1.3 Households with internet access	2	99.95	●
1.1.4 SMS sent by population 15-69	10	87.90	
1.1.5 Population covered by at least a 3G mobile network	24	99.97	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	34	51.50	
1.2.1 GitHub commits	40	13.33	
1.2.2 Wikipedia edits	48	63.38	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	25	92.64	
1.2.5 AI scientific publications	5	78.86	●
3rd sub-pillar: Future Technologies	11	63.38	
1.3.1 Adoption of emerging technologies	20	75.40	
1.3.2 Investment in emerging technologies	34	59.48	
1.3.3 Robot density	1	100.00	●
1.3.4 Computer software spending	66	18.65	
B. People pillar	1	80.63	
1st sub-pillar: Individuals	4	80.20	
2.1.1 Active mobile broadband subscriptions	22	85.05	
2.1.2 ICT skills	13	78.94	
2.1.3 Use of virtual social networks	5	89.92	●
2.1.4 Tertiary enrollment	4	66.92	●
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	2	76.80	
2.2.1 Firms with website	44	66.65	
2.2.2 GERD financed by business enterprise	3	95.19	●
2.2.3 Professionals	21	49.12	
2.2.4 Technicians and associate professionals	12	75.07	
2.2.5 Annual investment in telecommunication services	9	89.88	
2.2.6 GERD performed by business enterprise	2	84.91	●
3rd sub-pillar: Governments	2	84.89	
2.3.1 Government online services	1	100.00	●
2.3.2 Publication and use of open data	5	81.11	
2.3.3 Government promotion of investment in emerging tech	9	77.73	
2.3.4 R&D expenditure by governments and higher education	8	80.73	

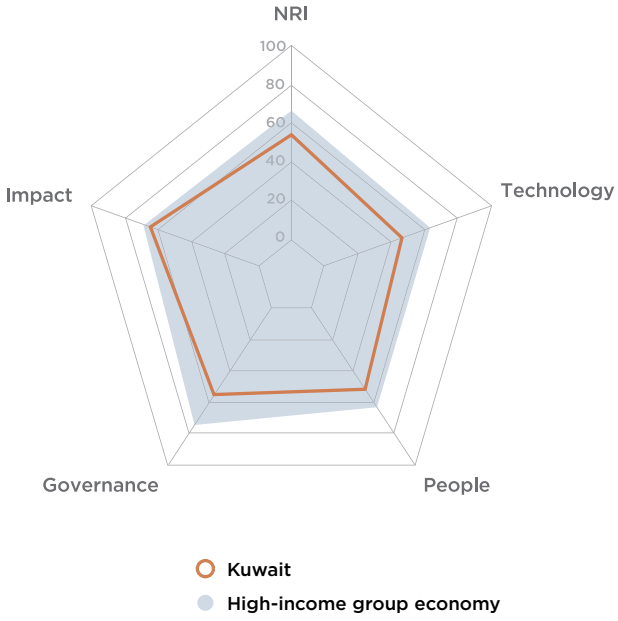
Indicator	Rank	Score	
C. Governance pillar	17	80.69	
1st sub-pillar: Trust	10	85.86	
3.1.1 Secure Internet servers	47	69.34	
3.1.2 Cybersecurity	5	98.49	
3.1.3 Online access to financial account	9	82.64	
3.1.4 Internet shopping	5	92.94	
2nd sub-pillar: Regulation	36	75.41	
3.2.1 Regulatory quality	29	70.27	
3.2.2 ICT regulatory environment	101	66.67	○
3.2.3 Legal framework's adaptability to emerging technologies	20	67.46	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	50	72.66	
3rd sub-pillar: Inclusion	18	80.80	
3.3.1 E-Participation	1	100.00	●
3.3.2 Socioeconomic gap in use of digital payments	21	91.50	
3.3.3 Availability of local online content	31	81.00	
3.3.4 Gender gap in Internet use	41	64.84	
3.3.5 Rural gap in use of digital payments	65	66.67	
D. Impact pillar	18	73.38	
1st sub-pillar: Economy	5	69.75	
4.1.1 High-tech and medium-high-tech manufacturing	5	76.77	
4.1.2 High-tech exports	6	87.55	
4.1.3 PCT patent applications	2	98.57	●
4.1.4 Growth rate of GDP per person engaged	38	65.66	
4.1.5 Prevalence of gig economy	19	71.77	
4.1.6 ICT services exports	83	18.20	○
2nd sub-pillar: Quality of Life	49	72.90	
4.2.1 Happiness	61	55.67	
4.2.2 Freedom to make life choices	105	57.11	○
4.2.3 Income inequality	24	82.29	
4.2.4 Healthy life expectancy at birth	3	96.53	●
3rd sub-pillar: SDG Contribution	27	77.50	
4.3.1 SDG 3: Good Health and Well-Being	6	95.08	
4.3.2 SDG 4: Quality Education	6	75.76	
4.3.3 Females employed with advanced degrees	29	66.80	
4.3.4 SDG 7: Affordable and Clean Energy	106	60.30	○
4.3.5 SDG 11: Sustainable Cities and Communities	42	89.55	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Kuwait

	Rank (out of 130)	Score
Network Readiness Index	**55**	**54.61**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**59**	**47.04**
1st sub-pillar: Access	56	68.38
2nd sub-pillar: Content	76	33.53
3rd sub-pillar: Future Technologies	44	39.21
B. People pillar	**55**	**51.36**
1st sub-pillar: Individuals	10	77.92
2nd sub-pillar: Businesses	79	34.24
3rd sub-pillar: Governments	70	41.92
C. Governance pillar	**63**	**55.93**
1st sub-pillar: Trust	64	45.66
2nd sub-pillar: Regulation	78	60.52
3rd sub-pillar: Inclusion	67	61.60
D. Impact pillar	**37**	**64.10**
1st sub-pillar: Economy	58	39.45
2nd sub-pillar: Quality of Life	33	77.46
3rd sub-pillar: SDG Contribution	33	75.38



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	59	47.04	
1st sub-pillar: Access	56	68.38	
1.1.1 Mobile tariffs	66	58.68	
1.1.2 Handset prices	22	77.55	●
1.1.3 Households with internet access	5	99.60	●
1.1.4 SMS sent by population 15-69	107	68.62	○
1.1.5 Population covered by at least a 3G mobile network	1	100.00	●
1.1.6 International Internet bandwidth	36	5.82	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	76	33.53	
1.2.1 GitHub commits	89	1.40	
1.2.2 Wikipedia edits	73	45.71	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	55	79.91	
1.2.5 AI scientific publications	74	36.39	
3rd sub-pillar: Future Technologies	44	39.21	
1.3.1 Adoption of emerging technologies	76	42.95	
1.3.2 Investment in emerging technologies	57	42.57	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	26	32.11	●
B. People pillar	55	51.36	
1st sub-pillar: Individuals	10	77.92	
2.1.1 Active mobile broadband subscriptions	78	73.30	
2.1.2 ICT skills	8	83.17	●
2.1.3 Use of virtual social networks	2	99.79	●
2.1.4 Tertiary enrollment	53	38.36	
2.1.5 Adult literacy rate	40	94.96	
2nd sub-pillar: Businesses	79	34.24	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	94	1.13	○
2.2.3 Professionals	67	24.87	
2.2.4 Technicians and associate professionals	66	31.82	
2.2.5 Annual investment in telecommunication services	55	79.13	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	70	41.92	
2.3.1 Government online services	31	83.64	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	61	38.63	
2.3.4 R&D expenditure by governments and higher education	104	3.50	○

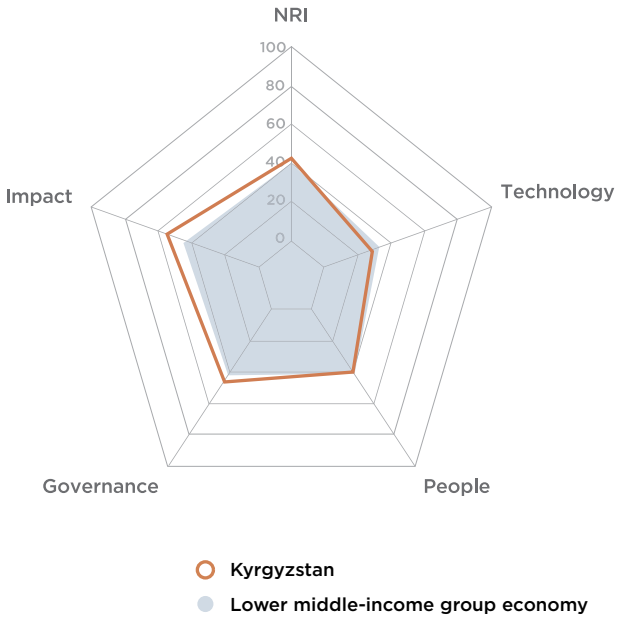
Indicator	Rank	Score	
C. Governance pillar	63	55.93	
1st sub-pillar: Trust	64	45.66	
3.1.1 Secure Internet servers	75	48.09	
3.1.2 Cybersecurity	72	74.63	
3.1.3 Online access to financial account	54	34.02	
3.1.4 Internet shopping	50	25.89	
2nd sub-pillar: Regulation	78	60.52	
3.2.1 Regulatory quality	66	42.89	
3.2.2 ICT regulatory environment	88	71.76	
3.2.3 Legal framework's adaptability to emerging technologies	71	38.64	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	99	49.30	○
3rd sub-pillar: Inclusion	67	61.60	
3.3.1 E-Participation	18	90.13	●
3.3.2 Socioeconomic gap in use of digital payments	45	73.60	
3.3.3 Availability of local online content	47	68.48	
3.3.4 Gender gap in Internet use	24	68.28	●
3.3.5 Rural gap in use of digital payments	120	7.53	○
D. Impact pillar	37	64.10	
1st sub-pillar: Economy	58	39.45	
4.1.1 High-tech and medium-high-tech manufacturing	51	29.13	
4.1.2 High-tech exports	98	6.40	
4.1.3 PCT patent applications	72	29.07	
4.1.4 Growth rate of GDP per person engaged	84	52.62	
4.1.5 Prevalence of gig economy	45	55.93	
4.1.6 ICT services exports	6	63.53	●
2nd sub-pillar: Quality of Life	33	77.46	
4.2.1 Happiness	49	62.30	
4.2.2 Freedom to make life choices	46	83.51	
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	29	86.58	●
3rd sub-pillar: SDG Contribution	33	75.38	
4.3.1 SDG 3: Good Health and Well-Being	39	78.69	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	NA	NA	
4.3.4 SDG 7: Affordable and Clean Energy	88	68.85	
4.3.5 SDG 11: Sustainable Cities and Communities	73	78.60	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Kyrgyzstan

	Rank (out of 130)	Score
Network Readiness Index	**92**	**42.22**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**110**	**28.60**
1st sub-pillar: Access	95	49.05
2nd sub-pillar: Content	100	22.75
3rd sub-pillar: Future Technologies	126	14.01
B. People pillar	**92**	**39.76**
1st sub-pillar: Individuals	64	62.90
2nd sub-pillar: Businesses	91	31.75
3rd sub-pillar: Governments	111	24.63
C. Governance pillar	**93**	**45.76**
1st sub-pillar: Trust	102	27.80
2nd sub-pillar: Regulation	110	48.16
3rd sub-pillar: Inclusion	69	61.32
D. Impact pillar	**65**	**54.75**
1st sub-pillar: Economy	100	25.06
2nd sub-pillar: Quality of Life	25	79.79
3rd sub-pillar: SDG Contribution	79	59.41



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	110	28.60	
1st sub-pillar: Access	95	49.05	
1.1.1 Mobile tariffs	104	39.76	
1.1.2 Handset prices	117	20.35	
1.1.3 Households with internet access	75	70.12	
1.1.4 SMS sent by population 15-69	90	72.68	
1.1.5 Population covered by at least a 3G mobile network	94	97.48	
1.1.6 International Internet bandwidth	57	1.63	
1.1.7 Internet access in schools	45	41.37	
2nd sub-pillar: Content	100	22.75	
1.2.1 GitHub commits	77	2.31	
1.2.2 Wikipedia edits	89	36.41	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	91	65.97	
1.2.5 AI scientific publications	115	8.61	
3rd sub-pillar: Future Technologies	126	14.01	
1.3.1 Adoption of emerging technologies	120	15.66	○
1.3.2 Investment in emerging technologies	118	19.32	○
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	91	7.05	
B. People pillar	92	39.76	
1st sub-pillar: Individuals	64	62.90	
2.1.1 Active mobile broadband subscriptions	67	75.18	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	92	47.71	
2.1.4 Tertiary enrollment	69	29.22	
2.1.5 Adult literacy rate	11	99.50	●
2nd sub-pillar: Businesses	91	31.75	
2.2.1 Firms with website	59	55.20	●
2.2.2 GERD financed by business enterprise	81	8.53	
2.2.3 Professionals	73	22.22	
2.2.4 Technicians and associate professionals	62	33.35	●
2.2.5 Annual investment in telecommunication services	104	70.68	
2.2.6 GERD performed by business enterprise	78	0.49	
3rd sub-pillar: Governments	111	24.63	
2.3.1 Government online services	77	63.64	
2.3.2 Publication and use of open data	85	13.00	
2.3.3 Government promotion of investment in emerging tech	109	17.08	
2.3.4 R&D expenditure by governments and higher education	101	4.82	○

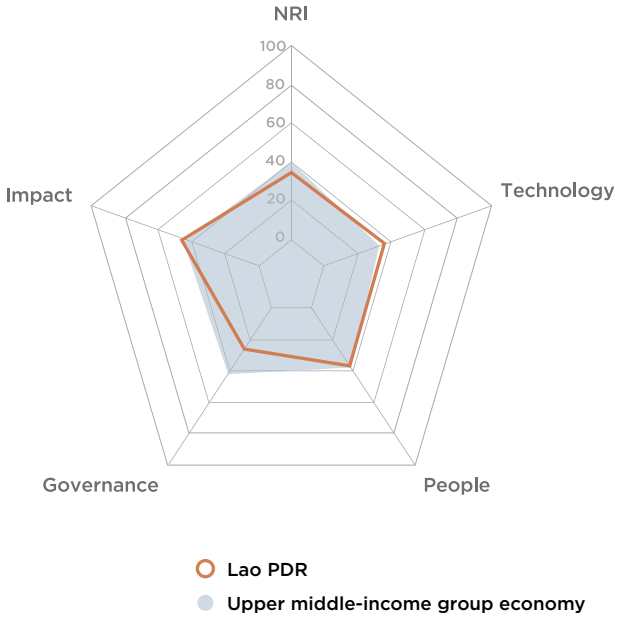
Indicator	Rank	Score	
C. Governance pillar	93	45.76	
1st sub-pillar: Trust	102	27.80	
3.1.1 Secure Internet servers	74	48.20	
3.1.2 Cybersecurity	94	48.75	
3.1.3 Online access to financial account	101	10.62	
3.1.4 Internet shopping	101	3.62	
2nd sub-pillar: Regulation	110	48.16	
3.2.1 Regulatory quality	94	31.66	
3.2.2 ICT regulatory environment	84	74.71	
3.2.3 Legal framework's adaptability to emerging technologies	112	13.42	○
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	106	46.02	
3rd sub-pillar: Inclusion	69	61.32	
3.3.1 E-Participation	64	70.37	
3.3.2 Socioeconomic gap in use of digital payments	59	63.63	●
3.3.3 Availability of local online content	99	41.25	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	55	70.01	●
D. Impact pillar	65	54.75	
1st sub-pillar: Economy	100	25.06	
4.1.1 High-tech and medium-high-tech manufacturing	106	0.00	○
4.1.2 High-tech exports	80	13.81	
4.1.3 PCT patent applications	61	38.10	
4.1.4 Growth rate of GDP per person engaged	55	61.88	●
4.1.5 Prevalence of gig economy	93	30.02	
4.1.6 ICT services exports	111	6.56	
2nd sub-pillar: Quality of Life	25	79.79	
4.2.1 Happiness	38	65.33	●
4.2.2 Freedom to make life choices	13	94.97	●
4.2.3 Income inequality	17	86.72	●
4.2.4 Healthy life expectancy at birth	70	72.13	
3rd sub-pillar: SDG Contribution	79	59.41	
4.3.1 SDG 3: Good Health and Well-Being	67	68.85	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	64	35.50	
4.3.4 SDG 7: Affordable and Clean Energy	113	50.24	
4.3.5 SDG 11: Sustainable Cities and Communities	58	83.03	●

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Lao PDR

	Rank (out of 130)	Score
Network Readiness Index	**110**	**35.64**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**92**	**35.68**
1st sub-pillar: Access	110	40.44
2nd sub-pillar: Content	104	21.05
3rd sub-pillar: Future Technologies	33	45.55
B. People pillar	**100**	**35.88**
1st sub-pillar: Individuals	94	52.24
2nd sub-pillar: Businesses	117	22.98
3rd sub-pillar: Governments	93	32.43
C. Governance pillar	**126**	**25.42**
1st sub-pillar: Trust	122	15.69
2nd sub-pillar: Regulation	122	37.83
3rd sub-pillar: Inclusion	129	22.74
D. Impact pillar	**95**	**45.57**
1st sub-pillar: Economy	106	23.69
2nd sub-pillar: Quality of Life	77	63.51
3rd sub-pillar: SDG Contribution	98	49.51



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	92	35.68	
1st sub-pillar: Access	110	40.44	
1.1.1 Mobile tariffs	108	38.55	
1.1.2 Handset prices	90	40.22	
1.1.3 Households with internet access	126	1.40	○
1.1.4 SMS sent by population 15-69	115	66.88	
1.1.5 Population covered by at least a 3G mobile network	107	94.63	
1.1.6 International Internet bandwidth	63	0.94	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	104	21.05	
1.2.1 GitHub commits	119	0.10	
1.2.2 Wikipedia edits	92	34.46	
1.2.3 Internet domain registrations	*	*	●
1.2.4 Mobile apps development	100	59.34	
1.2.5 AI scientific publications	114	9.19	
3rd sub-pillar: Future Technologies	33	45.55	
1.3.1 Adoption of emerging technologies	69	44.69	●
1.3.2 Investment in emerging technologies	51	46.40	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	NA	NA	
B. People pillar	100	35.88	
1st sub-pillar: Individuals	94	52.24	
2.1.1 Active mobile broadband subscriptions	93	70.95	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	91	48.13	
2.1.4 Tertiary enrollment	100	9.60	
2.1.5 Adult literacy rate	73	80.28	
2nd sub-pillar: Businesses	117	22.98	
2.2.1 Firms with website	98	24.76	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	85	18.50	
2.2.4 Technicians and associate professionals	112	10.49	
2.2.5 Annual investment in telecommunication services	116	38.15	○
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	93	32.43	
2.3.1 Government online services	127	16.97	○
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	44	47.88	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

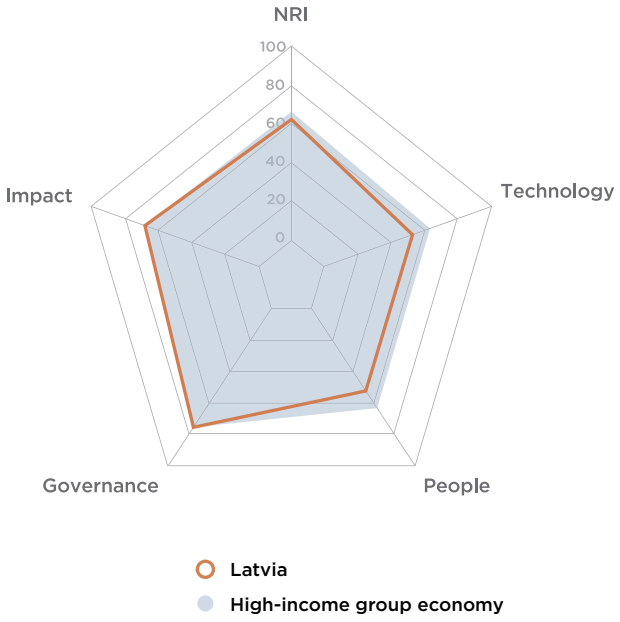
Indicator	Rank	Score	
C. Governance pillar	126	25.42	
1st sub-pillar: Trust	122	15.69	
3.1.1 Secure Internet servers	111	31.61	
3.1.2 Cybersecurity	115	18.94	
3.1.3 Online access to financial account	115	5.12	
3.1.4 Internet shopping	81	7.11	
2nd sub-pillar: Regulation	122	37.83	
3.2.1 Regulatory quality	112	21.70	
3.2.2 ICT regulatory environment	127	25.49	
3.2.3 Legal framework's adaptability to emerging technologies	65	41.33	●
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	124	25.64	
3rd sub-pillar: Inclusion	129	22.74	
3.3.1 E-Participation	126	18.52	
3.3.2 Socioeconomic gap in use of digital payments	119	4.03	
3.3.3 Availability of local online content	73	56.46	●
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	119	11.95	○
D. Impact pillar	95	45.57	
1st sub-pillar: Economy	106	23.69	
4.1.1 High-tech and medium-high-tech manufacturing	97	3.08	
4.1.2 High-tech exports	34	48.71	●
4.1.3 PCT patent applications	96	0.00	○
4.1.4 Growth rate of GDP per person engaged	NA	NA	
4.1.5 Prevalence of gig economy	42	57.02	●
4.1.6 ICT services exports	102	9.62	
2nd sub-pillar: Quality of Life	77	63.51	
4.2.1 Happiness	85	44.92	
4.2.2 Freedom to make life choices	25	91.60	●
4.2.3 Income inequality	70	63.02	●
4.2.4 Healthy life expectancy at birth	98	54.50	
3rd sub-pillar: SDG Contribution	98	49.51	
4.3.1 SDG 3: Good Health and Well-Being	106	37.70	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	92	17.50	
4.3.4 SDG 7: Affordable and Clean Energy	89	68.13	
4.3.5 SDG 11: Sustainable Cities and Communities	84	74.71	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Latvia

	Rank (out of 130)	Score
Network Readiness Index	**36**	**62.16**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**41**	**52.66**
1st sub-pillar: Access	36	78.24
2nd sub-pillar: Content	37	50.36
3rd sub-pillar: Future Technologies	76	29.39
B. People pillar	**52**	**52.57**
1st sub-pillar: Individuals	22	73.92
2nd sub-pillar: Businesses	54	45.01
3rd sub-pillar: Governments	79	38.77
C. Governance pillar	**27**	**76.13**
1st sub-pillar: Trust	25	72.50
2nd sub-pillar: Regulation	20	82.90
3rd sub-pillar: Inclusion	40	72.99
D. Impact pillar	**32**	**67.28**
1st sub-pillar: Economy	26	52.54
2nd sub-pillar: Quality of Life	55	71.70
3rd sub-pillar: SDG Contribution	25	77.61



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	41	52.66	
1st sub-pillar: Access	36	78.24	
1.1.1 Mobile tariffs	60	61.44	
1.1.2 Handset prices	47	65.66	
1.1.3 Households with internet access	35	89.88	
1.1.4 SMS sent by population 15-69	81	74.23	
1.1.5 Population covered by at least a 3G mobile network	NA	NA	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	37	50.36	
1.2.1 GitHub commits	27	28.50	
1.2.2 Wikipedia edits	24	77.27	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	33	88.65	
1.2.5 AI scientific publications	73	36.67	
3rd sub-pillar: Future Technologies	76	29.39	
1.3.1 Adoption of emerging technologies	38	61.35	
1.3.2 Investment in emerging technologies	54	44.86	
1.3.3 Robot density	46	1.58	○
1.3.4 Computer software spending	84	9.76	○
B. People pillar	52	52.57	
1st sub-pillar: Individuals	22	73.92	
2.1.1 Active mobile broadband subscriptions	100	69.48	○
2.1.2 ICT skills	25	61.84	
2.1.3 Use of virtual social networks	49	73.49	
2.1.4 Tertiary enrollment	5	64.92	●
2.1.5 Adult literacy rate	2	99.89	●
2nd sub-pillar: Businesses	54	45.01	
2.2.1 Firms with website	51	61.46	
2.2.2 GERD financed by business enterprise	63	27.55	
2.2.3 Professionals	34	42.37	
2.2.4 Technicians and associate professionals	22	62.93	●
2.2.5 Annual investment in telecommunication services	95	72.06	○
2.2.6 GERD performed by business enterprise	55	3.70	
3rd sub-pillar: Governments	79	38.77	
2.3.1 Government online services	87	56.98	○
2.3.2 Publication and use of open data	55	27.69	
2.3.3 Government promotion of investment in emerging tech	66	37.45	
2.3.4 R&D expenditure by governments and higher education	55	32.96	

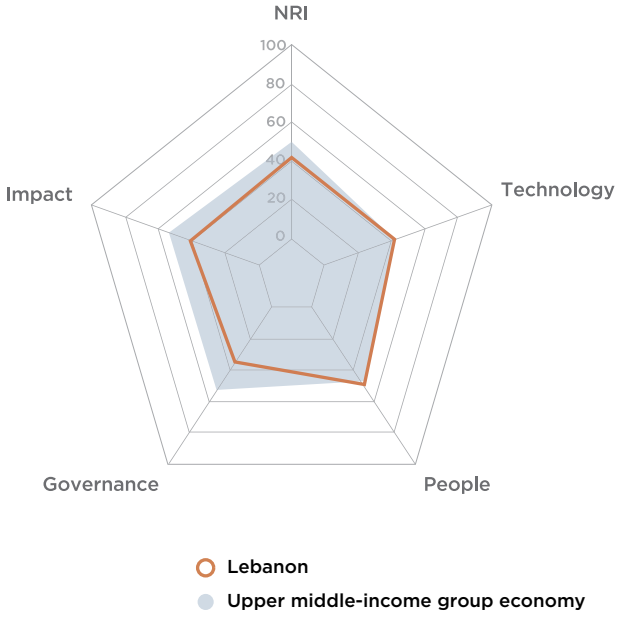
Indicator	Rank	Score	
C. Governance pillar	27	76.13	
1st sub-pillar: Trust	25	72.50	
3.1.1 Secure Internet servers	36	79.15	
3.1.2 Cybersecurity	21	97.23	●
3.1.3 Online access to financial account	16	69.36	●
3.1.4 Internet shopping	34	44.25	
2nd sub-pillar: Regulation	20	82.90	
3.2.1 Regulatory quality	26	73.61	
3.2.2 ICT regulatory environment	45	87.06	
3.2.3 Legal framework's adaptability to emerging technologies	35	55.58	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	2	98.23	●
3rd sub-pillar: Inclusion	40	72.99	
3.3.1 E-Participation	87	56.79	
3.3.2 Socioeconomic gap in use of digital payments	27	84.78	
3.3.3 Availability of local online content	30	81.19	
3.3.4 Gender gap in Internet use	11	70.86	●
3.3.5 Rural gap in use of digital payments	51	71.31	
D. Impact pillar	32	67.28	
1st sub-pillar: Economy	26	52.54	
4.1.1 High-tech and medium-high-tech manufacturing	59	24.62	
4.1.2 High-tech exports	23	56.99	●
4.1.3 PCT patent applications	34	57.54	
4.1.4 Growth rate of GDP per person engaged	39	65.65	
4.1.5 Prevalence of gig economy	39	59.25	
4.1.6 ICT services exports	16	51.18	●
2nd sub-pillar: Quality of Life	55	71.70	
4.2.1 Happiness	39	64.89	
4.2.2 Freedom to make life choices	72	75.52	
4.2.3 Income inequality	51	72.66	
4.2.4 Healthy life expectancy at birth	62	73.72	
3rd sub-pillar: SDG Contribution	25	77.61	
4.3.1 SDG 3: Good Health and Well-Being	65	70.49	
4.3.2 SDG 4: Quality Education	29	62.57	
4.3.3 Females employed with advanced degrees	14	83.51	●
4.3.4 SDG 7: Affordable and Clean Energy	50	81.07	
4.3.5 SDG 11: Sustainable Cities and Communities	38	90.40	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Lebanon

	Rank (out of 130)	Score
Network Readiness Index	**93**	**42.16**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**76**	**41.57**
1st sub-pillar: Access	72	62.28
2nd sub-pillar: Content	70	34.38
3rd sub-pillar: Future Technologies	82	28.06
B. People pillar	**60**	**50.40**
1st sub-pillar: Individuals	12	76.58
2nd sub-pillar: Businesses	44	49.87
3rd sub-pillar: Governments	110	24.75
C. Governance pillar	**115**	**35.51**
1st sub-pillar: Trust	106	26.11
2nd sub-pillar: Regulation	121	38.19
3rd sub-pillar: Inclusion	106	42.24
D. Impact pillar	**107**	**41.15**
1st sub-pillar: Economy	115	19.37
2nd sub-pillar: Quality of Life	113	46.14
3rd sub-pillar: SDG Contribution	82	57.94



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	76	41.57	
1st sub-pillar: Access	72	62.28	
1.1.1 Mobile tariffs	111	34.71	
1.1.2 Handset prices	67	52.20	
1.1.3 Households with internet access	48	84.49	●
1.1.4 SMS sent by population 15-69	93	72.21	
1.1.5 Population covered by at least a 3G mobile network	43	99.90	●
1.1.6 International Internet bandwidth	49	2.60	
1.1.7 Internet access in schools	31	89.88	●
2nd sub-pillar: Content	70	34.38	
1.2.1 GitHub commits	58	4.34	
1.2.2 Wikipedia edits	79	43.59	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	52	80.54	●
1.2.5 AI scientific publications	69	40.40	
3rd sub-pillar: Future Technologies	82	28.06	
1.3.1 Adoption of emerging technologies	79	40.87	
1.3.2 Investment in emerging technologies	62	40.91	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	105	2.40	
B. People pillar	60	50.40	
1st sub-pillar: Individuals	12	76.58	
2.1.1 Active mobile broadband subscriptions	86	72.13	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	71	63.93	
2.1.4 Tertiary enrollment	NA	NA	
2.1.5 Adult literacy rate	47	93.68	
2nd sub-pillar: Businesses	44	49.87	
2.2.1 Firms with website	48	62.49	●
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	44	38.07	●
2.2.4 Technicians and associate professionals	87	20.79	
2.2.5 Annual investment in telecommunication services	60	78.13	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	110	24.75	
2.3.1 Government online services	112	40.00	
2.3.2 Publication and use of open data	97	5.56	
2.3.3 Government promotion of investment in emerging tech	92	28.69	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

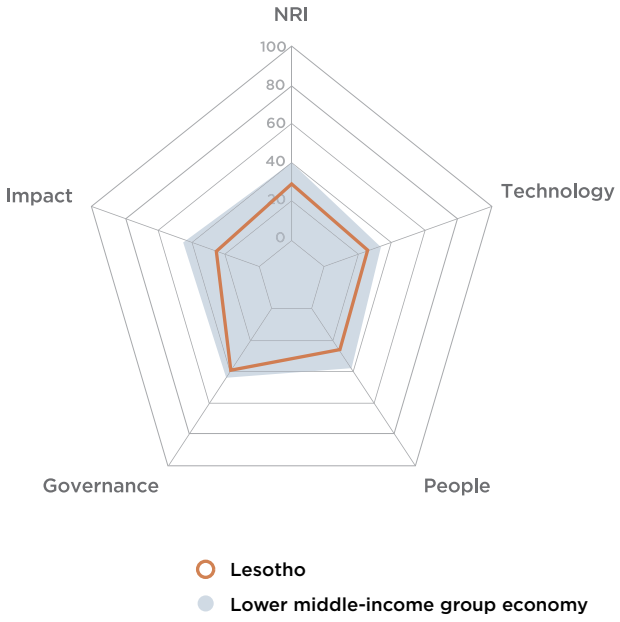
Indicator	Rank	Score	
C. Governance pillar	115	35.51	
1st sub-pillar: Trust	106	26.11	
3.1.1 Secure Internet servers	84	44.64	
3.1.2 Cybersecurity	106	29.22	
3.1.3 Online access to financial account	97	12.96	
3.1.4 Internet shopping	63	17.64	
2nd sub-pillar: Regulation	121	38.19	
3.2.1 Regulatory quality	97	29.53	
3.2.2 ICT regulatory environment	129	18.43	○
3.2.3 Legal framework's adaptability to emerging technologies	77	33.80	
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	119	34.17	
3rd sub-pillar: Inclusion	106	42.24	
3.3.1 E-Participation	117	30.86	
3.3.2 Socioeconomic gap in use of digital payments	117	14.97	○
3.3.3 Availability of local online content	82	51.76	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	50	71.37	●
D. Impact pillar	107	41.15	
1st sub-pillar: Economy	115	19.37	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	108	3.79	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Growth rate of GDP per person engaged	117	0.00	○
4.1.5 Prevalence of gig economy	67	40.34	
4.1.6 ICT services exports	51	33.33	●
2nd sub-pillar: Quality of Life	113	46.14	
4.2.1 Happiness	120	18.28	○
4.2.2 Freedom to make life choices	126	12.28	○
4.2.3 Income inequality	28	81.25	●
4.2.4 Healthy life expectancy at birth	67	72.76	
3rd sub-pillar: SDG Contribution	82	57.94	
4.3.1 SDG 3: Good Health and Well-Being	60	73.77	
4.3.2 SDG 4: Quality Education	71	17.44	
4.3.3 Females employed with advanced degrees	50	48.26	●
4.3.4 SDG 7: Affordable and Clean Energy	75	73.24	
4.3.5 SDG 11: Sustainable Cities and Communities	79	76.99	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Lesotho

	Rank (out of 130)	Score
Network Readiness Index	**123**	**28.56**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**116**	**24.94**
1st sub-pillar: Access	118	33.88
2nd sub-pillar: Content	99	23.02
3rd sub-pillar: Future Technologies	117	17.93
B. People pillar	**123**	**25.37**
1st sub-pillar: Individuals	108	41.17
2nd sub-pillar: Businesses	116	23.10
3rd sub-pillar: Governments	130	11.83
C. Governance pillar	**107**	**38.24**
1st sub-pillar: Trust	116	18.72
2nd sub-pillar: Regulation	115	43.57
3rd sub-pillar: Inclusion	89	52.44
D. Impact pillar	**128**	**25.70**
1st sub-pillar: Economy	125	12.36
2nd sub-pillar: Quality of Life	127	28.13
3rd sub-pillar: SDG Contribution	119	36.61



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	116	24.94	
1st sub-pillar: Access	118	33.88	
1.1.1 Mobile tariffs	123	13.70	
1.1.2 Handset prices	118	19.63	
1.1.3 Households with internet access	124	2.91	
1.1.4 SMS sent by population 15-69	113	67.58	
1.1.5 Population covered by at least a 3G mobile network	70	99.46	•
1.1.6 International Internet bandwidth	85	0.00	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	99	23.02	
1.2.1 GitHub commits	124	0.06	
1.2.2 Wikipedia edits	60	54.81	•
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	109	52.78	
1.2.5 AI scientific publications	117	7.17	
3rd sub-pillar: Future Technologies	117	17.93	
1.3.1 Adoption of emerging technologies	125	0.00	○
1.3.2 Investment in emerging technologies	79	35.86	•
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	NA	NA	
B. People pillar	123	25.37	
1st sub-pillar: Individuals	108	41.17	
2.1.1 Active mobile broadband subscriptions	111	65.47	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	106	22.66	
2.1.4 Tertiary enrollment	106	6.60	
2.1.5 Adult literacy rate	83	69.95	
2nd sub-pillar: Businesses	116	23.10	
2.2.1 Firms with website	119	6.25	
2.2.2 GERD financed by business enterprise	96	0.91	
2.2.3 Professionals	84	18.60	•
2.2.4 Technicians and associate professionals	94	18.62	•
2.2.5 Annual investment in telecommunication services	99	71.13	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	130	11.83	
2.3.1 Government online services	118	33.33	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	124	0.00	
2.3.4 R&D expenditure by governments and higher education	108	2.17	

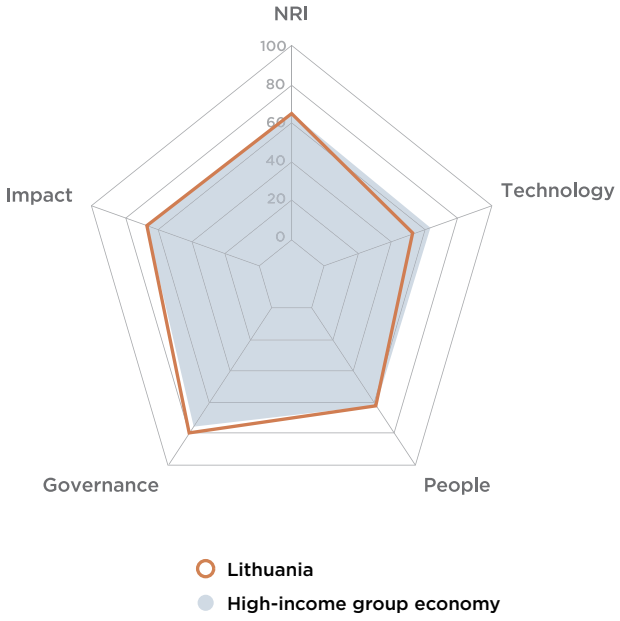
Indicator	Rank	Score	
C. Governance pillar	107	38.24	
1st sub-pillar: Trust	116	18.72	
3.1.1 Secure Internet servers	108	33.87	
3.1.2 Cybersecurity	126	7.48	
3.1.3 Online access to financial account	59	30.94	•
3.1.4 Internet shopping	111	2.59	
2nd sub-pillar: Regulation	115	43.57	
3.2.1 Regulatory quality	102	26.53	
3.2.2 ICT regulatory environment	100	66.86	
3.2.3 Legal framework's adaptability to emerging technologies	124	0.00	○
3.2.4 E-commerce legislation	112	50.00	
3.2.5 Privacy protection by law content	45	74.43	•
3rd sub-pillar: Inclusion	89	52.44	
3.3.1 E-Participation	115	32.10	
3.3.2 Socioeconomic gap in use of digital payments	97	30.75	
3.3.3 Availability of local online content	116	26.44	
3.3.4 Gender gap in Internet use	1	100.00	•
3.3.5 Rural gap in use of digital payments	45	72.92	•
D. Impact pillar	128	25.70	
1st sub-pillar: Economy	125	12.36	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	119	1.94	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Growth rate of GDP per person engaged	NA	NA	
4.1.5 Prevalence of gig economy	86	35.11	•
4.1.6 ICT services exports	128	0.04	○
2nd sub-pillar: Quality of Life	127	28.13	
4.2.1 Happiness	125	7.44	
4.2.2 Freedom to make life choices	102	57.93	
4.2.3 Income inequality	99	47.14	
4.2.4 Healthy life expectancy at birth	129	0.00	○
3rd sub-pillar: SDG Contribution	119	36.61	
4.3.1 SDG 3: Good Health and Well-Being	107	32.79	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	95	13.98	
4.3.4 SDG 7: Affordable and Clean Energy	116	47.44	
4.3.5 SDG 11: Sustainable Cities and Communities	119	52.23	

NOTE: * Indicates confidential data; • a strength and ○ a weakness.

Lithuania

	Rank (out of 130)	Score
Network Readiness Index	**30**	**65.32**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**40**	**52.94**
1st sub-pillar: Access	52	70.43
2nd sub-pillar: Content	31	53.74
3rd sub-pillar: Future Technologies	58	34.64
B. People pillar	**26**	**62.16**
1st sub-pillar: Individuals	26	72.91
2nd sub-pillar: Businesses	41	51.17
3rd sub-pillar: Governments	20	62.41
C. Governance pillar	**20**	**79.03**
1st sub-pillar: Trust	23	74.32
2nd sub-pillar: Regulation	13	84.57
3rd sub-pillar: Inclusion	22	78.20
D. Impact pillar	**33**	**67.15**
1st sub-pillar: Economy	36	48.69
2nd sub-pillar: Quality of Life	50	72.70
3rd sub-pillar: SDG Contribution	18	80.06



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	40	52.94	
1st sub-pillar: Access	52	70.43	
1.1.1 Mobile tariffs	16	82.17	
1.1.2 Handset prices	41	67.03	
1.1.3 Households with internet access	52	82.25	
1.1.4 SMS sent by population 15-69	55	77.75	
1.1.5 Population covered by at least a 3G mobile network	18	100.00	
1.1.6 International Internet bandwidth	22	13.38	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	31	53.74	
1.2.1 GitHub commits	24	30.98	
1.2.2 Wikipedia edits	26	76.92	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	24	93.85	
1.2.5 AI scientific publications	67	41.88	
3rd sub-pillar: Future Technologies	58	34.64	
1.3.1 Adoption of emerging technologies	31	65.18	
1.3.2 Investment in emerging technologies	29	61.76	
1.3.3 Robot density	41	4.93	○
1.3.4 Computer software spending	93	6.69	○
B. People pillar	26	62.16	
1st sub-pillar: Individuals	26	72.91	
2.1.1 Active mobile broadband subscriptions	98	70.48	○
2.1.2 ICT skills	23	67.47	
2.1.3 Use of virtual social networks	44	75.47	
2.1.4 Tertiary enrollment	24	51.33	
2.1.5 Adult literacy rate	4	99.80	●
2nd sub-pillar: Businesses	41	51.17	
2.2.1 Firms with website	24	79.41	
2.2.2 GERD financed by business enterprise	46	46.98	
2.2.3 Professionals	15	57.58	●
2.2.4 Technicians and associate professionals	51	41.33	
2.2.5 Annual investment in telecommunication services	96	72.01	○
2.2.6 GERD performed by business enterprise	41	9.69	
3rd sub-pillar: Governments	20	62.41	
2.3.1 Government online services	24	84.84	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	37	50.76	
2.3.4 R&D expenditure by governments and higher education	31	51.63	

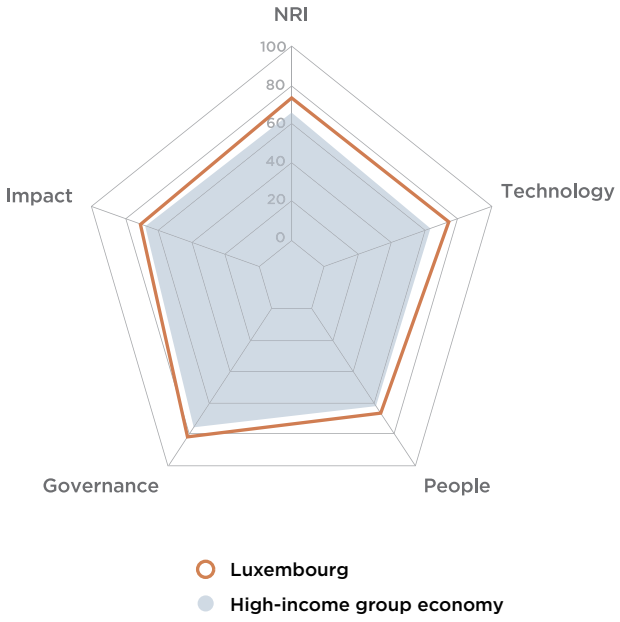
Indicator	Rank	Score	
C. Governance pillar	20	79.03	
1st sub-pillar: Trust	23	74.32	
3.1.1 Secure Internet servers	15	85.87	●
3.1.2 Cybersecurity	11	97.89	●
3.1.3 Online access to financial account	20	60.65	
3.1.4 Internet shopping	32	52.88	
2nd sub-pillar: Regulation	13	84.57	
3.2.1 Regulatory quality	27	72.65	
3.2.2 ICT regulatory environment	2	99.41	●
3.2.3 Legal framework's adaptability to emerging technologies	31	60.86	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	9	89.91	●
3rd sub-pillar: Inclusion	22	78.20	
3.3.1 E-Participation	62	72.84	
3.3.2 Socioeconomic gap in use of digital payments	34	78.97	
3.3.3 Availability of local online content	15	87.56	●
3.3.4 Gender gap in Internet use	7	72.45	●
3.3.5 Rural gap in use of digital payments	10	79.18	●
D. Impact pillar	33	67.15	
1st sub-pillar: Economy	36	48.69	
4.1.1 High-tech and medium-high-tech manufacturing	58	24.88	
4.1.2 High-tech exports	29	53.43	
4.1.3 PCT patent applications	37	53.43	
4.1.4 Growth rate of GDP per person engaged	20	73.05	
4.1.5 Prevalence of gig economy	43	56.48	
4.1.6 ICT services exports	60	30.88	
2nd sub-pillar: Quality of Life	50	72.70	
4.2.1 Happiness	31	68.33	
4.2.2 Freedom to make life choices	68	76.19	
4.2.3 Income inequality	56	71.09	
4.2.4 Healthy life expectancy at birth	57	75.19	
3rd sub-pillar: SDG Contribution	18	80.06	
4.3.1 SDG 3: Good Health and Well-Being	60	73.77	
4.3.2 SDG 4: Quality Education	32	59.45	
4.3.3 Females employed with advanced degrees	2	95.59	●
4.3.4 SDG 7: Affordable and Clean Energy	47	81.23	
4.3.5 SDG 11: Sustainable Cities and Communities	39	90.27	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Luxembourg

	Rank (out of 130)	Score
Network Readiness Index	**17**	**73.79**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**11**	**74.40**
1st sub-pillar: Access	9	89.61
2nd sub-pillar: Content	12	71.27
3rd sub-pillar: Future Technologies	13	62.31
B. People pillar	**19**	**67.02**
1st sub-pillar: Individuals	77	59.34
2nd sub-pillar: Businesses	13	67.16
3rd sub-pillar: Governments	15	74.56
C. Governance pillar	**15**	**82.52**
1st sub-pillar: Trust	17	78.73
2nd sub-pillar: Regulation	7	89.50
3rd sub-pillar: Inclusion	20	79.33
D. Impact pillar	**25**	**71.22**
1st sub-pillar: Economy	48	43.98
2nd sub-pillar: Quality of Life	13	86.82
3rd sub-pillar: SDG Contribution	9	82.84



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	11	74.40	
1st sub-pillar: Access	9	89.61	
1.1.1 Mobile tariffs	1	100.00	●
1.1.2 Handset prices	16	83.65	
1.1.3 Households with internet access	17	93.77	
1.1.4 SMS sent by population 15-69	98	70.92	○
1.1.5 Population covered by at least a 3G mobile network	51	99.73	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	12	71.27	
1.2.1 GitHub commits	16	53.85	
1.2.2 Wikipedia edits	13	82.78	
1.2.3 Internet domain registrations	*	*	●
1.2.4 Mobile apps development	11	97.71	
1.2.5 AI scientific publications	72	38.73	
3rd sub-pillar: Future Technologies	13	62.31	
1.3.1 Adoption of emerging technologies	7	92.18	●
1.3.2 Investment in emerging technologies	10	79.58	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	73	15.16	
B. People pillar	19	67.02	
1st sub-pillar: Individuals	77	59.34	
2.1.1 Active mobile broadband subscriptions	117	60.19	○
2.1.2 ICT skills	1	100.00	●
2.1.3 Use of virtual social networks	68	64.66	
2.1.4 Tertiary enrollment	97	12.51	○
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	13	67.16	
2.2.1 Firms with website	10	86.19	
2.2.2 GERD financed by business enterprise	27	61.34	
2.2.3 Professionals	1	100.00	●
2.2.4 Technicians and associate professionals	18	69.55	
2.2.5 Annual investment in telecommunication services	91	72.32	○
2.2.6 GERD performed by business enterprise	35	13.60	
3rd sub-pillar: Governments	15	74.56	
2.3.1 Government online services	48	75.76	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	2	95.30	
2.3.4 R&D expenditure by governments and higher education	28	52.64	

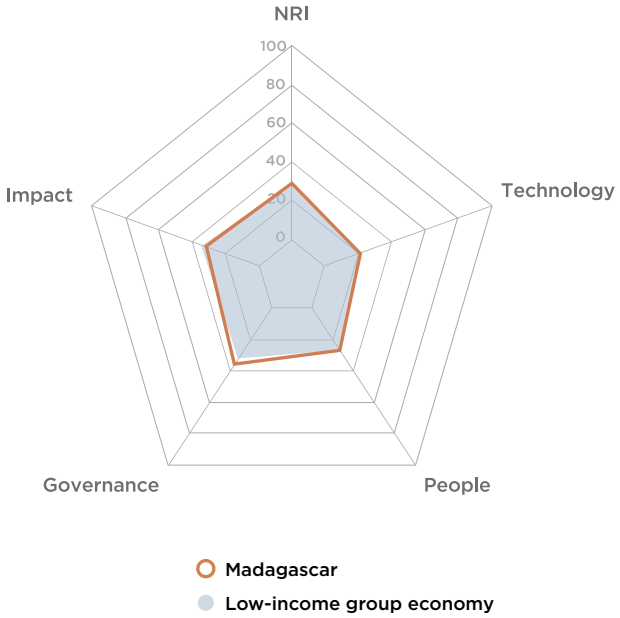
Indicator	Rank	Score	
C. Governance pillar	15	82.52	
1st sub-pillar: Trust	17	78.73	
3.1.1 Secure Internet servers	16	85.46	
3.1.2 Cybersecurity	18	97.36	
3.1.3 Online access to financial account	17	66.56	
3.1.4 Internet shopping	20	65.55	
2nd sub-pillar: Regulation	7	89.50	
3.2.1 Regulatory quality	11	87.43	
3.2.2 ICT regulatory environment	50	85.88	
3.2.3 Legal framework's adaptability to emerging technologies	2	90.97	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	26	83.23	
3rd sub-pillar: Inclusion	20	79.33	
3.3.1 E-Participation	68	69.14	
3.3.2 Socioeconomic gap in use of digital payments	8	96.66	●
3.3.3 Availability of local online content	16	86.50	
3.3.4 Gender gap in Internet use	25	68.09	
3.3.5 Rural gap in use of digital payments	20	76.25	
D. Impact pillar	25	71.22	
1st sub-pillar: Economy	48	43.98	
4.1.1 High-tech and medium-high-tech manufacturing	67	18.98	
4.1.2 High-tech exports	81	13.34	
4.1.3 PCT patent applications	8	88.92	●
4.1.4 Growth rate of GDP per person engaged	95	49.01	○
4.1.5 Prevalence of gig economy	50	52.86	
4.1.6 ICT services exports	33	40.77	
2nd sub-pillar: Quality of Life	13	86.82	
4.2.1 Happiness	6	89.74	●
4.2.2 Freedom to make life choices	17	94.20	
4.2.3 Income inequality	55	71.88	
4.2.4 Healthy life expectancy at birth	12	91.48	
3rd sub-pillar: SDG Contribution	9	82.84	
4.3.1 SDG 3: Good Health and Well-Being	13	90.16	
4.3.2 SDG 4: Quality Education	35	58.23	
4.3.3 Females employed with advanced degrees	15	80.48	
4.3.4 SDG 7: Affordable and Clean Energy	15	88.58	
4.3.5 SDG 11: Sustainable Cities and Communities	15	96.76	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Madagascar

	Rank (out of 130)	Score
Network Readiness Index	**120**	**28.80**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**122**	**21.43**
1st sub-pillar: Access	123	28.56
2nd sub-pillar: Content	117	16.23
3rd sub-pillar: Future Technologies	111	19.49
B. People pillar	**119**	**26.78**
1st sub-pillar: Individuals	115	37.70
2nd sub-pillar: Businesses	109	25.54
3rd sub-pillar: Governments	125	17.10
C. Governance pillar	**117**	**35.25**
1st sub-pillar: Trust	123	13.88
2nd sub-pillar: Regulation	94	54.40
3rd sub-pillar: Inclusion	112	37.47
D. Impact pillar	**122**	**31.75**
1st sub-pillar: Economy	86	31.63
2nd sub-pillar: Quality of Life	121	37.87
3rd sub-pillar: SDG Contribution	128	25.76



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	122	21.43	
1st sub-pillar: Access	123	28.56	
1.1.1 Mobile tariffs	127	4.98	○
1.1.2 Handset prices	124	15.37	
1.1.3 Households with internet access	115	13.07	
1.1.4 SMS sent by population 15-69	53	78.08	●
1.1.5 Population covered by at least a 3G mobile network	115	87.95	
1.1.6 International Internet bandwidth	84	0.05	○
1.1.7 Internet access in schools	68	0.41	
2nd sub-pillar: Content	117	16.23	
1.2.1 GitHub commits	116	0.16	
1.2.2 Wikipedia edits	120	16.14	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	111	52.33	
1.2.5 AI scientific publications	109	12.44	
3rd sub-pillar: Future Technologies	111	19.49	
1.3.1 Adoption of emerging technologies	114	22.75	
1.3.2 Investment in emerging technologies	86	33.88	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	109	1.84	
B. People pillar	119	26.78	
1st sub-pillar: Individuals	115	37.70	
2.1.1 Active mobile broadband subscriptions	90	71.82	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	116	8.21	
2.1.4 Tertiary enrollment	119	3.19	
2.1.5 Adult literacy rate	85	67.59	
2nd sub-pillar: Businesses	109	25.54	
2.2.1 Firms with website	100	23.14	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	119	4.14	
2.2.4 Technicians and associate professionals	124	2.74	○
2.2.5 Annual investment in telecommunication services	94	72.11	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	125	17.10	
2.3.1 Government online services	122	26.66	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	110	16.95	
2.3.4 R&D expenditure by governments and higher education	93	7.69	

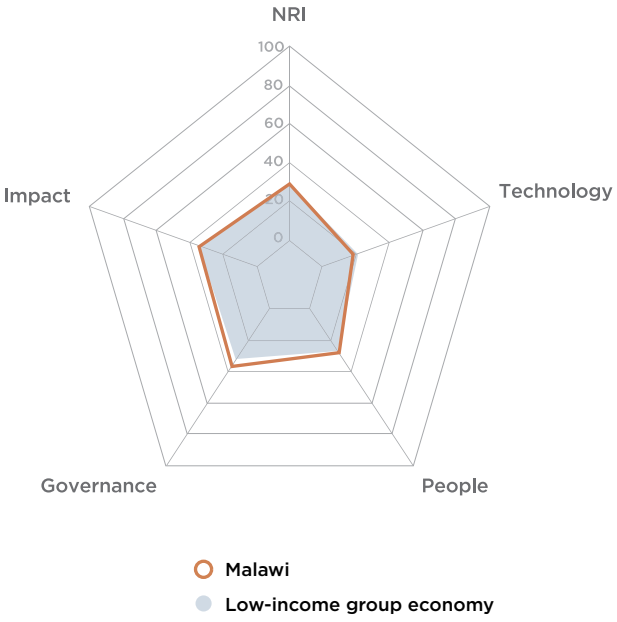
Indicator	Rank	Score	
C. Governance pillar	117	35.25	
1st sub-pillar: Trust	123	13.88	
3.1.1 Secure Internet servers	124	18.41	
3.1.2 Cybersecurity	112	21.98	
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	118	1.24	
2nd sub-pillar: Regulation	94	54.40	
3.2.1 Regulatory quality	114	21.24	
3.2.2 ICT regulatory environment	112	61.76	
3.2.3 Legal framework's adaptability to emerging technologies	111	13.85	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	43	75.15	●
3rd sub-pillar: Inclusion	112	37.47	
3.3.1 E-Participation	124	27.16	
3.3.2 Socioeconomic gap in use of digital payments	76	49.88	●
3.3.3 Availability of local online content	109	34.13	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	109	38.73	
D. Impact pillar	122	31.75	
1st sub-pillar: Economy	86	31.63	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	106	4.26	
4.1.3 PCT patent applications	96	0.00	○
4.1.4 Growth rate of GDP per person engaged	40	65.34	●
4.1.5 Prevalence of gig economy	58	46.40	●
4.1.6 ICT services exports	30	42.13	●
2nd sub-pillar: Quality of Life	121	37.87	
4.2.1 Happiness	114	24.93	
4.2.2 Freedom to make life choices	123	29.66	
4.2.3 Income inequality	91	53.12	●
4.2.4 Healthy life expectancy at birth	108	43.78	
3rd sub-pillar: SDG Contribution	128	25.76	
4.3.1 SDG 3: Good Health and Well-Being	128	0.00	○
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	107	5.99	
4.3.4 SDG 7: Affordable and Clean Energy	121	40.50	
4.3.5 SDG 11: Sustainable Cities and Communities	109	56.56	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Malawi

	Rank (out of 130)	Score
Network Readiness Index	**119**	**29.00**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**127**	**18.32**
1st sub-pillar: Access	120	31.13
2nd sub-pillar: Content	127	11.89
3rd sub-pillar: Future Technologies	127	11.93
B. People pillar	**118**	**26.98**
1st sub-pillar: Individuals	123	31.62
2nd sub-pillar: Businesses	100	28.89
3rd sub-pillar: Governments	120	20.43
C. Governance pillar	**113**	**36.53**
1st sub-pillar: Trust	110	23.03
2nd sub-pillar: Regulation	104	50.16
3rd sub-pillar: Inclusion	115	36.40
D. Impact pillar	**119**	**34.19**
1st sub-pillar: Economy	113	19.83
2nd sub-pillar: Quality of Life	116	42.94
3rd sub-pillar: SDG Contribution	117	39.80



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	127	18.32	
1st sub-pillar: Access	120	31.13	
1.1.1 Mobile tariffs	128	2.50	○
1.1.2 Handset prices	128	0.87	○
1.1.3 Households with internet access	118	10.25	
1.1.4 SMS sent by population 15-69	62	77.09	●
1.1.5 Population covered by at least a 3G mobile network	102	95.94	
1.1.6 International Internet bandwidth	80	0.15	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	127	11.89	
1.2.1 GitHub commits	121	0.08	
1.2.2 Wikipedia edits	113	22.14	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	126	30.94	
1.2.5 AI scientific publications	119	6.21	
3rd sub-pillar: Future Technologies	127	11.93	
1.3.1 Adoption of emerging technologies	122	13.46	
1.3.2 Investment in emerging technologies	116	19.79	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	104	2.54	
B. People pillar	118	26.98	
1st sub-pillar: Individuals	123	31.62	
2.1.1 Active mobile broadband subscriptions	73	74.45	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	129	0.73	○
2.1.4 Tertiary enrollment	126	0.00	○
2.1.5 Adult literacy rate	94	51.29	
2nd sub-pillar: Businesses	100	28.89	
2.2.1 Firms with website	76	40.96	●
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	116	6.39	
2.2.4 Technicians and associate professionals	126	0.00	○
2.2.5 Annual investment in telecommunication services	111	68.22	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	120	20.43	
2.3.1 Government online services	111	40.60	
2.3.2 Publication and use of open data	91	10.26	
2.3.3 Government promotion of investment in emerging tech	115	10.44	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

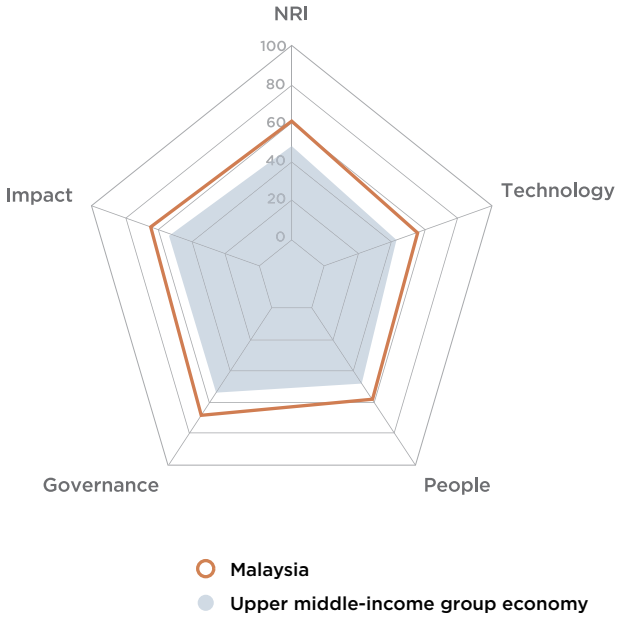
Indicator	Rank	Score	
C. Governance pillar	113	36.53	
1st sub-pillar: Trust	110	23.03	
3.1.1 Secure Internet servers	121	22.45	
3.1.2 Cybersecurity	99	35.72	
3.1.3 Online access to financial account	58	31.01	●
3.1.4 Internet shopping	110	2.93	
2nd sub-pillar: Regulation	104	50.16	
3.2.1 Regulatory quality	110	22.02	
3.2.2 ICT regulatory environment	64	83.53	●
3.2.3 Legal framework's adaptability to emerging technologies	119	8.87	
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	84	61.39	●
3rd sub-pillar: Inclusion	115	36.40	
3.3.1 E-Participation	107	39.51	
3.3.2 Socioeconomic gap in use of digital payments	109	25.88	
3.3.3 Availability of local online content	126	16.58	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	73	63.63	●
D. Impact pillar	119	34.19	
1st sub-pillar: Economy	113	19.83	
4.1.1 High-tech and medium-high-tech manufacturing	89	8.43	
4.1.2 High-tech exports	102	5.58	
4.1.3 PCT patent applications	96	0.00	○
4.1.4 Growth rate of GDP per person engaged	36	66.05	●
4.1.5 Prevalence of gig economy	123	3.78	○
4.1.6 ICT services exports	47	35.15	●
2nd sub-pillar: Quality of Life	116	42.94	
4.2.1 Happiness	121	15.00	
4.2.2 Freedom to make life choices	91	66.15	
4.2.3 Income inequality	98	47.66	
4.2.4 Healthy life expectancy at birth	109	42.93	
3rd sub-pillar: SDG Contribution	117	39.80	
4.3.1 SDG 3: Good Health and Well-Being	112	29.51	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	117	1.47	
4.3.4 SDG 7: Affordable and Clean Energy	58	78.35	●
4.3.5 SDG 11: Sustainable Cities and Communities	122	49.88	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Malaysia

	Rank (out of 130)	Score
Network Readiness Index	**38**	**61.26**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**37**	**56.01**
1st sub-pillar: Access	37	78.03
2nd sub-pillar: Content	48	41.62
3rd sub-pillar: Future Technologies	25	48.38
B. People pillar	**39**	**57.20**
1st sub-pillar: Individuals	39	69.87
2nd sub-pillar: Businesses	66	40.15
3rd sub-pillar: Governments	24	61.57
C. Governance pillar	**40**	**68.47**
1st sub-pillar: Trust	39	64.02
2nd sub-pillar: Regulation	46	71.09
3rd sub-pillar: Inclusion	43	70.29
D. Impact pillar	**38**	**63.35**
1st sub-pillar: Economy	12	62.99
2nd sub-pillar: Quality of Life	62	67.11
3rd sub-pillar: SDG Contribution	77	59.95



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	37	56.01	
1st sub-pillar: Access	37	78.03	
1.1.1 Mobile tariffs	47	68.51	
1.1.2 Handset prices	82	45.14	
1.1.3 Households with internet access	24	91.87	
1.1.4 SMS sent by population 15-69	47	78.73	
1.1.5 Population covered by at least a 3G mobile network	81	98.72	
1.1.6 International Internet bandwidth	8	66.09	●
1.1.7 Internet access in schools	28	97.18	
2nd sub-pillar: Content	48	41.62	
1.2.1 GitHub commits	66	3.21	
1.2.2 Wikipedia edits	66	49.64	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	45	82.24	
1.2.5 AI scientific publications	17	67.61	●
3rd sub-pillar: Future Technologies	25	48.38	
1.3.1 Adoption of emerging technologies	25	71.90	
1.3.2 Investment in emerging technologies	12	78.89	●
1.3.3 Robot density	27	14.87	
1.3.4 Computer software spending	36	27.85	
B. People pillar	39	57.20	
1st sub-pillar: Individuals	39	69.87	
2.1.1 Active mobile broadband subscriptions	27	82.97	
2.1.2 ICT skills	32	56.77	
2.1.3 Use of virtual social networks	8	86.49	●
2.1.4 Tertiary enrollment	68	29.74	
2.1.5 Adult literacy rate	49	93.41	
2nd sub-pillar: Businesses	66	40.15	
2.2.1 Firms with website	97	25.46	○
2.2.2 GERD financed by business enterprise	44	47.25	
2.2.3 Professionals	54	29.91	
2.2.4 Technicians and associate professionals	49	44.75	
2.2.5 Annual investment in telecommunication services	33	83.21	
2.2.6 GERD performed by business enterprise	39	10.29	
3rd sub-pillar: Governments	24	61.57	
2.3.1 Government online services	24	84.84	
2.3.2 Publication and use of open data	54	27.86	
2.3.3 Government promotion of investment in emerging tech	10	76.68	
2.3.4 R&D expenditure by governments and higher education	24	56.89	

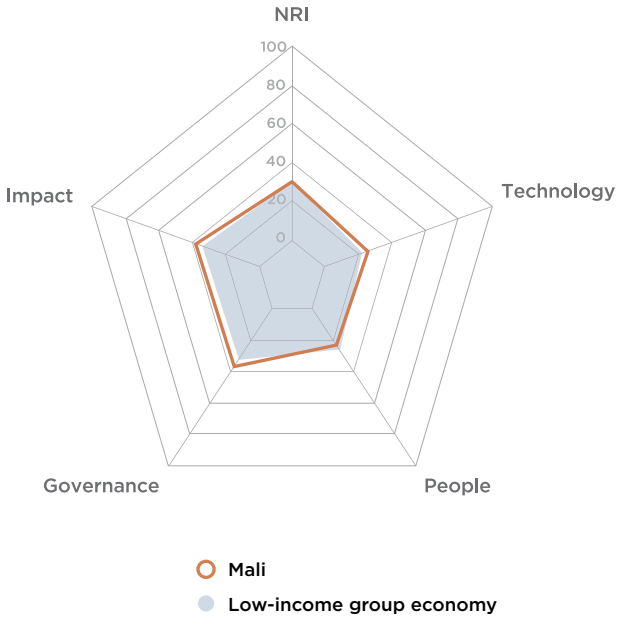
Indicator	Rank	Score	
C. Governance pillar	40	68.47	
1st sub-pillar: Trust	39	64.02	
3.1.1 Secure Internet servers	45	71.19	
3.1.2 Cybersecurity	8	98.03	●
3.1.3 Online access to financial account	40	43.40	
3.1.4 Internet shopping	35	43.46	
2nd sub-pillar: Regulation	46	71.09	
3.2.1 Regulatory quality	41	59.46	
3.2.2 ICT regulatory environment	67	82.35	
3.2.3 Legal framework's adaptability to emerging technologies	19	67.58	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	105	46.04	○
3rd sub-pillar: Inclusion	43	70.29	
3.3.1 E-Participation	29	85.18	
3.3.2 Socioeconomic gap in use of digital payments	48	72.00	
3.3.3 Availability of local online content	38	76.62	
3.3.4 Gender gap in Internet use	61	60.56	
3.3.5 Rural gap in use of digital payments	81	57.10	○
D. Impact pillar	38	63.35	
1st sub-pillar: Economy	12	62.99	
4.1.1 High-tech and medium-high-tech manufacturing	20	56.94	●
4.1.2 High-tech exports	1	100.00	●
4.1.3 PCT patent applications	43	49.15	
4.1.4 Growth rate of GDP per person engaged	72	57.06	
4.1.5 Prevalence of gig economy	5	90.19	●
4.1.6 ICT services exports	71	24.62	
2nd sub-pillar: Quality of Life	62	67.11	
4.2.1 Happiness	78	47.96	
4.2.2 Freedom to make life choices	24	91.73	
4.2.3 Income inequality	79	57.03	○
4.2.4 Healthy life expectancy at birth	72	71.74	
3rd sub-pillar: SDG Contribution	77	59.95	
4.3.1 SDG 3: Good Health and Well-Being	60	73.77	
4.3.2 SDG 4: Quality Education	47	39.53	
4.3.3 Females employed with advanced degrees	57	41.13	
4.3.4 SDG 7: Affordable and Clean Energy	61	77.96	
4.3.5 SDG 11: Sustainable Cities and Communities	98	67.34	○

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Mali

	Rank (out of 130)	Score
Network Readiness Index	**118**	**30.40**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**115**	**25.00**
1st sub-pillar: Access	108	40.47
2nd sub-pillar: Content	114	17.35
3rd sub-pillar: Future Technologies	119	17.19
B. People pillar	**128**	**22.36**
1st sub-pillar: Individuals	127	26.01
2nd sub-pillar: Businesses	111	25.00
3rd sub-pillar: Governments	127	16.08
C. Governance pillar	**114**	**35.97**
1st sub-pillar: Trust	125	13.71
2nd sub-pillar: Regulation	105	49.79
3rd sub-pillar: Inclusion	103	44.41
D. Impact pillar	**112**	**38.28**
1st sub-pillar: Economy	91	29.81
2nd sub-pillar: Quality of Life	119	41.19
3rd sub-pillar: SDG Contribution	109	43.84



Network Readiness Index in detail

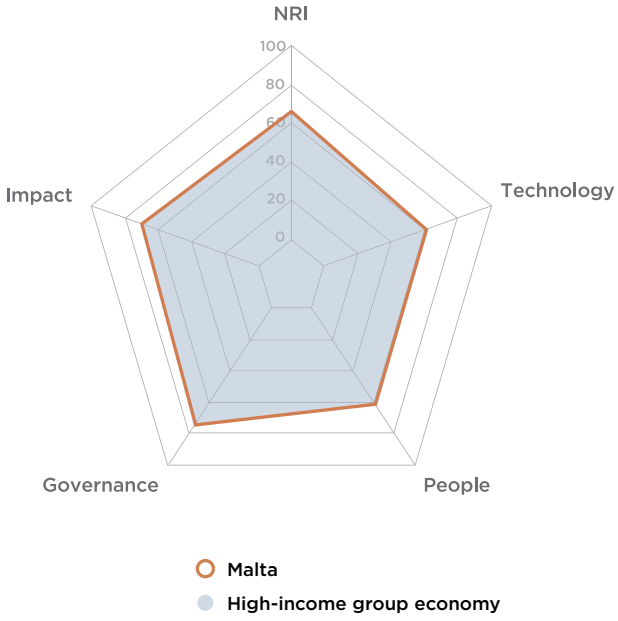
Indicator	Rank	Score	
A. Technology pillar	115	25.00	
1st sub-pillar: Access	108	40.47	
1.1.1 Mobile tariffs	116	28.49	
1.1.2 Handset prices	112	29.04	
1.1.3 Households with internet access	107	21.46	
1.1.4 SMS sent by population 15-69	74	75.68	●
1.1.5 Population covered by at least a 3G mobile network	115	87.95	
1.1.6 International Internet bandwidth	77	0.21	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	114	17.35	
1.2.1 GitHub commits	122	0.08	
1.2.2 Wikipedia edits	112	22.35	
1.2.3 Internet domain registrations	*	*	●
1.2.4 Mobile apps development	102	58.30	
1.2.5 AI scientific publications	122	3.29	
3rd sub-pillar: Future Technologies	119	17.19	
1.3.1 Adoption of emerging technologies	118	16.80	
1.3.2 Investment in emerging technologies	89	33.17	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	111	1.59	
B. People pillar	128	22.36	
1st sub-pillar: Individuals	127	26.01	
2.1.1 Active mobile broadband subscriptions	57	76.11	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	118	7.69	
2.1.4 Tertiary enrollment	118	3.29	
2.1.5 Adult literacy rate	103	16.95	○
2nd sub-pillar: Businesses	111	25.00	
2.2.1 Firms with website	80	37.84	
2.2.2 GERD financed by business enterprise	95	0.97	
2.2.3 Professionals	122	3.99	○
2.2.4 Technicians and associate professionals	114	8.35	
2.2.5 Annual investment in telecommunication services	84	73.83	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	127	16.08	
2.3.1 Government online services	120	32.73	
2.3.2 Publication and use of open data	102	2.19	○
2.3.3 Government promotion of investment in emerging tech	111	16.57	
2.3.4 R&D expenditure by governments and higher education	85	12.82	

Indicator	Rank	Score	
C. Governance pillar	114	35.97	
1st sub-pillar: Trust	125	13.71	
3.1.1 Secure Internet servers	123	18.71	
3.1.2 Cybersecurity	125	8.56	
3.1.3 Online access to financial account	69	24.23	●
3.1.4 Internet shopping	106	3.32	
2nd sub-pillar: Regulation	105	49.79	
3.2.1 Regulatory quality	105	25.51	
3.2.2 ICT regulatory environment	82	75.29	●
3.2.3 Legal framework's adaptability to emerging technologies	121	7.40	
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	66	65.74	●
3rd sub-pillar: Inclusion	103	44.41	
3.3.1 E-Participation	121	29.63	
3.3.2 Socioeconomic gap in use of digital payments	46	73.59	●
3.3.3 Availability of local online content	112	29.58	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	104	44.85	
D. Impact pillar	112	38.28	
1st sub-pillar: Economy	91	29.81	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	120	1.88	
4.1.3 PCT patent applications	96	0.00	○
4.1.4 Growth rate of GDP per person engaged	47	63.43	●
4.1.5 Prevalence of gig economy	88	32.59	
4.1.6 ICT services exports	17	51.15	●
2nd sub-pillar: Quality of Life	119	41.19	
4.2.1 Happiness	95	38.65	
4.2.2 Freedom to make life choices	115	50.14	
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	118	34.79	
3rd sub-pillar: SDG Contribution	109	43.84	
4.3.1 SDG 3: Good Health and Well-Being	126	16.39	○
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	119	1.11	
4.3.4 SDG 7: Affordable and Clean Energy	10	90.89	●
4.3.5 SDG 11: Sustainable Cities and Communities	99	66.97	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Malta

	Rank (out of 130)	Score
Network Readiness Index	**27**	**66.30**
Pillar/sub-pillar	**Rank**	**Score**
A. Technology pillar	**29**	**61.70**
1st sub-pillar: Access	41	75.75
2nd sub-pillar: Content	23	61.52
3rd sub-pillar: Future Technologies	26	47.82
B. People pillar	**29**	**60.40**
1st sub-pillar: Individuals	44	68.88
2nd sub-pillar: Businesses	33	55.33
3rd sub-pillar: Governments	31	56.99
C. Governance pillar	**33**	**73.42**
1st sub-pillar: Trust	35	67.64
2nd sub-pillar: Regulation	29	78.25
3rd sub-pillar: Inclusion	37	74.38
D. Impact pillar	**27**	**69.67**
1st sub-pillar: Economy	40	47.05
2nd sub-pillar: Quality of Life	16	84.53
3rd sub-pillar: SDG Contribution	28	77.42



Network Readiness Index in detail

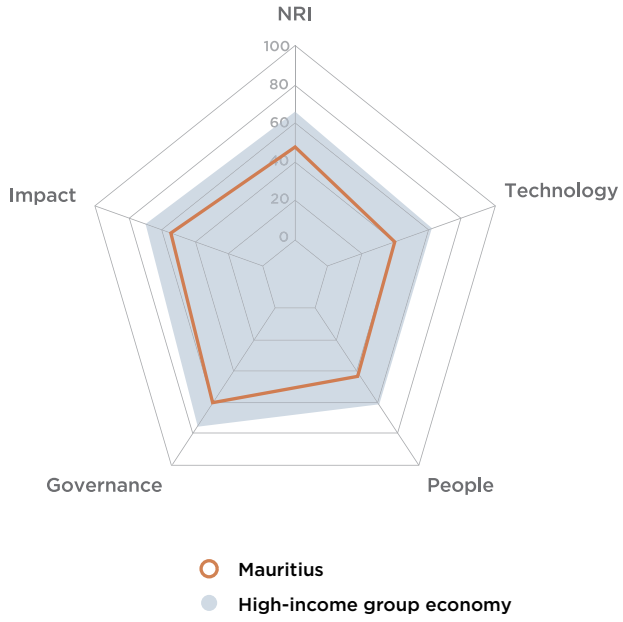
Indicator	Rank	Score	
A. Technology pillar	29	61.70	
1st sub-pillar: Access	41	75.75	
1.1.1 Mobile tariffs	68	57.50	
1.1.2 Handset prices	51	62.34	
1.1.3 Households with internet access	32	90.52	
1.1.4 SMS sent by population 15-69	109	68.40	○
1.1.5 Population covered by at least a 3G mobile network	1	100.00	●
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	23	61.52	
1.2.1 GitHub commits	20	43.46	
1.2.2 Wikipedia edits	17	80.13	
1.2.3 Internet domain registrations	*	*	●
1.2.4 Mobile apps development	17	94.40	
1.2.5 AI scientific publications	78	32.72	
3rd sub-pillar: Future Technologies	26	47.82	
1.3.1 Adoption of emerging technologies	37	61.51	
1.3.2 Investment in emerging technologies	38	53.67	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	34	28.27	
B. People pillar	29	60.40	
1st sub-pillar: Individuals	44	68.88	
2.1.1 Active mobile broadband subscriptions	121	39.94	○
2.1.2 ICT skills	20	70.54	
2.1.3 Use of virtual social networks	4	95.84	●
2.1.4 Tertiary enrollment	40	45.10	
2.1.5 Adult literacy rate	50	92.96	
2nd sub-pillar: Businesses	33	55.33	
2.2.1 Firms with website	13	85.40	●
2.2.2 GERD financed by business enterprise	14	73.71	
2.2.3 Professionals	26	45.92	
2.2.4 Technicians and associate professionals	21	63.49	
2.2.5 Annual investment in telecommunication services	NA	NA	
2.2.6 GERD performed by business enterprise	44	8.16	
3rd sub-pillar: Governments	31	56.99	
2.3.1 Government online services	40	80.61	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	14	73.42	
2.3.4 R&D expenditure by governments and higher education	78	16.93	○

Indicator	Rank	Score	
C. Governance pillar	33	73.42	
1st sub-pillar: Trust	35	67.64	
3.1.1 Secure Internet servers	38	76.28	
3.1.2 Cybersecurity	57	83.36	
3.1.3 Online access to financial account	31	51.17	
3.1.4 Internet shopping	25	59.74	
2nd sub-pillar: Regulation	29	78.25	
3.2.1 Regulatory quality	38	67.16	
3.2.2 ICT regulatory environment	10	95.29	●
3.2.3 Legal framework's adaptability to emerging technologies	21	67.02	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	81	61.78	
3rd sub-pillar: Inclusion	37	74.38	
3.3.1 E-Participation	38	82.71	
3.3.2 Socioeconomic gap in use of digital payments	33	79.43	
3.3.3 Availability of local online content	53	66.43	
3.3.4 Gender gap in Internet use	23	68.33	
3.3.5 Rural gap in use of digital payments	33	74.97	
D. Impact pillar	27	69.67	
1st sub-pillar: Economy	40	47.05	
4.1.1 High-tech and medium-high-tech manufacturing	30	48.76	
4.1.2 High-tech exports	40	43.09	
4.1.3 PCT patent applications	20	76.73	
4.1.4 Growth rate of GDP per person engaged	112	37.02	○
4.1.5 Prevalence of gig economy	33	62.52	
4.1.6 ICT services exports	94	14.15	○
2nd sub-pillar: Quality of Life	16	84.53	
4.2.1 Happiness	43	63.37	
4.2.2 Freedom to make life choices	16	94.24	●
4.2.3 Income inequality	15	89.32	●
4.2.4 Healthy life expectancy at birth	13	91.17	●
3rd sub-pillar: SDG Contribution	28	77.42	
4.3.1 SDG 3: Good Health and Well-Being	18	88.52	
4.3.2 SDG 4: Quality Education	41	50.93	
4.3.3 Females employed with advanced degrees	42	52.72	
4.3.4 SDG 7: Affordable and Clean Energy	2	98.24	●
4.3.5 SDG 11: Sustainable Cities and Communities	16	96.71	●

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Mauritius

	Rank (out of 130)	Score
Network Readiness Index	**71**	**48.34**
Pillar/sub-pillar	**Rank**	**Score**
A. Technology pillar	**79**	**40.06**
1st sub-pillar: Access	84	55.17
2nd sub-pillar: Content	64	36.16
3rd sub-pillar: Future Technologies	79	28.86
B. People pillar	**87**	**41.72**
1st sub-pillar: Individuals	59	63.67
2nd sub-pillar: Businesses	123	20.82
3rd sub-pillar: Governments	74	40.67
C. Governance pillar	**58**	**58.18**
1st sub-pillar: Trust	62	46.95
2nd sub-pillar: Regulation	67	63.77
3rd sub-pillar: Inclusion	61	63.80
D. Impact pillar	**72**	**53.40**
1st sub-pillar: Economy	98	25.67
2nd sub-pillar: Quality of Life	60	68.48
3rd sub-pillar: SDG Contribution	49	66.04



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	79	40.06	
1st sub-pillar: Access	84	55.17	
1.1.1 Mobile tariffs	72	56.32	
1.1.2 Handset prices	61	56.83	
1.1.3 Households with internet access	72	72.71	
1.1.4 SMS sent by population 15-69	92	72.44	
1.1.5 Population covered by at least a 3G mobile network	51	99.73	
1.1.6 International Internet bandwidth	61	1.14	
1.1.7 Internet access in schools	51	27.04	
2nd sub-pillar: Content	64	36.16	
1.2.1 GitHub commits	44	12.81	●
1.2.2 Wikipedia edits	51	60.97	●
1.2.3 Internet domain registrations	*	*	●
1.2.4 Mobile apps development	57	79.04	
1.2.5 AI scientific publications	97	19.76	
3rd sub-pillar: Future Technologies	79	28.86	
1.3.1 Adoption of emerging technologies	86	38.18	
1.3.2 Investment in emerging technologies	81	34.96	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	76	13.44	
B. People pillar	87	41.72	
1st sub-pillar: Individuals	59	63.67	
2.1.1 Active mobile broadband subscriptions	114	64.73	○
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	51	73.08	●
2.1.4 Tertiary enrollment	71	28.00	
2.1.5 Adult literacy rate	62	88.86	
2nd sub-pillar: Businesses	123	20.82	
2.2.1 Firms with website	92	30.55	
2.2.2 GERD financed by business enterprise	85	5.02	
2.2.3 Professionals	66	24.93	
2.2.4 Technicians and associate professionals	50	43.23	●
2.2.5 Annual investment in telecommunication services	NA	NA	
2.2.6 GERD performed by business enterprise	79	0.36	○
3rd sub-pillar: Governments	74	40.67	
2.3.1 Government online services	67	69.09	
2.3.2 Publication and use of open data	59	26.09	
2.3.3 Government promotion of investment in emerging tech	59	39.10	
2.3.4 R&D expenditure by governments and higher education	60	28.41	

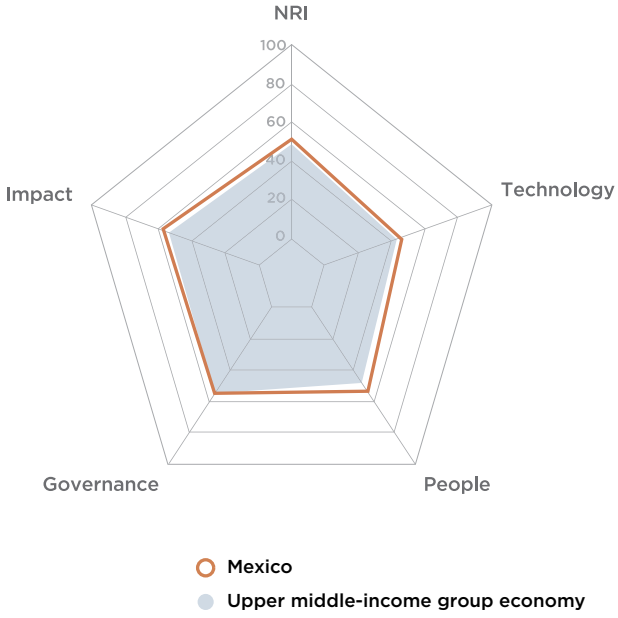
Indicator	Rank	Score	
C. Governance pillar	58	58.18	
1st sub-pillar: Trust	62	46.95	
3.1.1 Secure Internet servers	65	54.41	
3.1.2 Cybersecurity	23	96.84	●
3.1.3 Online access to financial account	80	18.11	
3.1.4 Internet shopping	61	18.46	
2nd sub-pillar: Regulation	67	63.77	
3.2.1 Regulatory quality	35	68.27	●
3.2.2 ICT regulatory environment	80	75.88	
3.2.3 Legal framework's adaptability to emerging technologies	84	30.79	
3.2.4 E-commerce legislation	76	75.00	○
3.2.5 Privacy protection by law content	61	68.91	
3rd sub-pillar: Inclusion	61	63.80	
3.3.1 E-Participation	78	62.97	
3.3.2 Socioeconomic gap in use of digital payments	52	68.35	
3.3.3 Availability of local online content	77	54.02	
3.3.4 Gender gap in Internet use	55	62.25	
3.3.5 Rural gap in use of digital payments	49	71.42	●
D. Impact pillar	72	53.40	
1st sub-pillar: Economy	98	25.67	
4.1.1 High-tech and medium-high-tech manufacturing	103	1.25	○
4.1.2 High-tech exports	90	8.73	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Growth rate of GDP per person engaged	97	48.06	○
4.1.5 Prevalence of gig economy	83	35.85	
4.1.6 ICT services exports	48	34.45	●
2nd sub-pillar: Quality of Life	60	68.48	
4.2.1 Happiness	53	60.38	
4.2.2 Freedom to make life choices	57	79.33	
4.2.3 Income inequality	64	68.23	
4.2.4 Healthy life expectancy at birth	86	65.98	
3rd sub-pillar: SDG Contribution	49	66.04	
4.3.1 SDG 3: Good Health and Well-Being	90	57.38	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	72	30.17	
4.3.4 SDG 7: Affordable and Clean Energy	7	92.89	●
4.3.5 SDG 11: Sustainable Cities and Communities	56	83.72	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Mexico

	Rank (out of 130)	Score
Network Readiness Index	**59**	**52.57**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**65**	**45.24**
1st sub-pillar: Access	55	68.48
2nd sub-pillar: Content	65	35.83
3rd sub-pillar: Future Technologies	70	31.41
B. People pillar	**49**	**53.45**
1st sub-pillar: Individuals	33	71.89
2nd sub-pillar: Businesses	83	33.75
3rd sub-pillar: Governments	37	54.73
C. Governance pillar	**70**	**54.65**
1st sub-pillar: Trust	72	38.16
2nd sub-pillar: Regulation	39	73.39
3rd sub-pillar: Inclusion	90	52.41
D. Impact pillar	**56**	**56.95**
1st sub-pillar: Economy	51	43.08
2nd sub-pillar: Quality of Life	68	65.44
3rd sub-pillar: SDG Contribution	64	62.33



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	65	45.24	
1st sub-pillar: Access	55	68.48	
1.1.1 Mobile tariffs	76	53.27	
1.1.2 Handset prices	32	72.11	●
1.1.3 Households with internet access	84	60.56	
1.1.4 SMS sent by population 15-69	12	87.23	●
1.1.5 Population covered by at least a 3G mobile network	80	98.80	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	49	38.88	
2nd sub-pillar: Content	65	35.83	
1.2.1 GitHub commits	69	2.85	
1.2.2 Wikipedia edits	85	38.20	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	75	71.60	
1.2.5 AI scientific publications	28	63.01	●
3rd sub-pillar: Future Technologies	70	31.41	
1.3.1 Adoption of emerging technologies	47	55.16	
1.3.2 Investment in emerging technologies	65	39.74	
1.3.3 Robot density	33	11.95	
1.3.4 Computer software spending	65	18.79	
B. People pillar	49	53.45	
1st sub-pillar: Individuals	33	71.89	
2.1.1 Active mobile broadband subscriptions	8	87.47	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	37	77.34	
2.1.4 Tertiary enrollment	70	28.66	
2.1.5 Adult literacy rate	44	94.08	
2nd sub-pillar: Businesses	83	33.75	
2.2.1 Firms with website	82	36.97	
2.2.2 GERD financed by business enterprise	67	22.42	
2.2.3 Professionals	71	23.32	
2.2.4 Technicians and associate professionals	69	30.70	
2.2.5 Annual investment in telecommunication services	14	87.78	●
2.2.6 GERD performed by business enterprise	67	1.27	
3rd sub-pillar: Governments	37	54.73	
2.3.1 Government online services	38	81.82	
2.3.2 Publication and use of open data	11	73.38	●
2.3.3 Government promotion of investment in emerging tech	67	36.85	
2.3.4 R&D expenditure by governments and higher education	61	26.86	

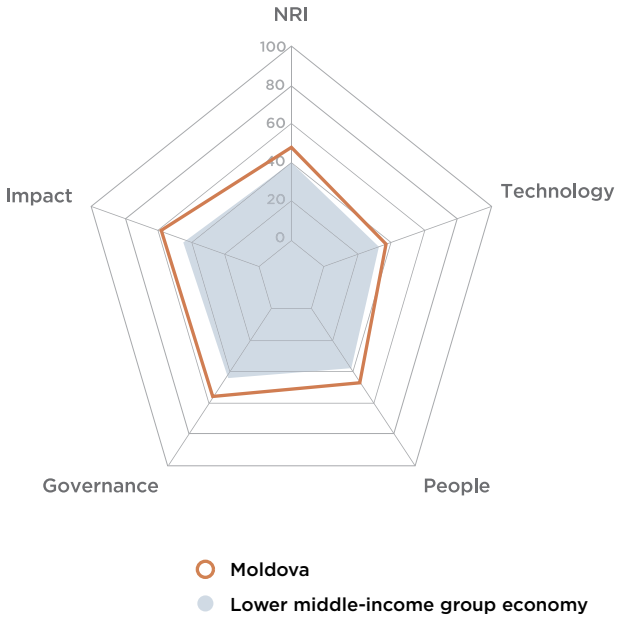
Indicator	Rank	Score	
C. Governance pillar	70	54.65	
1st sub-pillar: Trust	72	38.16	
3.1.1 Secure Internet servers	82	46.09	
3.1.2 Cybersecurity	60	81.36	
3.1.3 Online access to financial account	87	16.28	
3.1.4 Internet shopping	77	8.94	
2nd sub-pillar: Regulation	39	73.39	
3.2.1 Regulatory quality	64	43.95	
3.2.2 ICT regulatory environment	35	89.41	
3.2.3 Legal framework's adaptability to emerging technologies	42	50.43	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	27	83.16	●
3rd sub-pillar: Inclusion	90	52.41	
3.3.1 E-Participation	41	81.48	
3.3.2 Socioeconomic gap in use of digital payments	96	31.90	○
3.3.3 Availability of local online content	66	60.30	
3.3.4 Gender gap in Internet use	46	64.32	
3.3.5 Rural gap in use of digital payments	114	24.03	○
D. Impact pillar	56	56.95	
1st sub-pillar: Economy	51	43.08	
4.1.1 High-tech and medium-high-tech manufacturing	12	62.96	●
4.1.2 High-tech exports	8	75.81	●
4.1.3 PCT patent applications	69	32.10	
4.1.4 Growth rate of GDP per person engaged	108	42.77	○
4.1.5 Prevalence of gig economy	59	44.84	
4.1.6 ICT services exports	129	0.00	○
2nd sub-pillar: Quality of Life	68	65.44	
4.2.1 Happiness	56	59.30	
4.2.2 Freedom to make life choices	42	84.54	
4.2.3 Income inequality	100	45.83	○
4.2.4 Healthy life expectancy at birth	71	72.07	
3rd sub-pillar: SDG Contribution	64	62.33	
4.3.1 SDG 3: Good Health and Well-Being	39	78.69	
4.3.2 SDG 4: Quality Education	55	33.50	
4.3.3 Females employed with advanced degrees	69	32.17	
4.3.4 SDG 7: Affordable and Clean Energy	33	84.42	●
4.3.5 SDG 11: Sustainable Cities and Communities	61	82.85	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Moldova

	Rank (out of 130)	Score
Network Readiness Index	**69**	**49.07**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**89**	**37.07**
1st sub-pillar: Access	78	59.36
2nd sub-pillar: Content	84	30.09
3rd sub-pillar: Future Technologies	104	21.76
B. People pillar	**74**	**45.92**
1st sub-pillar: Individuals	78	59.00
2nd sub-pillar: Businesses	81	34.18
3rd sub-pillar: Governments	63	44.58
C. Governance pillar	**67**	**55.31**
1st sub-pillar: Trust	59	48.36
2nd sub-pillar: Regulation	90	57.48
3rd sub-pillar: Inclusion	74	60.08
D. Impact pillar	**55**	**58.00**
1st sub-pillar: Economy	64	37.58
2nd sub-pillar: Quality of Life	38	75.83
3rd sub-pillar: SDG Contribution	74	60.61



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	89	37.07	
1st sub-pillar: Access	78	59.36	
1.1.1 Mobile tariffs	102	40.43	
1.1.2 Handset prices	91	39.90	
1.1.3 Households with internet access	79	64.65	
1.1.4 SMS sent by population 15-69	86	73.75	
1.1.5 Population covered by at least a 3G mobile network	24	99.97	●
1.1.6 International Internet bandwidth	33	6.24	
1.1.7 Internet access in schools	30	90.56	
2nd sub-pillar: Content	84	30.09	
1.2.1 GitHub commits	46	9.42	●
1.2.2 Wikipedia edits	76	44.52	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	51	80.56	
1.2.5 AI scientific publications	107	13.44	
3rd sub-pillar: Future Technologies	104	21.76	
1.3.1 Adoption of emerging technologies	89	37.40	
1.3.2 Investment in emerging technologies	117	19.51	○
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	87	8.37	
B. People pillar	74	45.92	
1st sub-pillar: Individuals	78	59.00	
2.1.1 Active mobile broadband subscriptions	102	68.81	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	97	40.96	
2.1.4 Tertiary enrollment	74	27.03	
2.1.5 Adult literacy rate	13	99.21	●
2nd sub-pillar: Businesses	81	34.18	
2.2.1 Firms with website	71	44.67	
2.2.2 GERD financed by business enterprise	71	19.13	
2.2.3 Professionals	36	42.16	●
2.2.4 Technicians and associate professionals	73	27.23	
2.2.5 Annual investment in telecommunication services	100	71.06	○
2.2.6 GERD performed by business enterprise	74	0.86	
3rd sub-pillar: Governments	63	44.58	
2.3.1 Government online services	51	74.54	
2.3.2 Publication and use of open data	32	43.52	●
2.3.3 Government promotion of investment in emerging tech	53	42.61	
2.3.4 R&D expenditure by governments and higher education	77	17.63	

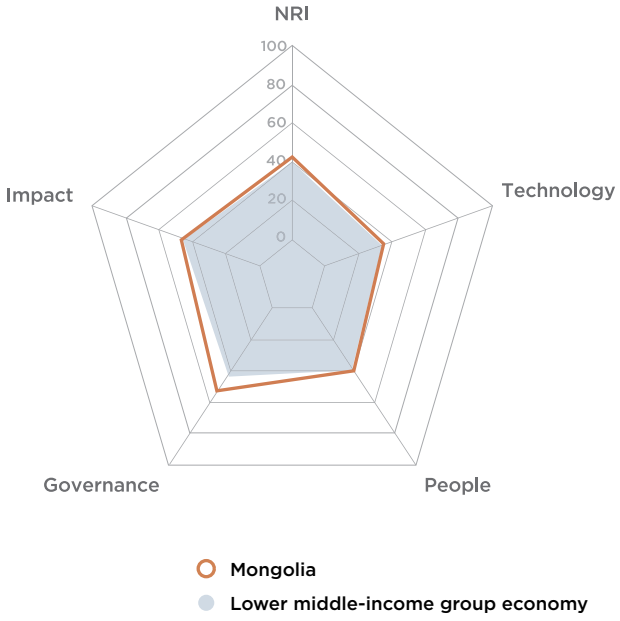
Indicator	Rank	Score	
C. Governance pillar	67	55.31	
1st sub-pillar: Trust	59	48.36	
3.1.1 Secure Internet servers	48	68.89	
3.1.2 Cybersecurity	70	75.35	
3.1.3 Online access to financial account	68	25.65	
3.1.4 Internet shopping	53	23.53	
2nd sub-pillar: Regulation	90	57.48	
3.2.1 Regulatory quality	69	41.39	
3.2.2 ICT regulatory environment	30	90.59	●
3.2.3 Legal framework's adaptability to emerging technologies	70	39.00	
3.2.4 E-commerce legislation	76	75.00	○
3.2.5 Privacy protection by law content	113	41.41	○
3rd sub-pillar: Inclusion	74	60.08	
3.3.1 E-Participation	54	75.31	
3.3.2 Socioeconomic gap in use of digital payments	91	38.30	
3.3.3 Availability of local online content	61	62.70	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	70	64.02	
D. Impact pillar	55	58.00	
1st sub-pillar: Economy	64	37.58	
4.1.1 High-tech and medium-high-tech manufacturing	68	18.62	
4.1.2 High-tech exports	70	17.08	
4.1.3 PCT patent applications	59	39.70	
4.1.4 Growth rate of GDP per person engaged	82	52.76	
4.1.5 Prevalence of gig economy	60	44.20	
4.1.6 ICT services exports	14	53.09	●
2nd sub-pillar: Quality of Life	38	75.83	
4.2.1 Happiness	60	56.07	
4.2.2 Freedom to make life choices	50	82.12	
4.2.3 Income inequality	4	97.14	●
4.2.4 Healthy life expectancy at birth	80	67.99	
3rd sub-pillar: SDG Cowntribution	74	60.61	
4.3.1 SDG 3: Good Health and Well-Being	71	67.21	
4.3.2 SDG 4: Quality Education	50	36.85	
4.3.3 Females employed with advanced degrees	41	54.17	●
4.3.4 SDG 7: Affordable and Clean Energy	110	53.12	○
4.3.5 SDG 11: Sustainable Cities and Communities	32	91.68	●

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Mongolia

	Rank (out of 130)	Score
Network Readiness Index	**89**	**43.21**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**93**	**35.20**
1st sub-pillar: Access	93	52.35
2nd sub-pillar: Content	87	29.55
3rd sub-pillar: Future Technologies	100	23.72
B. People pillar	**94**	**38.49**
1st sub-pillar: Individuals	70	61.28
2nd sub-pillar: Businesses	104	28.20
3rd sub-pillar: Governments	104	25.98
C. Governance pillar	**75**	**52.28**
1st sub-pillar: Trust	78	35.11
2nd sub-pillar: Regulation	99	52.78
3rd sub-pillar: Inclusion	47	68.95
D. Impact pillar	**93**	**46.87**
1st sub-pillar: Economy	128	11.10
2nd sub-pillar: Quality of Life	80	62.81
3rd sub-pillar: SDG Contribution	48	66.69



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	93	35.20	
1st sub-pillar: Access	93	52.35	
1.1.1 Mobile tariffs	86	48.57	
1.1.2 Handset prices	116	22.36	○
1.1.3 Households with internet access	91	46.67	
1.1.4 SMS sent by population 15-69	59	77.45	
1.1.5 Population covered by at least a 3G mobile network	1	100.00	●
1.1.6 International Internet bandwidth	66	0.71	
1.1.7 Internet access in schools	35	70.66	
2nd sub-pillar: Content	87	29.55	
1.2.1 GitHub commits	84	1.69	
1.2.2 Wikipedia edits	71	47.27	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	63	77.79	
1.2.5 AI scientific publications	98	19.50	
3rd sub-pillar: Future Technologies	100	23.72	
1.3.1 Adoption of emerging technologies	110	25.94	○
1.3.2 Investment in emerging technologies	90	32.94	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	80	12.27	
B. People pillar	94	38.49	
1st sub-pillar: Individuals	70	61.28	
2.1.1 Active mobile broadband subscriptions	92	71.10	
2.1.2 ICT skills	63	12.81	
2.1.3 Use of virtual social networks	31	78.90	●
2.1.4 Tertiary enrollment	39	45.60	●
2.1.5 Adult literacy rate	25	98.00	●
2nd sub-pillar: Businesses	104	28.20	
2.2.1 Firms with website	88	32.40	
2.2.2 GERD financed by business enterprise	79	9.96	
2.2.3 Professionals	39	40.81	
2.2.4 Technicians and associate professionals	107	12.47	
2.2.5 Annual investment in telecommunication services	86	73.52	
2.2.6 GERD performed by business enterprise	86	0.06	○
3rd sub-pillar: Governments	104	25.98	
2.3.1 Government online services	95	51.51	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	103	19.86	
2.3.4 R&D expenditure by governments and higher education	96	6.57	

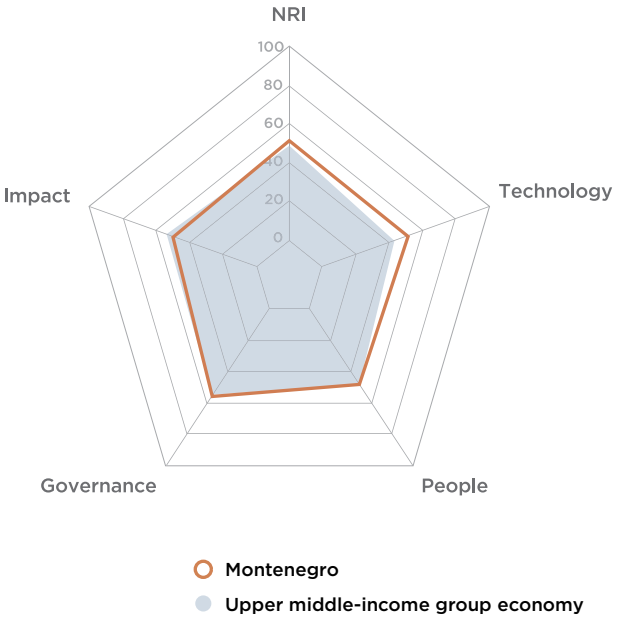
Indicator	Rank	Score	
C. Governance pillar	75	52.28	
1st sub-pillar: Trust	78	35.11	
3.1.1 Secure Internet servers	59	59.51	
3.1.2 Cybersecurity	110	24.90	
3.1.3 Online access to financial account	36	46.58	●
3.1.4 Internet shopping	75	9.46	
2nd sub-pillar: Regulation	99	52.78	
3.2.1 Regulatory quality	72	40.82	
3.2.2 ICT regulatory environment	86	73.53	
3.2.3 Legal framework's adaptability to emerging technologies	109	14.50	
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	86	60.08	
3rd sub-pillar: Inclusion	47	68.95	
3.3.1 E-Participation	83	59.26	
3.3.2 Socioeconomic gap in use of digital payments	26	87.28	●
3.3.3 Availability of local online content	98	42.61	
3.3.4 Gender gap in Internet use	3	77.39	●
3.3.5 Rural gap in use of digital payments	12	78.22	●
D. Impact pillar	93	46.87	
1st sub-pillar: Economy	128	11.10	
4.1.1 High-tech and medium-high-tech manufacturing	95	3.54	○
4.1.2 High-tech exports	87	10.01	
4.1.3 PCT patent applications	96	0.00	○
4.1.4 Growth rate of GDP per person engaged	NA	NA	
4.1.5 Prevalence of gig economy	90	31.17	
4.1.6 ICT services exports	98	10.76	
2nd sub-pillar: Quality of Life	80	62.81	
4.2.1 Happiness	54	60.29	
4.2.2 Freedom to make life choices	100	58.29	
4.2.3 Income inequality	32	78.91	●
4.2.4 Healthy life expectancy at birth	100	53.74	
3rd sub-pillar: SDG Contribution	48	66.69	
4.3.1 SDG 3: Good Health and Well-Being	92	55.74	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	17	77.42	●
4.3.4 SDG 7: Affordable and Clean Energy	98	63.98	
4.3.5 SDG 11: Sustainable Cities and Communities	93	69.63	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Montenegro

	Rank (out of 130)	Score
Network Readiness Index	**62**	**51.17**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**44**	**51.12**
1st sub-pillar: Access	74	60.12
2nd sub-pillar: Content	27	56.56
3rd sub-pillar: Future Technologies	52	36.69
B. People pillar	**68**	**47.51**
1st sub-pillar: Individuals	51	66.60
2nd sub-pillar: Businesses	58	43.33
3rd sub-pillar: Governments	92	32.59
C. Governance pillar	**64**	**55.86**
1st sub-pillar: Trust	80	34.79
2nd sub-pillar: Regulation	56	66.23
3rd sub-pillar: Inclusion	53	66.55
D. Impact pillar	**82**	**50.18**
1st sub-pillar: Economy	118	18.26
2nd sub-pillar: Quality of Life	65	66.64
3rd sub-pillar: SDG Contribution	51	65.63



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	44	51.12	
1st sub-pillar: Access	74	60.12	
1.1.1 Mobile tariffs	70	56.63	
1.1.2 Handset prices	66	52.37	
1.1.3 Households with internet access	56	80.37	
1.1.4 SMS sent by population 15-69	105	69.49	○
1.1.5 Population covered by at least a 3G mobile network	66	99.56	
1.1.6 International Internet bandwidth	51	2.31	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	27	56.56	
1.2.1 GitHub commits	50	7.51	
1.2.2 Wikipedia edits	32	73.75	●
1.2.3 Internet domain registrations	*	*	●
1.2.4 Mobile apps development	65	76.43	
1.2.5 AI scientific publications	90	25.12	
3rd sub-pillar: Future Technologies	52	36.69	
1.3.1 Adoption of emerging technologies	70	44.68	
1.3.2 Investment in emerging technologies	87	33.65	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	28	31.74	●
B. People pillar	68	47.51	
1st sub-pillar: Individuals	51	66.60	
2.1.1 Active mobile broadband subscriptions	119	55.57	○
2.1.2 ICT skills	17	73.04	●
2.1.3 Use of virtual social networks	61	68.30	
2.1.4 Tertiary enrollment	55	37.56	
2.1.5 Adult literacy rate	18	98.55	●
2nd sub-pillar: Businesses	58	43.33	
2.2.1 Firms with website	83	36.45	
2.2.2 GERD financed by business enterprise	48	46.73	
2.2.3 Professionals	30	44.11	●
2.2.4 Technicians and associate professionals	30	56.20	●
2.2.5 Annual investment in telecommunication services	92	72.25	
2.2.6 GERD performed by business enterprise	53	4.27	
3rd sub-pillar: Governments	92	32.59	
2.3.1 Government online services	93	52.73	
2.3.2 Publication and use of open data	82	14.30	
2.3.3 Government promotion of investment in emerging tech	54	41.49	
2.3.4 R&D expenditure by governments and higher education	70	21.83	

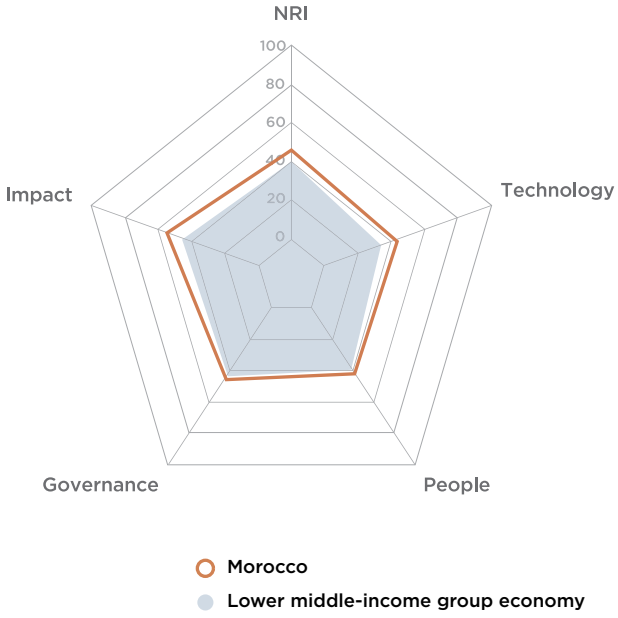
Indicator	Rank	Score	
C. Governance pillar	64	55.86	
1st sub-pillar: Trust	80	34.79	
3.1.1 Secure Internet servers	67	53.17	
3.1.2 Cybersecurity	90	52.41	
3.1.3 Online access to financial account	86	16.36	
3.1.4 Internet shopping	64	17.23	
2nd sub-pillar: Regulation	56	66.23	
3.2.1 Regulatory quality	54	51.07	
3.2.2 ICT regulatory environment	14	94.12	●
3.2.3 Legal framework's adaptability to emerging technologies	68	40.33	
3.2.4 E-commerce legislation	76	75.00	○
3.2.5 Privacy protection by law content	58	70.64	
3rd sub-pillar: Inclusion	53	66.55	
3.3.1 E-Participation	92	53.09	
3.3.2 Socioeconomic gap in use of digital payments	53	67.83	
3.3.3 Availability of local online content	56	65.63	
3.3.4 Gender gap in Internet use	39	65.18	
3.3.5 Rural gap in use of digital payments	5	81.06	●
D. Impact pillar	82	50.18	
1st sub-pillar: Economy	118	18.26	
4.1.1 High-tech and medium-high-tech manufacturing	83	10.69	
4.1.2 High-tech exports	109	3.54	○
4.1.3 PCT patent applications	96	0.00	○
4.1.4 Growth rate of GDP per person engaged	NA	NA	
4.1.5 Prevalence of gig economy	61	43.69	
4.1.6 ICT services exports	50	33.39	
2nd sub-pillar: Quality of Life	65	66.64	
4.2.1 Happiness	65	54.18	
4.2.2 Freedom to make life choices	77	72.42	
4.2.3 Income inequality	67	63.80	
4.2.4 Healthy life expectancy at birth	53	76.15	
3rd sub-pillar: SDG Contribution	51	65.63	
4.3.1 SDG 3: Good Health and Well-Being	77	65.57	
4.3.2 SDG 4: Quality Education	53	35.86	
4.3.3 Females employed with advanced degrees	38	57.56	
4.3.4 SDG 7: Affordable and Clean Energy	59	78.12	
4.3.5 SDG 11: Sustainable Cities and Communities	35	91.06	●

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Morocco

	Rank (out of 130)	Score
Network Readiness Index	**81**	**46.06**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**69**	**43.06**
1st sub-pillar: Access	65	65.95
2nd sub-pillar: Content	81	32.10
3rd sub-pillar: Future Technologies	71	31.12
B. People pillar	**88**	**41.54**
1st sub-pillar: Individuals	86	55.44
2nd sub-pillar: Businesses	87	32.65
3rd sub-pillar: Governments	86	36.53
C. Governance pillar	**97**	**44.84**
1st sub-pillar: Trust	83	34.06
2nd sub-pillar: Regulation	64	64.59
3rd sub-pillar: Inclusion	118	35.86
D. Impact pillar	**64**	**54.80**
1st sub-pillar: Economy	47	44.09
2nd sub-pillar: Quality of Life	95	59.10
3rd sub-pillar: SDG Contribution	69	61.21



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	69	43.06	
1st sub-pillar: Access	65	65.95	
1.1.1 Mobile tariffs	90	46.10	
1.1.2 Handset prices	68	52.07	
1.1.3 Households with internet access	46	84.65	●
1.1.4 SMS sent by population 15-69	43	79.28	●
1.1.5 Population covered by at least a 3G mobile network	60	99.73	
1.1.6 International Internet bandwidth	18	20.86	●
1.1.7 Internet access in schools	34	78.96	
2nd sub-pillar: Content	81	32.10	
1.2.1 GitHub commits	103	0.69	
1.2.2 Wikipedia edits	99	29.24	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	87	67.10	
1.2.5 AI scientific publications	31	62.16	●
3rd sub-pillar: Future Technologies	71	31.12	
1.3.1 Adoption of emerging technologies	90	37.16	
1.3.2 Investment in emerging technologies	82	34.94	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	57	21.27	
B. People pillar	88	41.54	
1st sub-pillar: Individuals	86	55.44	
2.1.1 Active mobile broadband subscriptions	32	81.35	●
2.1.2 ICT skills	45	44.34	
2.1.3 Use of virtual social networks	80	58.73	
2.1.4 Tertiary enrollment	76	26.56	
2.1.5 Adult literacy rate	88	66.23	
2nd sub-pillar: Businesses	87	32.65	
2.2.1 Firms with website	60	53.11	
2.2.2 GERD financed by business enterprise	59	37.00	
2.2.3 Professionals	123	3.53	○
2.2.4 Technicians and associate professionals	96	18.27	
2.2.5 Annual investment in telecommunication services	54	79.22	
2.2.6 GERD performed by business enterprise	51	4.74	
3rd sub-pillar: Governments	86	36.53	
2.3.1 Government online services	96	50.91	
2.3.2 Publication and use of open data	78	16.63	
2.3.3 Government promotion of investment in emerging tech	78	33.34	
2.3.4 R&D expenditure by governments and higher education	39	45.26	●

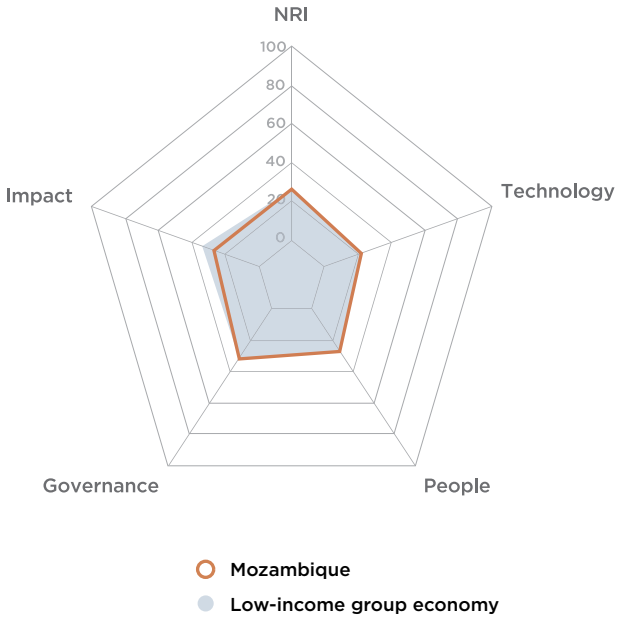
Indicator	Rank	Score	
C. Governance pillar	97	44.84	
1st sub-pillar: Trust	83	34.06	
3.1.1 Secure Internet servers	72	48.55	
3.1.2 Cybersecurity	58	82.10	
3.1.3 Online access to financial account	117	3.56	○
3.1.4 Internet shopping	115	2.04	○
2nd sub-pillar: Regulation	64	64.59	
3.2.1 Regulatory quality	85	35.36	
3.2.2 ICT regulatory environment	39	87.65	●
3.2.3 Legal framework's adaptability to emerging technologies	90	28.78	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	55	71.14	
3rd sub-pillar: Inclusion	118	35.86	
3.3.1 E-Participation	95	49.38	
3.3.2 Socioeconomic gap in use of digital payments	116	15.49	○
3.3.3 Availability of local online content	69	59.97	
3.3.4 Gender gap in Internet use	75	54.46	
3.3.5 Rural gap in use of digital payments	121	0.00	○
D. Impact pillar	64	54.80	
1st sub-pillar: Economy	47	44.09	
4.1.1 High-tech and medium-high-tech manufacturing	29	48.95	●
4.1.2 High-tech exports	55	30.42	
4.1.3 PCT patent applications	56	40.65	
4.1.4 Growth rate of GDP per person engaged	60	59.84	
4.1.5 Prevalence of gig economy	65	41.75	
4.1.6 ICT services exports	28	42.94	●
2nd sub-pillar: Quality of Life	95	59.10	
4.2.1 Happiness	101	34.74	
4.2.2 Freedom to make life choices	73	75.33	
4.2.3 Income inequality	74	61.20	
4.2.4 Healthy life expectancy at birth	87	65.13	
3rd sub-pillar: SDG Contribution	69	61.21	
4.3.1 SDG 3: Good Health and Well-Being	67	68.85	
4.3.2 SDG 4: Quality Education	73	13.80	
4.3.3 Females employed with advanced degrees	NA	NA	
4.3.4 SDG 7: Affordable and Clean Energy	25	86.02	●
4.3.5 SDG 11: Sustainable Cities and Communities	81	76.16	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Mozambique

Network Readiness Index	Rank (out of 130)	Score
	125	26.55

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**121**	**21.93**
1st sub-pillar: Access	112	37.51
2nd sub-pillar: Content	125	13.26
3rd sub-pillar: Future Technologies	124	15.02
B. People pillar	**122**	**25.68**
1st sub-pillar: Individuals	120	33.53
2nd sub-pillar: Businesses	122	21.04
3rd sub-pillar: Governments	114	22.47
C. Governance pillar	**123**	**31.71**
1st sub-pillar: Trust	112	22.38
2nd sub-pillar: Regulation	114	43.81
3rd sub-pillar: Inclusion	124	28.94
D. Impact pillar	**126**	**26.86**
1st sub-pillar: Economy	122	16.05
2nd sub-pillar: Quality of Life	118	41.33
3rd sub-pillar: SDG Contribution	129	23.19



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	121	21.93	
1st sub-pillar: Access	112	37.51	
1.1.1 Mobile tariffs	118	25.76	
1.1.2 Handset prices	119	18.40	
1.1.3 Households with internet access	125	1.90	○
1.1.4 SMS sent by population 15-69	21	83.80	●
1.1.5 Population covered by at least a 3G mobile network	107	94.63	
1.1.6 International Internet bandwidth	68	0.59	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	125	13.26	
1.2.1 GitHub commits	115	0.18	
1.2.2 Wikipedia edits	121	15.45	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	119	42.30	
1.2.5 AI scientific publications	116	8.27	
3rd sub-pillar: Future Technologies	124	15.02	
1.3.1 Adoption of emerging technologies	117	17.19	
1.3.2 Investment in emerging technologies	106	26.00	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	108	1.88	
B. People pillar	122	25.68	
1st sub-pillar: Individuals	120	33.53	
2.1.1 Active mobile broadband subscriptions	81	73.23	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	119	6.96	
2.1.4 Tertiary enrollment	113	4.57	
2.1.5 Adult literacy rate	96	49.37	
2nd sub-pillar: Businesses	122	21.04	
2.2.1 Firms with website	85	35.64	●
2.2.2 GERD financed by business enterprise	98	0.53	
2.2.3 Professionals	120	4.13	
2.2.4 Technicians and associate professionals	120	5.41	
2.2.5 Annual investment in telecommunication services	114	59.46	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	114	22.47	
2.3.1 Government online services	99	50.30	
2.3.2 Publication and use of open data	101	3.19	
2.3.3 Government promotion of investment in emerging tech	113	12.95	
2.3.4 R&D expenditure by governments and higher education	68	23.46	●

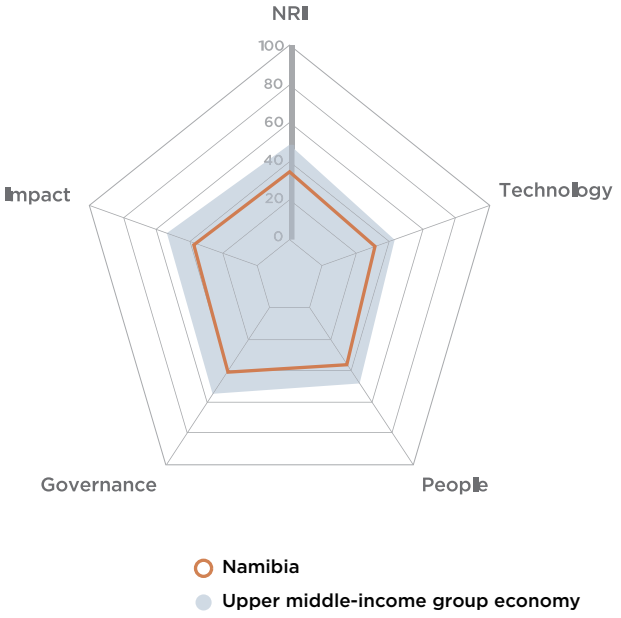
Indicator	Rank	Score	
C. Governance pillar	123	31.71	
1st sub-pillar: Trust	112	22.38	
3.1.1 Secure Internet servers	117	26.89	
3.1.2 Cybersecurity	111	22.85	
3.1.3 Online access to financial account	53	34.30	●
3.1.4 Internet shopping	90	5.48	
2nd sub-pillar: Regulation	114	43.81	
3.2.1 Regulatory quality	113	21.38	
3.2.2 ICT regulatory environment	109	62.55	
3.2.3 Legal framework's adaptability to emerging technologies	117	10.34	
3.2.4 E-commerce legislation	112	50.00	
3.2.5 Privacy protection by law content	44	74.78	●
3rd sub-pillar: Inclusion	124	28.94	
3.3.1 E-Participation	93	50.62	●
3.3.2 Socioeconomic gap in use of digital payments	112	22.12	
3.3.3 Availability of local online content	125	18.19	
3.3.4 Gender gap in Internet use	91	0.00	○
3.3.5 Rural gap in use of digital payments	90	53.79	
D. Impact pillar	126	26.86	
1st sub-pillar: Economy	122	16.05	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	94	7.64	●
4.1.3 PCT patent applications	96	0.00	○
4.1.4 Growth rate of GDP per person engaged	61	59.24	●
4.1.5 Prevalence of gig economy	119	5.83	
4.1.6 ICT services exports	105	7.53	
2nd sub-pillar: Quality of Life	118	41.33	
4.2.1 Happiness	97	37.47	
4.2.2 Freedom to make life choices	44	83.94	●
4.2.3 Income inequality	113	23.44	
4.2.4 Healthy life expectancy at birth	127	20.48	○
3rd sub-pillar: SDG Contribution	129	23.19	
4.3.1 SDG 3: Good Health and Well-Being	112	29.51	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	115	2.01	
4.3.4 SDG 7: Affordable and Clean Energy	127	5.99	○
4.3.5 SDG 11: Sustainable Cities and Communities	114	55.27	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness

Namibia

	Rank (out of 130)	Score
Network Readiness Index	**109**	**35.66**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**104**	**30.91**
1st sub-pillar: Access	92	52.61
2nd sub-pillar: Content	124	13.75
3rd sub-pillar: Future Technologies	93	26.38
B. People pillar	**102**	**35.43**
1st sub-pillar: Individuals	96	50.52
2nd sub-pillar: Businesses	107	26.44
3rd sub-pillar: Governments	98	29.32
C. Governance pillar	**104**	**39.85**
1st sub-pillar: Trust	98	29.26
2nd sub-pillar: Regulation	119	38.76
3rd sub-pillar: Inclusion	91	51.53
D. Impact pillar	**116**	**36.43**
1st sub-pillar: Economy	101	24.95
2nd sub-pillar: Quality of Life	126	31.59
3rd sub-pillar: SDG Contribution	94	52.75



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	104	30.91	
1st sub-pillar: Access	92	52.61	
1.1.1 Mobile tariffs	87	48.39	
1.1.2 Handset prices	85	43.21	
1.1.3 Households with internet access	NA	NA	
1.1.4 SMS sent by population 15-69	30	81.68	●
1.1.5 Population covered by at least a 3G mobile network	114	89.71	
1.1.6 International Internet bandwidth	83	0.08	○
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	124	13.75	
1.2.1 GitHub commits	105	0.54	
1.2.2 Wikipedia edits	63	52.95	●
1.2.3 Internet domain registrations	*	*	●
1.2.4 Mobile apps development	130	0.00	○
1.2.5 AI scientific publications	112	11.12	
3rd sub-pillar: Future Technologies	93	26.38	
1.3.1 Adoption of emerging technologies	71	44.52	
1.3.2 Investment in emerging technologies	NA	NA	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	88	8.23	
B. People pillar	102	35.43	
1st sub-pillar: Individuals	96	50.52	
2.1.1 Active mobile broadband subscriptions	108	67.04	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	102	29.52	
2.1.4 Tertiary enrollment	90	16.39	
2.1.5 Adult literacy rate	61	89.12	
2nd sub-pillar: Businesses	107	26.44	
2.2.1 Firms with website	86	34.60	
2.2.2 GERD financed by business enterprise	74	13.68	
2.2.3 Professionals	86	17.92	
2.2.4 Technicians and associate professionals	83	22.90	
2.2.5 Annual investment in telecommunication services	110	68.78	
2.2.6 GERD performed by business enterprise	75	0.78	
3rd sub-pillar: Governments	98	29.32	
2.3.1 Government online services	96	50.91	
2.3.2 Publication and use of open data	93	8.82	
2.3.3 Government promotion of investment in emerging tech	76	33.74	
2.3.4 R&D expenditure by governments and higher education	67	23.79	

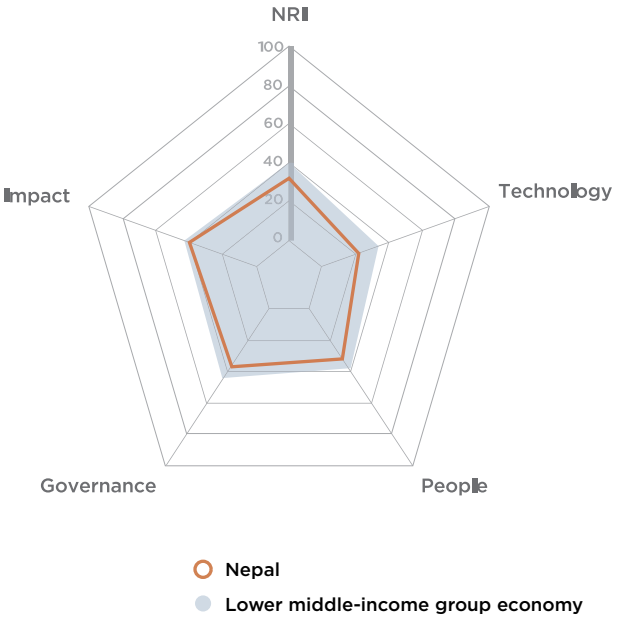
Indicator	Rank	Score	
C. Governance pillar	104	39.85	
1st sub-pillar: Trust	98	29.26	
3.1.1 Secure Internet servers	89	42.81	
3.1.2 Cybersecurity	124	9.91	
3.1.3 Online access to financial account	35	48.77	●
3.1.4 Internet shopping	65	15.54	●
2nd sub-pillar: Regulation	119	38.76	
3.2.1 Regulatory quality	76	38.16	
3.2.2 ICT regulatory environment	87	72.55	
3.2.3 Legal framework's adaptability to emerging technologies	76	35.76	
3.2.4 E-commerce legislation	127	0.00	○
3.2.5 Privacy protection by law content	102	47.34	
3rd sub-pillar: Inclusion	91	51.53	
3.3.1 E-Participation	98	48.15	
3.3.2 Socioeconomic gap in use of digital payments	73	53.17	
3.3.3 Availability of local online content	103	37.76	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	63	67.03	●
D. Impact pillar	116	36.43	
1st sub-pillar: Economy	101	24.95	
4.1.1 High-tech and medium-high-tech manufacturing	96	3.11	
4.1.2 High-tech exports	69	17.51	●
4.1.3 PCT patent applications	49	44.78	●
4.1.4 Growth rate of GDP per person engaged	111	40.53	
4.1.5 Prevalence of gig economy	70	39.52	●
4.1.6 ICT services exports	122	4.28	
2nd sub-pillar: Quality of Life	126	31.59	
4.2.1 Happiness	110	27.30	
4.2.2 Freedom to make life choices	117	49.34	
4.2.3 Income inequality	116	10.16	○
4.2.4 Healthy life expectancy at birth	113	39.57	
3rd sub-pillar: SDG Contribution	94	52.75	
4.3.1 SDG 3: Good Health and Well-Being	92	55.74	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	84	24.17	
4.3.4 SDG 7: Affordable and Clean Energy	38	83.47	●
4.3.5 SDG 11: Sustainable Cities and Communities	124	47.62	○

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Nepal

	Rank (out of 130)	Score
Network Readiness Index	**115**	**32.36**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**123**	**21.10**
1st sub-pillar: Access	130	20.06
2nd sub-pillar: Content	97	24.85
3rd sub-pillar: Future Technologies	115	18.39
B. People pillar	**112**	**30.61**
1st sub-pillar: Individuals	100	47.09
2nd sub-pillar: Businesses	124	18.97
3rd sub-pillar: Governments	105	25.78
C. Governance pillar	**111**	**36.62**
1st sub-pillar: Trust	107	23.80
2nd sub-pillar: Regulation	109	48.59
3rd sub-pillar: Inclusion	113	37.47
D. Impact pillar	**108**	**41.12**
1st sub-pillar: Economy	120	17.59
2nd sub-pillar: Quality of Life	76	63.70
3rd sub-pillar: SDG Contribution	114	42.08



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	123	21.10	
1st sub-pillar: Access	130	20.06	
1.1.1 Mobile tariffs	97	43.21	
1.1.2 Handset prices	121	16.84	○
1.1.3 Households with internet access	110	17.74	
1.1.4 SMS sent by population 15-69	NA	NA	
1.1.5 Population covered by at least a 3G mobile network	NA	NA	
1.1.6 International Internet bandwidth	50	2.43	●
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	97	24.85	
1.2.1 GitHub commits	79	2.16	●
1.2.2 Wikipedia edits	106	26.78	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	88	66.91	
1.2.5 AI scientific publications	85	27.67	●
3rd sub-pillar: Future Technologies	115	18.39	
1.3.1 Adoption of emerging technologies	107	27.45	
1.3.2 Investment in emerging technologies	105	26.30	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	113	1.42	○
B. People pillar	112	30.61	
1st sub-pillar: Individuals	100	47.09	
2.1.1 Active mobile broadband subscriptions	45	77.79	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	95	43.04	
2.1.4 Tertiary enrollment	102	8.80	
2.1.5 Adult literacy rate	92	58.71	
2nd sub-pillar: Businesses	124	18.97	
2.2.1 Firms with website	104	19.21	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	83	19.27	
2.2.4 Technicians and associate professionals	95	18.44	
2.2.5 Annual investment in telecommunication services	NA	NA	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	105	25.78	
2.3.1 Government online services	113	38.18	
2.3.2 Publication and use of open data	81	15.25	
2.3.3 Government promotion of investment in emerging tech	99	23.92	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

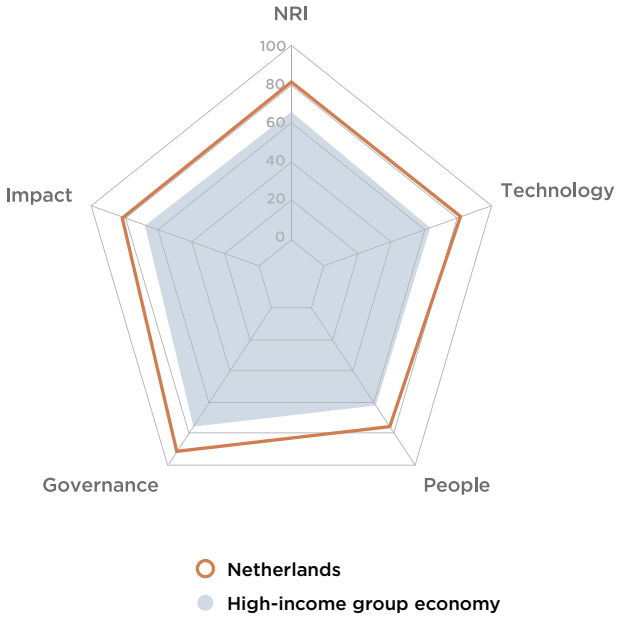
Indicator	Rank	Score	
C. Governance pillar	111	36.62	
1st sub-pillar: Trust	107	23.80	
3.1.1 Secure Internet servers	91	42.63	
3.1.2 Cybersecurity	96	44.02	
3.1.3 Online access to financial account	112	6.34	○
3.1.4 Internet shopping	113	2.20	○
2nd sub-pillar: Regulation	109	48.59	
3.2.1 Regulatory quality	111	22.02	
3.2.2 ICT regulatory environment	117	57.65	
3.2.3 Legal framework's adaptability to emerging technologies	95	24.70	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	116	38.61	
3rd sub-pillar: Inclusion	113	37.47	
3.3.1 E-Participation	112	34.56	
3.3.2 Socioeconomic gap in use of digital payments	92	36.25	
3.3.3 Availability of local online content	108	34.35	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	105	44.73	
D. Impact pillar	108	41.12	
1st sub-pillar: Economy	120	17.59	
4.1.1 High-tech and medium-high-tech manufacturing	94	5.84	
4.1.2 High-tech exports	118	2.19	○
4.1.3 PCT patent applications	NA	NA	
4.1.4 Growth rate of GDP per person engaged	NA	NA	
4.1.5 Prevalence of gig economy	105	23.33	
4.1.6 ICT services exports	38	39.00	●
2nd sub-pillar: Quality of Life	76	63.70	
4.2.1 Happiness	77	48.40	●
4.2.2 Freedom to make life choices	78	70.47	●
4.2.3 Income inequality	34	78.65	●
4.2.4 Healthy life expectancy at birth	97	57.28	
3rd sub-pillar: SDG Contribution	114	42.08	
4.3.1 SDG 3: Good Health and Well-Being	107	32.79	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	101	9.54	
4.3.4 SDG 7: Affordable and Clean Energy	114	48.72	
4.3.5 SDG 11: Sustainable Cities and Communities	78	77.26	●

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Netherlands

	Rank (out of 130)	Score
Network Readiness Index	**1**	**82.06**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**3**	**81.74**
1st sub-pillar: Access	12	88.39
2nd sub-pillar: Content	2	84.95
3rd sub-pillar: Future Technologies	7	71.88
B. People pillar	**7**	**75.18**
1st sub-pillar: Individuals	5	79.99
2nd sub-pillar: Businesses	12	68.64
3rd sub-pillar: Governments	11	76.91
C. Governance pillar	**2**	**90.23**
1st sub-pillar: Trust	3	94.37
2nd sub-pillar: Regulation	4	91.19
3rd sub-pillar: Inclusion	6	85.13
D. Impact pillar	**3**	**81.10**
1st sub-pillar: Economy	6	68.68
2nd sub-pillar: Quality of Life	4	92.19
3rd sub-pillar: SDG Contribution	11	82.43



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	3	81.74	
1st sub-pillar: Access	12	88.39	
1.1.1 Mobile tariffs	23	79.27	
1.1.2 Handset prices	23	76.36	
1.1.3 Households with internet access	16	93.92	
1.1.4 SMS sent by population 15-69	33	81.07	
1.1.5 Population covered by at least a 3G mobile network	51	99.73	○
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	2	84.95	
1.2.1 GitHub commits	5	73.75	●
1.2.2 Wikipedia edits	9	85.33	
1.2.3 Internet domain registrations	*	*	●
1.2.4 Mobile apps development	1	100.00	●
1.2.5 AI scientific publications	20	65.65	
3rd sub-pillar: Future Technologies	7	71.88	
1.3.1 Adoption of emerging technologies	1	100.00	●
1.3.2 Investment in emerging technologies	5	87.95	●
1.3.3 Robot density	11	53.12	
1.3.4 Computer software spending	15	46.45	
B. People pillar	7	75.18	
1st sub-pillar: Individuals	5	79.99	
2.1.1 Active mobile broadband subscriptions	36	80.11	
2.1.2 ICT skills	4	90.53	
2.1.3 Use of virtual social networks	6	88.57	
2.1.4 Tertiary enrollment	12	60.74	
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	12	68.64	
2.2.1 Firms with website	9	86.37	
2.2.2 GERD financed by business enterprise	16	70.12	
2.2.3 Professionals	5	65.69	
2.2.4 Technicians and associate professionals	17	70.95	
2.2.5 Annual investment in telecommunication services	18	85.48	
2.2.6 GERD performed by business enterprise	15	33.23	
3rd sub-pillar: Governments	11	76.91	
2.3.1 Government online services	12	90.30	
2.3.2 Publication and use of open data	9	74.88	
2.3.3 Government promotion of investment in emerging tech	20	66.84	
2.3.4 R&D expenditure by governments and higher education	12	75.61	

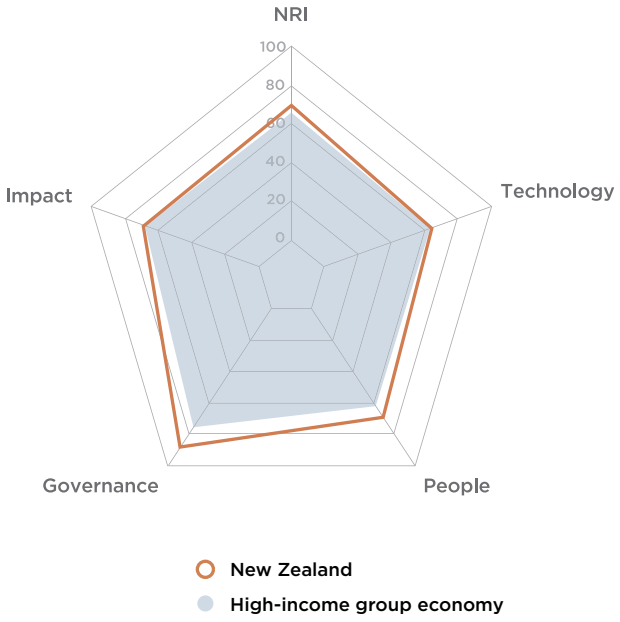
Indicator	Rank	Score	
C. Governance pillar	2	90.23	
1st sub-pillar: Trust	3	94.37	
3.1.1 Secure Internet servers	3	94.37	●
3.1.2 Cybersecurity	22	97.00	
3.1.3 Online access to financial account	5	89.01	
3.1.4 Internet shopping	2	97.11	●
2nd sub-pillar: Regulation	4	91.19	
3.2.1 Regulatory quality	5	91.82	●
3.2.2 ICT regulatory environment	20	93.53	
3.2.3 Legal framework's adaptability to emerging technologies	8	82.05	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	16	88.54	
3rd sub-pillar: Inclusion	6	85.13	
3.3.1 E-Participation	9	96.30	
3.3.2 Socioeconomic gap in use of digital payments	11	95.90	
3.3.3 Availability of local online content	3	97.09	●
3.3.4 Gender gap in Internet use	62	60.51	○
3.3.5 Rural gap in use of digital payments	24	75.85	
D. Impact pillar	3	81.10	
1st sub-pillar: Economy	6	68.68	
4.1.1 High-tech and medium-high-tech manufacturing	11	64.84	
4.1.2 High-tech exports	15	67.81	
4.1.3 PCT patent applications	10	87.53	
4.1.4 Growth rate of GDP per person engaged	86	51.96	○
4.1.5 Prevalence of gig economy	2	94.63	●
4.1.6 ICT services exports	22	45.31	
2nd sub-pillar: Quality of Life	4	92.19	
4.2.1 Happiness	5	91.86	●
4.2.2 Freedom to make life choices	14	94.91	
4.2.3 Income inequality	13	90.89	
4.2.4 Healthy life expectancy at birth	14	91.09	
3rd sub-pillar: SDG Contribution	11	82.43	
4.3.1 SDG 3: Good Health and Well-Being	6	95.08	
4.3.2 SDG 4: Quality Education	15	68.74	
4.3.3 Females employed with advanced degrees	27	69.77	
4.3.4 SDG 7: Affordable and Clean Energy	45	81.63	○
4.3.5 SDG 11: Sustainable Cities and Communities	14	96.91	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

New Zealand

	Rank (out of 130)	Score
Network Readiness Index	**20**	**72.00**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**24**	**63.91**
1st sub-pillar: Access	42	74.40
2nd sub-pillar: Content	14	71.17
3rd sub-pillar: Future Technologies	31	46.16
B. People pillar	**17**	**67.17**
1st sub-pillar: Individuals	36	71.15
2nd sub-pillar: Businesses	21	60.65
3rd sub-pillar: Governments	18	69.69
C. Governance pillar	**8**	**86.06**
1st sub-pillar: Trust	11	84.59
2nd sub-pillar: Regulation	17	84.01
3rd sub-pillar: Inclusion	3	89.57
D. Impact pillar	**26**	**70.87**
1st sub-pillar: Economy	44	46.11
2nd sub-pillar: Quality of Life	9	88.62
3rd sub-pillar: SDG Contribution	22	77.89



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	24	63.91	
1st sub-pillar: Access	42	74.40	
1.1.1 Mobile tariffs	32	77.87	
1.1.2 Handset prices	7	93.83	●
1.1.3 Households with internet access	36	87.95	
1.1.4 SMS sent by population 15-69	31	81.45	
1.1.5 Population covered by at least a 3G mobile network	70	99.46	○
1.1.6 International Internet bandwidth	34	5.86	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	14	71.17	
1.2.1 GitHub commits	6	72.66	●
1.2.2 Wikipedia edits	10	85.03	●
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	20	94.23	
1.2.5 AI scientific publications	50	53.63	
3rd sub-pillar: Future Technologies	31	46.16	
1.3.1 Adoption of emerging technologies	18	77.97	
1.3.2 Investment in emerging technologies	19	68.51	
1.3.3 Robot density	29	14.53	
1.3.4 Computer software spending	45	23.64	
B. People pillar	17	67.17	
1st sub-pillar: Individuals	36	71.15	
2.1.1 Active mobile broadband subscriptions	79	73.29	○
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	19	82.33	
2.1.4 Tertiary enrollment	16	57.85	
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	21	60.65	
2.2.1 Firms with website	14	84.77	
2.2.2 GERD financed by business enterprise	33	57.38	
2.2.3 Professionals	NA	NA	
2.2.4 Technicians and associate professionals	NA	NA	
2.2.5 Annual investment in telecommunication services	35	82.31	
2.2.6 GERD performed by business enterprise	28	18.14	
3rd sub-pillar: Governments	18	69.69	
2.3.1 Government online services	10	92.73	
2.3.2 Publication and use of open data	7	79.32	●
2.3.3 Government promotion of investment in emerging tech	35	51.77	
2.3.4 R&D expenditure by governments and higher education	26	54.95	

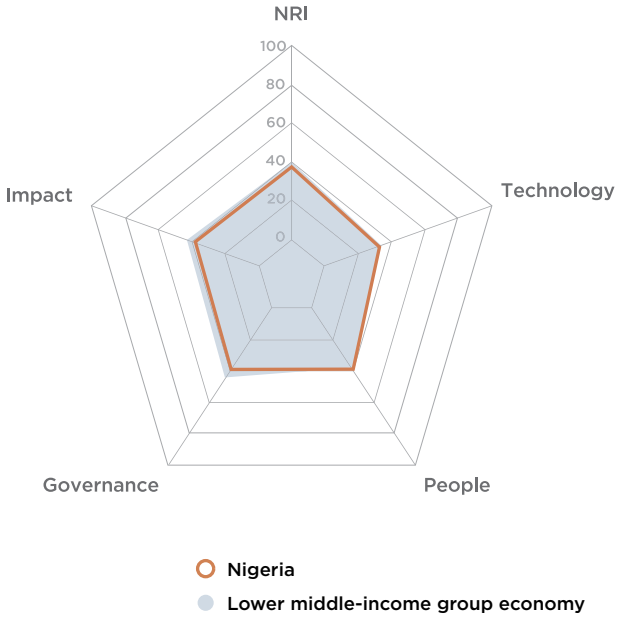
Indicator	Rank	Score	
C. Governance pillar	8	86.06	
1st sub-pillar: Trust	11	84.59	
3.1.1 Secure Internet servers	35	79.24	
3.1.2 Cybersecurity	56	83.76	
3.1.3 Online access to financial account	6	86.73	●
3.1.4 Internet shopping	8	88.63	●
2nd sub-pillar: Regulation	17	84.01	
3.2.1 Regulatory quality	3	92.36	●
3.2.2 ICT regulatory environment	39	87.65	
3.2.3 Legal framework's adaptability to emerging technologies	23	65.82	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	46	74.22	
3rd sub-pillar: Inclusion	3	89.57	
3.3.1 E-Participation	4	98.77	●
3.3.2 Socioeconomic gap in use of digital payments	4	99.13	●
3.3.3 Availability of local online content	17	86.43	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	38	73.94	
D. Impact pillar	26	70.87	
1st sub-pillar: Economy	44	46.11	
4.1.1 High-tech and medium-high-tech manufacturing	69	18.36	○
4.1.2 High-tech exports	62	26.46	
4.1.3 PCT patent applications	22	73.12	
4.1.4 Growth rate of GDP per person engaged	54	61.89	
4.1.5 Prevalence of gig economy	14	73.86	
4.1.6 ICT services exports	76	23.00	○
2nd sub-pillar: Quality of Life	9	88.62	
4.2.1 Happiness	10	86.64	
4.2.2 Freedom to make life choices	21	92.13	
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	27	87.07	
3rd sub-pillar: SDG Contribution	22	77.89	
4.3.1 SDG 3: Good Health and Well-Being	2	96.72	●
4.3.2 SDG 4: Quality Education	13	68.92	
4.3.3 Females employed with advanced degrees	31	64.60	
4.3.4 SDG 7: Affordable and Clean Energy	81	71.25	○
4.3.5 SDG 11: Sustainable Cities and Communities	47	87.97	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Nigeria

	Rank (out of 130)	Score
Network Readiness Index	**103**	**65.32**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**100**	**31.90**
1st sub-pillar: Access	99	46.66
2nd sub-pillar: Content	98	23.68
3rd sub-pillar: Future Technologies	97	25.35
B. People pillar	**91**	**40.01**
1st sub-pillar: Individuals	109	39.50
2nd sub-pillar: Businesses	42	51.05
3rd sub-pillar: Governments	97	29.48
C. Governance pillar	**105**	**39.40**
1st sub-pillar: Trust	76	35.93
2nd sub-pillar: Regulation	107	49.52
3rd sub-pillar: Inclusion	120	32.76
D. Impact pillar	**111**	**38.74**
1st sub-pillar: Economy	114	19.56
2nd sub-pillar: Quality of Life	100	53.39
3rd sub-pillar: SDG Contribution	110	43.26



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	100	31.90	
1st sub-pillar: Access	99	46.66	
1.1.1 Mobile tariffs	88	47.90	
1.1.2 Handset prices	76	47.47	
1.1.3 Households with internet access	121	7.29	○
1.1.4 SMS sent by population 15-69	40	80.17	●
1.1.5 Population covered by at least a 3G mobile network	112	91.93	
1.1.6 International Internet bandwidth	39	5.21	●
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	98	23.68	
1.2.1 GitHub commits	94	1.03	
1.2.2 Wikipedia edits	124	13.66	○
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	112	51.93	
1.2.5 AI scientific publications	53	51.41	●
3rd sub-pillar: Future Technologies	97	25.35	
1.3.1 Adoption of emerging technologies	74	43.17	
1.3.2 Investment in emerging technologies	113	22.87	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	83	10.02	
B. People pillar	91	40.01	
1st sub-pillar: Individuals	109	39.50	
2.1.1 Active mobile broadband subscriptions	11	86.77	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	113	13.51	
2.1.4 Tertiary enrollment	107	6.58	
2.1.5 Adult literacy rate	95	51.12	
2nd sub-pillar: Businesses	42	51.05	
2.2.1 Firms with website	110	14.81	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	98	14.24	
2.2.4 Technicians and associate professionals	4	91.41	●
2.2.5 Annual investment in telecommunication services	29	83.74	●
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	97	29.48	
2.3.1 Government online services	99	50.30	
2.3.2 Publication and use of open data	69	20.75	
2.3.3 Government promotion of investment in emerging tech	108	17.39	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

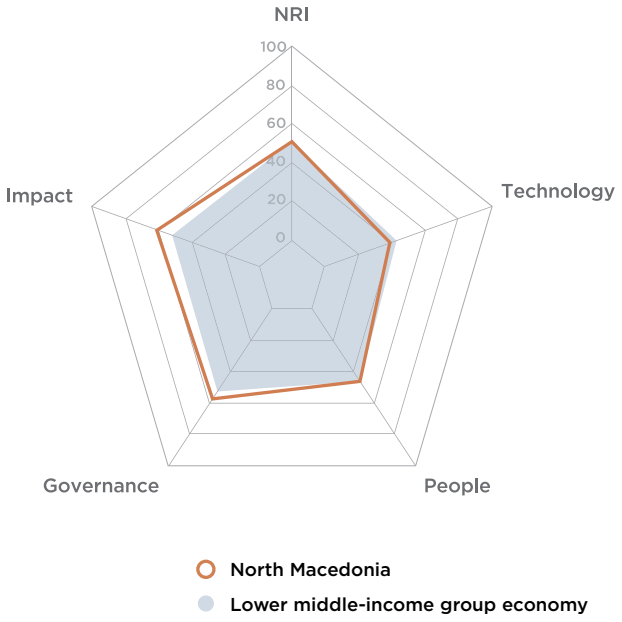
Indicator	Rank	Score	
C. Governance pillar	105	39.40	
1st sub-pillar: Trust	76	35.93	
3.1.1 Secure Internet servers	106	34.31	
3.1.2 Cybersecurity	55	84.49	●
3.1.3 Online access to financial account	77	19.70	
3.1.4 Internet shopping	92	5.21	
2nd sub-pillar: Regulation	107	49.52	
3.2.1 Regulatory quality	119	17.67	
3.2.2 ICT regulatory environment	56	85.10	●
3.2.3 Legal framework's adaptability to emerging technologies	98	22.70	
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	103	47.13	
3rd sub-pillar: Inclusion	120	32.76	
3.3.1 E-Participation	100	46.91	
3.3.2 Socioeconomic gap in use of digital payments	106	28.01	
3.3.3 Availability of local online content	115	27.51	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	112	28.59	○
D. Impact pillar	111	38.74	
1st sub-pillar: Economy	114	19.56	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	116	2.55	
4.1.3 PCT patent applications	95	4.72	
4.1.4 Growth rate of GDP per person engaged	81	53.13	
4.1.5 Prevalence of gig economy	90	31.17	
4.1.6 ICT services exports	113	6.21	
2nd sub-pillar: Quality of Life	100	53.39	
4.2.1 Happiness	71	49.54	●
4.2.2 Freedom to make life choices	104	57.37	
4.2.3 Income inequality	51	72.66	●
4.2.4 Healthy life expectancy at birth	121	34.00	○
3rd sub-pillar: SDG Contribution	110	43.26	
4.3.1 SDG 3: Good Health and Well-Being	120	22.95	○
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	89	20.08	
4.3.4 SDG 7: Affordable and Clean Energy	107	59.90	
4.3.5 SDG 11: Sustainable Cities and Communities	90	70.11	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

North Macedonia

	Rank (out of 130)	Score
Network Readiness Index	**64**	**73.79**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**85**	**38.14**
1st sub-pillar: Access	85	54.65
2nd sub-pillar: Content	53	38.95
3rd sub-pillar: Future Technologies	107	20.81
B. People pillar	**72**	**45.97**
1st sub-pillar: Individuals	82	57.40
2nd sub-pillar: Businesses	62	42.00
3rd sub-pillar: Governments	80	38.51
C. Governance pillar	**61**	**56.92**
1st sub-pillar: Trust	63	45.86
2nd sub-pillar: Regulation	70	63.36
3rd sub-pillar: Inclusion	68	61.53
D. Impact pillar	**43**	**61.48**
1st sub-pillar: Economy	46	44.19
2nd sub-pillar: Quality of Life	39	75.75
3rd sub-pillar: SDG Contribution	57	64.51



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	85	38.14	
1st sub-pillar: Access	85	54.65	
1.1.1 Mobile tariffs	101	41.55	
1.1.2 Handset prices	100	36.13	
1.1.3 Households with internet access	58	80.02	
1.1.4 SMS sent by population 15-69	104	69.93	○
1.1.5 Population covered by at least a 3G mobile network	34	99.97	●
1.1.6 International Internet bandwidth	74	0.31	○
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	53	38.95	
1.2.1 GitHub commits	51	7.03	
1.2.2 Wikipedia edits	40	71.12	●
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	54	80.08	
1.2.5 AI scientific publications	81	29.74	
3rd sub-pillar: Future Technologies	107	20.81	
1.3.1 Adoption of emerging technologies	96	32.55	
1.3.2 Investment in emerging technologies	122	17.45	○
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	79	12.42	
B. People pillar	72	45.97	
1st sub-pillar: Individuals	82	57.40	
2.1.1 Active mobile broadband subscriptions	112	65.29	○
2.1.2 ICT skills	48	37.79	
2.1.3 Use of virtual social networks	82	56.96	
2.1.4 Tertiary enrollment	67	29.78	
2.1.5 Adult literacy rate	32	97.20	●
2nd sub-pillar: Businesses	62	42.00	
2.2.1 Firms with website	48	62.49	
2.2.2 GERD financed by business enterprise	61	29.16	
2.2.3 Professionals	45	38.05	
2.2.4 Technicians and associate professionals	44	48.57	●
2.2.5 Annual investment in telecommunication services	98	71.54	
2.2.6 GERD performed by business enterprise	61	2.20	
3rd sub-pillar: Governments	80	38.51	
2.3.1 Government online services	57	73.34	
2.3.2 Publication and use of open data	49	32.39	
2.3.3 Government promotion of investment in emerging tech	94	27.20	
2.3.4 R&D expenditure by governments and higher education	73	21.11	

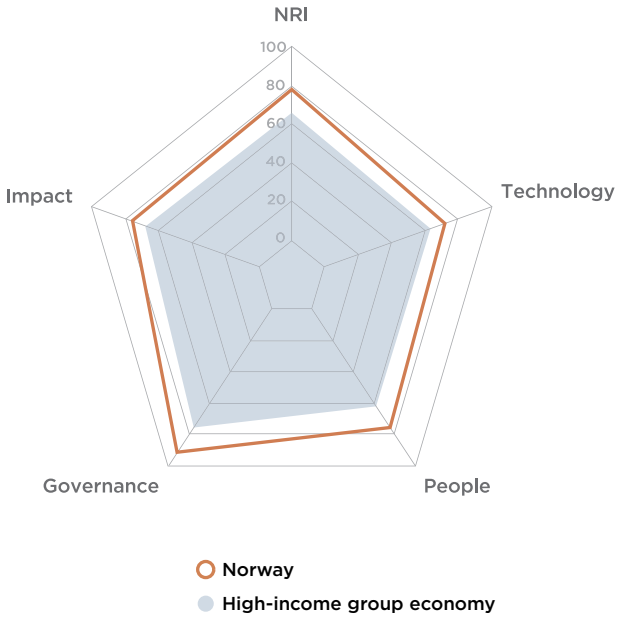
Indicator	Rank	Score	
C. Governance pillar	61	56.92	
1st sub-pillar: Trust	63	45.86	
3.1.1 Secure Internet servers	63	55.26	
3.1.2 Cybersecurity	46	89.74	●
3.1.3 Online access to financial account	85	16.85	
3.1.4 Internet shopping	55	21.59	
2nd sub-pillar: Regulation	70	63.36	
3.2.1 Regulatory quality	48	54.98	
3.2.2 ICT regulatory environment	45	87.06	
3.2.3 Legal framework's adaptability to emerging technologies	91	28.51	
3.2.4 E-commerce legislation	76	75.00	○
3.2.5 Privacy protection by law content	54	71.24	
3rd sub-pillar: Inclusion	68	61.53	
3.3.1 E-Participation	38	82.71	●
3.3.2 Socioeconomic gap in use of digital payments	70	54.76	
3.3.3 Availability of local online content	80	52.34	
3.3.4 Gender gap in Internet use	67	58.31	
3.3.5 Rural gap in use of digital payments	78	59.52	
D. Impact pillar	43	61.48	
1st sub-pillar: Economy	46	44.19	
4.1.1 High-tech and medium-high-tech manufacturing	22	54.23	●
4.1.2 High-tech exports	49	36.81	
4.1.3 PCT patent applications	54	42.35	
4.1.4 Growth rate of GDP per person engaged	83	52.62	
4.1.5 Prevalence of gig economy	66	40.36	
4.1.6 ICT services exports	40	38.75	●
2nd sub-pillar: Quality of Life	39	75.75	
4.2.1 Happiness	NA	NA	
4.2.2 Freedom to make life choices	NA	NA	
4.2.3 Income inequality	38	78.12	●
4.2.4 Healthy life expectancy at birth	64	73.37	
3rd sub-pillar: SDG Contribution	57	64.51	
4.3.1 SDG 3: Good Health and Well-Being	63	72.13	
4.3.2 SDG 4: Quality Education	65	26.92	
4.3.3 Females employed with advanced degrees	47	50.42	
4.3.4 SDG 7: Affordable and Clean Energy	60	78.04	
4.3.5 SDG 11: Sustainable Cities and Communities	22	95.05	●

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Norway

	Rank (out of 130)	Score
Network Readiness Index	**9**	**78.49**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**13**	**71.88**
1st sub-pillar: Access	7	91.53
2nd sub-pillar: Content	3	79.56
3rd sub-pillar: Future Technologies	37	44.56
B. People pillar	**6**	**75.27**
1st sub-pillar: Individuals	9	78.60
2nd sub-pillar: Businesses	18	62.93
3rd sub-pillar: Governments	3	84.29
C. Governance pillar	**1**	**90.88**
1st sub-pillar: Trust	2	94.55
2nd sub-pillar: Regulation	1	94.77
3rd sub-pillar: Inclusion	13	83.32
D. Impact pillar	**11**	**75.94**
1st sub-pillar: Economy	33	49.06
2nd sub-pillar: Quality of Life	3	92.59
3rd sub-pillar: SDG Contribution	3	86.15



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	13	71.88	
1st sub-pillar: Access	7	91.53	
1.1.1 Mobile tariffs	4	94.19	●
1.1.2 Handset prices	19	79.70	
1.1.3 Households with internet access	9	96.31	
1.1.4 SMS sent by population 15-69	46	79.01	
1.1.5 Population covered by at least a 3G mobile network	24	99.97	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	3	79.56	
1.2.1 GitHub commits	2	96.95	●
1.2.2 Wikipedia edits	6	89.05	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	15	95.65	
1.2.5 AI scientific publications	41	56.97	
3rd sub-pillar: Future Technologies	37	44.56	
1.3.1 Adoption of emerging technologies	NA	NA	
1.3.2 Investment in emerging technologies	16	73.55	
1.3.3 Robot density	26	16.16	○
1.3.4 Computer software spending	18	43.97	
B. People pillar	6	75.27	
1st sub-pillar: Individuals	9	78.60	
2.1.1 Active mobile broadband subscriptions	76	73.47	○
2.1.2 ICT skills	2	99.50	●
2.1.3 Use of virtual social networks	16	83.58	
2.1.4 Tertiary enrollment	15	57.87	
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	18	62.93	
2.2.1 Firms with website	21	80.14	
2.2.2 GERD financed by business enterprise	37	51.93	
2.2.3 Professionals	4	67.11	
2.2.4 Technicians and associate professionals	19	68.74	
2.2.5 Annual investment in telecommunication services	27	83.74	
2.2.6 GERD performed by business enterprise	19	25.90	
3rd sub-pillar: Governments	3	84.29	
2.3.1 Government online services	19	87.28	
2.3.2 Publication and use of open data	10	73.74	
2.3.3 Government promotion of investment in emerging tech	NA	NA	
2.3.4 R&D expenditure by governments and higher education	2	91.85	●

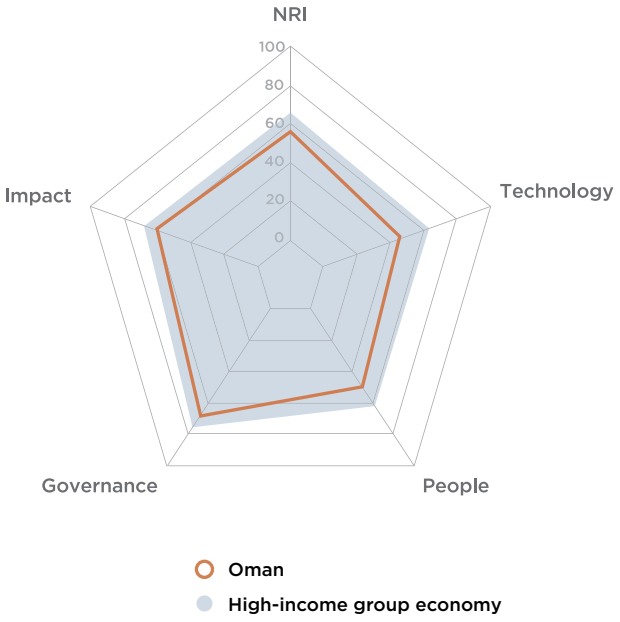
Indicator	Rank	Score	
C. Governance pillar	1	90.88	
1st sub-pillar: Trust	2	94.55	
3.1.1 Secure Internet servers	19	84.36	
3.1.2 Cybersecurity	23	96.84	
3.1.3 Online access to financial account	1	100.00	●
3.1.4 Internet shopping	3	96.99	●
2nd sub-pillar: Regulation	1	94.77	
3.2.1 Regulatory quality	7	90.27	
3.2.2 ICT regulatory environment	11	94.71	
3.2.3 Legal framework's adaptability to emerging technologies	NA	NA	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	4	94.09	●
3rd sub-pillar: Inclusion	13	83.32	
3.3.1 E-Participation	18	90.13	
3.3.2 Socioeconomic gap in use of digital payments	1	100.00	●
3.3.3 Availability of local online content	26	84.01	
3.3.4 Gender gap in Internet use	34	65.98	
3.3.5 Rural gap in use of digital payments	19	76.50	
D. Impact pillar	11	75.94	
1st sub-pillar: Economy	33	49.06	
4.1.1 High-tech and medium-high-tech manufacturing	38	41.27	
4.1.2 High-tech exports	45	38.71	
4.1.3 PCT patent applications	18	77.22	
4.1.4 Growth rate of GDP per person engaged	69	57.67	○
4.1.5 Prevalence of gig economy	NA	NA	
4.1.6 ICT services exports	62	30.44	○
2nd sub-pillar: Quality of Life	3	92.59	
4.2.1 Happiness	9	87.33	
4.2.2 Freedom to make life choices	1	100.00	●
4.2.3 Income inequality	10	92.19	
4.2.4 Healthy life expectancy at birth	15	90.85	
3rd sub-pillar: SDG Contribution	3	86.15	
4.3.1 SDG 3: Good Health and Well-Being	2	96.72	●
4.3.2 SDG 4: Quality Education	22	66.48	
4.3.3 Females employed with advanced degrees	11	85.58	
4.3.4 SDG 7: Affordable and Clean Energy	42	82.11	
4.3.5 SDG 11: Sustainable Cities and Communities	3	99.88	●

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Oman

	Rank (out of 130)	Score
Network Readiness Index	**48**	**56.38**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**60**	**46.40**
1st sub-pillar: Access	48	72.46
2nd sub-pillar: Content	85	29.70
3rd sub-pillar: Future Technologies	51	37.05
B. People pillar	**62**	**49.97**
1st sub-pillar: Individuals	63	63.09
2nd sub-pillar: Businesses	82	33.81
3rd sub-pillar: Governments	38	53.03
C. Governance pillar	**41**	**68.32**
1st sub-pillar: Trust	29	69.73
2nd sub-pillar: Regulation	85	58.34
3rd sub-pillar: Inclusion	27	76.88
D. Impact pillar	**46**	**60.83**
1st sub-pillar: Economy	85	31.64
2nd sub-pillar: Quality of Life	26	79.45
3rd sub-pillar: SDG Contribution	37	71.39



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	60	46.40	
1st sub-pillar: Access	48	72.46	
1.1.1 Mobile tariffs	55	65.15	
1.1.2 Handset prices	40	67.93	
1.1.3 Households with internet access	14	94.58	●
1.1.4 SMS sent by population 15-69	84	74.10	
1.1.5 Population covered by at least a 3G mobile network	46	99.84	
1.1.6 International Internet bandwidth	38	5.61	
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	85	29.70	
1.2.1 GitHub commits	118	0.11	○
1.2.2 Wikipedia edits	86	37.79	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	69	73.82	
1.2.5 AI scientific publications	75	35.75	
3rd sub-pillar: Future Technologies	51	37.05	
1.3.1 Adoption of emerging technologies	44	57.47	
1.3.2 Investment in emerging technologies	43	50.01	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	100	3.68	○
B. People pillar	62	49.97	
1st sub-pillar: Individuals	63	63.09	
2.1.1 Active mobile broadband subscriptions	80	73.25	
2.1.2 ICT skills	47	39.42	
2.1.3 Use of virtual social networks	24	80.46	●
2.1.4 Tertiary enrollment	72	27.90	
2.1.5 Adult literacy rate	42	94.43	
2nd sub-pillar: Businesses	82	33.81	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	55	39.30	
2.2.3 Professionals	92	17.27	
2.2.4 Technicians and associate professionals	67	31.57	
2.2.5 Annual investment in telecommunication services	51	79.49	
2.2.6 GERD performed by business enterprise	65	1.42	
3rd sub-pillar: Governments	38	53.03	
2.3.1 Government online services	24	84.84	●
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	23	62.25	
2.3.4 R&D expenditure by governments and higher education	87	11.99	

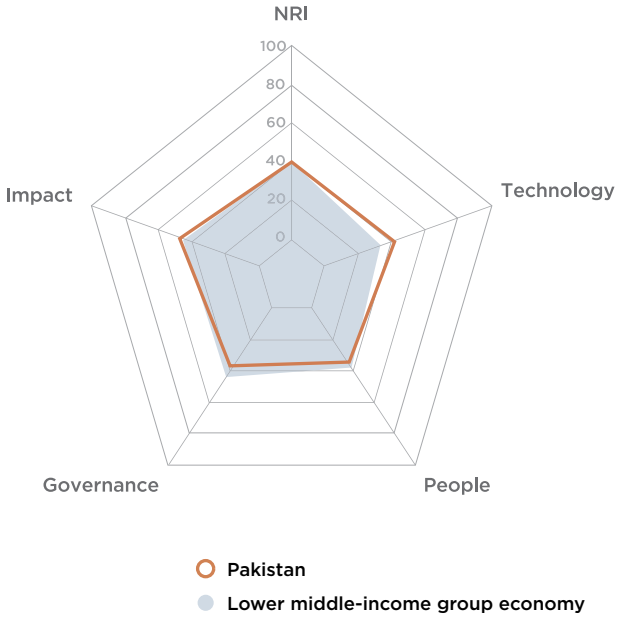
Indicator	Rank	Score	
C. Governance pillar	41	68.32	
1st sub-pillar: Trust	29	69.73	
3.1.1 Secure Internet servers	87	43.49	
3.1.2 Cybersecurity	28	95.97	●
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	85	58.34	
3.2.1 Regulatory quality	56	49.09	
3.2.2 ICT regulatory environment	61	83.92	
3.2.3 Legal framework's adaptability to emerging technologies	30	61.39	●
3.2.4 E-commerce legislation	76	75.00	○
3.2.5 Privacy protection by law content	126	22.31	○
3rd sub-pillar: Inclusion	27	76.88	
3.3.1 E-Participation	38	82.71	
3.3.2 Socioeconomic gap in use of digital payments	NA	NA	
3.3.3 Availability of local online content	41	74.51	
3.3.4 Gender gap in Internet use	5	73.43	●
3.3.5 Rural gap in use of digital payments	NA	NA	
D. Impact pillar	46	60.83	
1st sub-pillar: Economy	85	31.64	
4.1.1 High-tech and medium-high-tech manufacturing	65	20.40	
4.1.2 High-tech exports	74	15.93	
4.1.3 PCT patent applications	68	32.77	
4.1.4 Growth rate of GDP per person engaged	94	49.10	
4.1.5 Prevalence of gig economy	29	65.07	●
4.1.6 ICT services exports	110	6.59	○
2nd sub-pillar: Quality of Life	26	79.45	
4.2.1 Happiness	19	78.09	●
4.2.2 Freedom to make life choices	23	91.82	●
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	79	68.45	
3rd sub-pillar: SDG Contribution	37	71.39	
4.3.1 SDG 3: Good Health and Well-Being	71	67.21	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	NA	NA	
4.3.4 SDG 7: Affordable and Clean Energy	105	60.62	
4.3.5 SDG 11: Sustainable Cities and Communities	51	86.34	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Pakistan

	Rank (out of 130)	Score
Network Readiness Index	**97**	**40.25**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**73**	**41.86**
1st sub-pillar: Access	83	55.65
2nd sub-pillar: Content	88	29.16
3rd sub-pillar: Future Technologies	43	40.77
B. People pillar	**105**	**34.19**
1st sub-pillar: Individuals	122	32.37
2nd sub-pillar: Businesses	69	38.15
3rd sub-pillar: Governments	94	32.04
C. Governance pillar	**108**	**37.66**
1st sub-pillar: Trust	103	27.78
2nd sub-pillar: Regulation	108	49.14
3rd sub-pillar: Inclusion	117	36.06
D. Impact pillar	**92**	**47.30**
1st sub-pillar: Economy	50	43.16
2nd sub-pillar: Quality of Life	102	50.94
3rd sub-pillar: SDG Contribution	104	47.79



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	73	41.86	
1st sub-pillar: Access	83	55.65	
1.1.1 Mobile tariffs	65	59.77	
1.1.2 Handset prices	102	35.28	
1.1.3 Households with internet access	96	34.02	
1.1.4 SMS sent by population 15-69	15	85.67	●
1.1.5 Population covered by at least a 3G mobile network	111	92.76	
1.1.6 International Internet bandwidth	16	26.38	●
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	88	29.16	
1.2.1 GitHub commits	107	0.48	
1.2.2 Wikipedia edits	122	15.40	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	94	64.34	
1.2.5 AI scientific publications	22	65.26	●
3rd sub-pillar: Future Technologies	43	40.77	
1.3.1 Adoption of emerging technologies	68	45.59	
1.3.2 Investment in emerging technologies	49	48.24	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	33	28.47	●
B. People pillar	105	34.19	
1st sub-pillar: Individuals	122	32.37	
2.1.1 Active mobile broadband subscriptions	9	87.01	●
2.1.2 ICT skills	70	3.20	○
2.1.3 Use of virtual social networks	109	18.50	
2.1.4 Tertiary enrollment	111	5.73	
2.1.5 Adult literacy rate	97	47.41	
2nd sub-pillar: Businesses	69	38.15	
2.2.1 Firms with website	73	43.28	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	107	12.05	
2.2.4 Technicians and associate professionals	103	16.39	
2.2.5 Annual investment in telecommunication services	42	80.90	●
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	94	32.04	
2.3.1 Government online services	79	61.82	
2.3.2 Publication and use of open data	100	3.32	○
2.3.3 Government promotion of investment in emerging tech	52	42.94	
2.3.4 R&D expenditure by governments and higher education	74	20.07	

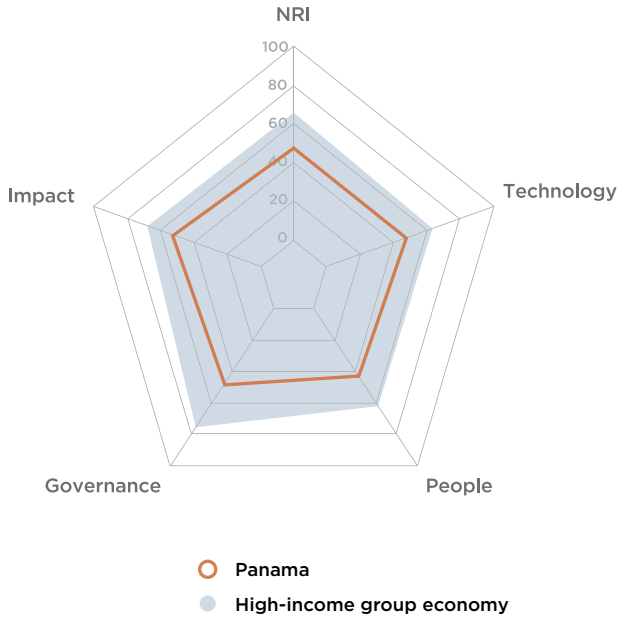
Indicator	Rank	Score	
C. Governance pillar	108	37.66	
1st sub-pillar: Trust	103	27.78	
3.1.1 Secure Internet servers	107	34.29	
3.1.2 Cybersecurity	84	64.26	
3.1.3 Online access to financial account	99	11.51	
3.1.4 Internet shopping	120	1.05	○
2nd sub-pillar: Regulation	108	49.14	
3.2.1 Regulatory quality	108	23.57	
3.2.2 ICT regulatory environment	57	84.71	
3.2.3 Legal framework's adaptability to emerging technologies	59	43.43	
3.2.4 E-commerce legislation	112	50.00	○
3.2.5 Privacy protection by law content	110	44.01	
3rd sub-pillar: Inclusion	117	36.06	
3.3.1 E-Participation	93	50.62	
3.3.2 Socioeconomic gap in use of digital payments	98	29.90	
3.3.3 Availability of local online content	83	51.53	
3.3.4 Gender gap in Internet use	91	0.00	○
3.3.5 Rural gap in use of digital payments	100	48.25	
D. Impact pillar	92	47.30	
1st sub-pillar: Economy	50	43.16	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	66	22.00	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Growth rate of GDP per person engaged	48	63.13	●
4.1.5 Prevalence of gig economy	52	47.72	
4.1.6 ICT services exports	34	39.78	●
2nd sub-pillar: Quality of Life	102	50.94	
4.2.1 Happiness	111	27.13	
4.2.2 Freedom to make life choices	111	52.56	
4.2.3 Income inequality	27	81.77	●
4.2.4 Healthy life expectancy at birth	111	42.29	
3rd sub-pillar: SDG Contribution	104	47.79	
4.3.1 SDG 3: Good Health and Well-Being	115	27.87	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	109	4.70	
4.3.4 SDG 7: Affordable and Clean Energy	68	76.12	
4.3.5 SDG 11: Sustainable Cities and Communities	62	82.48	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Panama

	Rank (out of 130)	Score
Network Readiness Index	**75**	**47.76**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**57**	**47.61**
1st sub-pillar: Access	43	73.69
2nd sub-pillar: Content	72	33.85
3rd sub-pillar: Future Technologies	54	35.30
B. People pillar	**86**	**42.51**
1st sub-pillar: Individuals	54	65.53
2nd sub-pillar: Businesses	80	34.24
3rd sub-pillar: Governments	100	27.75
C. Governance pillar	**85**	**48.37**
1st sub-pillar: Trust	101	28.04
2nd sub-pillar: Regulation	53	67.47
3rd sub-pillar: Inclusion	95	49.59
D. Impact pillar	**75**	**52.56**
1st sub-pillar: Economy	90	30.41
2nd sub-pillar: Quality of Life	66	66.07
3rd sub-pillar: SDG Contribution	70	61.20



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	57	47.61	
1st sub-pillar: Access	43	73.69	
1.1.1 Mobile tariffs	71	56.53	
1.1.2 Handset prices	35	70.71	●
1.1.3 Households with internet access	74	70.78	
1.1.4 SMS sent by population 15-69	95	71.82	
1.1.5 Population covered by at least a 3G mobile network	82	98.64	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	72	33.85	
1.2.1 GitHub commits	62	3.76	
1.2.2 Wikipedia edits	69	48.38	
1.2.3 Internet domain registrations	*	*	●
1.2.4 Mobile apps development	60	78.50	
1.2.5 AI scientific publications	110	11.50	
3rd sub-pillar: Future Technologies	54	35.30	
1.3.1 Adoption of emerging technologies	66	47.02	
1.3.2 Investment in emerging technologies	64	40.39	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	67	18.49	
B. People pillar	86	42.51	
1st sub-pillar: Individuals	54	65.53	
2.1.1 Active mobile broadband subscriptions	95	70.88	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	70	64.03	
2.1.4 Tertiary enrollment	64	33.07	
2.1.5 Adult literacy rate	43	94.13	●
2nd sub-pillar: Businesses	80	34.24	
2.2.1 Firms with website	84	35.87	
2.2.2 GERD financed by business enterprise	91	1.85	○
2.2.3 Professionals	64	25.61	
2.2.4 Technicians and associate professionals	68	30.79	
2.2.5 Annual investment in telecommunication services	68	77.07	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	100	27.75	
2.3.1 Government online services	80	61.21	
2.3.2 Publication and use of open data	77	17.67	
2.3.3 Government promotion of investment in emerging tech	91	28.93	
2.3.4 R&D expenditure by governments and higher education	105	3.21	○

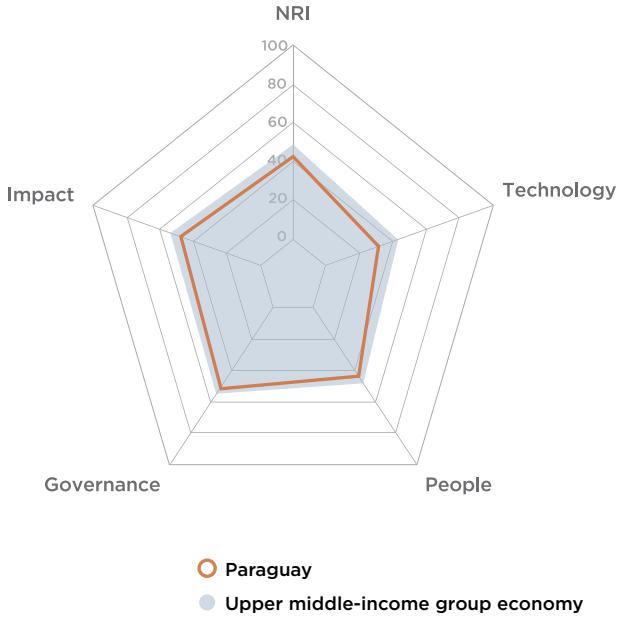
Indicator	Rank	Score	
C. Governance pillar	85	48.37	
1st sub-pillar: Trust	101	28.04	
3.1.1 Secure Internet servers	60	58.23	
3.1.2 Cybersecurity	102	32.95	
3.1.3 Online access to financial account	95	13.18	
3.1.4 Internet shopping	79	7.81	
2nd sub-pillar: Regulation	53	67.47	
3.2.1 Regulatory quality	55	50.98	
3.2.2 ICT regulatory environment	75	77.06	
3.2.3 Legal framework's adaptability to emerging technologies	67	40.52	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	62	68.80	
3rd sub-pillar: Inclusion	95	49.59	
3.3.1 E-Participation	87	56.79	
3.3.2 Socioeconomic gap in use of digital payments	103	28.58	
3.3.3 Availability of local online content	74	56.08	
3.3.4 Gender gap in Internet use	20	69.08	●
3.3.5 Rural gap in use of digital payments	110	37.42	○
D. Impact pillar	75	52.56	
1st sub-pillar: Economy	90	30.41	
4.1.1 High-tech and medium-high-tech manufacturing	92	6.65	
4.1.2 High-tech exports	35	48.70	●
4.1.3 PCT patent applications	55	41.50	
4.1.4 Growth rate of GDP per person engaged	NA	NA	
4.1.5 Prevalence of gig economy	87	33.59	
4.1.6 ICT services exports	80	21.60	
2nd sub-pillar: Quality of Life	66	66.07	
4.2.1 Happiness	50	61.87	●
4.2.2 Freedom to make life choices	38	86.17	●
4.2.3 Income inequality	107	34.38	○
4.2.4 Healthy life expectancy at birth	37	81.88	●
3rd sub-pillar: SDG Contribution	70	61.20	
4.3.1 SDG 3: Good Health and Well-Being	25	83.61	●
4.3.2 SDG 4: Quality Education	74	12.53	○
4.3.3 Females employed with advanced degrees	65	34.46	
4.3.4 SDG 7: Affordable and Clean Energy	6	94.41	●
4.3.5 SDG 11: Sustainable Cities and Communities	65	81.02	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Paraguay

	Rank (out of 130)	Score
Network Readiness Index	**88**	**43.36**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**101**	**31.71**
1st sub-pillar: Access	90	53.08
2nd sub-pillar: Content	96	24.96
3rd sub-pillar: Future Technologies	120	17.10
B. People pillar	**84**	**43.00**
1st sub-pillar: Individuals	68	61.90
2nd sub-pillar: Businesses	68	38.95
3rd sub-pillar: Governments	99	28.16
C. Governance pillar	**80**	**50.57**
1st sub-pillar: Trust	94	29.76
2nd sub-pillar: Regulation	88	57.60
3rd sub-pillar: Inclusion	60	64.34
D. Impact pillar	**89**	**48.15**
1st sub-pillar: Economy	117	18.51
2nd sub-pillar: Quality of Life	75	63.75
3rd sub-pillar: SDG Contribution	65	62.19



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	101	31.71	
1st sub-pillar: Access	90	53.08	
1.1.1 Mobile tariffs	84	50.26	
1.1.2 Handset prices	72	49.84	
1.1.3 Households with internet access	95	36.43	
1.1.4 SMS sent by population 15-69	63	77.04	
1.1.5 Population covered by at least a 3G mobile network	68	99.49	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	65	5.41	
2nd sub-pillar: Content	96	24.96	
1.2.1 GitHub commits	92	1.22	
1.2.2 Wikipedia edits	91	34.80	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	72	72.61	
1.2.5 AI scientific publications	105	14.62	
3rd sub-pillar: Future Technologies	120	17.10	
1.3.1 Adoption of emerging technologies	103	28.79	
1.3.2 Investment in emerging technologies	119	19.09	○
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	102	3.41	
B. People pillar	84	43.00	
1st sub-pillar: Individuals	68	61.90	
2.1.1 Active mobile broadband subscriptions	88	72.09	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	79	59.36	
2.1.4 Tertiary enrollment	79	23.80	
2.1.5 Adult literacy rate	52	92.33	●
2nd sub-pillar: Businesses	68	38.95	
2.2.1 Firms with website	33	71.86	●
2.2.2 GERD financed by business enterprise	99	0.41	○
2.2.3 Professionals	88	17.83	
2.2.4 Technicians and associate professionals	70	29.39	
2.2.5 Annual investment in telecommunication services	77	75.28	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	99	28.16	
2.3.1 Government online services	64	69.70	●
2.3.2 Publication and use of open data	53	27.87	●
2.3.3 Government promotion of investment in emerging tech	120	6.68	
2.3.4 R&D expenditure by governments and higher education	92	8.39	

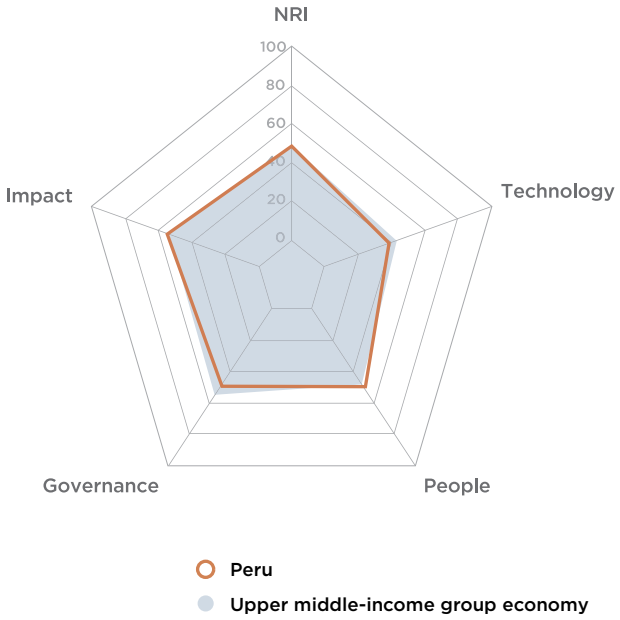
Indicator	Rank	Score	
C. Governance pillar	80	50.57	
1st sub-pillar: Trust	94	29.76	
3.1.1 Secure Internet servers	70	49.18	
3.1.2 Cybersecurity	88	56.33	
3.1.3 Online access to financial account	103	10.29	
3.1.4 Internet shopping	108	3.22	
2nd sub-pillar: Regulation	88	57.60	
3.2.1 Regulatory quality	84	35.58	
3.2.2 ICT regulatory environment	116	58.63	
3.2.3 Legal framework's adaptability to emerging technologies	110	14.11	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	34	79.67	●
3rd sub-pillar: Inclusion	60	64.34	
3.3.1 E-Participation	56	74.07	●
3.3.2 Socioeconomic gap in use of digital payments	68	54.90	
3.3.3 Availability of local online content	106	37.28	
3.3.4 Gender gap in Internet use	4	73.49	●
3.3.5 Rural gap in use of digital payments	4	81.99	●
D. Impact pillar	89	48.15	
1st sub-pillar: Economy	117	18.51	
4.1.1 High-tech and medium-high-tech manufacturing	73	17.10	
4.1.2 High-tech exports	82	12.29	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Growth rate of GDP per person engaged	75	54.95	
4.1.5 Prevalence of gig economy	122	5.26	○
4.1.6 ICT services exports	124	2.93	○
2nd sub-pillar: Quality of Life	75	63.75	
4.2.1 Happiness	67	52.71	
4.2.2 Freedom to make life choices	41	85.00	●
4.2.3 Income inequality	101	45.05	
4.2.4 Healthy life expectancy at birth	69	72.22	
3rd sub-pillar: SDG Contribution	65	62.19	
4.3.1 SDG 3: Good Health and Well-Being	71	67.21	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	70	31.30	
4.3.4 SDG 7: Affordable and Clean Energy	41	82.19	●
4.3.5 SDG 11: Sustainable Cities and Communities	96	68.06	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Peru

	Rank (out of 130)	Score
Network Readiness Index	**73**	**47.96**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**86**	**37.71**
1st sub-pillar: Access	80	57.86
2nd sub-pillar: Content	74	33.63
3rd sub-pillar: Future Technologies	105	21.64
B. People pillar	**57**	**51.13**
1st sub-pillar: Individuals	69	61.60
2nd sub-pillar: Businesses	28	57.35
3rd sub-pillar: Governments	91	34.46
C. Governance pillar	**84**	**48.51**
1st sub-pillar: Trust	93	29.85
2nd sub-pillar: Regulation	71	63.11
3rd sub-pillar: Inclusion	87	52.55
D. Impact pillar	**68**	**54.48**
1st sub-pillar: Economy	94	27.20
2nd sub-pillar: Quality of Life	58	68.81
3rd sub-pillar: SDG Contribution	47	67.43



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	86	37.71	
1st sub-pillar: Access	80	57.86	
1.1.1 Mobile tariffs	41	72.01	●
1.1.2 Handset prices	55	59.87	
1.1.3 Households with internet access	92	38.64	
1.1.4 SMS sent by population 15-69	54	78.01	
1.1.5 Population covered by at least a 3G mobile network	NA	NA	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	46	40.77	
2nd sub-pillar: Content	74	33.63	
1.2.1 GitHub commits	71	2.72	
1.2.2 Wikipedia edits	68	49.14	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	76	70.80	
1.2.5 AI scientific publications	66	42.08	
3rd sub-pillar: Future Technologies	105	21.64	
1.3.1 Adoption of emerging technologies	83	38.64	
1.3.2 Investment in emerging technologies	108	25.15	
1.3.3 Robot density	56	0.00	○
1.3.4 Computer software spending	50	22.79	
B. People pillar	57	51.13	
1st sub-pillar: Individuals	69	61.60	
2.1.1 Active mobile broadband subscriptions	NA	NA	
2.1.2 ICT skills	58	22.62	
2.1.3 Use of virtual social networks	21	81.70	●
2.1.4 Tertiary enrollment	29	49.23	●
2.1.5 Adult literacy rate	51	92.83	
2nd sub-pillar: Businesses	28	57.35	
2.2.1 Firms with website	38	69.08	●
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	57	29.09	
2.2.4 Technicians and associate professionals	42	49.09	
2.2.5 Annual investment in telecommunication services	37	82.12	●
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	91	34.46	
2.3.1 Government online services	51	74.54	
2.3.2 Publication and use of open data	48	33.14	
2.3.3 Government promotion of investment in emerging tech	98	25.34	
2.3.4 R&D expenditure by governments and higher education	102	4.82	○

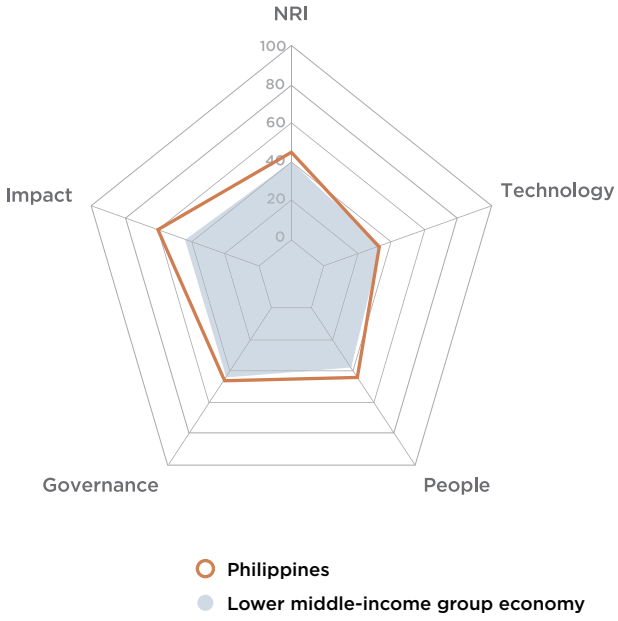
Indicator	Rank	Score	
C. Governance pillar	84	48.51	
1st sub-pillar: Trust	93	29.85	
3.1.1 Secure Internet servers	71	48.84	
3.1.2 Cybersecurity	89	54.89	
3.1.3 Online access to financial account	104	10.13	○
3.1.4 Internet shopping	88	5.56	
2nd sub-pillar: Regulation	71	63.11	
3.2.1 Regulatory quality	44	56.48	
3.2.2 ICT regulatory environment	64	83.53	
3.2.3 Legal framework's adaptability to emerging technologies	96	24.52	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	97	51.03	
3rd sub-pillar: Inclusion	87	52.55	
3.3.1 E-Participation	54	75.31	
3.3.2 Socioeconomic gap in use of digital payments	110	25.06	○
3.3.3 Availability of local online content	100	40.45	
3.3.4 Gender gap in Internet use	77	52.84	
3.3.5 Rural gap in use of digital payments	59	69.07	
D. Impact pillar	68	54.48	
1st sub-pillar: Economy	94	27.20	
4.1.1 High-tech and medium-high-tech manufacturing	77	15.21	
4.1.2 High-tech exports	93	7.75	
4.1.3 PCT patent applications	66	34.33	
4.1.4 Growth rate of GDP per person engaged	12	78.65	●
4.1.5 Prevalence of gig economy	112	18.90	○
4.1.6 ICT services exports	104	8.35	
2nd sub-pillar: Quality of Life	58	68.81	
4.2.1 Happiness	55	60.04	
4.2.2 Freedom to make life choices	75	74.62	
4.2.3 Income inequality	82	55.99	
4.2.4 Healthy life expectancy at birth	32	84.60	●
3rd sub-pillar: SDG Contribution	47	67.43	
4.3.1 SDG 3: Good Health and Well-Being	34	80.33	●
4.3.2 SDG 4: Quality Education	64	27.52	
4.3.3 Females employed with advanced degrees	39	57.30	●
4.3.4 SDG 7: Affordable and Clean Energy	12	90.42	●
4.3.5 SDG 11: Sustainable Cities and Communities	64	81.57	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Philippines

	Rank (out of 130)	Score
Network Readiness Index	**83**	**45.27**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**97**	**32.87**
1st sub-pillar: Access	115	35.33
2nd sub-pillar: Content	86	29.55
3rd sub-pillar: Future Technologies	61	33.73
B. People pillar	**81**	**43.53**
1st sub-pillar: Individuals	95	52.00
2nd sub-pillar: Businesses	75	35.29
3rd sub-pillar: Governments	68	43.30
C. Governance pillar	**91**	**46.21**
1st sub-pillar: Trust	79	34.88
2nd sub-pillar: Regulation	72	62.97
3rd sub-pillar: Inclusion	109	40.80
D. Impact pillar	**52**	**58.45**
1st sub-pillar: Economy	19	58.80
2nd sub-pillar: Quality of Life	82	62.12
3rd sub-pillar: SDG Contribution	87	54.43



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	97	32.87	
1st sub-pillar: Access	115	35.33	
1.1.1 Mobile tariffs	98	42.42	
1.1.2 Handset prices	78	46.12	
1.1.3 Households with internet access	112	17.46	
1.1.4 SMS sent by population 15-69	NA	NA	
1.1.5 Population covered by at least a 3G mobile network	NA	NA	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	86	29.55	
1.2.1 GitHub commits	86	1.54	
1.2.2 Wikipedia edits	90	35.70	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	101	58.90	
1.2.5 AI scientific publications	54	50.87	
3rd sub-pillar: Future Technologies	61	33.73	
1.3.1 Adoption of emerging technologies	52	51.83	
1.3.2 Investment in emerging technologies	31	61.10	●
1.3.3 Robot density	50	1.04	○
1.3.4 Computer software spending	59	20.96	
B. People pillar	81	43.53	
1st sub-pillar: Individuals	95	52.00	
2.1.1 Active mobile broadband subscriptions	NA	NA	
2.1.2 ICT skills	69	4.93	○
2.1.3 Use of virtual social networks	22	80.98	●
2.1.4 Tertiary enrollment	78	24.40	
2.1.5 Adult literacy rate	28	97.69	
2nd sub-pillar: Businesses	75	35.29	
2.2.1 Firms with website	64	49.64	
2.2.2 GERD financed by business enterprise	47	46.93	
2.2.3 Professionals	103	12.88	
2.2.4 Technicians and associate professionals	99	17.19	
2.2.5 Annual investment in telecommunication services	25	83.91	●
2.2.6 GERD performed by business enterprise	69	1.18	
3rd sub-pillar: Governments	68	43.30	
2.3.1 Government online services	59	72.12	
2.3.2 Publication and use of open data	22	54.57	●
2.3.3 Government promotion of investment in emerging tech	58	39.35	
2.3.4 R&D expenditure by governments and higher education	94	7.14	

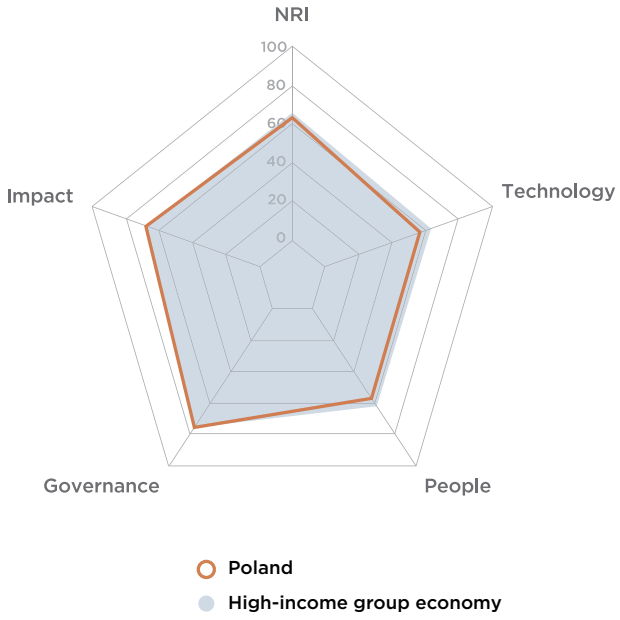
Indicator	Rank	Score	
C. Governance pillar	91	46.21	
1st sub-pillar: Trust	79	34.88	
3.1.1 Secure Internet servers	99	37.74	
3.1.2 Cybersecurity	68	76.60	
3.1.3 Online access to financial account	94	13.55	
3.1.4 Internet shopping	69	11.62	
2nd sub-pillar: Regulation	72	62.97	
3.2.1 Regulatory quality	70	41.38	
3.2.2 ICT regulatory environment	90	71.18	
3.2.3 Legal framework's adaptability to emerging technologies	80	31.69	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	59	70.59	
3rd sub-pillar: Inclusion	109	40.80	
3.3.1 E-Participation	56	74.07	
3.3.2 Socioeconomic gap in use of digital payments	121	0.00	○
3.3.3 Availability of local online content	49	67.52	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	117	21.61	○
D. Impact pillar	52	58.45	
1st sub-pillar: Economy	19	58.80	
4.1.1 High-tech and medium-high-tech manufacturing	27	51.39	●
4.1.2 High-tech exports	2	95.30	●
4.1.3 PCT patent applications	79	21.64	
4.1.4 Growth rate of GDP per person engaged	29	68.62	●
4.1.5 Prevalence of gig economy	35	60.82	
4.1.6 ICT services exports	12	55.01	●
2nd sub-pillar: Quality of Life	82	62.12	
4.2.1 Happiness	94	40.59	
4.2.2 Freedom to make life choices	15	94.49	●
4.2.3 Income inequality	89	53.91	
4.2.4 Healthy life expectancy at birth	95	59.48	
3rd sub-pillar: SDG Contribution	87	54.43	
4.3.1 SDG 3: Good Health and Well-Being	94	54.10	
4.3.2 SDG 4: Quality Education	76	6.37	○
4.3.3 Females employed with advanced degrees	58	40.68	
4.3.4 SDG 7: Affordable and Clean Energy	23	86.98	●
4.3.5 SDG 11: Sustainable Cities and Communities	55	84.03	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Poland

	Rank (out of 130)	Score
Network Readiness Index	**33**	**64.33**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**36**	**56.80**
1st sub-pillar: Access	18	86.63
2nd sub-pillar: Content	30	53.87
3rd sub-pillar: Future Technologies	74	29.89
B. People pillar	**42**	**56.41**
1st sub-pillar: Individuals	58	64.01
2nd sub-pillar: Businesses	27	57.86
3rd sub-pillar: Governments	50	47.37
C. Governance pillar	**26**	**76.26**
1st sub-pillar: Trust	21	76.56
2nd sub-pillar: Regulation	40	73.21
3rd sub-pillar: Inclusion	21	79.02
D. Impact pillar	**29**	**67.86**
1st sub-pillar: Economy	30	51.88
2nd sub-pillar: Quality of Life	42	74.20
3rd sub-pillar: SDG Contribution	26	77.50



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	36	56.80	
1st sub-pillar: Access	18	86.63	
1.1.1 Mobile tariffs	39	73.40	
1.1.2 Handset prices	37	68.64	
1.1.3 Households with internet access	31	90.54	
1.1.4 SMS sent by population 15-69	13	87.19	●
1.1.5 Population covered by at least a 3G mobile network	1	100.00	●
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	30	53.87	
1.2.1 GitHub commits	29	27.77	
1.2.2 Wikipedia edits	41	70.99	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	40	85.80	
1.2.5 AI scientific publications	19	65.98	●
3rd sub-pillar: Future Technologies	74	29.89	
1.3.1 Adoption of emerging technologies	61	48.92	
1.3.2 Investment in emerging technologies	73	37.21	○
1.3.3 Robot density	31	12.57	○
1.3.4 Computer software spending	60	20.88	
B. People pillar	42	56.41	
1st sub-pillar: Individuals	58	64.01	
2.1.1 Active mobile broadband subscriptions	15	86.10	●
2.1.2 ICT skills	36	53.91	
2.1.3 Use of virtual social networks	61	68.30	
2.1.4 Tertiary enrollment	34	47.73	
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	27	57.86	
2.2.1 Firms with website	35	71.54	
2.2.2 GERD financed by business enterprise	23	65.79	
2.2.3 Professionals	20	49.98	●
2.2.4 Technicians and associate professionals	29	56.36	
2.2.5 Annual investment in telecommunication services	21	84.68	●
2.2.6 GERD performed by business enterprise	26	18.85	
3rd sub-pillar: Governments	50	47.37	
2.3.1 Government online services	22	85.45	●
2.3.2 Publication and use of open data	47	33.76	
2.3.3 Government promotion of investment in emerging tech	65	38.03	
2.3.4 R&D expenditure by governments and higher education	57	32.23	

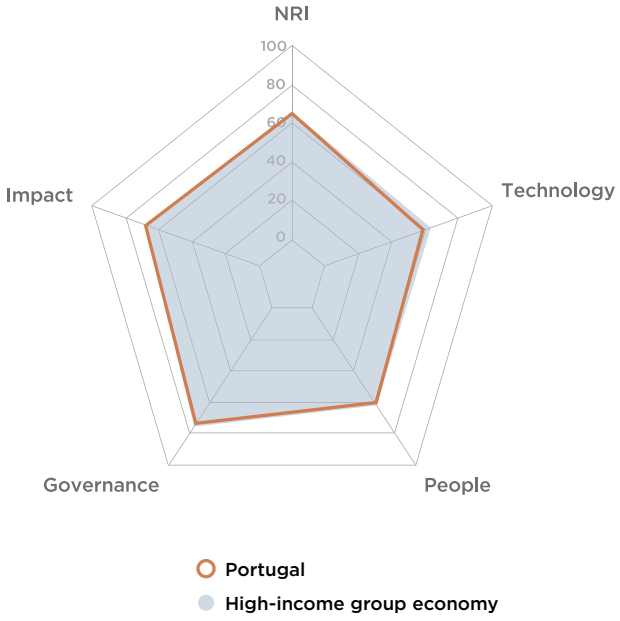
Indicator	Rank	Score	
C. Governance pillar	26	76.26	
1st sub-pillar: Trust	21	76.56	
3.1.1 Secure Internet servers	26	80.85	
3.1.2 Cybersecurity	37	93.75	
3.1.3 Online access to financial account	15	70.34	●
3.1.4 Internet shopping	23	61.28	
2nd sub-pillar: Regulation	40	73.21	
3.2.1 Regulatory quality	31	68.75	
3.2.2 ICT regulatory environment	39	87.65	
3.2.3 Legal framework's adaptability to emerging technologies	56	45.62	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	74	64.02	○
3rd sub-pillar: Inclusion	21	79.02	
3.3.1 E-Participation	9	96.30	●
3.3.2 Socioeconomic gap in use of digital payments	23	90.64	
3.3.3 Availability of local online content	51	67.13	
3.3.4 Gender gap in Internet use	29	67.26	
3.3.5 Rural gap in use of digital payments	41	73.79	
D. Impact pillar	29	67.86	
1st sub-pillar: Economy	30	51.88	
4.1.1 High-tech and medium-high-tech manufacturing	39	40.90	
4.1.2 High-tech exports	28	53.82	
4.1.3 PCT patent applications	42	49.16	
4.1.4 Growth rate of GDP per person engaged	21	72.50	
4.1.5 Prevalence of gig economy	46	55.24	
4.1.6 ICT services exports	35	39.64	
2nd sub-pillar: Quality of Life	42	74.20	
4.2.1 Happiness	45	63.00	
4.2.2 Freedom to make life choices	89	66.59	○
4.2.3 Income inequality	21	85.42	
4.2.4 Healthy life expectancy at birth	38	81.81	
3rd sub-pillar: SDG Contribution	26	77.50	
4.3.1 SDG 3: Good Health and Well-Being	49	77.05	
4.3.2 SDG 4: Quality Education	9	72.98	●
4.3.3 Females employed with advanced degrees	26	71.33	
4.3.4 SDG 7: Affordable and Clean Energy	62	77.88	
4.3.5 SDG 11: Sustainable Cities and Communities	46	88.28	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Portugal

	Rank (out of 130)	Score
Network Readiness Index	**31**	**65.20**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**31**	**59.36**
1st sub-pillar: Access	45	73.06
2nd sub-pillar: Content	26	57.47
3rd sub-pillar: Future Technologies	28	47.53
B. People pillar	**30**	**60.38**
1st sub-pillar: Individuals	38	70.04
2nd sub-pillar: Businesses	40	51.85
3rd sub-pillar: Governments	27	59.27
C. Governance pillar	**32**	**73.59**
1st sub-pillar: Trust	43	60.98
2nd sub-pillar: Regulation	12	84.85
3rd sub-pillar: Inclusion	35	74.95
D. Impact pillar	**31**	**67.48**
1st sub-pillar: Economy	39	47.35
2nd sub-pillar: Quality of Life	31	78.19
3rd sub-pillar: SDG Contribution	31	76.91



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	31	59.36	
1st sub-pillar: Access	45	73.06	
1.1.1 Mobile tariffs	57	63.35	
1.1.2 Handset prices	28	73.29	
1.1.3 Households with internet access	47	84.62	
1.1.4 SMS sent by population 15-69	25	83.12	
1.1.5 Population covered by at least a 3G mobile network	24	99.97	
1.1.6 International Internet bandwidth	29	7.10	
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	26	57.47	
1.2.1 GitHub commits	28	28.40	
1.2.2 Wikipedia edits	44	66.94	
1.2.3 Internet domain registrations	*	*	●
1.2.4 Mobile apps development	34	88.61	
1.2.5 AI scientific publications	25	63.22	●
3rd sub-pillar: Future Technologies	28	47.53	
1.3.1 Adoption of emerging technologies	27	70.91	
1.3.2 Investment in emerging technologies	39	52.88	
1.3.3 Robot density	25	18.27	
1.3.4 Computer software spending	8	48.09	●
B. People pillar	30	60.38	
1st sub-pillar: Individuals	38	70.04	
2.1.1 Active mobile broadband subscriptions	65	75.29	○
2.1.2 ICT skills	31	57.47	
2.1.3 Use of virtual social networks	38	76.72	
2.1.4 Tertiary enrollment	38	45.65	
2.1.5 Adult literacy rate	39	95.06	
2nd sub-pillar: Businesses	40	51.85	
2.2.1 Firms with website	53	60.23	
2.2.2 GERD financed by business enterprise	30	59.73	
2.2.3 Professionals	23	46.70	●
2.2.4 Technicians and associate professionals	47	47.38	
2.2.5 Annual investment in telecommunication services	44	80.43	
2.2.6 GERD performed by business enterprise	31	16.61	
3rd sub-pillar: Governments	27	59.27	
2.3.1 Government online services	35	83.03	
2.3.2 Publication and use of open data	34	41.73	
2.3.3 Government promotion of investment in emerging tech	29	54.68	
2.3.4 R&D expenditure by governments and higher education	22	57.63	●

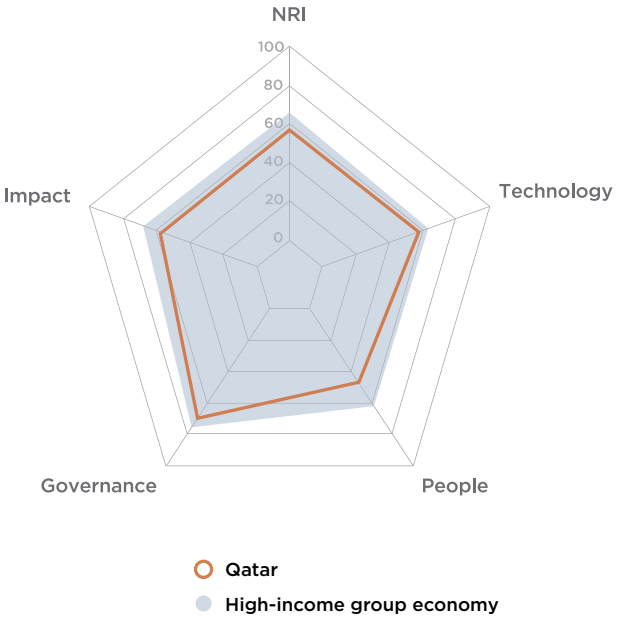
Indicator	Rank	Score	
C. Governance pillar	32	73.59	
1st sub-pillar: Trust	43	60.98	
3.1.1 Secure Internet servers	31	79.84	
3.1.2 Cybersecurity	20	97.27	●
3.1.3 Online access to financial account	52	34.56	
3.1.4 Internet shopping	41	32.24	
2nd sub-pillar: Regulation	12	84.85	
3.2.1 Regulatory quality	37	67.54	
3.2.2 ICT regulatory environment	14	94.12	●
3.2.3 Legal framework's adaptability to emerging technologies	28	62.61	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	1	100.00	●
3rd sub-pillar: Inclusion	35	74.95	
3.3.1 E-Participation	41	81.48	
3.3.2 Socioeconomic gap in use of digital payments	35	78.50	
3.3.3 Availability of local online content	36	77.58	
3.3.4 Gender gap in Internet use	56	61.36	○
3.3.5 Rural gap in use of digital payments	25	75.82	
D. Impact pillar	31	67.48	
1st sub-pillar: Economy	39	47.35	
4.1.1 High-tech and medium-high-tech manufacturing	43	36.92	
4.1.2 High-tech exports	44	40.25	
4.1.3 PCT patent applications	30	63.78	
4.1.4 Growth rate of GDP per person engaged	88	51.70	○
4.1.5 Prevalence of gig economy	36	60.68	
4.1.6 ICT services exports	61	30.80	
2nd sub-pillar: Quality of Life	31	78.19	
4.2.1 Happiness	64	55.14	○
4.2.2 Freedom to make life choices	26	91.28	
4.2.3 Income inequality	43	76.82	
4.2.4 Healthy life expectancy at birth	20	89.50	●
3rd sub-pillar: SDG Contribution	31	76.91	
4.3.1 SDG 3: Good Health and Well-Being	18	88.52	●
4.3.2 SDG 4: Quality Education	26	64.46	
4.3.3 Females employed with advanced degrees	40	56.41	
4.3.4 SDG 7: Affordable and Clean Energy	30	84.98	
4.3.5 SDG 11: Sustainable Cities and Communities	40	90.17	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Qatar

	Rank (out of 130)	Score
Network Readiness Index	**42**	**57.83**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**35**	**56.91**
1st sub-pillar: Access	32	80.25
2nd sub-pillar: Content	62	36.32
3rd sub-pillar: Future Technologies	21	54.15
B. People pillar	**69**	**46.94**
1st sub-pillar: Individuals	56	64.30
2nd sub-pillar: Businesses	103	28.36
3rd sub-pillar: Governments	47	48.17
C. Governance pillar	**36**	**70.60**
1st sub-pillar: Trust	27	71.42
2nd sub-pillar: Regulation	49	69.49
3rd sub-pillar: Inclusion	42	70.90
D. Impact pillar	**57**	**56.88**
1st sub-pillar: Economy	63	37.68
2nd sub-pillar: Quality of Life	29	79.20
3rd sub-pillar: SDG Contribution	92	53.75



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	35	56.91	
1st sub-pillar: Access	32	80.25	
1.1.1 Mobile tariffs	18	81.99	●
1.1.2 Handset prices	1	100.00	●
1.1.3 Households with internet access	13	95.19	●
1.1.4 SMS sent by population 15-69	NA	NA	
1.1.5 Population covered by at least a 3G mobile network	1	100.00	●
1.1.6 International Internet bandwidth	43	4.35	
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	62	36.32	
1.2.1 GitHub commits	81	1.94	
1.2.2 Wikipedia edits	74	45.21	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	47	81.79	
1.2.5 AI scientific publications	56	48.92	
3rd sub-pillar: Future Technologies	21	54.15	
1.3.1 Adoption of emerging technologies	35	62.68	
1.3.2 Investment in emerging technologies	17	71.18	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	32	28.59	
B. People pillar	69	46.94	
1st sub-pillar: Individuals	56	64.30	
2.1.1 Active mobile broadband subscriptions	94	70.93	○
2.1.2 ICT skills	43	46.40	
2.1.3 Use of virtual social networks	2	99.79	●
2.1.4 Tertiary enrollment	96	12.76	
2.1.5 Adult literacy rate	55	91.62	
2nd sub-pillar: Businesses	103	28.36	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	76	11.40	
2.2.3 Professionals	74	21.47	
2.2.4 Technicians and associate professionals	71	28.82	
2.2.5 Annual investment in telecommunication services	56	78.83	
2.2.6 GERD performed by business enterprise	68	1.27	○
3rd sub-pillar: Governments	47	48.17	
2.3.1 Government online services	74	64.85	
2.3.2 Publication and use of open data	73	19.03	
2.3.3 Government promotion of investment in emerging tech	18	70.31	
2.3.4 R&D expenditure by governments and higher education	48	38.48	

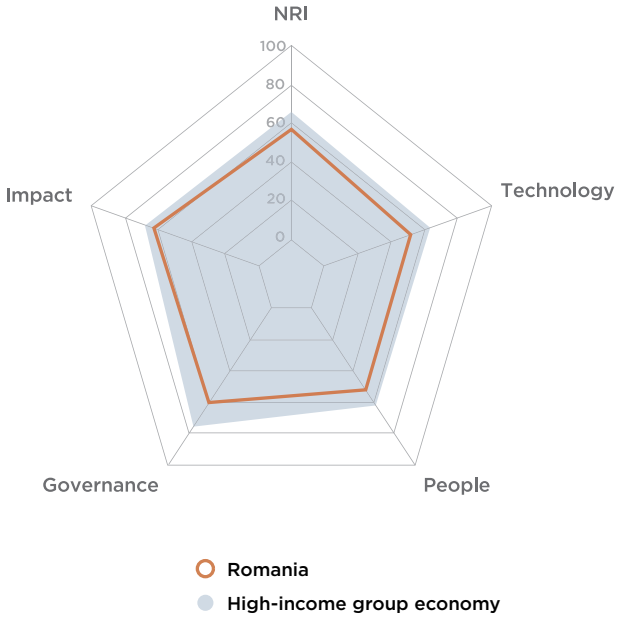
Indicator	Rank	Score	
C. Governance pillar	36	70.60	
1st sub-pillar: Trust	27	71.42	
3.1.1 Secure Internet servers	73	48.43	
3.1.2 Cybersecurity	34	94.40	
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	49	69.49	
3.2.1 Regulatory quality	40	59.63	
3.2.2 ICT regulatory environment	101	66.67	○
3.2.3 Legal framework's adaptability to emerging technologies	22	65.84	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	92	55.29	
3rd sub-pillar: Inclusion	42	70.90	
3.3.1 E-Participation	75	64.20	
3.3.2 Socioeconomic gap in use of digital payments	NA	NA	
3.3.3 Availability of local online content	29	81.91	
3.3.4 Gender gap in Internet use	31	66.60	
3.3.5 Rural gap in use of digital payments	NA	NA	
D. Impact pillar	57	56.88	
1st sub-pillar: Economy	63	37.68	
4.1.1 High-tech and medium-high-tech manufacturing	35	43.80	
4.1.2 High-tech exports	91	7.98	
4.1.3 PCT patent applications	67	33.40	
4.1.4 Growth rate of GDP per person engaged	107	43.94	○
4.1.5 Prevalence of gig economy	13	74.83	●
4.1.6 ICT services exports	78	22.16	
2nd sub-pillar: Quality of Life	29	79.20	
4.2.1 Happiness	33	67.97	
4.2.2 Freedom to make life choices	19	93.18	●
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	51	76.44	
3rd sub-pillar: SDG Contribution	92	53.75	
4.3.1 SDG 3: Good Health and Well-Being	77	65.57	
4.3.2 SDG 4: Quality Education	58	32.41	
4.3.3 Females employed with advanced degrees	94	14.50	○
4.3.4 SDG 7: Affordable and Clean Energy	96	64.62	
4.3.5 SDG 11: Sustainable Cities and Communities	33	91.66	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Romania

	Rank (out of 130)	Score
Network Readiness Index	**47**	**56.54**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**43**	**51.22**
1st sub-pillar: Access	30	81.66
2nd sub-pillar: Content	45	44.08
3rd sub-pillar: Future Technologies	84	27.92
B. People pillar	**53**	**52.01**
1st sub-pillar: Individuals	50	67.23
2nd sub-pillar: Businesses	48	48.04
3rd sub-pillar: Governments	73	40.75
C. Governance pillar	**55**	**59.93**
1st sub-pillar: Trust	53	49.75
2nd sub-pillar: Regulation	43	71.75
3rd sub-pillar: Inclusion	76	58.29
D. Impact pillar	**39**	**62.98**
1st sub-pillar: Economy	31	51.56
2nd sub-pillar: Quality of Life	52	72.38
3rd sub-pillar: SDG Contribution	55	65.01



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	43	51.22	
1st sub-pillar: Access	30	81.66	
1.1.1 Mobile tariffs	37	73.85	
1.1.2 Handset prices	44	66.21	
1.1.3 Households with internet access	40	86.38	
1.1.4 SMS sent by population 15-69	29	81.86	●
1.1.5 Population covered by at least a 3G mobile network	20	99.99	●
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	45	44.08	
1.2.1 GitHub commits	42	13.10	
1.2.2 Wikipedia edits	59	54.88	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	41	85.55	
1.2.5 AI scientific publications	40	57.06	
3rd sub-pillar: Future Technologies	84	27.92	
1.3.1 Adoption of emerging technologies	50	52.70	
1.3.2 Investment in emerging technologies	94	31.16	○
1.3.3 Robot density	37	6.58	
1.3.4 Computer software spending	58	21.25	
B. People pillar	53	52.01	
1st sub-pillar: Individuals	50	67.23	
2.1.1 Active mobile broadband subscriptions	41	79.17	
2.1.2 ICT skills	28	60.93	
2.1.3 Use of virtual social networks	74	62.16	
2.1.4 Tertiary enrollment	61	35.34	
2.1.5 Adult literacy rate	19	98.55	●
2nd sub-pillar: Businesses	48	48.04	
2.2.1 Firms with website	42	67.46	
2.2.2 GERD financed by business enterprise	15	70.62	●
2.2.3 Professionals	46	37.46	
2.2.4 Technicians and associate professionals	74	26.91	
2.2.5 Annual investment in telecommunication services	49	79.62	
2.2.6 GERD performed by business enterprise	47	6.17	
3rd sub-pillar: Governments	73	40.75	
2.3.1 Government online services	60	71.51	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	79	32.52	
2.3.4 R&D expenditure by governments and higher education	76	18.23	○

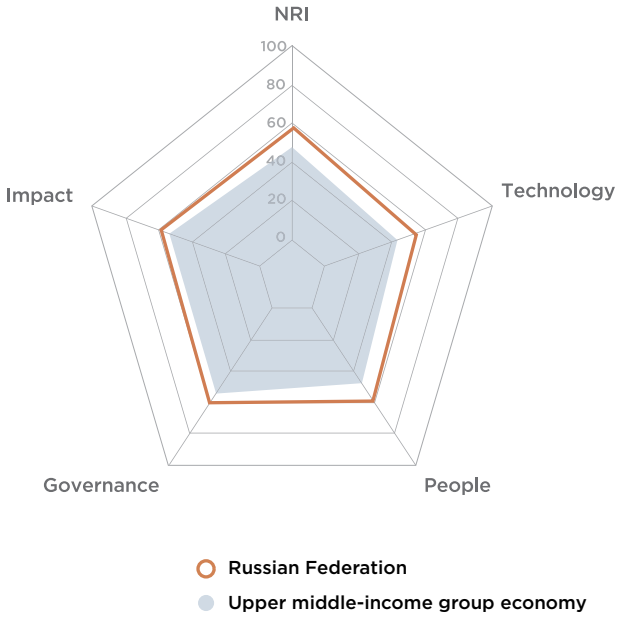
Indicator	Rank	Score	
C. Governance pillar	55	59.93	
1st sub-pillar: Trust	53	49.75	
3.1.1 Secure Internet servers	33	79.55	
3.1.2 Cybersecurity	69	75.87	
3.1.3 Online access to financial account	72	23.59	
3.1.4 Internet shopping	58	19.99	
2nd sub-pillar: Regulation	43	71.75	
3.2.1 Regulatory quality	51	53.71	
3.2.2 ICT regulatory environment	30	90.59	●
3.2.3 Legal framework's adaptability to emerging technologies	52	47.35	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	65	67.09	
3rd sub-pillar: Inclusion	76	58.29	
3.3.1 E-Participation	46	80.24	
3.3.2 Socioeconomic gap in use of digital payments	99	29.42	○
3.3.3 Availability of local online content	44	71.84	
3.3.4 Gender gap in Internet use	66	60.23	○
3.3.5 Rural gap in use of digital payments	99	49.73	○
D. Impact pillar	39	62.98	
1st sub-pillar: Economy	31	51.56	
4.1.1 High-tech and medium-high-tech manufacturing	21	56.44	●
4.1.2 High-tech exports	26	55.01	●
4.1.3 PCT patent applications	71	30.27	
4.1.4 Growth rate of GDP per person engaged	24	71.81	●
4.1.5 Prevalence of gig economy	74	38.31	
4.1.6 ICT services exports	10	57.52	●
2nd sub-pillar: Quality of Life	52	72.38	
4.2.1 Happiness	46	62.80	
4.2.2 Freedom to make life choices	53	80.17	
4.2.3 Income inequality	59	70.83	
4.2.4 Healthy life expectancy at birth	56	75.73	
3rd sub-pillar: SDG Contribution	55	65.01	
4.3.1 SDG 3: Good Health and Well-Being	53	75.41	
4.3.2 SDG 4: Quality Education	48	38.25	
4.3.3 Females employed with advanced degrees	62	37.49	
4.3.4 SDG 7: Affordable and Clean Energy	22	87.06	●
4.3.5 SDG 11: Sustainable Cities and Communities	50	86.83	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Russian Federation

	Rank (out of 130)	Score
Network Readiness Index	**43**	**57.74**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**39**	**53.71**
1st sub-pillar: Access	33	80.01
2nd sub-pillar: Content	40	47.77
3rd sub-pillar: Future Technologies	62	33.36
B. People pillar	**35**	**58.80**
1st sub-pillar: Individuals	47	68.11
2nd sub-pillar: Businesses	36	52.99
3rd sub-pillar: Governments	34	55.32
C. Governance pillar	**54**	**59.97**
1st sub-pillar: Trust	38	64.72
2nd sub-pillar: Regulation	118	39.01
3rd sub-pillar: Inclusion	31	76.19
D. Impact pillar	**51**	**58.49**
1st sub-pillar: Economy	45	45.17
2nd sub-pillar: Quality of Life	89	60.08
3rd sub-pillar: SDG Contribution	43	70.21



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	39	53.71	
1st sub-pillar: Access	33	80.01	
1.1.1 Mobile tariffs	24	79.12	
1.1.2 Handset prices	27	73.48	
1.1.3 Households with internet access	57	80.15	
1.1.4 SMS sent by population 15-69	16	85.31	●
1.1.5 Population covered by at least a 3G mobile network	79	98.80	
1.1.6 International Internet bandwidth	10	63.18	●
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	40	47.77	
1.2.1 GitHub commits	43	13.05	
1.2.2 Wikipedia edits	53	60.02	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	42	84.09	
1.2.5 AI scientific publications	14	72.07	●
3rd sub-pillar: Future Technologies	62	33.36	
1.3.1 Adoption of emerging technologies	42	58.81	
1.3.2 Investment in emerging technologies	47	48.90	
1.3.3 Robot density	47	1.43	○
1.3.4 Computer software spending	43	24.31	
B. People pillar	35	58.80	
1st sub-pillar: Individuals	47	68.11	
2.1.1 Active mobile broadband subscriptions	7	89.31	●
2.1.2 ICT skills	55	24.99	
2.1.3 Use of virtual social networks	65	67.57	
2.1.4 Tertiary enrollment	14	58.97	●
2.1.5 Adult literacy rate	9	99.69	●
2nd sub-pillar: Businesses	36	52.99	
2.2.1 Firms with website	57	56.70	
2.2.2 GERD financed by business enterprise	58	37.32	
2.2.3 Professionals	12	60.64	●
2.2.4 Technicians and associate professionals	27	59.91	
2.2.5 Annual investment in telecommunication services	11	89.20	●
2.2.6 GERD performed by business enterprise	34	14.14	
3rd sub-pillar: Governments	34	55.32	
2.3.1 Government online services	39	81.21	
2.3.2 Publication and use of open data	25	48.39	
2.3.3 Government promotion of investment in emerging tech	33	52.52	
2.3.4 R&D expenditure by governments and higher education	47	39.15	

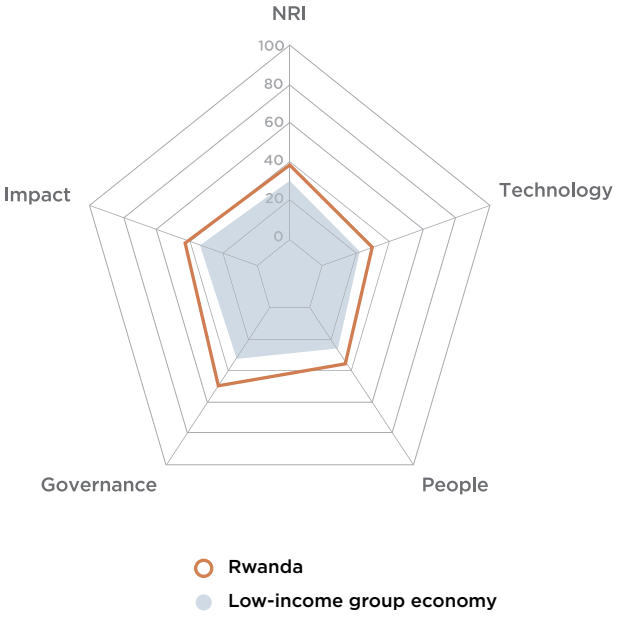
Indicator	Rank	Score	
C. Governance pillar	54	59.97	
1st sub-pillar: Trust	38	64.72	
3.1.1 Secure Internet servers	39	75.80	
3.1.2 Cybersecurity	8	98.03	●
3.1.3 Online access to financial account	34	50.60	
3.1.4 Internet shopping	39	34.47	
2nd sub-pillar: Regulation	118	39.01	
3.2.1 Regulatory quality	98	29.37	
3.2.2 ICT regulatory environment	125	48.82	○
3.2.3 Legal framework's adaptability to emerging technologies	38	53.08	
3.2.4 E-commerce legislation	123	25.00	○
3.2.5 Privacy protection by law content	115	38.77	○
3rd sub-pillar: Inclusion	31	76.19	
3.3.1 E-Participation	27	86.42	
3.3.2 Socioeconomic gap in use of digital payments	32	79.54	
3.3.3 Availability of local online content	39	76.58	
3.3.4 Gender gap in Internet use	36	65.73	
3.3.5 Rural gap in use of digital payments	46	72.70	
D. Impact pillar	51	58.49	
1st sub-pillar: Economy	45	45.17	
4.1.1 High-tech and medium-high-tech manufacturing	47	31.57	
4.1.2 High-tech exports	51	34.43	
4.1.3 PCT patent applications	45	48.31	
4.1.4 Growth rate of GDP per person engaged	41	65.29	
4.1.5 Prevalence of gig economy	25	66.77	
4.1.6 ICT services exports	70	24.66	
2nd sub-pillar: Quality of Life	89	60.08	
4.2.1 Happiness	72	49.38	
4.2.2 Freedom to make life choices	103	57.61	
4.2.3 Income inequality	65	66.41	
4.2.4 Healthy life expectancy at birth	83	66.90	
3rd sub-pillar: SDG Contribution	43	70.21	
4.3.1 SDG 3: Good Health and Well-Being	53	75.41	
4.3.2 SDG 4: Quality Education	31	60.11	
4.3.3 Females employed with advanced degrees	9	86.66	●
4.3.4 SDG 7: Affordable and Clean Energy	119	44.81	○
4.3.5 SDG 11: Sustainable Cities and Communities	54	84.09	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Rwanda

	Rank (out of 130)	Score
Network Readiness Index	**101**	**38.65**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**107**	**29.03**
1st sub-pillar: Access	111	38.05
2nd sub-pillar: Content	116	17.09
3rd sub-pillar: Future Technologies	65	31.95
B. People pillar	**103**	**34.94**
1st sub-pillar: Individuals	116	36.65
2nd sub-pillar: Businesses	121	21.63
3rd sub-pillar: Governments	57	46.55
C. Governance pillar	**86**	**47.58**
1st sub-pillar: Trust	89	32.58
2nd sub-pillar: Regulation	89	57.52
3rd sub-pillar: Inclusion	86	52.65
D. Impact pillar	**100**	**43.03**
1st sub-pillar: Economy	76	33.36
2nd sub-pillar: Quality of Life	111	47.46
3rd sub-pillar: SDG Contribution	102	48.27



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	107	29.03	
1st sub-pillar: Access	111	38.05	
1.1.1 Mobile tariffs	113	32.34	
1.1.2 Handset prices	120	18.25	
1.1.3 Households with internet access	119	9.07	
1.1.4 SMS sent by population 15-69	65	76.79	
1.1.5 Population covered by at least a 3G mobile network	69	99.48	
1.1.6 International Internet bandwidth	73	0.37	
1.1.7 Internet access in schools	50	30.01	
2nd sub-pillar: Content	116	17.09	
1.2.1 GitHub commits	104	0.68	
1.2.2 Wikipedia edits	105	27.12	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	120	41.84	
1.2.5 AI scientific publications	104	15.69	
3rd sub-pillar: Future Technologies	65	31.95	
1.3.1 Adoption of emerging technologies	77	41.88	
1.3.2 Investment in emerging technologies	42	50.02	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	99	3.95	
B. People pillar	103	34.94	
1st sub-pillar: Individuals	116	36.65	
2.1.1 Active mobile broadband subscriptions	77	73.40	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	125	3.85	○
2.1.4 Tertiary enrollment	117	3.81	
2.1.5 Adult literacy rate	89	65.54	
2nd sub-pillar: Businesses	121	21.63	
2.2.1 Firms with website	78	38.30	
2.2.2 GERD financed by business enterprise	97	0.73	○
2.2.3 Professionals	100	13.90	
2.2.4 Technicians and associate professionals	118	5.66	
2.2.5 Annual investment in telecommunication services	105	70.34	
2.2.6 GERD performed by business enterprise	73	0.87	
3rd sub-pillar: Governments	57	46.55	
2.3.1 Government online services	82	60.60	
2.3.2 Publication and use of open data	72	19.39	
2.3.3 Government promotion of investment in emerging tech	31	54.29	
2.3.4 R&D expenditure by governments and higher education	29	51.92	●

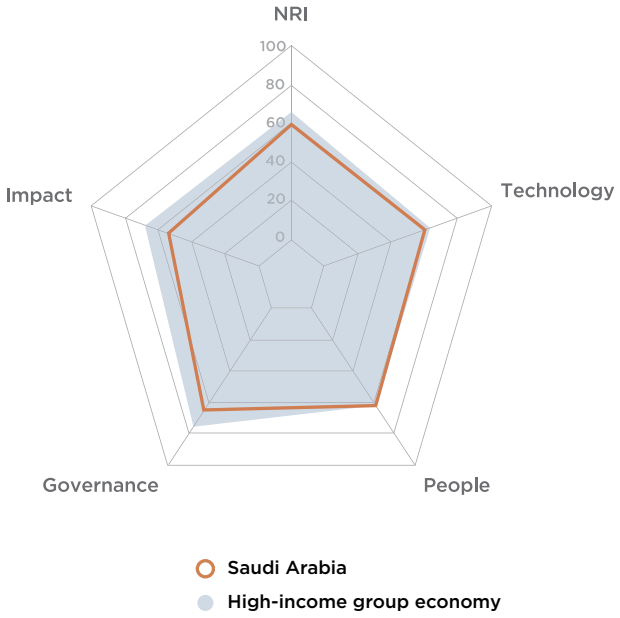
Indicator	Rank	Score	
C. Governance pillar	86	47.58	
1st sub-pillar: Trust	89	32.58	
3.1.1 Secure Internet servers	104	35.13	
3.1.2 Cybersecurity	64	79.60	●
3.1.3 Online access to financial account	92	14.35	
3.1.4 Internet shopping	119	1.23	○
2nd sub-pillar: Regulation	89	57.52	
3.2.1 Regulatory quality	65	43.23	
3.2.2 ICT regulatory environment	61	83.92	●
3.2.3 Legal framework's adaptability to emerging technologies	57	44.54	●
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	114	40.90	
3rd sub-pillar: Inclusion	86	52.65	
3.3.1 E-Participation	80	61.73	
3.3.2 Socioeconomic gap in use of digital payments	107	27.80	
3.3.3 Availability of local online content	85	51.40	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	57	69.65	●
D. Impact pillar	100	43.03	
1st sub-pillar: Economy	76	33.36	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	86	10.79	
4.1.3 PCT patent applications	96	0.00	○
4.1.4 Growth rate of GDP per person engaged	3	93.47	●
4.1.5 Prevalence of gig economy	55	47.13	●
4.1.6 ICT services exports	88	15.44	
2nd sub-pillar: Quality of Life	111	47.46	
4.2.1 Happiness	127	2.29	○
4.2.2 Freedom to make life choices	45	83.80	●
4.2.3 Income inequality	96	50.26	
4.2.4 Healthy life expectancy at birth	101	53.47	
3rd sub-pillar: SDG Contribution	102	48.27	
4.3.1 SDG 3: Good Health and Well-Being	99	47.54	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	98	12.97	
4.3.4 SDG 7: Affordable and Clean Energy	66	76.36	
4.3.5 SDG 11: Sustainable Cities and Communities	111	56.19	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Saudi Arabia

	Rank (out of 130)	Score
Network Readiness Index	**40**	**60.23**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**30**	**59.73**
1st sub-pillar: Access	17	87.26
2nd sub-pillar: Content	56	38.10
3rd sub-pillar: Future Technologies	22	53.83
B. People pillar	**27**	**61.73**
1st sub-pillar: Individuals	24	73.48
2nd sub-pillar: Businesses	34	54.84
3rd sub-pillar: Governments	32	56.88
C. Governance pillar	**43**	**64.87**
1st sub-pillar: Trust	47	53.95
2nd sub-pillar: Regulation	60	65.15
3rd sub-pillar: Inclusion	32	75.50
D. Impact pillar	**66**	**54.60**
1st sub-pillar: Economy	49	43.36
2nd sub-pillar: Quality of Life	41	74.84
3rd sub-pillar: SDG Contribution	106	45.61



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	30	59.73	
1st sub-pillar: Access	17	87.26	
1.1.1 Mobile tariffs	30	78.15	
1.1.2 Handset prices	84	44.59	
1.1.3 Households with internet access	4	99.70	●
1.1.4 SMS sent by population 15-69	6	88.60	●
1.1.5 Population covered by at least a 3G mobile network	50	99.77	
1.1.6 International Internet bandwidth	1	100.00	●
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	56	38.10	
1.2.1 GitHub commits	106	0.50	
1.2.2 Wikipedia edits	67	49.32	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	70	73.47	
1.2.5 AI scientific publications	21	65.35	
3rd sub-pillar: Future Technologies	22	53.83	
1.3.1 Adoption of emerging technologies	23	72.31	
1.3.2 Investment in emerging technologies	30	61.52	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	37	27.65	
B. People pillar	27	61.73	
1st sub-pillar: Individuals	24	73.48	
2.1.1 Active mobile broadband subscriptions	25	83.27	
2.1.2 ICT skills	27	61.25	
2.1.3 Use of virtual social networks	28	79.52	
2.1.4 Tertiary enrollment	28	49.34	
2.1.5 Adult literacy rate	45	94.02	
2nd sub-pillar: Businesses	34	54.84	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	60	27.85	
2.2.4 Technicians and associate professionals	40	49.70	
2.2.5 Annual investment in telecommunication services	16	86.98	●
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	32	56.88	
2.3.1 Government online services	69	67.88	
2.3.2 Publication and use of open data	75	18.43	
2.3.3 Government promotion of investment in emerging tech	4	84.32	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

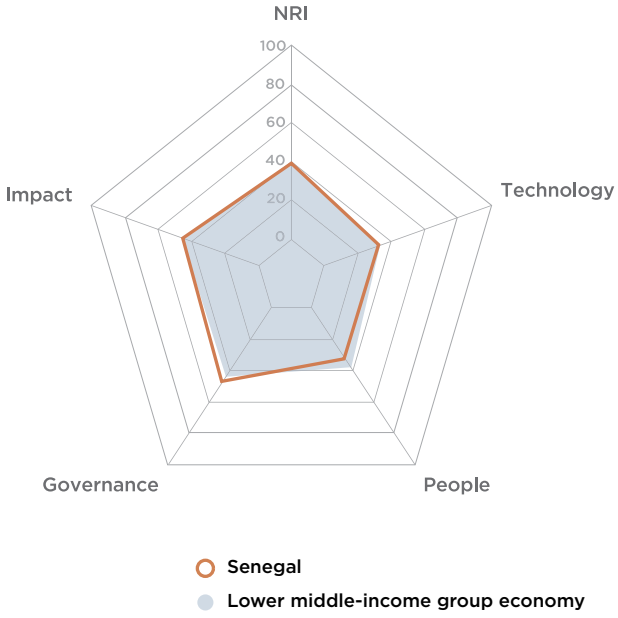
Indicator	Rank	Score	
C. Governance pillar	43	64.87	
1st sub-pillar: Trust	47	53.95	
3.1.1 Secure Internet servers	88	43.35	
3.1.2 Cybersecurity	2	99.53	●
3.1.3 Online access to financial account	43	40.98	
3.1.4 Internet shopping	43	31.95	
2nd sub-pillar: Regulation	60	65.15	
3.2.1 Regulatory quality	74	39.27	
3.2.2 ICT regulatory environment	14	94.12	●
3.2.3 Legal framework's adaptability to emerging technologies	12	77.22	●
3.2.4 E-commerce legislation	112	50.00	○
3.2.5 Privacy protection by law content	NA	NA	
3rd sub-pillar: Inclusion	32	75.50	
3.3.1 E-Participation	64	70.37	
3.3.2 Socioeconomic gap in use of digital payments	42	74.85	
3.3.3 Availability of local online content	10	91.10	●
3.3.4 Gender gap in Internet use	17	69.62	
3.3.5 Rural gap in use of digital payments	48	71.56	
D. Impact pillar	66	54.60	
1st sub-pillar: Economy	49	43.36	
4.1.1 High-tech and medium-high-tech manufacturing	33	44.97	
4.1.2 High-tech exports	115	2.92	○
4.1.3 PCT patent applications	32	59.67	
4.1.4 Growth rate of GDP per person engaged	99	47.37	○
4.1.5 Prevalence of gig economy	4	90.33	●
4.1.6 ICT services exports	89	14.91	
2nd sub-pillar: Quality of Life	41	74.84	
4.2.1 Happiness	23	71.88	
4.2.2 Freedom to make life choices	37	86.38	
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	84	66.24	
3rd sub-pillar: SDG Contribution	106	45.61	
4.3.1 SDG 3: Good Health and Well-Being	53	75.41	
4.3.2 SDG 4: Quality Education	69	21.27	○
4.3.3 Females employed with advanced degrees	91	17.99	
4.3.4 SDG 7: Affordable and Clean Energy	90	67.57	
4.3.5 SDG 11: Sustainable Cities and Communities	127	45.81	○

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Senegal

	Rank (out of 130)	Score
Network Readiness Index	**99**	**39.48**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**95**	**33.57**
1st sub-pillar: Access	100	46.55
2nd sub-pillar: Content	109	20.10
3rd sub-pillar: Future Technologies	60	34.07
B. People pillar	**108**	**32.54**
1st sub-pillar: Individuals	117	36.17
2nd sub-pillar: Businesses	112	24.61
3rd sub-pillar: Governments	84	36.83
C. Governance pillar	**89**	**46.99**
1st sub-pillar: Trust	108	23.69
2nd sub-pillar: Regulation	62	64.79
3rd sub-pillar: Inclusion	88	52.48
D. Impact pillar	**98**	**44.81**
1st sub-pillar: Economy	75	34.03
2nd sub-pillar: Quality of Life	97	56.04
3rd sub-pillar: SDG Contribution	108	44.36



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	95	33.57	
1st sub-pillar: Access	100	46.55	
1.1.1 Mobile tariffs	93	43.86	
1.1.2 Handset prices	97	37.07	
1.1.3 Households with internet access	120	8.87	○
1.1.4 SMS sent by population 15-69	45	79.02	●
1.1.5 Population covered by at least a 3G mobile network	92	97.80	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	58	12.66	
2nd sub-pillar: Content	109	20.10	
1.2.1 GitHub commits	113	0.29	
1.2.2 Wikipedia edits	110	24.07	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	115	49.65	
1.2.5 AI scientific publications	89	26.04	
3rd sub-pillar: Future Technologies	60	34.07	
1.3.1 Adoption of emerging technologies	73	43.93	
1.3.2 Investment in emerging technologies	60	41.21	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	71	17.08	
B. People pillar	108	32.54	
1st sub-pillar: Individuals	117	36.17	
2.1.1 Active mobile broadband subscriptions	47	76.92	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	107	21.00	
2.1.4 Tertiary enrollment	103	8.67	
2.1.5 Adult literacy rate	98	38.10	○
2nd sub-pillar: Businesses	112	24.61	
2.2.1 Firms with website	94	29.04	
2.2.2 GERD financed by business enterprise	88	2.53	
2.2.3 Professionals	114	9.09	
2.2.4 Technicians and associate professionals	119	5.51	○
2.2.5 Annual investment in telecommunication services	69	76.89	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	84	36.83	
2.3.1 Government online services	103	47.88	
2.3.2 Publication and use of open data	94	8.48	
2.3.3 Government promotion of investment in emerging tech	55	40.91	
2.3.4 R&D expenditure by governments and higher education	33	50.07	●

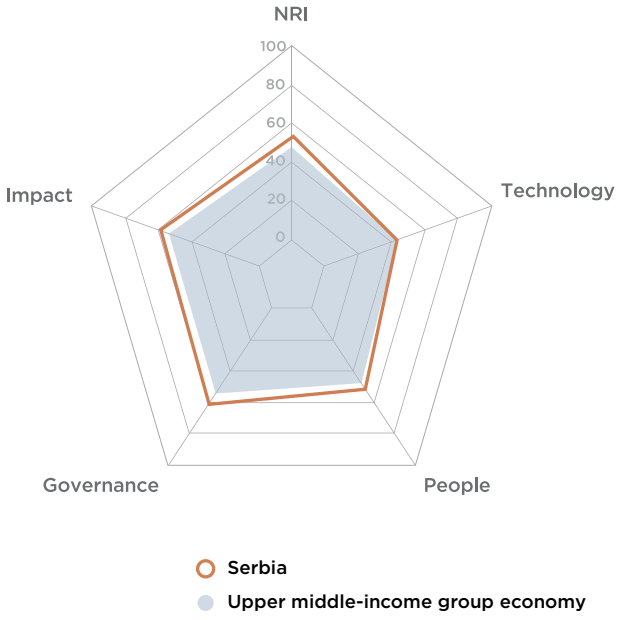
Indicator	Rank	Score	
C. Governance pillar	89	46.99	
1st sub-pillar: Trust	108	23.69	
3.1.1 Secure Internet servers	119	26.02	○
3.1.2 Cybersecurity	101	34.72	
3.1.3 Online access to financial account	60	30.80	
3.1.4 Internet shopping	107	3.24	
2nd sub-pillar: Regulation	62	64.79	
3.2.1 Regulatory quality	78	38.07	
3.2.2 ICT regulatory environment	50	85.88	●
3.2.3 Legal framework's adaptability to emerging technologies	73	37.76	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	78	62.23	
3rd sub-pillar: Inclusion	88	52.48	
3.3.1 E-Participation	106	41.98	
3.3.2 Socioeconomic gap in use of digital payments	60	63.52	
3.3.3 Availability of local online content	91	49.61	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	85	54.81	
D. Impact pillar	98	44.81	
1st sub-pillar: Economy	75	34.03	
4.1.1 High-tech and medium-high-tech manufacturing	66	19.23	
4.1.2 High-tech exports	113	3.21	
4.1.3 PCT patent applications	78	21.69	
4.1.4 Growth rate of GDP per person engaged	19	73.48	●
4.1.5 Prevalence of gig economy	54	47.27	●
4.1.6 ICT services exports	36	39.31	●
2nd sub-pillar: Quality of Life	97	56.04	
4.2.1 Happiness	73	49.24	
4.2.2 Freedom to make life choices	95	65.13	
4.2.3 Income inequality	76	59.11	
4.2.4 Healthy life expectancy at birth	103	50.66	
3rd sub-pillar: SDG Contribution	108	44.36	
4.3.1 SDG 3: Good Health and Well-Being	115	27.87	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	118	1.47	○
4.3.4 SDG 7: Affordable and Clean Energy	40	82.43	●
4.3.5 SDG 11: Sustainable Cities and Communities	101	65.69	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Serbia

	Rank (out of 130)	Score
Network Readiness Index	**57**	**53.60**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**71**	**42.68**
1st sub-pillar: Access	70	64.13
2nd sub-pillar: Content	44	44.88
3rd sub-pillar: Future Technologies	112	19.05
B. People pillar	**56**	**51.35**
1st sub-pillar: Individuals	65	62.71
2nd sub-pillar: Businesses	57	43.57
3rd sub-pillar: Governments	49	47.77
C. Governance pillar	**50**	**61.64**
1st sub-pillar: Trust	51	51.62
2nd sub-pillar: Regulation	54	66.89
3rd sub-pillar: Inclusion	56	66.42
D. Impact pillar	**50**	**58.73**
1st sub-pillar: Economy	52	43.00
2nd sub-pillar: Quality of Life	56	71.51
3rd sub-pillar: SDG Contribution	67	61.69



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	71	42.68	
1st sub-pillar: Access	70	64.13	
1.1.1 Mobile tariffs	52	66.33	
1.1.2 Handset prices	74	48.97	
1.1.3 Households with internet access	54	81.06	
1.1.4 SMS sent by population 15-69	41	80.07	
1.1.5 Population covered by at least a 3G mobile network	63	99.72	
1.1.6 International Internet bandwidth	26	8.61	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	44	44.88	
1.2.1 GitHub commits	36	15.67	●
1.2.2 Wikipedia edits	35	72.52	●
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	43	83.98	
1.2.5 AI scientific publications	57	48.45	
3rd sub-pillar: Future Technologies	112	19.05	
1.3.1 Adoption of emerging technologies	80	40.36	
1.3.2 Investment in emerging technologies	93	31.34	
1.3.3 Robot density	51	1.02	○
1.3.4 Computer software spending	101	3.48	○
B. People pillar	56	51.35	
1st sub-pillar: Individuals	65	62.71	
2.1.1 Active mobile broadband subscriptions	75	74.19	
2.1.2 ICT skills	46	41.67	
2.1.3 Use of virtual social networks	87	51.98	
2.1.4 Tertiary enrollment	35	47.15	●
2.1.5 Adult literacy rate	20	98.54	●
2nd sub-pillar: Businesses	57	43.57	
2.2.1 Firms with website	20	80.54	●
2.2.2 GERD financed by business enterprise	77	11.21	
2.2.3 Professionals	50	33.60	
2.2.4 Technicians and associate professionals	48	47.26	
2.2.5 Annual investment in telecommunication services	41	80.96	
2.2.6 GERD performed by business enterprise	45	7.86	
3rd sub-pillar: Governments	49	47.77	
2.3.1 Government online services	42	78.79	
2.3.2 Publication and use of open data	65	22.55	
2.3.3 Government promotion of investment in emerging tech	60	38.74	
2.3.4 R&D expenditure by governments and higher education	32	51.00	●

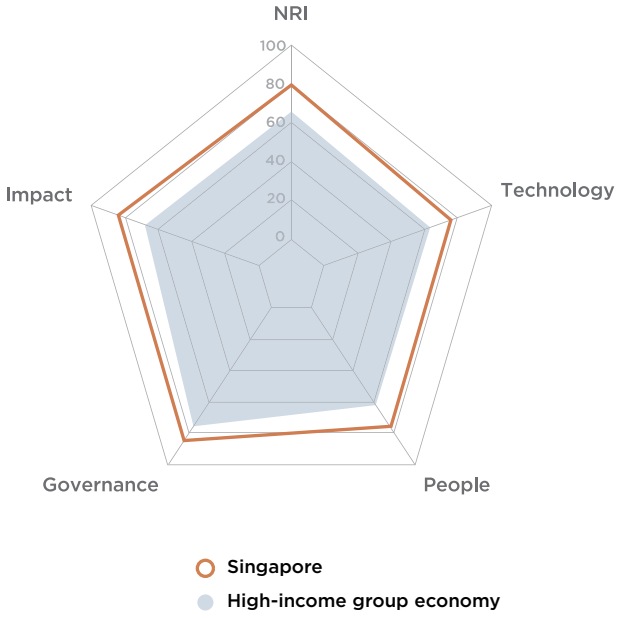
Indicator	Rank	Score	
C. Governance pillar	50	61.64	
1st sub-pillar: Trust	51	51.62	
3.1.1 Secure Internet servers	42	72.96	
3.1.2 Cybersecurity	47	89.62	
3.1.3 Online access to financial account	79	18.74	
3.1.4 Internet shopping	51	25.17	
2nd sub-pillar: Regulation	54	66.89	
3.2.1 Regulatory quality	63	44.23	
3.2.2 ICT regulatory environment	11	94.71	●
3.2.3 Legal framework's adaptability to emerging technologies	72	38.25	
3.2.4 E-commerce legislation	76	75.00	○
3.2.5 Privacy protection by law content	29	82.28	●
3rd sub-pillar: Inclusion	56	66.42	
3.3.1 E-Participation	41	81.48	
3.3.2 Socioeconomic gap in use of digital payments	54	67.46	
3.3.3 Availability of local online content	52	66.45	
3.3.4 Gender gap in Internet use	74	54.70	○
3.3.5 Rural gap in use of digital payments	76	62.00	
D. Impact pillar	50	58.73	
1st sub-pillar: Economy	52	43.00	
4.1.1 High-tech and medium-high-tech manufacturing	48	31.11	
4.1.2 High-tech exports	61	27.35	
4.1.3 PCT patent applications	51	43.67	
4.1.4 Growth rate of GDP per person engaged	49	63.07	
4.1.5 Prevalence of gig economy	81	36.99	
4.1.6 ICT services exports	11	55.84	●
2nd sub-pillar: Quality of Life	56	71.51	
4.2.1 Happiness	51	60.93	
4.2.2 Freedom to make life choices	56	79.48	
4.2.3 Income inequality	63	69.79	
4.2.4 Healthy life expectancy at birth	55	75.83	
3rd sub-pillar: SDG Contribution	67	61.69	
4.3.1 SDG 3: Good Health and Well-Being	86	60.66	
4.3.2 SDG 4: Quality Education	43	44.27	
4.3.3 Females employed with advanced degrees	49	49.49	
4.3.4 SDG 7: Affordable and Clean Energy	103	62.70	○
4.3.5 SDG 11: Sustainable Cities and Communities	34	91.33	●

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Singapore

	Rank (out of 130)	Score
Network Readiness Index	**7**	**80.01**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**8**	**75.80**
1st sub-pillar: Access	3	93.17
2nd sub-pillar: Content	22	61.77
3rd sub-pillar: Future Technologies	4	72.46
B. People pillar	**9**	**74.75**
1st sub-pillar: Individuals	11	77.16
2nd sub-pillar: Businesses	16	64.96
3rd sub-pillar: Governments	4	82.13
C. Governance pillar	**12**	**84.74**
1st sub-pillar: Trust	19	77.71
2nd sub-pillar: Regulation	10	86.71
3rd sub-pillar: Inclusion	1	89.78
D. Impact pillar	**1**	**84.77**
1st sub-pillar: Economy	1	74.65
2nd sub-pillar: Quality of Life	12	87.25
3rd sub-pillar: SDG Contribution	1	92.42



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	8	75.80	
1st sub-pillar: Access	3	93.17	
1.1.1 Mobile tariffs	5	90.92	
1.1.2 Handset prices	1	100.00	●
1.1.3 Households with internet access	6	98.64	
1.1.4 SMS sent by population 15-69	67	76.30	○
1.1.5 Population covered by at least a 3G mobile network	1	100.00	●
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	22	61.77	
1.2.1 GitHub commits	17	51.94	
1.2.2 Wikipedia edits	37	72.32	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	1	100.00	●
1.2.5 AI scientific publications	24	63.58	
3rd sub-pillar: Future Technologies	4	72.46	
1.3.1 Adoption of emerging technologies	8	88.54	
1.3.2 Investment in emerging technologies	13	78.60	
1.3.3 Robot density	1	100.00	●
1.3.4 Computer software spending	52	22.69	
B. People pillar	9	74.75	
1st sub-pillar: Individuals	11	77.16	
2.1.1 Active mobile broadband subscriptions	64	75.52	○
2.1.2 ICT skills	24	66.83	
2.1.3 Use of virtual social networks	12	84.82	
2.1.4 Tertiary enrollment	10	62.00	
2.1.5 Adult literacy rate	34	96.61	
2nd sub-pillar: Businesses	16	64.96	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	24	65.64	
2.2.3 Professionals	14	57.63	
2.2.4 Technicians and associate professionals	3	95.11	●
2.2.5 Annual investment in telecommunication services	40	81.00	
2.2.6 GERD performed by business enterprise	20	25.43	
3rd sub-pillar: Governments	4	82.13	
2.3.1 Government online services	5	96.36	
2.3.2 Publication and use of open data	23	52.56	
2.3.3 Government promotion of investment in emerging tech	1	100.00	
2.3.4 R&D expenditure by governments and higher education	9	79.62	

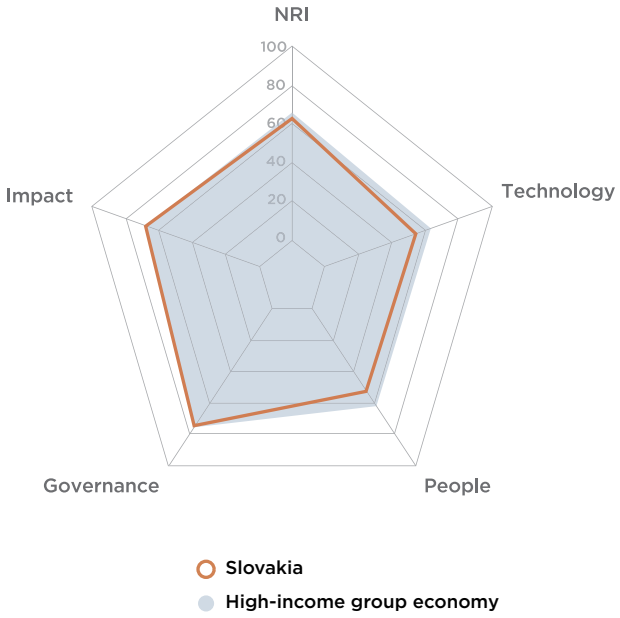
Indicator	Rank	Score	
C. Governance pillar	12	84.74	
1st sub-pillar: Trust	19	77.71	
3.1.1 Secure Internet servers	4	93.86	●
3.1.2 Cybersecurity	5	98.49	
3.1.3 Online access to financial account	27	56.92	
3.1.4 Internet shopping	22	61.58	
2nd sub-pillar: Regulation	10	86.71	
3.2.1 Regulatory quality	1	100.00	●
3.2.2 ICT regulatory environment	20	93.53	
3.2.3 Legal framework's adaptability to emerging technologies	4	86.76	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	95	53.28	○
3rd sub-pillar: Inclusion	1	89.78	
3.3.1 E-Participation	6	97.53	
3.3.2 Socioeconomic gap in use of digital payments	25	88.74	
3.3.3 Availability of local online content	9	91.63	
3.3.4 Gender gap in Internet use	8	72.13	
3.3.5 Rural gap in use of digital payments	2	98.86	●
D. Impact pillar	1	84.77	
1st sub-pillar: Economy	1	74.65	
4.1.1 High-tech and medium-high-tech manufacturing	1	100.00	●
4.1.2 High-tech exports	5	88.79	
4.1.3 PCT patent applications	16	79.29	
4.1.4 Growth rate of GDP per person engaged	70	57.39	○
4.1.5 Prevalence of gig economy	9	85.52	
4.1.6 ICT services exports	45	36.93	
2nd sub-pillar: Quality of Life	12	87.25	
4.2.1 Happiness	32	68.05	
4.2.2 Freedom to make life choices	11	95.51	
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	2	98.18	●
3rd sub-pillar: SDG Contribution	1	92.42	
4.3.1 SDG 3: Good Health and Well-Being	6	95.08	
4.3.2 SDG 4: Quality Education	2	90.79	●
4.3.3 Females employed with advanced degrees	5	89.85	
4.3.4 SDG 7: Affordable and Clean Energy	24	86.42	
4.3.5 SDG 11: Sustainable Cities and Communities	2	99.94	●

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Slovakia

	Rank (out of 130)	Score
Network Readiness Index	**35**	**62.45**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**38**	**54.72**
1st sub-pillar: Access	47	72.74
2nd sub-pillar: Content	41	46.54
3rd sub-pillar: Future Technologies	36	44.89
B. People pillar	**51**	**53.08**
1st sub-pillar: Individuals	75	59.92
2nd sub-pillar: Businesses	35	53.94
3rd sub-pillar: Governments	59	45.39
C. Governance pillar	**30**	**74.49**
1st sub-pillar: Trust	26	71.44
2nd sub-pillar: Regulation	31	77.91
3rd sub-pillar: Inclusion	39	74.10
D. Impact pillar	**30**	**67.49**
1st sub-pillar: Economy	28	52.12
2nd sub-pillar: Quality of Life	28	79.25
3rd sub-pillar: SDG Contribution	40	71.10



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	38	54.72	
1st sub-pillar: Access	47	72.74	
1.1.1 Mobile tariffs	33	77.68	
1.1.2 Handset prices	42	66.99	
1.1.3 Households with internet access	42	85.91	
1.1.4 SMS sent by population 15-69	60	77.37	
1.1.5 Population covered by at least a 3G mobile network	51	99.73	
1.1.6 International Internet bandwidth	56	1.76	○
1.1.7 Internet access in schools	24	99.70	
2nd sub-pillar: Content	41	46.54	
1.2.1 GitHub commits	37	15.15	
1.2.2 Wikipedia edits	47	65.05	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	36	87.56	
1.2.5 AI scientific publications	61	45.31	
3rd sub-pillar: Future Technologies	36	44.89	
1.3.1 Adoption of emerging technologies	40	59.51	
1.3.2 Investment in emerging technologies	44	49.41	
1.3.3 Robot density	16	46.29	
1.3.4 Computer software spending	41	24.36	
B. People pillar	51	53.08	
1st sub-pillar: Individuals	75	59.92	
2.1.1 Active mobile broadband subscriptions	84	72.68	○
2.1.2 ICT skills	26	61.84	
2.1.3 Use of virtual social networks	47	73.80	
2.1.4 Tertiary enrollment	66	31.36	
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	35	53.94	
2.2.1 Firms with website	26	76.74	●
2.2.2 GERD financed by business enterprise	32	57.87	
2.2.3 Professionals	51	32.40	
2.2.4 Technicians and associate professionals	20	67.86	●
2.2.5 Annual investment in telecommunication services	58	78.53	
2.2.6 GERD performed by business enterprise	40	10.21	
3rd sub-pillar: Governments	59	45.39	
2.3.1 Government online services	62	70.90	
2.3.2 Publication and use of open data	30	44.75	
2.3.3 Government promotion of investment in emerging tech	87	30.10	
2.3.4 R&D expenditure by governments and higher education	50	35.81	

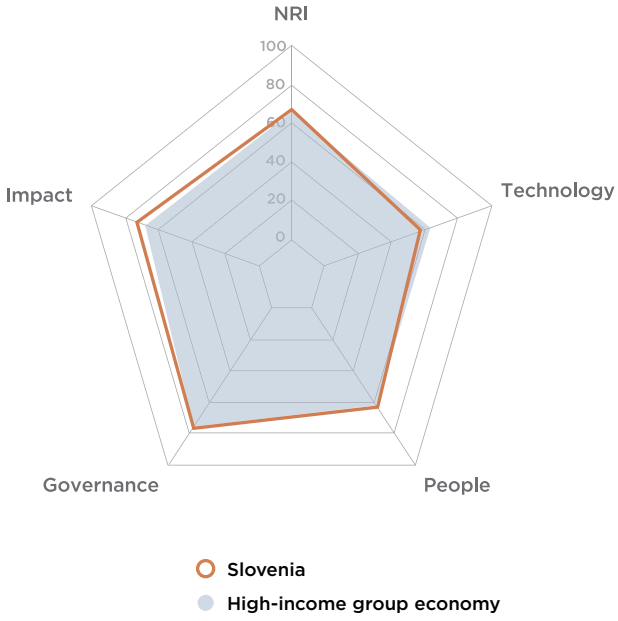
Indicator	Rank	Score	
C. Governance pillar	30	74.49	
1st sub-pillar: Trust	26	71.44	
3.1.1 Secure Internet servers	25	81.09	●
3.1.2 Cybersecurity	42	92.23	
3.1.3 Online access to financial account	24	58.94	●
3.1.4 Internet shopping	31	53.52	
2nd sub-pillar: Regulation	31	77.91	
3.2.1 Regulatory quality	34	68.55	
3.2.2 ICT regulatory environment	44	87.25	
3.2.3 Legal framework's adaptability to emerging technologies	50	48.15	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	20	85.61	●
3rd sub-pillar: Inclusion	39	74.10	
3.3.1 E-Participation	68	69.14	
3.3.2 Socioeconomic gap in use of digital payments	38	76.14	
3.3.3 Availability of local online content	28	82.95	●
3.3.4 Gender gap in Internet use	30	66.87	
3.3.5 Rural gap in use of digital payments	28	75.42	
D. Impact pillar	30	67.49	
1st sub-pillar: Economy	28	52.12	
4.1.1 High-tech and medium-high-tech manufacturing	4	78.17	●
4.1.2 High-tech exports	21	59.89	●
4.1.3 PCT patent applications	41	49.22	
4.1.4 Growth rate of GDP per person engaged	65	58.31	
4.1.5 Prevalence of gig economy	75	37.99	○
4.1.6 ICT services exports	63	29.13	
2nd sub-pillar: Quality of Life	28	79.25	
4.2.1 Happiness	24	71.03	●
4.2.2 Freedom to make life choices	94	65.65	○
4.2.3 Income inequality	2	98.96	●
4.2.4 Healthy life expectancy at birth	40	81.38	
3rd sub-pillar: SDG Contribution	40	71.10	
4.3.1 SDG 3: Good Health and Well-Being	34	80.33	
4.3.2 SDG 4: Quality Education	37	55.24	
4.3.3 Females employed with advanced degrees	46	50.45	
4.3.4 SDG 7: Affordable and Clean Energy	70	75.88	
4.3.5 SDG 11: Sustainable Cities and Communities	29	93.58	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Slovenia

	Rank (out of 130)	Score
Network Readiness Index	**26**	**67.30**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**32**	**57.27**
1st sub-pillar: Access	44	73.14
2nd sub-pillar: Content	29	55.70
3rd sub-pillar: Future Technologies	40	42.96
B. People pillar	**24**	**63.65**
1st sub-pillar: Individuals	40	69.64
2nd sub-pillar: Businesses	17	63.70
3rd sub-pillar: Governments	30	57.61
C. Governance pillar	**29**	**75.85**
1st sub-pillar: Trust	34	67.84
2nd sub-pillar: Regulation	22	82.21
3rd sub-pillar: Inclusion	24	77.51
D. Impact pillar	**22**	**72.45**
1st sub-pillar: Economy	35	48.77
2nd sub-pillar: Quality of Life	7	89.39
3rd sub-pillar: SDG Contribution	21	79.19



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	32	57.27	
1st sub-pillar: Access	44	73.14	
1.1.1 Mobile tariffs	22	79.31	
1.1.2 Handset prices	53	61.27	
1.1.3 Households with internet access	34	90.13	
1.1.4 SMS sent by population 15-69	64	77.01	
1.1.5 Population covered by at least a 3G mobile network	24	99.97	
1.1.6 International Internet bandwidth	44	4.29	
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	29	55.70	
1.2.1 GitHub commits	23	32.41	
1.2.2 Wikipedia edits	22	78.35	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	21	94.11	
1.2.5 AI scientific publications	59	47.63	
3rd sub-pillar: Future Technologies	40	42.96	
1.3.1 Adoption of emerging technologies	28	69.85	
1.3.2 Investment in emerging technologies	41	51.61	
1.3.3 Robot density	19	42.92	
1.3.4 Computer software spending	89	7.46	○
B. People pillar	24	63.65	
1st sub-pillar: Individuals	40	69.64	
2.1.1 Active mobile broadband subscriptions	107	67.25	○
2.1.2 ICT skills	30	57.95	
2.1.3 Use of virtual social networks	57	69.65	
2.1.4 Tertiary enrollment	23	53.71	
2.1.5 Adult literacy rate	10	99.65	●
2nd sub-pillar: Businesses	17	63.70	
2.2.1 Firms with website	17	82.49	●
2.2.2 GERD financed by business enterprise	11	77.43	●
2.2.3 Professionals	16	56.41	●
2.2.4 Technicians and associate professionals	35	55.05	
2.2.5 Annual investment in telecommunication services	70	76.52	○
2.2.6 GERD performed by business enterprise	14	34.28	
3rd sub-pillar: Governments	30	57.61	
2.3.1 Government online services	24	84.84	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	48	45.99	
2.3.4 R&D expenditure by governments and higher education	44	42.00	

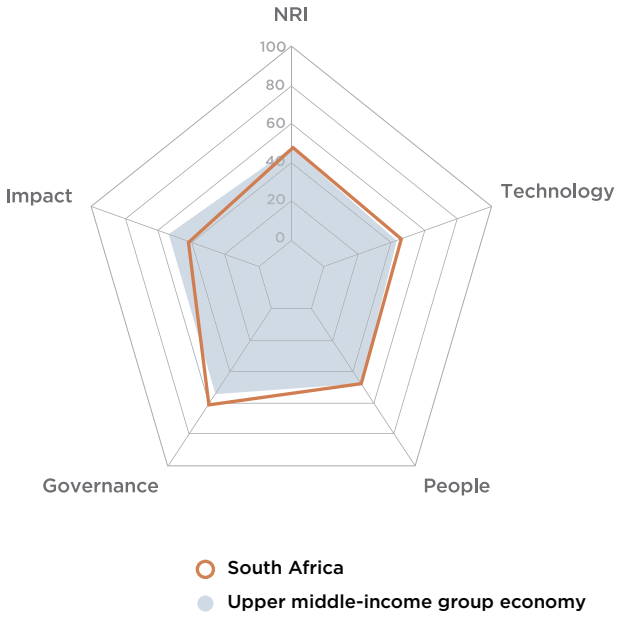
Indicator	Rank	Score	
C. Governance pillar	29	75.85	
1st sub-pillar: Trust	34	67.84	
3.1.1 Secure Internet servers	13	86.20	●
3.1.2 Cybersecurity	74	74.49	
3.1.3 Online access to financial account	30	52.32	
3.1.4 Internet shopping	27	58.35	
2nd sub-pillar: Regulation	22	82.21	
3.2.1 Regulatory quality	33	68.60	
3.2.2 ICT regulatory environment	3	98.82	●
3.2.3 Legal framework's adaptability to emerging technologies	34	58.57	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	22	85.05	
3rd sub-pillar: Inclusion	24	77.51	
3.3.1 E-Participation	29	85.18	
3.3.2 Socioeconomic gap in use of digital payments	17	94.20	●
3.3.3 Availability of local online content	48	68.28	
3.3.4 Gender gap in Internet use	38	65.34	
3.3.5 Rural gap in use of digital payments	35	74.54	
D. Impact pillar	22	72.45	
1st sub-pillar: Economy	35	48.77	
4.1.1 High-tech and medium-high-tech manufacturing	23	52.52	
4.1.2 High-tech exports	32	50.14	
4.1.3 PCT patent applications	28	68.25	
4.1.4 Growth rate of GDP per person engaged	79	53.56	○
4.1.5 Prevalence of gig economy	71	39.47	
4.1.6 ICT services exports	65	28.69	
2nd sub-pillar: Quality of Life	7	89.39	
4.2.1 Happiness	28	69.82	
4.2.2 Freedom to make life choices	4	98.96	●
4.2.3 Income inequality	1	100.00	●
4.2.4 Healthy life expectancy at birth	25	88.76	
3rd sub-pillar: SDG Contribution	21	79.19	
4.3.1 SDG 3: Good Health and Well-Being	25	83.61	
4.3.2 SDG 4: Quality Education	11	69.26	●
4.3.3 Females employed with advanced degrees	25	72.17	
4.3.4 SDG 7: Affordable and Clean Energy	71	75.72	
4.3.5 SDG 11: Sustainable Cities and Communities	20	95.20	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

South Africa

	Rank (out of 130)	Score
Network Readiness Index	**70**	**48.88**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**63**	**45.59**
1st sub-pillar: Access	73	62.27
2nd sub-pillar: Content	69	35.32
3rd sub-pillar: Future Technologies	45	39.18
B. People pillar	**70**	**46.42**
1st sub-pillar: Individuals	85	56.41
2nd sub-pillar: Businesses	70	37.61
3rd sub-pillar: Governments	62	45.24
C. Governance pillar	**51**	**61.25**
1st sub-pillar: Trust	60	48.17
2nd sub-pillar: Regulation	51	68.50
3rd sub-pillar: Inclusion	51	67.08
D. Impact pillar	**103**	**42.25**
1st sub-pillar: Economy	67	36.32
2nd sub-pillar: Quality of Life	123	35.62
3rd sub-pillar: SDG Contribution	86	54.82



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	63	45.59	
1st sub-pillar: Access	73	62.27	
1.1.1 Mobile tariffs	69	57.25	
1.1.2 Handset prices	54	59.94	
1.1.3 Households with internet access	83	63.28	
1.1.4 SMS sent by population 15-69	22	83.76	●
1.1.5 Population covered by at least a 3G mobile network	36	99.95	
1.1.6 International Internet bandwidth	25	9.41	●
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	69	35.32	
1.2.1 GitHub commits	57	5.01	
1.2.2 Wikipedia edits	94	32.04	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	67	75.07	
1.2.5 AI scientific publications	37	57.94	●
3rd sub-pillar: Future Technologies	45	39.18	
1.3.1 Adoption of emerging technologies	33	64.29	●
1.3.2 Investment in emerging technologies	40	51.83	●
1.3.3 Robot density	35	7.77	
1.3.4 Computer software spending	24	32.85	●
B. People pillar	70	46.42	
1st sub-pillar: Individuals	85	56.41	
2.1.1 Active mobile broadband subscriptions	19	85.48	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	99	40.64	○
2.1.4 Tertiary enrollment	92	16.18	
2.1.5 Adult literacy rate	68	83.35	
2nd sub-pillar: Businesses	70	37.61	
2.2.1 Firms with website	91	30.66	
2.2.2 GERD financed by business enterprise	39	51.30	
2.2.3 Professionals	96	15.43	○
2.2.4 Technicians and associate professionals	58	37.33	
2.2.5 Annual investment in telecommunication services	32	83.31	●
2.2.6 GERD performed by business enterprise	46	7.64	
3rd sub-pillar: Governments	62	45.24	
2.3.1 Government online services	54	73.94	
2.3.2 Publication and use of open data	46	34.25	
2.3.3 Government promotion of investment in emerging tech	82	31.72	
2.3.4 R&D expenditure by governments and higher education	45	41.05	

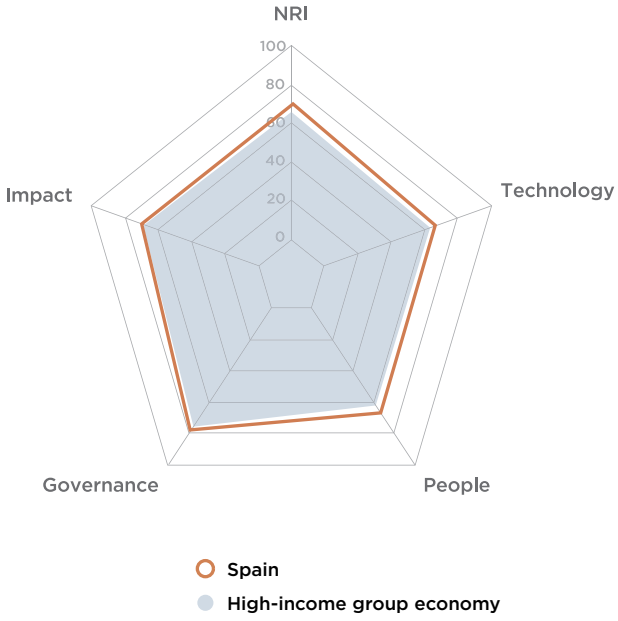
Indicator	Rank	Score	
C. Governance pillar	51	61.25	
1st sub-pillar: Trust	60	48.17	
3.1.1 Secure Internet servers	37	76.42	●
3.1.2 Cybersecurity	66	78.08	
3.1.3 Online access to financial account	64	28.13	
3.1.4 Internet shopping	72	10.05	
2nd sub-pillar: Regulation	51	68.50	
3.2.1 Regulatory quality	60	45.38	
3.2.2 ICT regulatory environment	73	80.39	
3.2.3 Legal framework's adaptability to emerging technologies	41	51.13	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	67	65.62	
3rd sub-pillar: Inclusion	51	67.08	
3.3.1 E-Participation	56	74.07	
3.3.2 Socioeconomic gap in use of digital payments	51	69.52	
3.3.3 Availability of local online content	90	49.81	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	34	74.94	●
D. Impact pillar	103	42.25	
1st sub-pillar: Economy	67	36.32	
4.1.1 High-tech and medium-high-tech manufacturing	60	24.50	
4.1.2 High-tech exports	53	31.41	
4.1.3 PCT patent applications	38	52.26	
4.1.4 Growth rate of GDP per person engaged	57	60.70	
4.1.5 Prevalence of gig economy	84	35.60	
4.1.6 ICT services exports	96	13.44	
2nd sub-pillar: Quality of Life	123	35.62	
4.2.1 Happiness	96	37.78	
4.2.2 Freedom to make life choices	96	64.81	
4.2.3 Income inequality	117	0.00	○
4.2.4 Healthy life expectancy at birth	112	39.90	○
3rd sub-pillar: SDG Contribution	86	54.82	
4.3.1 SDG 3: Good Health and Well-Being	71	67.21	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	63	36.47	
4.3.4 SDG 7: Affordable and Clean Energy	115	47.84	○
4.3.5 SDG 11: Sustainable Cities and Communities	97	67.74	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Spain

	Rank (out of 130)	Score
Network Readiness Index	**23**	**69.94**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**22**	**66.32**
1st sub-pillar: Access	22	85.86
2nd sub-pillar: Content	25	57.87
3rd sub-pillar: Future Technologies	20	55.23
B. People pillar	**21**	**66.18**
1st sub-pillar: Individuals	3	80.34
2nd sub-pillar: Businesses	30	55.93
3rd sub-pillar: Governments	21	62.27
C. Governance pillar	**22**	**77.91**
1st sub-pillar: Trust	28	70.98
2nd sub-pillar: Regulation	25	80.48
3rd sub-pillar: Inclusion	16	82.26
D. Impact pillar	**28**	**69.37**
1st sub-pillar: Economy	34	48.83
2nd sub-pillar: Quality of Life	35	76.73
3rd sub-pillar: SDG Contribution	10	82.54



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	22	66.32	
1st sub-pillar: Access	22	85.86	
1.1.1 Mobile tariffs	49	67.78	
1.1.2 Handset prices	20	78.81	
1.1.3 Households with internet access	11	95.56	●
1.1.4 SMS sent by population 15-69	88	73.07	○
1.1.5 Population covered by at least a 3G mobile network	40	99.92	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	25	57.87	
1.2.1 GitHub commits	31	24.14	
1.2.2 Wikipedia edits	30	76.13	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	26	92.13	
1.2.5 AI scientific publications	11	73.32	●
3rd sub-pillar: Future Technologies	20	55.23	
1.3.1 Adoption of emerging technologies	29	68.80	
1.3.2 Investment in emerging technologies	56	43.01	
1.3.3 Robot density	12	52.28	
1.3.4 Computer software spending	4	56.80	●
B. People pillar	21	66.18	
1st sub-pillar: Individuals	3	80.34	
2.1.1 Active mobile broadband subscriptions	24	84.10	
2.1.2 ICT skills	14	75.78	
2.1.3 Use of virtual social networks	25	80.25	
2.1.4 Tertiary enrollment	7	63.57	●
2.1.5 Adult literacy rate	24	98.02	
2nd sub-pillar: Businesses	30	55.93	
2.2.1 Firms with website	28	76.12	
2.2.2 GERD financed by business enterprise	28	61.21	
2.2.3 Professionals	29	44.82	
2.2.4 Technicians and associate professionals	45	48.54	
2.2.5 Annual investment in telecommunication services	12	89.00	●
2.2.6 GERD performed by business enterprise	32	15.89	
3rd sub-pillar: Governments	21	62.27	
2.3.1 Government online services	17	88.48	
2.3.2 Publication and use of open data	12	73.29	
2.3.3 Government promotion of investment in emerging tech	62	38.25	
2.3.4 R&D expenditure by governments and higher education	34	49.05	

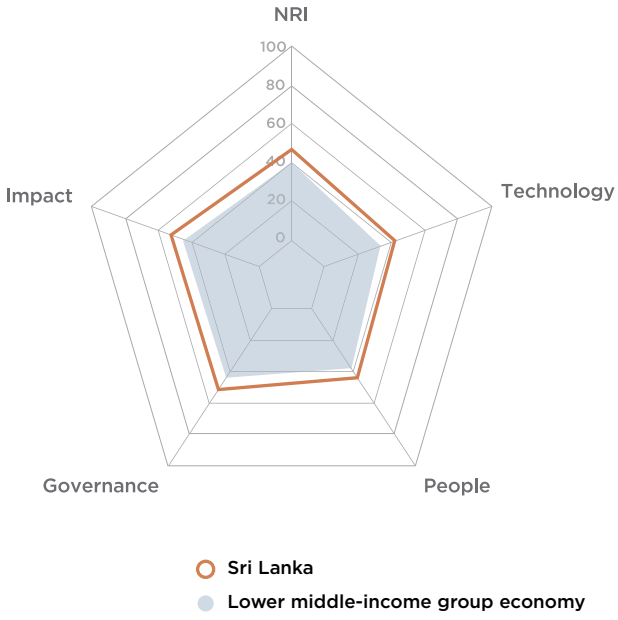
Indicator	Rank	Score	
C. Governance pillar	22	77.91	
1st sub-pillar: Trust	28	70.98	
3.1.1 Secure Internet servers	32	79.64	
3.1.2 Cybersecurity	5	98.49	●
3.1.3 Online access to financial account	48	36.31	
3.1.4 Internet shopping	18	69.47	
2nd sub-pillar: Regulation	25	80.48	
3.2.1 Regulatory quality	30	69.73	
3.2.2 ICT regulatory environment	71	81.18	○
3.2.3 Legal framework's adaptability to emerging technologies	29	62.08	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	11	89.41	●
3rd sub-pillar: Inclusion	16	82.26	
3.3.1 E-Participation	36	83.95	
3.3.2 Socioeconomic gap in use of digital payments	9	96.61	●
3.3.3 Availability of local online content	21	85.49	
3.3.4 Gender gap in Internet use	26	67.90	
3.3.5 Rural gap in use of digital payments	14	77.36	
D. Impact pillar	28	69.37	
1st sub-pillar: Economy	34	48.83	
4.1.1 High-tech and medium-high-tech manufacturing	34	44.60	
4.1.2 High-tech exports	42	42.33	
4.1.3 PCT patent applications	29	64.75	
4.1.4 Growth rate of GDP per person engaged	105	44.80	○
4.1.5 Prevalence of gig economy	47	53.85	
4.1.6 ICT services exports	29	42.64	
2nd sub-pillar: Quality of Life	35	76.73	
4.2.1 Happiness	26	70.67	
4.2.2 Freedom to make life choices	81	69.27	○
4.2.3 Income inequality	48	73.70	
4.2.4 Healthy life expectancy at birth	7	93.28	●
3rd sub-pillar: SDG Contribution	10	82.54	
4.3.1 SDG 3: Good Health and Well-Being	13	90.16	
4.3.2 SDG 4: Quality Education	27	64.22	
4.3.3 Females employed with advanced degrees	19	76.31	
4.3.4 SDG 7: Affordable and Clean Energy	30	84.98	
4.3.5 SDG 11: Sustainable Cities and Communities	13	97.02	●

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Sri Lanka

	Rank (out of 130)	Score
Network Readiness Index	**78**	**46.94**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**74**	**41.80**
1st sub-pillar: Access	88	53.94
2nd sub-pillar: Content	89	28.42
3rd sub-pillar: Future Technologies	39	43.04
B. People pillar	**85**	**42.56**
1st sub-pillar: Individuals	90	54.37
2nd sub-pillar: Businesses	90	31.80
3rd sub-pillar: Governments	72	41.51
C. Governance pillar	**78**	**50.99**
1st sub-pillar: Trust	96	29.65
2nd sub-pillar: Regulation	92	57.30
3rd sub-pillar: Inclusion	57	66.03
D. Impact pillar	**76**	**52.40**
1st sub-pillar: Economy	60	38.15
2nd sub-pillar: Quality of Life	94	59.15
3rd sub-pillar: SDG Contribution	78	59.88



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	74	41.80	
1st sub-pillar: Access	88	53.94	
1.1.1 Mobile tariffs	19	80.99	●
1.1.2 Handset prices	80	45.33	
1.1.3 Households with internet access	88	52.78	
1.1.4 SMS sent by population 15-69	18	85.01	●
1.1.5 Population covered by at least a 3G mobile network	82	98.64	
1.1.6 International Internet bandwidth	48	2.91	
1.1.7 Internet access in schools	59	11.90	
2nd sub-pillar: Content	89	28.42	
1.2.1 GitHub commits	60	4.08	
1.2.2 Wikipedia edits	104	27.20	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	83	68.52	
1.2.5 AI scientific publications	68	41.48	
3rd sub-pillar: Future Technologies	39	43.04	
1.3.1 Adoption of emerging technologies	45	56.01	
1.3.2 Investment in emerging technologies	70	38.35	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	22	34.76	●
B. People pillar	85	42.56	
1st sub-pillar: Individuals	90	54.37	
2.1.1 Active mobile broadband subscriptions	44	78.48	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	100	35.34	
2.1.4 Tertiary enrollment	95	14.30	
2.1.5 Adult literacy rate	60	89.36	
2nd sub-pillar: Businesses	90	31.80	
2.2.1 Firms with website	115	10.53	○
2.2.2 GERD financed by business enterprise	42	49.78	
2.2.3 Professionals	93	16.28	
2.2.4 Technicians and associate professionals	60	35.21	
2.2.5 Annual investment in telecommunication services	61	77.95	
2.2.6 GERD performed by business enterprise	71	1.02	
3rd sub-pillar: Governments	72	41.51	
2.3.1 Government online services	62	70.90	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	40	49.18	
2.3.4 R&D expenditure by governments and higher education	103	4.44	○

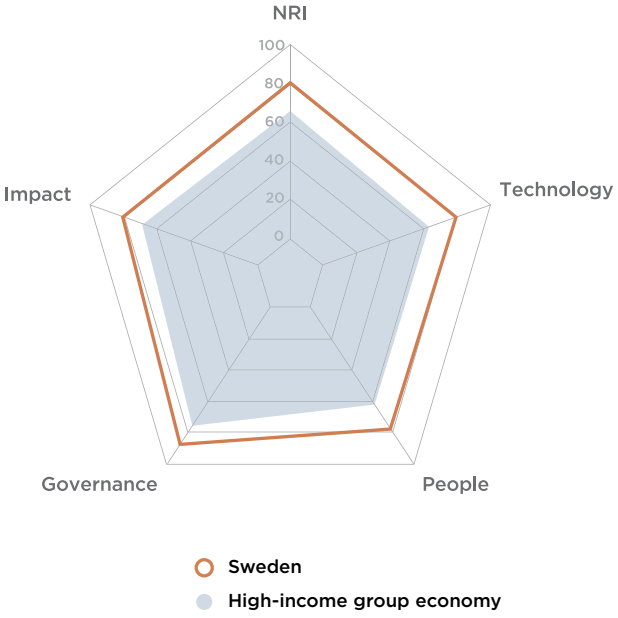
Indicator	Rank	Score	
C. Governance pillar	78	50.99	
1st sub-pillar: Trust	96	29.65	
3.1.1 Secure Internet servers	78	47.48	
3.1.2 Cybersecurity	87	57.92	
3.1.3 Online access to financial account	107	9.76	○
3.1.4 Internet shopping	105	3.45	
2nd sub-pillar: Regulation	92	57.30	
3.2.1 Regulatory quality	82	36.10	
3.2.2 ICT regulatory environment	120	56.86	○
3.2.3 Legal framework's adaptability to emerging technologies	44	49.83	●
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	63	68.72	
3rd sub-pillar: Inclusion	57	66.03	
3.3.1 E-Participation	64	70.37	
3.3.2 Socioeconomic gap in use of digital payments	31	80.52	●
3.3.3 Availability of local online content	94	47.12	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	66	66.10	
D. Impact pillar	76	52.40	
1st sub-pillar: Economy	60	38.15	
4.1.1 High-tech and medium-high-tech manufacturing	91	7.14	
4.1.2 High-tech exports	71	16.73	
4.1.3 PCT patent applications	70	31.95	
4.1.4 Growth rate of GDP per person engaged	43	64.72	
4.1.5 Prevalence of gig economy	44	56.16	●
4.1.6 ICT services exports	15	52.22	●
2nd sub-pillar: Quality of Life	94	59.15	
4.2.1 Happiness	118	22.27	○
4.2.2 Freedom to make life choices	67	76.22	
4.2.3 Income inequality	73	61.72	
4.2.4 Healthy life expectancy at birth	52	76.39	
3rd sub-pillar: SDG Contribution	78	59.88	
4.3.1 SDG 3: Good Health and Well-Being	83	62.30	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	100	10.16	
4.3.4 SDG 7: Affordable and Clean Energy	4	95.29	●
4.3.5 SDG 11: Sustainable Cities and Communities	86	71.79	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Sweden

	Rank (out of 130)	Score
Network Readiness Index	**2**	**81.57**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**4**	**80.38**
1st sub-pillar: Access	15	87.64
2nd sub-pillar: Content	7	75.91
3rd sub-pillar: Future Technologies	2	77.60
B. People pillar	**4**	**76.48**
1st sub-pillar: Individuals	28	72.38
2nd sub-pillar: Businesses	3	76.58
3rd sub-pillar: Governments	6	80.48
C. Governance pillar	**5**	**88.10**
1st sub-pillar: Trust	5	90.60
2nd sub-pillar: Regulation	5	89.99
3rd sub-pillar: Inclusion	10	83.71
D. Impact pillar	**2**	**81.31**
1st sub-pillar: Economy	8	67.73
2nd sub-pillar: Quality of Life	6	91.05
3rd sub-pillar: SDG Contribution	5	85.16



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	4	80.38	
1st sub-pillar: Access	15	87.64	
1.1.1 Mobile tariffs	8	89.35	
1.1.2 Handset prices	33	71.65	
1.1.3 Households with internet access	10	96.24	
1.1.4 SMS sent by population 15-69	34	80.97	
1.1.5 Population covered by at least a 3G mobile network	1	100.00	●
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	7	75.91	
1.2.1 GitHub commits	4	79.30	●
1.2.2 Wikipedia edits	8	85.90	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	13	96.50	
1.2.5 AI scientific publications	32	61.20	
3rd sub-pillar: Future Technologies	2	77.60	
1.3.1 Adoption of emerging technologies	5	96.31	●
1.3.2 Investment in emerging technologies	3	91.97	●
1.3.3 Robot density	5	75.18	
1.3.4 Computer software spending	11	46.91	
B. People pillar	4	76.48	
1st sub-pillar: Individuals	28	72.38	
2.1.1 Active mobile broadband subscriptions	46	77.69	
2.1.2 ICT skills	12	78.97	
2.1.3 Use of virtual social networks	18	82.43	
2.1.4 Tertiary enrollment	26	50.44	
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	3	76.58	
2.2.1 Firms with website	6	93.21	
2.2.2 GERD financed by business enterprise	12	75.20	
2.2.3 Professionals	2	72.42	●
2.2.4 Technicians and associate professionals	8	79.53	
2.2.5 Annual investment in telecommunication services	30	83.53	
2.2.6 GERD performed by business enterprise	4	55.57	●
3rd sub-pillar: Governments	6	80.48	
2.3.1 Government online services	15	89.70	
2.3.2 Publication and use of open data	15	69.76	
2.3.3 Government promotion of investment in emerging tech	16	71.68	
2.3.4 R&D expenditure by governments and higher education	3	90.76	●

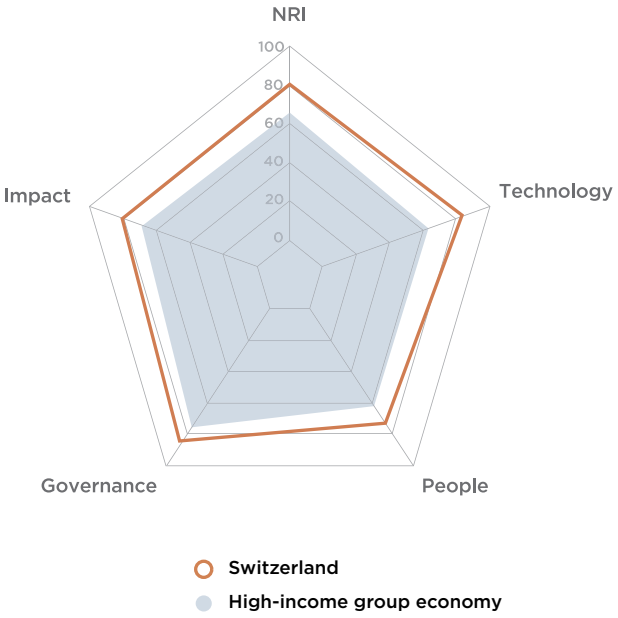
Indicator	Rank	Score	
C. Governance pillar	5	88.10	
1st sub-pillar: Trust	5	90.60	
3.1.1 Secure Internet servers	24	82.96	
3.1.2 Cybersecurity	33	94.45	
3.1.3 Online access to financial account	4	93.08	●
3.1.4 Internet shopping	6	91.90	
2nd sub-pillar: Regulation	5	89.99	
3.2.1 Regulatory quality	8	90.20	
3.2.2 ICT regulatory environment	50	85.88	○
3.2.3 Legal framework's adaptability to emerging technologies	7	84.19	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	10	89.68	
3rd sub-pillar: Inclusion	10	83.71	
3.3.1 E-Participation	41	81.48	
3.3.2 Socioeconomic gap in use of digital payments	7	96.69	
3.3.3 Availability of local online content	1	100.00	●
3.3.4 Gender gap in Internet use	44	64.39	○
3.3.5 Rural gap in use of digital payments	23	75.98	
D. Impact pillar	2	81.31	
1st sub-pillar: Economy	8	67.73	
4.1.1 High-tech and medium-high-tech manufacturing	15	62.18	
4.1.2 High-tech exports	22	57.13	
4.1.3 PCT patent applications	4	97.09	●
4.1.4 Growth rate of GDP per person engaged	67	58.23	○
4.1.5 Prevalence of gig economy	18	72.37	
4.1.6 ICT services exports	8	59.36	
2nd sub-pillar: Quality of Life	6	91.05	
4.2.1 Happiness	7	87.84	
4.2.2 Freedom to make life choices	7	97.73	
4.2.3 Income inequality	20	85.94	
4.2.4 Healthy life expectancy at birth	11	92.69	
3rd sub-pillar: SDG Contribution	5	85.16	
4.3.1 SDG 3: Good Health and Well-Being	6	95.08	
4.3.2 SDG 4: Quality Education	14	68.77	
4.3.3 Females employed with advanced degrees	7	87.41	
4.3.4 SDG 7: Affordable and Clean Energy	67	76.28	○
4.3.5 SDG 11: Sustainable Cities and Communities	6	98.26	●

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Switzerland

	Rank (out of 130)	Score
Network Readiness Index	**6**	**80.20**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**2**	**82.96**
1st sub-pillar: Access	8	89.79
2nd sub-pillar: Content	1	87.08
3rd sub-pillar: Future Technologies	6	72.02
B. People pillar	**12**	**72.81**
1st sub-pillar: Individuals	35	71.52
2nd sub-pillar: Businesses	5	76.07
3rd sub-pillar: Governments	17	70.83
C. Governance pillar	**11**	**84.84**
1st sub-pillar: Trust	16	79.53
2nd sub-pillar: Regulation	3	91.76
3rd sub-pillar: Inclusion	15	83.24
D. Impact pillar	**6**	**80.19**
1st sub-pillar: Economy	7	67.79
2nd sub-pillar: Quality of Life	8	89.14
3rd sub-pillar: SDG Contribution	8	83.63



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	2	82.96	
1st sub-pillar: Access	8	89.79	
1.1.1 Mobile tariffs	11	88.00	
1.1.2 Handset prices	13	84.25	
1.1.3 Households with internet access	25	91.71	
1.1.4 SMS sent by population 15-69	79	74.79	○
1.1.5 Population covered by at least a 3G mobile network	1	100.00	●
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	1	87.08	
1.2.1 GitHub commits	1	100.00	●
1.2.2 Wikipedia edits	16	80.23	
1.2.3 Internet domain registrations	*	*	●
1.2.4 Mobile apps development	8	98.70	
1.2.5 AI scientific publications	23	63.64	
3rd sub-pillar: Future Technologies	6	72.02	
1.3.1 Adoption of emerging technologies	6	93.09	
1.3.2 Investment in emerging technologies	4	89.43	●
1.3.3 Robot density	18	44.06	
1.3.4 Computer software spending	2	61.49	●
B. People pillar	12	72.81	
1st sub-pillar: Individuals	35	71.52	
2.1.1 Active mobile broadband subscriptions	60	75.72	○
2.1.2 ICT skills	6	85.60	
2.1.3 Use of virtual social networks	20	82.12	
2.1.4 Tertiary enrollment	48	42.63	
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	5	76.07	
2.2.1 Firms with website	3	95.17	●
2.2.2 GERD financed by business enterprise	6	84.85	
2.2.3 Professionals	6	64.46	
2.2.4 Technicians and associate professionals	15	73.98	
2.2.5 Annual investment in telecommunication services	17	86.64	
2.2.6 GERD performed by business enterprise	6	51.35	
3rd sub-pillar: Governments	17	70.83	
2.3.1 Government online services	36	82.42	
2.3.2 Publication and use of open data	19	57.34	
2.3.3 Government promotion of investment in emerging tech	27	57.51	
2.3.4 R&D expenditure by governments and higher education	5	86.04	

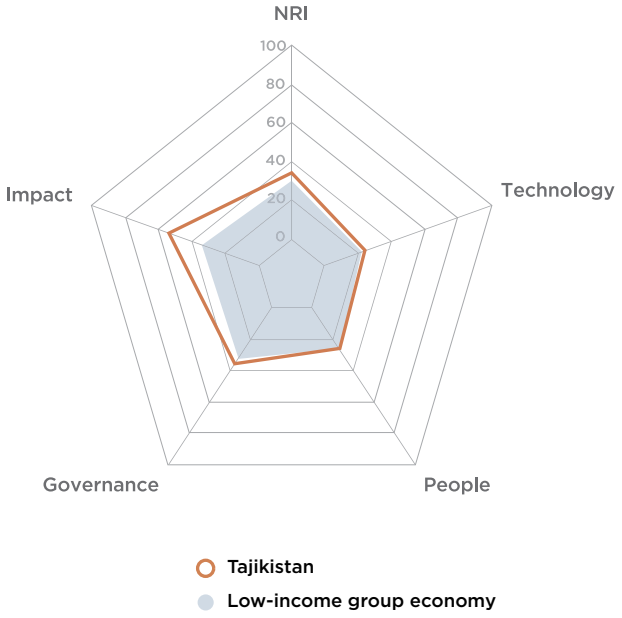
Indicator	Rank	Score	
C. Governance pillar	11	84.84	
1st sub-pillar: Trust	16	79.53	
3.1.1 Secure Internet servers	5	93.32	
3.1.2 Cybersecurity	50	86.74	
3.1.3 Online access to financial account	19	66.23	
3.1.4 Internet shopping	15	71.84	
2nd sub-pillar: Regulation	3	91.76	
3.2.1 Regulatory quality	12	86.46	
3.2.2 ICT regulatory environment	20	93.53	
3.2.3 Legal framework's adaptability to emerging technologies	5	85.14	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	5	93.67	
3rd sub-pillar: Inclusion	15	83.24	
3.3.1 E-Participation	18	90.13	
3.3.2 Socioeconomic gap in use of digital payments	15	94.74	
3.3.3 Availability of local online content	5	95.34	
3.3.4 Gender gap in Internet use	64	60.46	○
3.3.5 Rural gap in use of digital payments	27	75.53	
D. Impact pillar	6	80.19	
1st sub-pillar: Economy	7	67.79	
4.1.1 High-tech and medium-high-tech manufacturing	2	89.60	●
4.1.2 High-tech exports	24	56.91	
4.1.3 PCT patent applications	3	97.75	●
4.1.4 Growth rate of GDP per person engaged	64	58.48	○
4.1.5 Prevalence of gig economy	27	66.09	
4.1.6 ICT services exports	42	37.90	
2nd sub-pillar: Quality of Life	8	89.14	
4.2.1 Happiness	4	91.95	●
4.2.2 Freedom to make life choices	22	92.00	
4.2.3 Income inequality	40	77.86	
4.2.4 Healthy life expectancy at birth	4	94.74	●
3rd sub-pillar: SDG Contribution	8	83.63	
4.3.1 SDG 3: Good Health and Well-Being	13	90.16	
4.3.2 SDG 4: Quality Education	21	66.99	
4.3.3 Females employed with advanced degrees	30	66.12	
4.3.4 SDG 7: Affordable and Clean Energy	5	95.21	
4.3.5 SDG 11: Sustainable Cities and Communities	4	99.68	●

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Tajikistan

	Rank (out of 130)	Score
Network Readiness Index	**111**	**34.55**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**118**	**23.43**
1st sub-pillar: Access	129	23.61
2nd sub-pillar: Content	110	20.08
3rd sub-pillar: Future Technologies	90	26.60
B. People pillar	**120**	**26.48**
1st sub-pillar: Individuals	106	43.03
2nd sub-pillar: Businesses	127	16.42
3rd sub-pillar: Governments	121	19.98
C. Governance pillar	**119**	**35.05**
1st sub-pillar: Trust	114	20.19
2nd sub-pillar: Regulation	127	29.94
3rd sub-pillar: Inclusion	80	55.02
D. Impact pillar	**73**	**53.25**
1st sub-pillar: Economy	105	23.78
2nd sub-pillar: Quality of Life	70	64.84
3rd sub-pillar: SDG Contribution	38	71.12



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	118	23.43	
1st sub-pillar: Access	129	23.61	
1.1.1 Mobile tariffs	120	18.40	
1.1.2 Handset prices	114	25.91	
1.1.3 Households with internet access	102	26.53	
1.1.4 SMS sent by population 15-69	NA	NA	
1.1.5 Population covered by at least a 3G mobile network	NA	NA	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	110	20.08	
1.2.1 GitHub commits	123	0.07	
1.2.2 Wikipedia edits	83	41.15	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	104	56.58	
1.2.5 AI scientific publications	125	2.38	○
3rd sub-pillar: Future Technologies	90	26.60	
1.3.1 Adoption of emerging technologies	99	31.62	
1.3.2 Investment in emerging technologies	58	41.88	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	94	6.29	
B. People pillar	120	26.48	
1st sub-pillar: Individuals	106	43.03	
2.1.1 Active mobile broadband subscriptions	NA	NA	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	117	7.90	
2.1.4 Tertiary enrollment	83	21.43	
2.1.5 Adult literacy rate	5	99.78	●
2nd sub-pillar: Businesses	127	16.42	
2.2.1 Firms with website	102	21.64	
2.2.2 GERD financed by business enterprise	90	1.99	
2.2.3 Professionals	90	17.78	
2.2.4 Technicians and associate professionals	80	24.29	
2.2.5 Annual investment in telecommunication services	NA	NA	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	121	19.98	
2.3.1 Government online services	121	29.69	
2.3.2 Publication and use of open data	92	9.45	
2.3.3 Government promotion of investment in emerging tech	74	33.95	
2.3.4 R&D expenditure by governments and higher education	95	6.84	

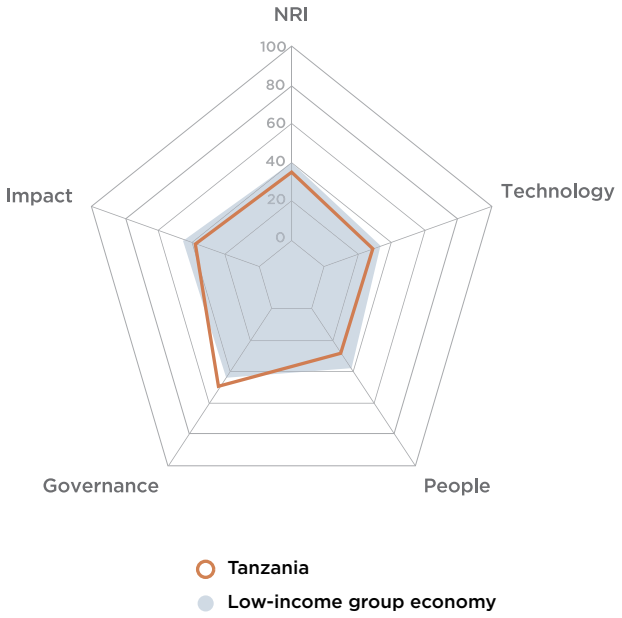
Indicator	Rank	Score	
C. Governance pillar	119	35.05	
1st sub-pillar: Trust	114	20.19	
3.1.1 Secure Internet servers	103	36.08	
3.1.2 Cybersecurity	119	15.64	
3.1.3 Online access to financial account	78	19.40	
3.1.4 Internet shopping	73	9.65	●
2nd sub-pillar: Regulation	127	29.94	
3.2.1 Regulatory quality	125	13.58	○
3.2.2 ICT regulatory environment	130	0.00	○
3.2.3 Legal framework's adaptability to emerging technologies	87	29.97	
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	122	31.16	
3rd sub-pillar: Inclusion	80	55.02	
3.3.1 E-Participation	115	32.10	
3.3.2 Socioeconomic gap in use of digital payments	63	61.22	●
3.3.3 Availability of local online content	79	53.71	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	44	73.04	●
D. Impact pillar	73	53.25	
1st sub-pillar: Economy	105	23.78	
4.1.1 High-tech and medium-high-tech manufacturing	105	0.53	○
4.1.2 High-tech exports	NA	NA	
4.1.3 PCT patent applications	96	0.00	○
4.1.4 Growth rate of GDP per person engaged	6	86.72	●
4.1.5 Prevalence of gig economy	104	24.36	
4.1.6 ICT services exports	108	7.27	
2nd sub-pillar: Quality of Life	70	64.84	
4.2.1 Happiness	79	46.80	
4.2.2 Freedom to make life choices	63	77.53	●
4.2.3 Income inequality	46	75.52	●
4.2.4 Healthy life expectancy at birth	94	59.51	
3rd sub-pillar: SDG Contribution	38	71.12	
4.3.1 SDG 3: Good Health and Well-Being	77	65.57	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	NA	NA	
4.3.4 SDG 7: Affordable and Clean Energy	86	69.57	
4.3.5 SDG 11: Sustainable Cities and Communities	75	78.22	●

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Tanzania

	Rank (out of 130)	Score
Network Readiness Index	**107**	**35.83**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**109**	**29.01**
1st sub-pillar: Access	104	44.71
2nd sub-pillar: Content	119	15.80
3rd sub-pillar: Future Technologies	92	26.54
B. People pillar	**116**	**28.03**
1st sub-pillar: Individuals	114	38.77
2nd sub-pillar: Businesses	130	6.12
3rd sub-pillar: Governments	78	39.20
C. Governance pillar	**83**	**48.55**
1st sub-pillar: Trust	68	40.48
2nd sub-pillar: Regulation	82	59.32
3rd sub-pillar: Inclusion	101	45.85
D. Impact pillar	**114**	**37.74**
1st sub-pillar: Economy	93	27.96
2nd sub-pillar: Quality of Life	107	49.18
3rd sub-pillar: SDG Contribution	120	36.08



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	109	29.01	
1st sub-pillar: Access	104	44.71	
1.1.1 Mobile tariffs	114	30.70	
1.1.2 Handset prices	98	36.98	
1.1.3 Households with internet access	114	14.19	
1.1.4 SMS sent by population 15-69	5	90.09	●
1.1.5 Population covered by at least a 3G mobile network	104	95.62	
1.1.6 International Internet bandwidth	67	0.64	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	119	15.80	
1.2.1 GitHub commits	114	0.28	
1.2.2 Wikipedia edits	127	7.11	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	114	50.10	
1.2.5 AI scientific publications	92	21.36	
3rd sub-pillar: Future Technologies	92	26.54	
1.3.1 Adoption of emerging technologies	87	37.57	
1.3.2 Investment in emerging technologies	59	41.64	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	120	0.41	○
B. People pillar	116	28.03	
1st sub-pillar: Individuals	114	38.77	
2.1.1 Active mobile broadband subscriptions	63	75.59	
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	122	6.34	
2.1.4 Tertiary enrollment	124	1.60	
2.1.5 Adult literacy rate	80	71.56	
2nd sub-pillar: Businesses	130	6.12	
2.2.1 Firms with website	107	15.16	
2.2.2 GERD financed by business enterprise	102	0.05	○
2.2.3 Professionals	124	1.17	○
2.2.4 Technicians and associate professionals	115	8.09	
2.2.5 Annual investment in telecommunication services	NA	NA	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	78	39.20	
2.3.1 Government online services	92	53.94	
2.3.2 Publication and use of open data	66	21.51	
2.3.3 Government promotion of investment in emerging tech	72	34.78	
2.3.4 R&D expenditure by governments and higher education	36	46.58	●

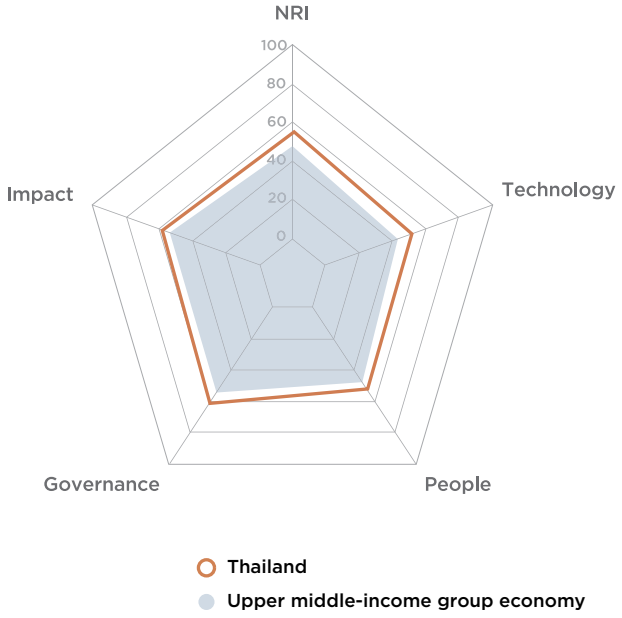
Indicator	Rank	Score	
C. Governance pillar	83	48.55	
1st sub-pillar: Trust	68	40.48	
3.1.1 Secure Internet servers	115	29.01	
3.1.2 Cybersecurity	45	90.41	●
3.1.3 Online access to financial account	50	35.69	●
3.1.4 Internet shopping	82	6.82	
2nd sub-pillar: Regulation	82	59.32	
3.2.1 Regulatory quality	107	23.67	
3.2.2 ICT regulatory environment	76	76.47	
3.2.3 Legal framework's adaptability to emerging technologies	81	31.11	
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	8	90.34	●
3rd sub-pillar: Inclusion	101	45.85	
3.3.1 E-Participation	91	54.32	
3.3.2 Socioeconomic gap in use of digital payments	64	60.55	
3.3.3 Availability of local online content	96	44.69	
3.3.4 Gender gap in Internet use	91	0.00	○
3.3.5 Rural gap in use of digital payments	56	69.69	●
D. Impact pillar	114	37.74	
1st sub-pillar: Economy	93	27.96	
4.1.1 High-tech and medium-high-tech manufacturing	88	8.54	
4.1.2 High-tech exports	56	30.02	●
4.1.3 PCT patent applications	96	0.00	○
4.1.4 Growth rate of GDP per person engaged	8	83.60	●
4.1.5 Prevalence of gig economy	68	39.92	
4.1.6 ICT services exports	117	5.72	
2nd sub-pillar: Quality of Life	107	49.18	
4.2.1 Happiness	123	13.23	
4.2.2 Freedom to make life choices	65	77.25	●
4.2.3 Income inequality	77	58.59	
4.2.4 Healthy life expectancy at birth	104	47.63	
3rd sub-pillar: SDG Contribution	120	36.08	
4.3.1 SDG 3: Good Health and Well-Being	119	24.59	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	120	0.74	
4.3.4 SDG 7: Affordable and Clean Energy	94	65.50	
4.3.5 SDG 11: Sustainable Cities and Communities	118	53.51	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Thailand

	Rank (out of 130)	Score
Network Readiness Index	**54**	**55.31**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**45**	**51.04**
1st sub-pillar: Access	34	79.69
2nd sub-pillar: Content	68	35.43
3rd sub-pillar: Future Technologies	48	37.99
B. People pillar	**58**	**50.89**
1st sub-pillar: Individuals	74	59.95
2nd sub-pillar: Businesses	51	46.03
3rd sub-pillar: Governments	55	46.68
C. Governance pillar	**52**	**60.98**
1st sub-pillar: Trust	61	47.65
2nd sub-pillar: Regulation	57	66.21
3rd sub-pillar: Inclusion	45	69.09
D. Impact pillar	**53**	**58.33**
1st sub-pillar: Economy	37	48.05
2nd sub-pillar: Quality of Life	51	72.55
3rd sub-pillar: SDG Contribution	88	54.39



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	45	51.04	
1st sub-pillar: Access	34	79.69	
1.1.1 Mobile tariffs	35	73.99	
1.1.2 Handset prices	64	53.43	
1.1.3 Households with internet access	43	85.33	
1.1.4 SMS sent by population 15-69	26	82.79	●
1.1.5 Population covered by at least a 3G mobile network	64	99.68	
1.1.6 International Internet bandwidth	9	63.80	●
1.1.7 Internet access in schools	26	98.80	
2nd sub-pillar: Content	68	35.43	
1.2.1 GitHub commits	72	2.70	
1.2.2 Wikipedia edits	87	37.74	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	68	74.71	
1.2.5 AI scientific publications	35	58.94	
3rd sub-pillar: Future Technologies	48	37.99	
1.3.1 Adoption of emerging technologies	39	60.58	
1.3.2 Investment in emerging technologies	37	54.44	
1.3.3 Robot density	28	14.64	
1.3.4 Computer software spending	55	22.32	
B. People pillar	58	50.89	
1st sub-pillar: Individuals	74	59.95	
2.1.1 Active mobile broadband subscriptions	21	85.29	●
2.1.2 ICT skills	65	9.42	○
2.1.3 Use of virtual social networks	31	78.90	●
2.1.4 Tertiary enrollment	63	34.12	
2.1.5 Adult literacy rate	54	92.01	
2nd sub-pillar: Businesses	51	46.03	
2.2.1 Firms with website	75	41.66	
2.2.2 GERD financed by business enterprise	1	100.00	●
2.2.3 Professionals	102	12.97	○
2.2.4 Technicians and associate professionals	92	18.68	
2.2.5 Annual investment in telecommunication services	20	84.70	●
2.2.6 GERD performed by business enterprise	27	18.15	
3rd sub-pillar: Governments	55	46.68	
2.3.1 Government online services	42	78.79	
2.3.2 Publication and use of open data	57	27.35	
2.3.3 Government promotion of investment in emerging tech	22	64.55	
2.3.4 R&D expenditure by governments and higher education	81	16.04	

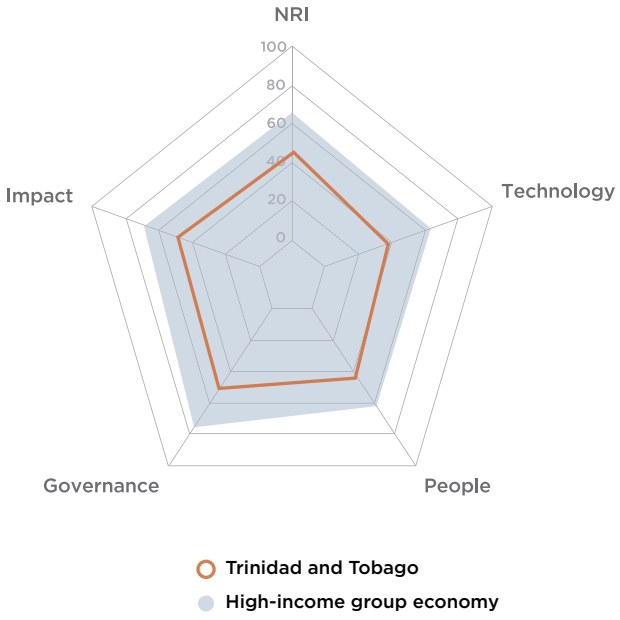
Indicator	Rank	Score	
C. Governance pillar	52	60.98	
1st sub-pillar: Trust	61	47.65	
3.1.1 Secure Internet servers	57	60.27	
3.1.2 Cybersecurity	52	86.26	
3.1.3 Online access to financial account	75	22.52	
3.1.4 Internet shopping	56	21.54	
2nd sub-pillar: Regulation	57	66.21	
3.2.1 Regulatory quality	62	44.29	
3.2.2 ICT regulatory environment	70	81.76	
3.2.3 Legal framework's adaptability to emerging technologies	47	48.48	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	89	56.54	
3rd sub-pillar: Inclusion	45	69.09	
3.3.1 E-Participation	50	76.54	
3.3.2 Socioeconomic gap in use of digital payments	41	74.87	
3.3.3 Availability of local online content	59	64.00	
3.3.4 Gender gap in Internet use	52	62.72	
3.3.5 Rural gap in use of digital payments	62	67.30	
D. Impact pillar	53	58.33	
1st sub-pillar: Economy	37	48.05	
4.1.1 High-tech and medium-high-tech manufacturing	17	57.88	●
4.1.2 High-tech exports	11	72.33	●
4.1.3 PCT patent applications	57	40.24	
4.1.4 Growth rate of GDP per person engaged	63	58.50	
4.1.5 Prevalence of gig economy	48	53.47	
4.1.6 ICT services exports	115	5.89	○
2nd sub-pillar: Quality of Life	51	72.55	
4.2.1 Happiness	59	57.61	
4.2.2 Freedom to make life choices	58	78.97	
4.2.3 Income inequality	49	73.18	
4.2.4 Healthy life expectancy at birth	44	80.45	
3rd sub-pillar: SDG Contribution	88	54.39	
4.3.1 SDG 3: Good Health and Well-Being	23	85.25	●
4.3.2 SDG 4: Quality Education	59	31.97	○
4.3.3 Females employed with advanced degrees	68	32.61	
4.3.4 SDG 7: Affordable and Clean Energy	84	70.37	
4.3.5 SDG 11: Sustainable Cities and Communities	120	51.78	○

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Trinidad and Tobago

	Rank (out of 130)	Score
Network Readiness Index	**85**	**44.80**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**88**	**37.38**
1st sub-pillar: Access	82	56.38
2nd sub-pillar: Content	83	30.68
3rd sub-pillar: Future Technologies	98	25.09
B. People pillar	**82**	**43.07**
1st sub-pillar: Individuals	20	74.31
2nd sub-pillar: Businesses	94	30.64
3rd sub-pillar: Governments	112	24.26
C. Governance pillar	**79**	**50.98**
1st sub-pillar: Trust	105	26.52
2nd sub-pillar: Regulation	81	59.39
3rd sub-pillar: Inclusion	52	67.03
D. Impact pillar	**90**	**47.76**
1st sub-pillar: Economy	109	21.52
2nd sub-pillar: Quality of Life	44	73.30
3rd sub-pillar: SDG Contribution	101	48.46



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	88	37.38	
1st sub-pillar: Access	82	56.38	
1.1.1 Mobile tariffs	112	33.96	
1.1.2 Handset prices	59	57.08	
1.1.3 Households with internet access	62	77.60	
1.1.4 SMS sent by population 15-69	111	67.67	
1.1.5 Population covered by at least a 3G mobile network	1	100.00	●
1.1.6 International Internet bandwidth	53	1.98	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	83	30.68	
1.2.1 GitHub commits	61	3.94	
1.2.2 Wikipedia edits	54	60.02	●
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	82	68.60	
1.2.5 AI scientific publications	99	17.86	
3rd sub-pillar: Future Technologies	98	25.09	
1.3.1 Adoption of emerging technologies	104	27.86	
1.3.2 Investment in emerging technologies	114	22.32	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	NA	NA	
B. People pillar	82	43.07	
1st sub-pillar: Individuals	20	74.31	
2.1.1 Active mobile broadband subscriptions	118	57.72	○
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	66	66.84	
2.1.4 Tertiary enrollment	NA	NA	
2.1.5 Adult literacy rate	22	98.36	●
2nd sub-pillar: Businesses	94	30.64	
2.2.1 Firms with website	99	24.65	
2.2.2 GERD financed by business enterprise	72	16.77	
2.2.3 Professionals	99	14.14	
2.2.4 Technicians and associate professionals	28	57.30	●
2.2.5 Annual investment in telecommunication services	102	70.93	
2.2.6 GERD performed by business enterprise	85	0.08	○
3rd sub-pillar: Governments	112	24.26	
2.3.1 Government online services	83	60.00	
2.3.2 Publication and use of open data	76	17.76	
2.3.3 Government promotion of investment in emerging tech	112	13.64	
2.3.4 R&D expenditure by governments and higher education	98	5.65	

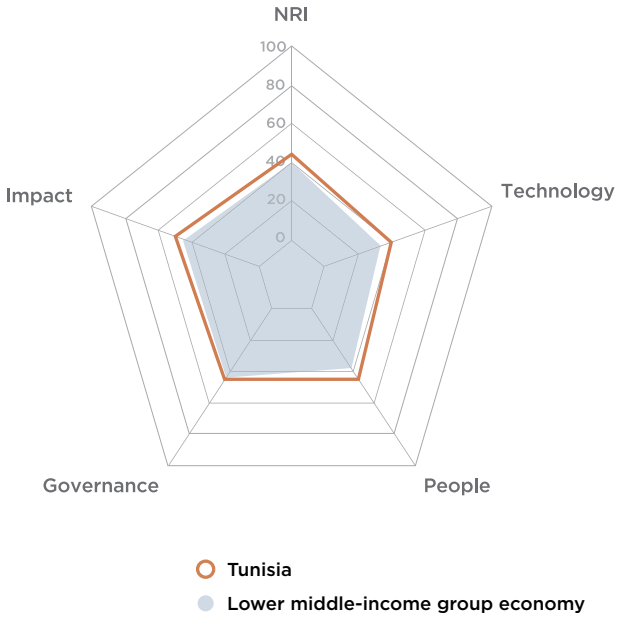
Indicator	Rank	Score	
C. Governance pillar	79	50.98	
1st sub-pillar: Trust	105	26.52	
3.1.1 Secure Internet servers	80	46.51	
3.1.2 Cybersecurity	113	20.81	
3.1.3 Online access to financial account	81	17.67	
3.1.4 Internet shopping	57	21.09	
2nd sub-pillar: Regulation	81	59.39	
3.2.1 Regulatory quality	79	37.01	
3.2.2 ICT regulatory environment	61	83.92	
3.2.3 Legal framework's adaptability to emerging technologies	116	10.95	○
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	71	65.07	
3rd sub-pillar: Inclusion	52	67.03	
3.3.1 E-Participation	82	60.49	
3.3.2 Socioeconomic gap in use of digital payments	29	83.15	●
3.3.3 Availability of local online content	87	50.57	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	39	73.91	●
D. Impact pillar	90	47.76	
1st sub-pillar: Economy	109	21.52	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	121	1.29	○
4.1.3 PCT patent applications	83	19.21	
4.1.4 Growth rate of GDP per person engaged	52	62.06	●
4.1.5 Prevalence of gig economy	110	20.09	
4.1.6 ICT services exports	120	4.94	
2nd sub-pillar: Quality of Life	44	73.30	
4.2.1 Happiness	40	64.11	●
4.2.2 Freedom to make life choices	49	82.13	●
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	63	73.65	
3rd sub-pillar: SDG Contribution	101	48.46	
4.3.1 SDG 3: Good Health and Well-Being	53	75.41	
4.3.2 SDG 4: Quality Education	52	36.31	
4.3.3 Females employed with advanced degrees	56	42.23	
4.3.4 SDG 7: Affordable and Clean Energy	128	0.00	○
4.3.5 SDG 11: Sustainable Cities and Communities	45	88.36	●

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Tunisia

	Rank (out of 130)	Score
Network Readiness Index	**87**	**44.33**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**81**	**39.24**
1st sub-pillar: Access	86	54.48
2nd sub-pillar: Content	80	32.22
3rd sub-pillar: Future Technologies	72	31.01
B. People pillar	**76**	**45.46**
1st sub-pillar: Individuals	92	53.97
2nd sub-pillar: Businesses	71	35.80
3rd sub-pillar: Governments	56	46.61
C. Governance pillar	**98**	**44.15**
1st sub-pillar: Trust	73	37.14
2nd sub-pillar: Regulation	96	53.95
3rd sub-pillar: Inclusion	107	41.36
D. Impact pillar	**88**	**48.48**
1st sub-pillar: Economy	84	31.90
2nd sub-pillar: Quality of Life	93	59.36
3rd sub-pillar: SDG Contribution	90	54.20



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	81	39.24	
1st sub-pillar: Access	86	54.48	
1.1.1 Mobile tariffs	61	61.29	
1.1.2 Handset prices	101	35.54	
1.1.3 Households with internet access	90	51.44	
1.1.4 SMS sent by population 15-69	49	78.42	●
1.1.5 Population covered by at least a 3G mobile network	51	99.73	
1.1.6 International Internet bandwidth	31	6.28	●
1.1.7 Internet access in schools	41	48.66	
2nd sub-pillar: Content	80	32.22	
1.2.1 GitHub commits	78	2.18	
1.2.2 Wikipedia edits	100	28.50	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	74	71.89	
1.2.5 AI scientific publications	43	56.25	●
3rd sub-pillar: Future Technologies	72	31.01	
1.3.1 Adoption of emerging technologies	102	29.39	
1.3.2 Investment in emerging technologies	80	35.63	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	35	28.00	●
B. People pillar	76	45.46	
1st sub-pillar: Individuals	92	53.97	
2.1.1 Active mobile broadband subscriptions	59	75.84	
2.1.2 ICT skills	49	30.31	
2.1.3 Use of virtual social networks	59	68.81	
2.1.4 Tertiary enrollment	81	21.84	
2.1.5 Adult literacy rate	79	73.04	
2nd sub-pillar: Businesses	71	35.80	
2.2.1 Firms with website	45	65.73	●
2.2.2 GERD financed by business enterprise	66	23.40	
2.2.3 Professionals	95	15.73	
2.2.4 Technicians and associate professionals	65	32.19	
2.2.5 Annual investment in telecommunication services	78	75.14	
2.2.6 GERD performed by business enterprise	58	2.62	
3rd sub-pillar: Governments	56	46.61	
2.3.1 Government online services	80	61.21	
2.3.2 Publication and use of open data	52	31.98	
2.3.3 Government promotion of investment in emerging tech	50	44.91	
2.3.4 R&D expenditure by governments and higher education	35	48.36	●

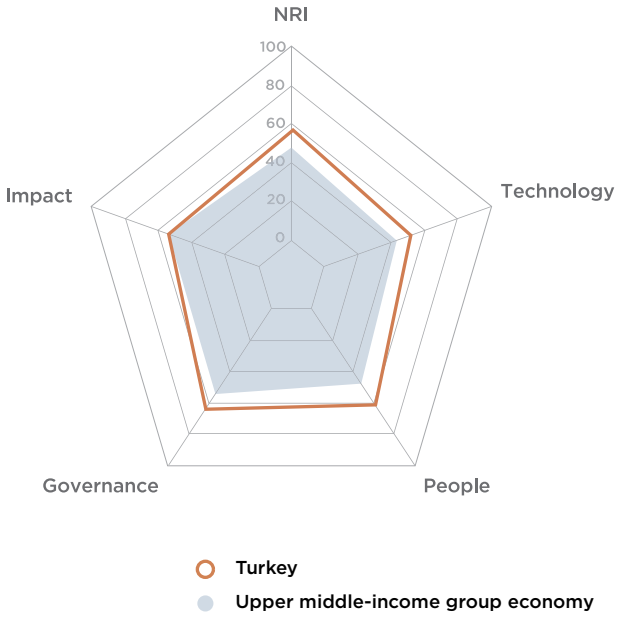
Indicator	Rank	Score	
C. Governance pillar	98	44.15	
1st sub-pillar: Trust	73	37.14	
3.1.1 Secure Internet servers	81	46.23	
3.1.2 Cybersecurity	53	85.99	
3.1.3 Online access to financial account	102	10.37	
3.1.4 Internet shopping	87	5.96	
2nd sub-pillar: Regulation	96	53.95	
3.2.1 Regulatory quality	99	29.21	
3.2.2 ICT regulatory environment	92	70.78	
3.2.3 Legal framework's adaptability to emerging technologies	85	30.45	
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	73	64.28	
3rd sub-pillar: Inclusion	107	41.36	
3.3.1 E-Participation	71	67.90	
3.3.2 Socioeconomic gap in use of digital payments	113	21.35	○
3.3.3 Availability of local online content	84	51.50	
3.3.4 Gender gap in Internet use	86	38.62	○
3.3.5 Rural gap in use of digital payments	113	27.44	○
D. Impact pillar	88	48.48	
1st sub-pillar: Economy	84	31.90	
4.1.1 High-tech and medium-high-tech manufacturing	50	29.66	
4.1.2 High-tech exports	39	43.31	●
4.1.3 PCT patent applications	80	21.00	
4.1.4 Growth rate of GDP per person engaged	91	51.03	
4.1.5 Prevalence of gig economy	106	23.30	
4.1.6 ICT services exports	75	23.10	
2nd sub-pillar: Quality of Life	93	59.36	
4.2.1 Happiness	105	33.22	
4.2.2 Freedom to make life choices	116	49.70	○
4.2.3 Income inequality	34	78.65	●
4.2.4 Healthy life expectancy at birth	54	75.87	
3rd sub-pillar: SDG Contribution	90	54.20	
4.3.1 SDG 3: Good Health and Well-Being	67	68.85	
4.3.2 SDG 4: Quality Education	72	15.23	○
4.3.3 Females employed with advanced degrees	74	28.84	
4.3.4 SDG 7: Affordable and Clean Energy	49	81.15	●
4.3.5 SDG 11: Sustainable Cities and Communities	80	76.91	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Turkey

	Rank (out of 130)	Score
Network Readiness Index	**45**	**56.88**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**46**	**50.98**
1st sub-pillar: Access	38	77.95
2nd sub-pillar: Content	46	43.20
3rd sub-pillar: Future Technologies	68	31.79
B. People pillar	**31**	**60.22**
1st sub-pillar: Individuals	1	82.59
2nd sub-pillar: Businesses	53	45.68
3rd sub-pillar: Governments	39	52.39
C. Governance pillar	**48**	**63.16**
1st sub-pillar: Trust	44	59.63
2nd sub-pillar: Regulation	59	65.28
3rd sub-pillar: Inclusion	58	64.58
D. Impact pillar	**74**	**53.17**
1st sub-pillar: Economy	54	42.67
2nd sub-pillar: Quality of Life	108	48.73
3rd sub-pillar: SDG Contribution	45	68.11



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	46	50.98	
1st sub-pillar: Access	38	77.95	
1.1.1 Mobile tariffs	44	69.96	
1.1.2 Handset prices	83	44.77	
1.1.3 Households with internet access	29	90.89	
1.1.4 SMS sent by population 15-69	9	88.23	●
1.1.5 Population covered by at least a 3G mobile network	62	99.72	
1.1.6 International Internet bandwidth	7	74.14	●
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	46	43.20	
1.2.1 GitHub commits	63	3.56	
1.2.2 Wikipedia edits	62	53.13	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	46	82.17	
1.2.5 AI scientific publications	16	70.44	●
3rd sub-pillar: Future Technologies	68	31.79	
1.3.1 Adoption of emerging technologies	58	49.37	
1.3.2 Investment in emerging technologies	103	27.62	○
1.3.3 Robot density	34	7.80	
1.3.4 Computer software spending	20	42.38	●
B. People pillar	31	60.22	
1st sub-pillar: Individuals	1	82.59	
2.1.1 Active mobile broadband subscriptions	18	85.48	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	55	70.69	
2.1.4 Tertiary enrollment	2	79.13	●
2.1.5 Adult literacy rate	38	95.08	
2nd sub-pillar: Businesses	53	45.68	
2.2.1 Firms with website	62	51.20	
2.2.2 GERD financed by business enterprise	18	69.63	
2.2.3 Professionals	61	26.88	
2.2.4 Technicians and associate professionals	77	25.85	
2.2.5 Annual investment in telecommunication services	19	85.09	●
2.2.6 GERD performed by business enterprise	33	15.45	
3rd sub-pillar: Governments	39	52.39	
2.3.1 Government online services	22	85.45	
2.3.2 Publication and use of open data	43	36.70	
2.3.3 Government promotion of investment in emerging tech	38	50.34	
2.3.4 R&D expenditure by governments and higher education	49	37.05	

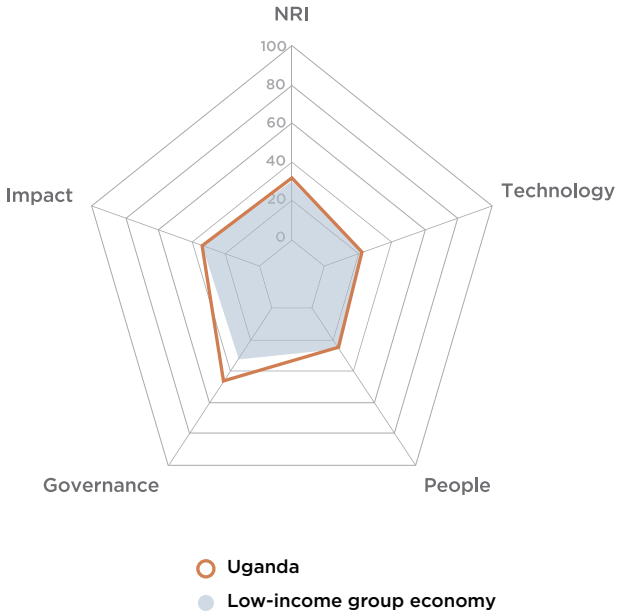
Indicator	Rank	Score	
C. Governance pillar	48	63.16	
1st sub-pillar: Trust	44	59.63	
3.1.1 Secure Internet servers	46	70.37	
3.1.2 Cybersecurity	16	97.45	●
3.1.3 Online access to financial account	41	43.39	
3.1.4 Internet shopping	49	27.31	
2nd sub-pillar: Regulation	59	65.28	
3.2.1 Regulatory quality	71	40.92	
3.2.2 ICT regulatory environment	20	93.53	
3.2.3 Legal framework's adaptability to emerging technologies	61	43.18	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	100	48.76	○
3rd sub-pillar: Inclusion	58	64.58	
3.3.1 E-Participation	23	88.89	
3.3.2 Socioeconomic gap in use of digital payments	61	61.39	
3.3.3 Availability of local online content	46	69.95	
3.3.4 Gender gap in Internet use	83	42.86	○
3.3.5 Rural gap in use of digital payments	77	59.78	
D. Impact pillar	74	53.17	
1st sub-pillar: Economy	54	42.67	
4.1.1 High-tech and medium-high-tech manufacturing	53	28.64	
4.1.2 High-tech exports	59	27.85	
4.1.3 PCT patent applications	31	62.34	
4.1.4 Growth rate of GDP per person engaged	10	80.66	●
4.1.5 Prevalence of gig economy	64	42.00	
4.1.6 ICT services exports	92	14.51	
2nd sub-pillar: Quality of Life	108	48.73	
4.2.1 Happiness	99	35.98	○
4.2.2 Freedom to make life choices	125	23.02	○
4.2.3 Income inequality	85	54.95	
4.2.4 Healthy life expectancy at birth	43	80.97	
3rd sub-pillar: SDG Contribution	45	68.11	
4.3.1 SDG 3: Good Health and Well-Being	53	75.41	
4.3.2 SDG 4: Quality Education	40	52.41	
4.3.3 Females employed with advanced degrees	67	33.01	
4.3.4 SDG 7: Affordable and Clean Energy	21	87.14	●
4.3.5 SDG 11: Sustainable Cities and Communities	30	92.60	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Uganda

	Rank (out of 130)	Score
Network Readiness Index	**116**	**31.51**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**120**	**22.55**
1st sub-pillar: Access	122	29.42
2nd sub-pillar: Content	118	16.02
3rd sub-pillar: Future Technologies	103	22.21
B. People pillar	**126**	**24.88**
1st sub-pillar: Individuals	110	39.35
2nd sub-pillar: Businesses	129	8.25
3rd sub-pillar: Governments	101	27.04
C. Governance pillar	**94**	**45.70**
1st sub-pillar: Trust	87	33.21
2nd sub-pillar: Regulation	102	51.08
3rd sub-pillar: Inclusion	85	52.82
D. Impact pillar	**121**	**32.90**
1st sub-pillar: Economy	107	22.90
2nd sub-pillar: Quality of Life	114	45.94
3rd sub-pillar: SDG Contribution	124	29.86



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	120	22.55	
1st sub-pillar: Access	122	29.42	
1.1.1 Mobile tariffs	119	23.55	
1.1.2 Handset prices	110	31.24	
1.1.3 Households with internet access	NA	NA	
1.1.4 SMS sent by population 15-69	121	0.00	○
1.1.5 Population covered by at least a 3G mobile network	113	91.74	
1.1.6 International Internet bandwidth	70	0.56	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	118	16.02	
1.2.1 GitHub commits	101	0.76	
1.2.2 Wikipedia edits	125	10.78	○
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	116	47.15	
1.2.5 AI scientific publications	94	21.31	
3rd sub-pillar: Future Technologies	103	22.21	
1.3.1 Adoption of emerging technologies	100	29.80	
1.3.2 Investment in emerging technologies	77	36.03	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	117	0.80	○
B. People pillar	126	24.88	
1st sub-pillar: Individuals	110	39.35	
2.1.1 Active mobile broadband subscriptions	37	80.10	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	124	4.68	
2.1.4 Tertiary enrollment	120	2.83	
2.1.5 Adult literacy rate	84	69.81	
2nd sub-pillar: Businesses	129	8.25	
2.2.1 Firms with website	112	11.22	
2.2.2 GERD financed by business enterprise	87	4.16	
2.2.3 Professionals	97	14.26	
2.2.4 Technicians and associate professionals	110	11.61	
2.2.5 Annual investment in telecommunication services	NA	NA	
2.2.6 GERD performed by business enterprise	88	0.00	○
3rd sub-pillar: Governments	101	27.04	
2.3.1 Government online services	87	56.98	●
2.3.2 Publication and use of open data	88	11.34	
2.3.3 Government promotion of investment in emerging tech	95	27.15	
2.3.4 R&D expenditure by governments and higher education	86	12.71	

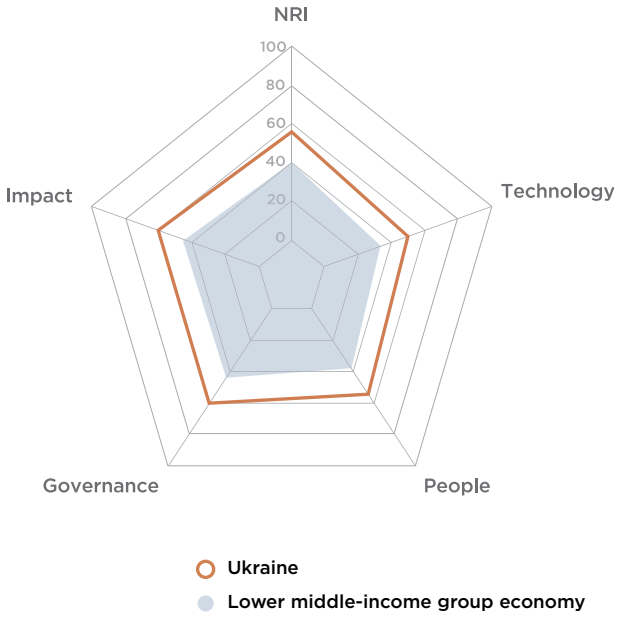
Indicator	Rank	Score	
C. Governance pillar	94	45.70	
1st sub-pillar: Trust	87	33.21	
3.1.1 Secure Internet servers	116	28.16	
3.1.2 Cybersecurity	77	69.45	●
3.1.3 Online access to financial account	61	30.31	●
3.1.4 Internet shopping	93	4.91	
2nd sub-pillar: Regulation	102	51.08	
3.2.1 Regulatory quality	95	30.93	
3.2.2 ICT regulatory environment	57	84.71	●
3.2.3 Legal framework's adaptability to emerging technologies	105	17.92	
3.2.4 E-commerce legislation	76	75.00	
3.2.5 Privacy protection by law content	104	46.85	
3rd sub-pillar: Inclusion	85	52.82	
3.3.1 E-Participation	89	55.55	●
3.3.2 Socioeconomic gap in use of digital payments	66	57.94	●
3.3.3 Availability of local online content	120	23.57	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	37	74.20	●
D. Impact pillar	121	32.90	
1st sub-pillar: Economy	107	22.90	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	97	6.66	
4.1.3 PCT patent applications	93	9.62	
4.1.4 Growth rate of GDP per person engaged	46	64.27	●
4.1.5 Prevalence of gig economy	100	26.61	
4.1.6 ICT services exports	107	7.33	
2nd sub-pillar: Quality of Life	114	45.94	
4.2.1 Happiness	106	31.32	
4.2.2 Freedom to make life choices	110	53.04	
4.2.3 Income inequality	92	52.60	
4.2.4 Healthy life expectancy at birth	105	46.78	
3rd sub-pillar: SDG Contribution	124	29.86	
4.3.1 SDG 3: Good Health and Well-Being	115	27.87	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	123	0.00	○
4.3.4 SDG 7: Affordable and Clean Energy	123	35.30	
4.3.5 SDG 11: Sustainable Cities and Communities	110	56.28	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Ukraine

	Rank (out of 130)	Score
Network Readiness Index	**53**	**55.70**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**50**	**49.20**
1st sub-pillar: Access	60	67.15
2nd sub-pillar: Content	42	45.53
3rd sub-pillar: Future Technologies	57	34.92
B. People pillar	**48**	**54.29**
1st sub-pillar: Individuals	17	74.62
2nd sub-pillar: Businesses	50	46.44
3rd sub-pillar: Governments	71	41.80
C. Governance pillar	**57**	**58.93**
1st sub-pillar: Trust	55	49.57
2nd sub-pillar: Regulation	61	65.02
3rd sub-pillar: Inclusion	65	62.19
D. Impact pillar	**47**	**60.40**
1st sub-pillar: Economy	42	46.73
2nd sub-pillar: Quality of Life	57	69.01
3rd sub-pillar: SDG Contribution	53	65.45



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	50	49.20	
1st sub-pillar: Access	60	67.15	
1.1.1 Mobile tariffs	45	69.71	
1.1.2 Handset prices	103	34.38	○
1.1.3 Households with internet access	78	65.82	
1.1.4 SMS sent by population 15-69	51	78.28	
1.1.5 Population covered by at least a 3G mobile network	97	96.91	○
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	39	57.79	
2nd sub-pillar: Content	42	45.53	
1.2.1 GitHub commits	33	20.54	●
1.2.2 Wikipedia edits	43	67.02	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	62	78.30	
1.2.5 AI scientific publications	42	56.62	
3rd sub-pillar: Future Technologies	57	34.92	
1.3.1 Adoption of emerging technologies	49	53.00	
1.3.2 Investment in emerging technologies	63	40.56	
1.3.3 Robot density	54	0.04	○
1.3.4 Computer software spending	17	46.10	●
B. People pillar	48	54.29	
1st sub-pillar: Individuals	17	74.62	
2.1.1 Active mobile broadband subscriptions	28	82.55	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	81	58.32	
2.1.4 Tertiary enrollment	17	57.63	●
2.1.5 Adult literacy rate	1	100.00	●
2nd sub-pillar: Businesses	50	46.44	
2.2.1 Firms with website	47	62.95	
2.2.2 GERD financed by business enterprise	57	37.71	
2.2.3 Professionals	33	43.40	●
2.2.4 Technicians and associate professionals	41	49.68	
2.2.5 Annual investment in telecommunication services	57	78.73	
2.2.6 GERD performed by business enterprise	48	6.15	
3rd sub-pillar: Governments	71	41.80	
2.3.1 Government online services	70	67.28	
2.3.2 Publication and use of open data	45	35.78	
2.3.3 Government promotion of investment in emerging tech	42	47.89	
2.3.4 R&D expenditure by governments and higher education	80	16.24	

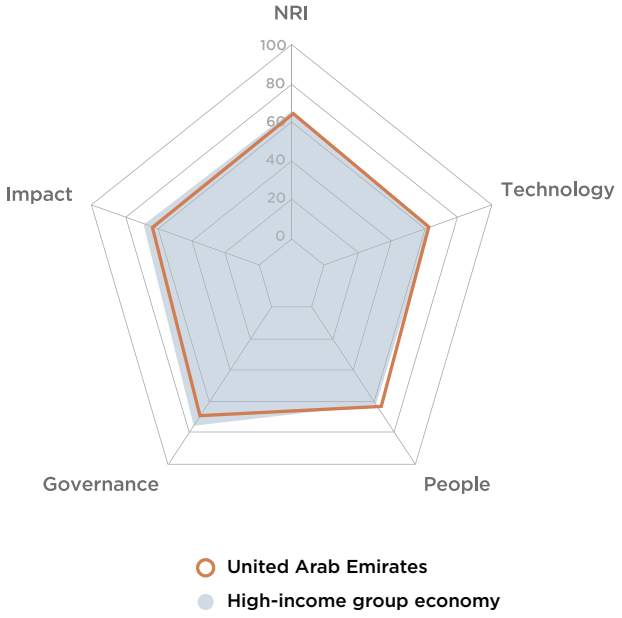
Indicator	Rank	Score	
C. Governance pillar	57	58.93	
1st sub-pillar: Trust	55	49.57	
3.1.1 Secure Internet servers	43	72.61	
3.1.2 Cybersecurity	83	65.33	
3.1.3 Online access to financial account	56	32.53	
3.1.4 Internet shopping	48	27.80	
2nd sub-pillar: Regulation	61	65.02	
3.2.1 Regulatory quality	91	34.08	
3.2.2 ICT regulatory environment	82	75.29	
3.2.3 Legal framework's adaptability to emerging technologies	43	50.29	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	68	65.44	
3rd sub-pillar: Inclusion	65	62.19	
3.3.1 E-Participation	46	80.24	
3.3.2 Socioeconomic gap in use of digital payments	56	65.31	
3.3.3 Availability of local online content	75	54.32	
3.3.4 Gender gap in Internet use	70	57.10	○
3.3.5 Rural gap in use of digital payments	89	53.97	
D. Impact pillar	47	60.40	
1st sub-pillar: Economy	42	46.73	
4.1.1 High-tech and medium-high-tech manufacturing	63	21.72	
4.1.2 High-tech exports	58	28.55	
4.1.3 PCT patent applications	46	47.50	
4.1.4 Growth rate of GDP per person engaged	50	62.96	
4.1.5 Prevalence of gig economy	36	60.68	●
4.1.6 ICT services exports	9	58.98	●
2nd sub-pillar: Quality of Life	57	69.01	
4.2.1 Happiness	87	44.61	
4.2.2 Freedom to make life choices	80	69.44	
4.2.3 Income inequality	7	94.79	●
4.2.4 Healthy life expectancy at birth	81	67.21	
3rd sub-pillar: SDG Contribution	53	65.45	
4.3.1 SDG 3: Good Health and Well-Being	77	65.57	
4.3.2 SDG 4: Quality Education	39	52.50	
4.3.3 Females employed with advanced degrees	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	125	22.20	○
4.3.5 SDG 11: Sustainable Cities and Communities	49	86.97	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

United Arab Emirates

	Rank (out of 130)	Score
Network Readiness Index	**34**	**63.92**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**28**	**61.83**
1st sub-pillar: Access	27	82.70
2nd sub-pillar: Content	50	41.31
3rd sub-pillar: Future Technologies	15	61.48
B. People pillar	**25**	**62.98**
1st sub-pillar: Individuals	32	71.95
2nd sub-pillar: Businesses	32	55.69
3rd sub-pillar: Governments	25	61.29
C. Governance pillar	**39**	**68.56**
1st sub-pillar: Trust	30	69.66
2nd sub-pillar: Regulation	80	59.42
3rd sub-pillar: Inclusion	28	76.59
D. Impact pillar	**41**	**62.32**
1st sub-pillar: Economy	56	40.73
2nd sub-pillar: Quality of Life	20	83.79
3rd sub-pillar: SDG Contribution	62	62.43



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	28	61.83	
1st sub-pillar: Access	27	82.70	
1.1.1 Mobile tariffs	25	79.12	
1.1.2 Handset prices	15	83.70	
1.1.3 Households with internet access	1	100.00	●
1.1.4 SMS sent by population 15-69	100	70.64	○
1.1.5 Population covered by at least a 3G mobile network	1	100.00	●
1.1.6 International Internet bandwidth	12	45.45	
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	50	41.31	
1.2.1 GitHub commits	56	5.12	
1.2.2 Wikipedia edits	72	45.89	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	31	89.32	
1.2.5 AI scientific publications	49	54.86	
3rd sub-pillar: Future Technologies	15	61.48	
1.3.1 Adoption of emerging technologies	17	78.00	
1.3.2 Investment in emerging technologies	11	79.57	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	40	26.89	
B. People pillar	25	62.98	
1st sub-pillar: Individuals	32	71.95	
2.1.1 Active mobile broadband subscriptions	35	80.27	
2.1.2 ICT skills	39	51.72	
2.1.3 Use of virtual social networks	1	100.00	●
2.1.4 Tertiary enrollment	59	36.46	
2.1.5 Adult literacy rate	57	91.31	
2nd sub-pillar: Businesses	32	55.69	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	5	91.89	●
2.2.3 Professionals	48	37.29	
2.2.4 Technicians and associate professionals	46	47.61	
2.2.5 Annual investment in telecommunication services	28	83.74	
2.2.6 GERD performed by business enterprise	29	17.93	
3rd sub-pillar: Governments	25	61.29	
2.3.1 Government online services	15	89.70	
2.3.2 Publication and use of open data	60	25.96	
2.3.3 Government promotion of investment in emerging tech	3	84.65	
2.3.4 R&D expenditure by governments and higher education	41	44.83	

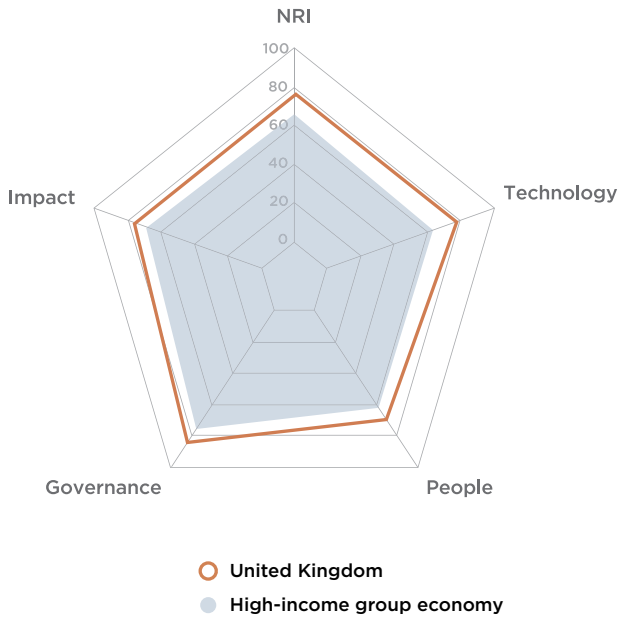
Indicator	Rank	Score	
C. Governance pillar	39	68.56	
1st sub-pillar: Trust	30	69.66	
3.1.1 Secure Internet servers	61	57.84	
3.1.2 Cybersecurity	8	98.03	●
3.1.3 Online access to financial account	23	59.16	
3.1.4 Internet shopping	21	63.63	
2nd sub-pillar: Regulation	80	59.42	
3.2.1 Regulatory quality	36	67.80	
3.2.2 ICT regulatory environment	74	80.00	
3.2.3 Legal framework's adaptability to emerging technologies	13	75.04	●
3.2.4 E-commerce legislation	112	50.00	○
3.2.5 Privacy protection by law content	125	24.26	○
3rd sub-pillar: Inclusion	28	76.59	
3.3.1 E-Participation	16	93.83	
3.3.2 Socioeconomic gap in use of digital payments	30	82.98	
3.3.3 Availability of local online content	20	85.87	
3.3.4 Gender gap in Internet use	26	67.90	
3.3.5 Rural gap in use of digital payments	96	52.36	○
D. Impact pillar	41	62.32	
1st sub-pillar: Economy	56	40.73	
4.1.1 High-tech and medium-high-tech manufacturing	45	32.33	
4.1.2 High-tech exports	111	3.40	○
4.1.3 PCT patent applications	60	38.68	
4.1.4 Growth rate of GDP per person engaged	78	54.10	
4.1.5 Prevalence of gig economy	10	83.82	●
4.1.6 ICT services exports	57	32.07	
2nd sub-pillar: Quality of Life	20	83.79	
4.2.1 Happiness	29	69.74	
4.2.2 Freedom to make life choices	10	96.20	●
4.2.3 Income inequality	5	96.35	●
4.2.4 Healthy life expectancy at birth	66	72.86	
3rd sub-pillar: SDG Contribution	62	62.43	
4.3.1 SDG 3: Good Health and Well-Being	39	78.69	
4.3.2 SDG 4: Quality Education	46	40.56	
4.3.3 Females employed with advanced degrees	76	28.31	
4.3.4 SDG 7: Affordable and Clean Energy	72	75.56	
4.3.5 SDG 11: Sustainable Cities and Communities	43	89.03	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

United Kingdom

	Rank (out of 130)	Score
Network Readiness Index	**10**	**76.60**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**6**	**76.78**
1st sub-pillar: Access	4	92.46
2nd sub-pillar: Content	5	78.47
3rd sub-pillar: Future Technologies	16	59.42
B. People pillar	**16**	**69.44**
1st sub-pillar: Individuals	34	71.70
2nd sub-pillar: Businesses	24	59.65
3rd sub-pillar: Governments	10	76.98
C. Governance pillar	**14**	**83.64**
1st sub-pillar: Trust	13	83.76
2nd sub-pillar: Regulation	21	82.42
3rd sub-pillar: Inclusion	8	84.75
D. Impact pillar	**9**	**76.52**
1st sub-pillar: Economy	13	62.29
2nd sub-pillar: Quality of Life	23	80.69
3rd sub-pillar: SDG Contribution	2	86.58



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	6	76.78	
1st sub-pillar: Access	4	92.46	
1.1.1 Mobile tariffs	15	84.86	
1.1.2 Handset prices	8	93.64	●
1.1.3 Households with internet access	12	95.42	
1.1.4 SMS sent by population 15-69	8	88.39	
1.1.5 Population covered by at least a 3G mobile network	24	99.97	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	5	78.47	
1.2.1 GitHub commits	8	67.13	
1.2.2 Wikipedia edits	11	84.12	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	14	96.12	
1.2.5 AI scientific publications	4	79.25	●
3rd sub-pillar: Future Technologies	16	59.42	
1.3.1 Adoption of emerging technologies	12	84.23	
1.3.2 Investment in emerging technologies	8	82.43	
1.3.3 Robot density	23	24.37	○
1.3.4 Computer software spending	14	46.66	
B. People pillar	16	69.44	
1st sub-pillar: Individuals	34	71.70	
2.1.1 Active mobile broadband subscriptions	16	86.01	
2.1.2 ICT skills	11	80.09	
2.1.3 Use of virtual social networks	35	78.07	
2.1.4 Tertiary enrollment	47	42.64	
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	24	59.65	
2.2.1 Firms with website	11	86.07	
2.2.2 GERD financed by business enterprise	19	67.77	
2.2.3 Professionals	7	64.21	●
2.2.4 Technicians and associate professionals	37	53.07	
2.2.5 Annual investment in telecommunication services	NA	NA	
2.2.6 GERD performed by business enterprise	18	27.12	
3rd sub-pillar: Governments	10	76.98	
2.3.1 Government online services	6	95.76	●
2.3.2 Publication and use of open data	1	100.00	●
2.3.3 Government promotion of investment in emerging tech	21	66.67	
2.3.4 R&D expenditure by governments and higher education	38	45.48	

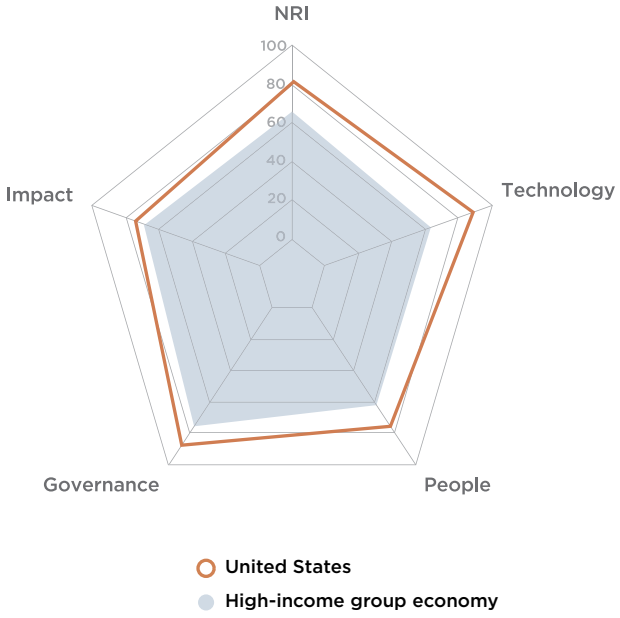
Indicator	Rank	Score	
C. Governance pillar	14	83.64	
1st sub-pillar: Trust	13	83.76	
3.1.1 Secure Internet servers	20	83.80	
3.1.2 Cybersecurity	2	99.53	●
3.1.3 Online access to financial account	28	55.84	
3.1.4 Internet shopping	4	95.86	●
2nd sub-pillar: Regulation	21	82.42	
3.2.1 Regulatory quality	13	85.41	
3.2.2 ICT regulatory environment	8	95.88	
3.2.3 Legal framework's adaptability to emerging technologies	14	74.30	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	90	56.50	○
3rd sub-pillar: Inclusion	8	84.75	
3.3.1 E-Participation	6	97.53	
3.3.2 Socioeconomic gap in use of digital payments	20	92.96	
3.3.3 Availability of local online content	11	90.87	
3.3.4 Gender gap in Internet use	32	66.34	
3.3.5 Rural gap in use of digital payments	22	76.06	
D. Impact pillar	9	76.52	
1st sub-pillar: Economy	13	62.29	
4.1.1 High-tech and medium-high-tech manufacturing	18	57.53	
4.1.2 High-tech exports	18	61.19	
4.1.3 PCT patent applications	19	77.05	
4.1.4 Growth rate of GDP per person engaged	110	41.07	○
4.1.5 Prevalence of gig economy	3	93.80	●
4.1.6 ICT services exports	27	43.11	
2nd sub-pillar: Quality of Life	23	80.69	
4.2.1 Happiness	21	76.93	
4.2.2 Freedom to make life choices	36	86.45	
4.2.3 Income inequality	51	72.66	○
4.2.4 Healthy life expectancy at birth	28	86.74	
3rd sub-pillar: SDG Contribution	2	86.58	
4.3.1 SDG 3: Good Health and Well-Being	2	96.72	●
4.3.2 SDG 4: Quality Education	12	69.14	
4.3.3 Females employed with advanced degrees	16	79.91	
4.3.4 SDG 7: Affordable and Clean Energy	14	88.98	
4.3.5 SDG 11: Sustainable Cities and Communities	7	98.14	●

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

United States

	Rank (out of 130)	Score
Network Readiness Index	**4**	**81.09**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**1**	**87.81**
1st sub-pillar: Access	2	93.26
2nd sub-pillar: Content	4	79.55
3rd sub-pillar: Future Technologies	1	90.60
B. People pillar	**5**	**75.65**
1st sub-pillar: Individuals	13	76.33
2nd sub-pillar: Businesses	9	72.37
3rd sub-pillar: Governments	9	78.25
C. Governance pillar	**7**	**87.26**
1st sub-pillar: Trust	4	92.35
2nd sub-pillar: Regulation	19	83.78
3rd sub-pillar: Inclusion	4	85.67
D. Impact pillar	**16**	**73.64**
1st sub-pillar: Economy	9	67.10
2nd sub-pillar: Quality of Life	45	73.00
3rd sub-pillar: SDG Contribution	15	80.83



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	1	87.81	
1st sub-pillar: Access	2	93.26	
1.1.1 Mobile tariffs	21	79.59	
1.1.2 Handset prices	1	100.00	●
1.1.3 Households with internet access	39	86.75	
1.1.4 SMS sent by population 15-69	1	100.00	●
1.1.5 Population covered by at least a 3G mobile network	24	99.97	
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	4	79.55	
1.2.1 GitHub commits	10	64.94	
1.2.2 Wikipedia edits	39	72.19	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	1	100.00	●
1.2.5 AI scientific publications	2	92.41	●
3rd sub-pillar: Future Technologies	1	90.60	
1.3.1 Adoption of emerging technologies	2	99.75	●
1.3.2 Investment in emerging technologies	1	100.00	●
1.3.3 Robot density	8	62.65	
1.3.4 Computer software spending	1	100.00	●
B. People pillar	5	75.65	
1st sub-pillar: Individuals	13	76.33	
2.1.1 Active mobile broadband subscriptions	3	95.16	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	52	72.25	
2.1.4 Tertiary enrollment	11	61.59	
2.1.5 Adult literacy rate	NA	NA	
2nd sub-pillar: Businesses	9	72.37	
2.2.1 Firms with website	32	73.31	
2.2.2 GERD financed by business enterprise	10	78.07	
2.2.3 Professionals	17	56.06	
2.2.4 Technicians and associate professionals	11	75.16	
2.2.5 Annual investment in telecommunication services	1	100.00	●
2.2.6 GERD performed by business enterprise	5	51.60	
3rd sub-pillar: Governments	9	78.25	
2.3.1 Government online services	7	94.55	
2.3.2 Publication and use of open data	4	81.57	
2.3.3 Government promotion of investment in emerging tech	7	78.84	
2.3.4 R&D expenditure by governments and higher education	21	58.04	

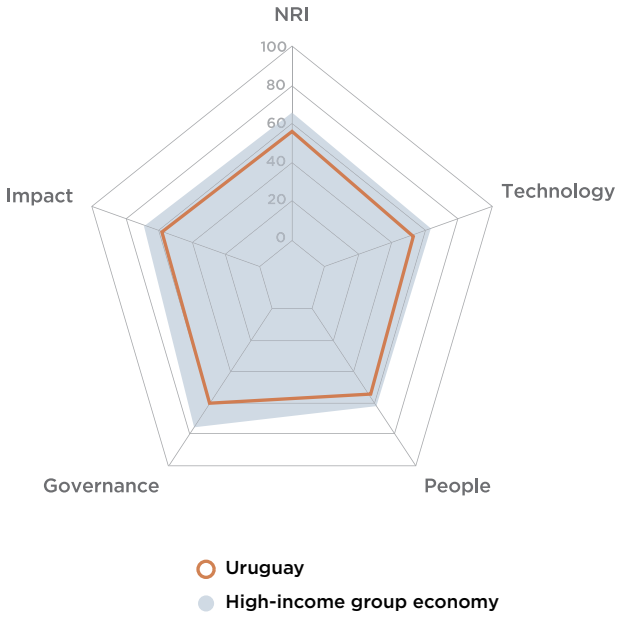
Indicator	Rank	Score	
C. Governance pillar	7	87.26	
1st sub-pillar: Trust	4	92.35	
3.1.1 Secure Internet servers	2	94.65	●
3.1.2 Cybersecurity	1	100.00	●
3.1.3 Online access to financial account	7	84.40	
3.1.4 Internet shopping	7	90.33	
2nd sub-pillar: Regulation	19	83.78	
3.2.1 Regulatory quality	20	77.77	
3.2.2 ICT regulatory environment	32	90.00	
3.2.3 Legal framework's adaptability to emerging technologies	3	88.10	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	76	63.02	○
3rd sub-pillar: Inclusion	4	85.67	
3.3.1 E-Participation	1	100.00	●
3.3.2 Socioeconomic gap in use of digital payments	39	75.24	
3.3.3 Availability of local online content	6	93.52	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	40	73.90	
D. Impact pillar	16	73.64	
1st sub-pillar: Economy	9	67.10	
4.1.1 High-tech and medium-high-tech manufacturing	19	57.53	
4.1.2 High-tech exports	17	61.78	
4.1.3 PCT patent applications	12	82.27	
4.1.4 Growth rate of GDP per person engaged	28	68.75	
4.1.5 Prevalence of gig economy	1	100.00	●
4.1.6 ICT services exports	55	32.30	
2nd sub-pillar: Quality of Life	45	73.00	
4.2.1 Happiness	15	81.79	
4.2.2 Freedom to make life choices	52	80.66	
4.2.3 Income inequality	81	56.25	○
4.2.4 Healthy life expectancy at birth	65	73.28	○
3rd sub-pillar: SDG Contribution	15	80.83	
4.3.1 SDG 3: Good Health and Well-Being	10	91.80	
4.3.2 SDG 4: Quality Education	24	65.82	
4.3.3 Females employed with advanced degrees	4	92.80	
4.3.4 SDG 7: Affordable and Clean Energy	83	70.69	○
4.3.5 SDG 11: Sustainable Cities and Communities	59	83.02	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Uruguay

	Rank (out of 130)	Score
Network Readiness Index	**49**	**56.38**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**42**	**51.99**
1st sub-pillar: Access	29	82.32
2nd sub-pillar: Content	52	40.80
3rd sub-pillar: Future Technologies	63	32.85
B. People pillar	**45**	**54.97**
1st sub-pillar: Individuals	21	74.17
2nd sub-pillar: Businesses	73	35.64
3rd sub-pillar: Governments	35	55.09
C. Governance pillar	**53**	**60.45**
1st sub-pillar: Trust	58	48.51
2nd sub-pillar: Regulation	48	69.53
3rd sub-pillar: Inclusion	62	63.31
D. Impact pillar	**54**	**58.09**
1st sub-pillar: Economy	68	35.83
2nd sub-pillar: Quality of Life	43	73.90
3rd sub-pillar: SDG Contribution	56	64.55



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	42	51.99	
1st sub-pillar: Access	29	82.32	
1.1.1 Mobile tariffs	26	79.00	●
1.1.2 Handset prices	30	72.65	
1.1.3 Households with internet access	76	69.39	
1.1.4 SMS sent by population 15-69	76	75.43	
1.1.5 Population covered by at least a 3G mobile network	94	97.48	○
1.1.6 International Internet bandwidth	NA	NA	
1.1.7 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	52	40.80	
1.2.1 GitHub commits	41	13.32	
1.2.2 Wikipedia edits	36	72.51	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	44	82.48	
1.2.5 AI scientific publications	87	26.48	
3rd sub-pillar: Future Technologies	63	32.85	
1.3.1 Adoption of emerging technologies	54	51.47	
1.3.2 Investment in emerging technologies	104	26.97	○
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	62	20.12	
B. People pillar	45	54.97	
1st sub-pillar: Individuals	21	74.17	
2.1.1 Active mobile broadband subscriptions	96	70.79	○
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	15	83.68	●
2.1.4 Tertiary enrollment	44	43.87	
2.1.5 Adult literacy rate	21	98.36	●
2nd sub-pillar: Businesses	73	35.64	
2.2.1 Firms with website	39	68.97	
2.2.2 GERD financed by business enterprise	83	5.63	○
2.2.3 Professionals	56	29.10	
2.2.4 Technicians and associate professionals	64	32.23	
2.2.5 Annual investment in telecommunication services	74	75.79	
2.2.6 GERD performed by business enterprise	62	2.14	
3rd sub-pillar: Governments	35	55.09	
2.3.1 Government online services	31	83.64	
2.3.2 Publication and use of open data	17	60.74	●
2.3.3 Government promotion of investment in emerging tech	51	43.65	
2.3.4 R&D expenditure by governments and higher education	56	32.33	

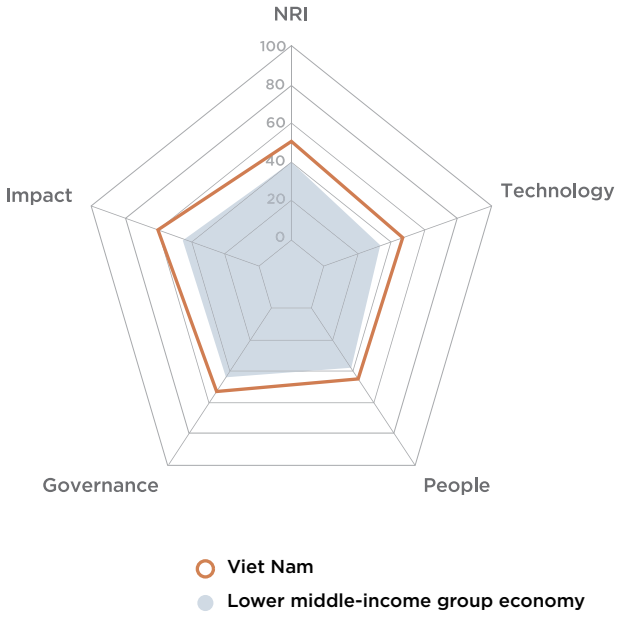
Indicator	Rank	Score	
C. Governance pillar	53	60.45	
1st sub-pillar: Trust	58	48.51	
3.1.1 Secure Internet servers	56	60.33	
3.1.2 Cybersecurity	71	74.71	
3.1.3 Online access to financial account	65	27.88	
3.1.4 Internet shopping	44	31.10	
2nd sub-pillar: Regulation	48	69.53	
3.2.1 Regulatory quality	47	55.00	
3.2.2 ICT regulatory environment	105	62.94	○
3.2.3 Legal framework's adaptability to emerging technologies	40	51.41	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	37	78.29	
3rd sub-pillar: Inclusion	62	63.31	
3.3.1 E-Participation	29	85.18	
3.3.2 Socioeconomic gap in use of digital payments	81	45.14	
3.3.3 Availability of local online content	62	61.70	
3.3.4 Gender gap in Internet use	13	70.15	●
3.3.5 Rural gap in use of digital payments	87	54.37	
D. Impact pillar	54	58.09	
1st sub-pillar: Economy	68	35.83	
4.1.1 High-tech and medium-high-tech manufacturing	70	17.43	
4.1.2 High-tech exports	73	16.03	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Growth rate of GDP per person engaged	25	71.35	●
4.1.5 Prevalence of gig economy	96	29.09	
4.1.6 ICT services exports	24	45.26	●
2nd sub-pillar: Quality of Life	43	73.90	
4.2.1 Happiness	34	66.60	
4.2.2 Freedom to make life choices	28	90.37	●
4.2.3 Income inequality	75	60.68	
4.2.4 Healthy life expectancy at birth	46	77.94	
3rd sub-pillar: SDG Contribution	56	64.55	
4.3.1 SDG 3: Good Health and Well-Being	23	85.25	●
4.3.2 SDG 4: Quality Education	51	36.51	
4.3.3 Females employed with advanced degrees	66	34.13	
4.3.4 SDG 7: Affordable and Clean Energy	20	87.22	●
4.3.5 SDG 11: Sustainable Cities and Communities	68	79.65	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Viet Nam

	Rank (out of 130)	Score
Network Readiness Index	**63**	**51.08**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**61**	**46.15**
1st sub-pillar: Access	50	71.17
2nd sub-pillar: Content	55	38.11
3rd sub-pillar: Future Technologies	77	29.16
B. People pillar	**80**	**44.26**
1st sub-pillar: Individuals	46	68.30
2nd sub-pillar: Businesses	105	27.98
3rd sub-pillar: Governments	87	36.52
C. Governance pillar	**73**	**52.59**
1st sub-pillar: Trust	50	52.74
2nd sub-pillar: Regulation	93	56.63
3rd sub-pillar: Inclusion	97	48.40
D. Impact pillar	**44**	**61.30**
1st sub-pillar: Economy	25	53.20
2nd sub-pillar: Quality of Life	53	72.09
3rd sub-pillar: SDG Contribution	80	58.62



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	61	46.15	
1st sub-pillar: Access	50	71.17	
1.1.1 Mobile tariffs	75	55.15	
1.1.2 Handset prices	106	33.14	
1.1.3 Households with internet access	67	74.88	
1.1.4 SMS sent by population 15-69	17	85.06	●
1.1.5 Population covered by at least a 3G mobile network	36	99.95	
1.1.6 International Internet bandwidth	6	78.85	●
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	55	38.11	
1.2.1 GitHub commits	64	3.32	
1.2.2 Wikipedia edits	80	43.14	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	58	78.86	
1.2.5 AI scientific publications	29	62.79	●
3rd sub-pillar: Future Technologies	77	29.16	
1.3.1 Adoption of emerging technologies	56	50.09	
1.3.2 Investment in emerging technologies	68	38.57	
1.3.3 Robot density	40	5.12	
1.3.4 Computer software spending	49	22.85	
B. People pillar	80	44.26	
1st sub-pillar: Individuals	46	68.30	
2.1.1 Active mobile broadband subscriptions	12	86.31	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	48	73.70	
2.1.4 Tertiary enrollment	85	19.58	
2.1.5 Adult literacy rate	48	93.60	
2nd sub-pillar: Businesses	105	27.98	
2.2.1 Firms with website	70	45.24	
2.2.2 GERD financed by business enterprise	8	79.31	●
2.2.3 Professionals	77	20.50	
2.2.4 Technicians and associate professionals	105	14.17	
2.2.5 Annual investment in telecommunication services	117	0.00	○
2.2.6 GERD performed by business enterprise	43	8.64	
3rd sub-pillar: Governments	87	36.52	
2.3.1 Government online services	76	64.24	
2.3.2 Publication and use of open data	79	16.56	
2.3.3 Government promotion of investment in emerging tech	30	54.33	
2.3.4 R&D expenditure by governments and higher education	88	10.94	

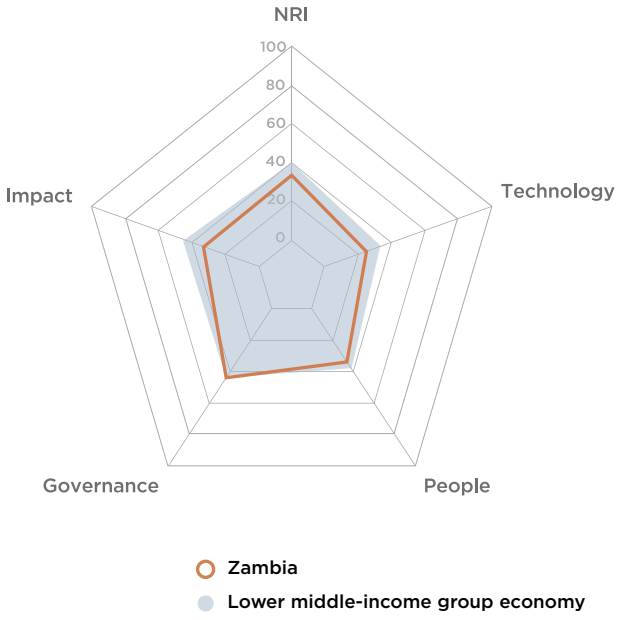
Indicator	Rank	Score	
C. Governance pillar	73	52.59	
1st sub-pillar: Trust	50	52.74	
3.1.1 Secure Internet servers	53	64.16	
3.1.2 Cybersecurity	32	94.49	
3.1.3 Online access to financial account	63	28.29	
3.1.4 Internet shopping	52	24.00	
2nd sub-pillar: Regulation	93	56.63	
3.2.1 Regulatory quality	92	33.98	
3.2.2 ICT regulatory environment	103	65.49	
3.2.3 Legal framework's adaptability to emerging technologies	54	45.96	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	118	37.71	○
3rd sub-pillar: Inclusion	97	48.40	
3.3.1 E-Participation	68	69.14	
3.3.2 Socioeconomic gap in use of digital payments	114	19.06	○
3.3.3 Availability of local online content	64	61.05	
3.3.4 Gender gap in Internet use	79	50.49	
3.3.5 Rural gap in use of digital payments	106	42.27	○
D. Impact pillar	44	61.30	
1st sub-pillar: Economy	25	53.20	
4.1.1 High-tech and medium-high-tech manufacturing	42	37.20	
4.1.2 High-tech exports	3	95.13	●
4.1.3 PCT patent applications	86	17.33	
4.1.4 Growth rate of GDP per person engaged	2	93.64	●
4.1.5 Prevalence of gig economy	21	69.47	●
4.1.6 ICT services exports	112	6.40	
2nd sub-pillar: Quality of Life	53	72.09	
4.2.1 Happiness	75	48.79	
4.2.2 Freedom to make life choices	6	97.95	●
4.2.3 Income inequality	56	71.09	
4.2.4 Healthy life expectancy at birth	74	70.53	
3rd sub-pillar: SDG Contribution	80	58.62	
4.3.1 SDG 3: Good Health and Well-Being	49	77.05	
4.3.2 SDG 4: Quality Education	16	68.54	●
4.3.3 Females employed with advanced degrees	78	26.07	
4.3.4 SDG 7: Affordable and Clean Energy	91	67.01	
4.3.5 SDG 11: Sustainable Cities and Communities	116	54.42	○

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Zambia

	Rank (out of 130)	Score
Network Readiness Index	**112**	**33.93**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**114**	**25.08**
1st sub-pillar: Access	109	40.45
2nd sub-pillar: Content	121	15.24
3rd sub-pillar: Future Technologies	110	19.54
B. People pillar	**106**	**33.93**
1st sub-pillar: Individuals	105	44.37
2nd sub-pillar: Businesses	59	42.43
3rd sub-pillar: Governments	129	15.00
C. Governance pillar	**99**	**43.61**
1st sub-pillar: Trust	75	36.19
2nd sub-pillar: Regulation	86	58.34
3rd sub-pillar: Inclusion	116	36.29
D. Impact pillar	**120**	**33.12**
1st sub-pillar: Economy	121	17.52
2nd sub-pillar: Quality of Life	122	37.15
3rd sub-pillar: SDG Contribution	107	44.69



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	114	25.08	
1st sub-pillar: Access	109	40.45	
1.1.1 Mobile tariffs	99	42.34	
1.1.2 Handset prices	88	41.19	
1.1.3 Households with internet access	111	17.51	
1.1.4 SMS sent by population 15-69	27	82.17	●
1.1.5 Population covered by at least a 3G mobile network	110	93.27	
1.1.6 International Internet bandwidth	65	0.88	
1.1.7 Internet access in schools	64	5.81	
2nd sub-pillar: Content	121	15.24	
1.2.1 GitHub commits	110	0.34	
1.2.2 Wikipedia edits	111	22.91	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	122	38.87	
1.2.5 AI scientific publications	106	13.98	
3rd sub-pillar: Future Technologies	110	19.54	
1.3.1 Adoption of emerging technologies	112	25.44	
1.3.2 Investment in emerging technologies	91	31.39	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	110	1.79	
B. People pillar	106	33.93	
1st sub-pillar: Individuals	105	44.37	
2.1.1 Active mobile broadband subscriptions	51	76.48	●
2.1.2 ICT skills	42	48.57	●
2.1.3 Use of virtual social networks	115	11.54	
2.1.4 Tertiary enrollment	121	2.32	○
2.1.5 Adult literacy rate	71	82.97	●
2nd sub-pillar: Businesses	59	42.43	
2.2.1 Firms with website	56	57.28	●
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	75	21.10	●
2.2.4 Technicians and associate professionals	93	18.65	
2.2.5 Annual investment in telecommunication services	90	72.69	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	129	15.00	
2.3.1 Government online services	124	23.63	○
2.3.2 Publication and use of open data	99	3.55	
2.3.3 Government promotion of investment in emerging tech	107	17.81	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

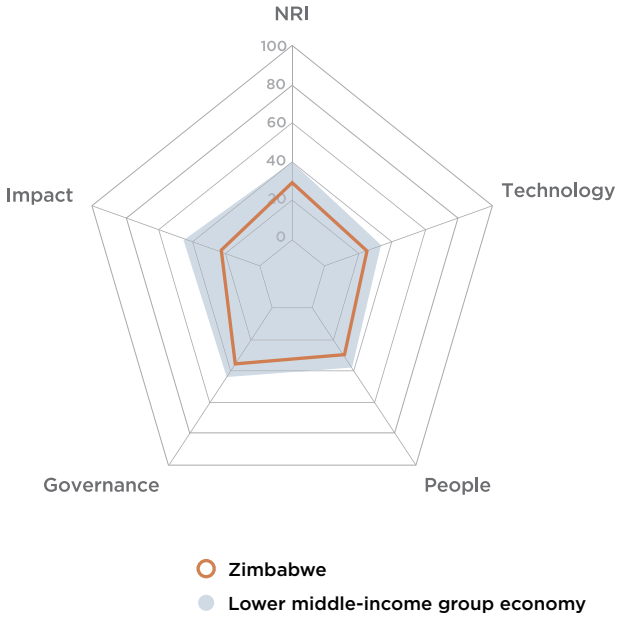
Indicator	Rank	Score	
C. Governance pillar	99	43.61	
1st sub-pillawr: Trust	75	36.19	
3.1.1 Secure Internet servers	114	29.48	
3.1.2 Cybersecurity	78	68.33	●
3.1.3 Online access to financial account	44	40.46	●
3.1.4 Internet shopping	84	6.50	
2nd sub-pillar: Regulation	86	58.34	
3.2.1 Regulatory quality	103	26.03	
3.2.2 ICT regulatory environment	93	70.20	
3.2.3 Legal framework's adaptability to emerging technologies	108	15.07	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	33	80.42	●
3rd sub-pillar: Inclusion	116	36.29	
3.3.1 E-Participation	122	28.39	○
3.3.2 Socioeconomic gap in use of digital payments	90	38.60	
3.3.3 Availability of local online content	124	21.37	○
3.3.4 Gender gap in Internet use	84	40.27	
3.3.5 Rural gap in use of digital payments	93	52.80	
D. Impact pillar	120	33.12	
1st sub-pillar: Economy	121	17.52	
4.1.1 High-tech and medium-high-tech manufacturing	84	10.43	
4.1.2 High-tech exports	96	6.74	
4.1.3 PCT patent applications	90	13.92	
4.1.4 Growth rate of GDP per person engaged	96	48.28	
4.1.5 Prevalence of gig economy	111	20.04	
4.1.6 ICT services exports	116	5.73	
2nd sub-pillar: Quality of Life	122	37.15	
4.2.1 Happiness	100	35.48	
4.2.2 Freedom to make life choices	98	63.71	
4.2.3 Income inequality	115	15.36	○
4.2.4 Healthy life expectancy at birth	120	34.04	
3rd sub-pillar: SDG Contribution	107	44.69	
4.3.1 SDG 3: Good Health and Well-Being	105	40.98	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	87	20.17	
4.3.4 SDG 7: Affordable and Clean Energy	117	47.04	
4.3.5 SDG 11: Sustainable Cities and Communities	89	70.57	

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Zimbabwe

	Rank (out of 130)	Score
Network Readiness Index	**122**	**28.74**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	**113**	**25.08**
1st sub-pillar: Access	114	36.58
2nd sub-pillar: Content	111	20.07
3rd sub-pillar: Future Technologies	113	18.60
B. People pillar	**114**	**30.32**
1st sub-pillar: Individuals	119	35.24
2nd sub-pillar: Businesses	78	34.61
3rd sub-pillar: Governments	117	21.11
C. Governance pillar	**116**	**35.28**
1st sub-pillar: Trust	95	29.71
2nd sub-pillar: Regulation	124	32.23
3rd sub-pillar: Inclusion	104	43.89
D. Impact pillar	**129**	**24.27**
1st sub-pillar: Economy	119	17.66
2nd sub-pillar: Quality of Life	128	27.04
3rd sub-pillar: SDG Contribution	125	28.12



Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	113	25.08	
1st sub-pillar: Access	114	36.58	
1.1.1 Mobile tariffs	130	0.00	○
1.1.2 Handset prices	126	9.24	
1.1.3 Households with internet access	99	30.17	
1.1.4 SMS sent by population 15-69	24	83.39	●
1.1.5 Population covered by at least a 3G mobile network	106	95.39	
1.1.6 International Internet bandwidth	60	1.26	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	111	20.07	
1.2.1 GitHub commits	109	0.36	
1.2.2 Wikipedia edits	108	25.69	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	103	56.82	
1.2.5 AI scientific publications	101	16.94	
3rd sub-pillar: Future Technologies	113	18.60	
1.3.1 Adoption of emerging technologies	109	26.03	
1.3.2 Investment in emerging technologies	125	12.22	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	69	17.57	●
B. People pillar	114	30.32	
1st sub-pillar: Individuals	119	35.24	
2.1.1 Active mobile broadband subscriptions	61	75.67	●
2.1.2 ICT skills	71	2.47	
2.1.3 Use of virtual social networks	123	6.13	
2.1.4 Tertiary enrollment	108	6.47	
2.1.5 Adult literacy rate	64	85.47	●
2nd sub-pillar: Businesses	78	34.61	
2.2.1 Firms with website	87	33.79	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Professionals	81	19.31	●
2.2.4 Technicians and associate professionals	111	10.70	
2.2.5 Annual investment in telecommunication services	82	74.63	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	117	21.11	
2.3.1 Government online services	96	50.91	
2.3.2 Publication and use of open data	103	1.59	
2.3.3 Government promotion of investment in emerging tech	114	10.83	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	116	35.28	
1st sub-pillar: Trust	95	29.71	
3.1.1 Secure Internet servers	105	34.37	
3.1.2 Cybersecurity	100	35.37	
3.1.3 Online access to financial account	37	44.27	●
3.1.4 Internet shopping	94	4.83	
2nd sub-pillar: Regulation	124	32.23	
3.2.1 Regulatory quality	129	1.27	○
3.2.2 ICT regulatory environment	106	62.75	
3.2.3 Legal framework's adaptability to emerging technologies	118	9.68	
3.2.4 E-commerce legislation	123	25.00	
3.2.5 Privacy protection by law content	77	62.48	●
3rd sub-pillar: Inclusion	104	43.89	
3.3.1 E-Participation	103	43.21	
3.3.2 Socioeconomic gap in use of digital payments	67	57.48	●
3.3.3 Availability of local online content	114	27.72	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	101	47.15	
D. Impact pillar	129	24.27	
1st sub-pillar: Economy	119	17.66	
4.1.1 High-tech and medium-high-tech manufacturing	57	26.18	●
4.1.2 High-tech exports	83	12.12	●
4.1.3 PCT patent applications	74	26.30	
4.1.4 Growth rate of GDP per person engaged	114	33.91	
4.1.5 Prevalence of gig economy	124	0.00	○
4.1.6 ICT services exports	106	7.46	
2nd sub-pillar: Quality of Life	128	27.04	
4.2.1 Happiness	128	0.00	○
4.2.2 Freedom to make life choices	119	45.55	
4.2.3 Income inequality	108	33.07	
4.2.4 Healthy life expectancy at birth	125	29.56	
3rd sub-pillar: SDG Contribution	125	28.12	
4.3.1 SDG 3: Good Health and Well-Being	104	42.62	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	83	24.57	
4.3.4 SDG 7: Affordable and Clean Energy	126	7.91	
4.3.5 SDG 11: Sustainable Cities and Communities	128	37.37	○

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Back to TOC

Appendices

Appendix I: Technical Notes

Appendix I: Technical Notes

Structure of the Network Readiness Index

Since network readiness is a multi-dimensional concept, the Network Readiness Index (NRI) is a composite index constructed with three levels. The primary level consists of four pillars that make up the fundamental dimensions of network readiness. Each of the fundamental pillars divides into additional sub-pillars that constitute the second level.

- Technology: Access, Content, Future Technologies
- People: Individuals, Businesses, Governments
- Governance: Trust, Regulation, Inclusion
- Impact: Economy, Quality of Life, Sustainable Development Goal (SDG) contribution.

The third level consists of individual indicators distributed across the different sub-pillars and pillars of the primary and secondary levels. All indicators used within the NRI belong to a pillar and a sub-pillar.

For record-keeping, a three-digit code identifies each indicator. The first digit refers to the primary pillar, the second digit concerns the secondary sub-pillar, and the third denotes the indicator itself. For instance, the digital code 1.2.3 refers to an individual indicator (internet domain registrations) located within the first primary pillar (Technology) and the secondary sub-pillar (Content).

The third level of the NR1 2021 consists of 60 indicators. 33 indicators are hard/quantitative data, 11 are index/composite indicator data, and 16 are survey/qualitative data.

The complete structure of the NRI with its respective pillars, sub-pillars, and indicators is shown on the next page.

Primary Level	Technology	People	Governance	Impact
Secondary Level	**Access** **Content** **Future Technologies**	**Individuals** **Businesses** **Governments**	**Trust** **Regulation** **Inclusion**	**Economy** **Quality of Life** **Sustainable Development Goal (SDG) contributions**

Appendix I: Technical Notes

TABLE A-I.1: STRUCTURE OF THE NETWORK READINESS INDEX 2021

A. Technology pillar	B. People pillar
1.1 Access	**2.1 Individuals**
1.1.1 Mobile tariffs	2.1.1 Active mobile broadband subscriptions
1.1.2 Handset prices	2.1.2 ICT skills
1.1.3 Internet access	2.1.3 Use of virtual social networks
1.1.4 SMS sent by population 15-69	2.1.4 Tertiary enrollment
1.1.5 Population covered by at least a 3G mobile network	2.1.5 Adult literacy rate
1.1.6 International Internet bandwidth	**2.2 Businesses**
1.1.7 Internet access in schools	2.2.1 Firms with a website
1.2 Content	2.2.2 GERD financed by business enterprise
1.2.1 GitHub commits	2.2.3 Professionals
1.2.2 Wikipedia edits	2.2.4 Technicians and associate professionals
1.2.3 Internet domain registrations	2.2.5 Annual investment in telecommunication services
1.2.4 Mobile applications development	2.2.6 GERD performed by business enterprise
1.2.5 AI in scientific publications	**2.3 Governments**
1.3 Future Technologies	2.3.1 Government online services
1.3.1 Adoption of emerging technologies	2.3.2 Publication and use of open data
1.3.2 Investment in emerging technologies	2.3.3 Government promotion of investment in emerging technologies
1.3.3 Robot density	2.3.4 R&D expenditure by governments and higher education
1.3.4 Computer software spending	

Appendix I: Technical Notes

C. Governance pillar	D. Impact pillar
3.1 Trust	**4.1 Economy**
3.1.1 Secure Internet servers	4.1.1 High-tech and medium-high-tech manufacturing
3.1.2 Cybersecurity	4.1.2 High-tech exports
3.1.3 Online access to a financial account	4.1.3 PCT patent applications
3.1.4 Internet shopping	4.1.4 GDP per person engaged
3.2 Regulation	4.1.5 Prevalence of gig economy
3.2.1 Regulatory quality	4.1.6 ICT services exports
3.2.2 ICT regulatory environment	**4.2 Quality of Life**
3.2.3 Legal framework's adaptability to emerging technologies	4.2.1 Happiness
3.2.4 E-commerce legislation	4.2.2 Freedom to make life choices
3.2.5 Privacy protection by law content	4.2.3 Income inequality
3.3 Inclusion	4.2.4 Healthy life expectancy at birth
3.3.1 E-participation	**4.3 SDG Contribution**
3.3.2 Socioeconomic gap in use of digital payments	4.3.1 SDG 3: Good Health and Well-Being
3.3.3 Availability of local online content	4.3.2 SDG 4: Quality Education
3.3.4 Gender gap in Internet use	4.3.3 Females employed with advanced degrees
3.3.5 Rural gap in use of digital payments	4.3.4 SDG 7: Affordable and Clean Energy
	4.3.5 SDG 11: Sustainable cities and communities

Appendix I: Technical Notes

Box A-I.1: GitHub commits as a measurement of online digital development

In the past two editions of the Network Readiness Index, the Portulans Institute introduced an indicator to the Content primary pillar collection that measures GitHub commits per 1,000 population. The rationale behind this particular indicator is twofold: first, it highlights that GitHub is the world's largest host of source code. Second, it shows that code and activity on the platform is a proxy for the degree of software development and digital content creation happening online. A "commit" can be likened to a saved change, hence an aggregate value of "GitHub commits" refers to the number of individual changes occurring on the platform.

There are two identifiable limitations to the Github commits indicator data. First, it only covers commits available for public viewing and therefore does not include commits made in private repositories. Second, users of GitHub are not required to indicate where they are based, and only a minority of users register their country of residence.[i]

Table A-I B.1 and Table A-I B.2 show, respectively, the countries and cities with the most frequent GitHub commits in 2018 (in absolute numbers). [ii] Each table also shows the region and income group of the places signaled in both top 10 lists.

TABLE A-I.B.1: TOP 10: REPORTED NUMBER OF GITHUB COMMITS AGGREGATED PER ECONOMY 2018

Economy	Other region	Income	GitHub commits	Rank
The United States of America	The Americas	High-income	31,588,973	1
Germany	Europe	High-income	6,574,037	2
China	Asia & Pacific	Upper-middle-income	6,373,716	3
The United Kingdom	Europe	High-income	6,221,964	4
France	Europe	High-income	4,381,647	5
Canada	The Americas	High-income	3,521,388	6
India	Asia & Pacific	Lower-middle-income	3,448,020	7
Russian Federation	CIS	Upper-middle-income	2,708,861	8
Brazil	The Americas	Upper-middle-income	2,670,057	9
Japan	Asia & Pacific	High-income	2,394,774	10

Appendix I: Technical Notes

TABLE A-I.B.2: REPORTED NUMBER OF GITHUB COMMITS AGGREGATED PER CITY 2018 (SHOWING ALSO ECONOMY, REGION, AND INCOME GROUP)

City	Economy	Other region	Income	GitHub commits
London	The United Kingdom	Europe	High-income	2,705,044
New York	The United States of America	The Americas	High-income	2,441,317
San Francisco	The United States of America	The Americas	High-income	2,153,068
Paris	France	Europe	High-income	1,842,668
Berlin	Germany	Europe	High-income	1,441,875
Seattle	The United States of America	The Americas	High-income	1,412,372
Beijing	China	Asia & Pacific	Upper-middle-income	1,386,717
Tokyo	Japan	Asia & Pacific	High-income	1,144,619
Shanghai	China	Asia & Pacific	Upper-middle-income	1,135,398
Los Angeles	The United States of America	The Americas	High-income	991,233

Appendix I: Technical Notes

Adjustments to the Network Readiness Index model in 2021

Table A-I.2 provides a summary of adjustments to the NRI 2021 framework. A total of 15 indicators were modified this year. The methodology of three indicators changed, three are new indicators, two indicators were dropped, six indicators were introduced to replace previous indicators, and one indicator changed code.

TABLE A-I.2 NRI 2021: ADJUSTMENTS TO THE NRI FRAMEWORK

Variable code	NRI 2020	Adjustment	New code	NRI 2021
114	4G mobile network coverage	Replaced	114	SMS sent by population 15-69
		New indicator	115	Population covered by at least a 3G mobile network, %
		New indicator	125	AI Publications (count)
133	ICT PCT Patent applications	Removed		
135	Robot density	Changed code	133	Robot Density
211	Internet users	Replaced	211	Active mobile broadband subscriptions (count)
212	Active mobile-broadband subscriptions	Removed		
222	Ease of doing business	Replaced	222	GERD Finance by Business
225	Business use of digital tools	Replaced	225	Annual investment in Telecommunication
226	R&D expenditure by businesses	Replaced	226	GERD Performed by Business
411	Medium and high-tech industry	Methodology revised	411	Medium and high-tech manufacturing, %
412	High-tech exports	Methodology revised	412	High-tech exports, % total trade
414	Labor productivity per employee	Methodology revised	414	Labor productivity growth, %
		New indicator	416	ICT Services Exports
433	SDG 5: Gender Equality	Replaced	433	Females employed with advanced degrees, %

Appendix I: Technical Notes

Country and data coverage

The inclusion of countries and indicators relies on the double threshold approach. Only countries that could provide data for at least 70% of all indicators earned inclusion to the NRI. In addition, countries needed to pass a sub-pillar level data availability of at least 40% for coverage. Only indicators with data available for at least 50% of all countries gained inclusion to the NRI. Missing values received a "N/A" label and did not count within the computation of scores.

Treatment of series with outliers

Outliers in an indicator can affect ranking results with bias. It is prudent to detect and remove all outliers before the normalization of scores. An applied rule-of-thumb where an absolute value of skewness greater than 2 and a kurtosis greater than 3.5 indicates the presence of outliers.[i]

The treatment of outliers occurs in two ways. First, indicators with no more than four outliers are winsorized, whereby the value affecting the distribution assigns to the next highest/lowest value method. The winsorization process continues until the reported skewness and/or kurtosis fall within the ranges specified above.

Second, indicators with at least five outliers are transformed by natural logarithms according to the following formula:

$$\ln\left[(max \times factor - 1) \times \frac{(value - min)}{(max - min)} + 1\right]$$

For the NRI 2021, outliers were detected in fourteen indicators. Five indicators[ii] had fewer than five outliers and nine indicators[iii] had five outliers or more.

Normalisation

To make the indicators comparable for data aggregation, they must go through a process of normalization. The NRI applies the Min-max normalization method to ensure all values fall into the [0, 100] range/. For indicators where higher values indicate higher outcomes the following normalization formula is applied:

$$100 \times \frac{(value - min)}{(max - min)}$$

For indicators where higher values imply worse outcomes the following reverse normalization formula is applied:[iv]

$$100 \times \frac{(max - value)}{(max - min)}$$

References

Groeneveld, R. A. & Meeden, G. (1984). Measuring skewness and kurtosis. Journal of the Royal Statistical Society, Series D (The Statistician), 33, 391–399.

OECD & EC JRC (2008). Handbook on constructing composite indicators: Methodology and user guide. Paris: OECD, available at http://www.oecd.org/std/42495745.pdf

Appendix I: Technical Notes

[i] Adopted from Groeneveld & Meeden (1984)

[ii] 1.2.3 Internet domain registrations; 1.3.3 Robot density; 3.3.4 Gender gap in internet use; 4.1.2 High-tech exports; 4.3.3. Females employed with advanced degrees; and 4.3.4 SDG 7: Affordable and clean energy.

[iii] 1.1.6 International internet bandwidth; 1.3.4 Computer software spending; and 3.1.3 Online access to financial account.

[iv] For the NRI 2021 reverse normalisation was needed for two indicators: 4.2.3 Income inequality and 4.3.4 SDG 7: Affordable and clean energy.

Back to TOC

Appendix II: Sources and Definitions

Appendix II: Sources and Definitions

1st pillar: Technology

1.1 Access

1.1.1 Mobile tariffs

Mobile tariffs sub-index | 2018

The Mobile Tarifs indicator refers to the Mobile tariffs sub-index included in the Affordability pillar of the Mobile Connectivity Index published by the GSM Association. The sub-index relates to the cost of three separate basket profiles that are distinguished in part by usage allowance (100 MB, 500 MB, and 1 GB per month, respectively). Tariffs are given as a percentage of monthly GDP per capita. The primary source for the data is Tarifica (https://tarifica.com/).

Source: GSM Association. "The GSMA Mobile Connectivity Index 2019." http://www.mobileconnectivityindex.com

1.1.2 Handset prices

Cost of the cheapest internet-enabled device (% of monthly GDP per capita) | 2018

As one of the indicators included in the Affordability pillar of the Mobile Connectivity Index published by the GSM Association, the Handset prices indicator relates to the cheapest smartphone or feature phone that allows user access to the Internet. The primary source for the data is Tarifica (https://tarifica.com/).

Source: GSM Association. "The GSMA Mobile Connectivity Index 2019." http://www.mobileconnectivityindex.com

1.1.3 Households with Internet access

The estimated proportion of households with Internet access at home (%) | 2020

The Households with Internet access indicator can include both estimates and survey data corresponding to the proportion of households with Internet. The Internet is a worldwide public computer network that provides access to several communication services via the World Wide Web and carries email, news, entertainment, and data files. Computer-only access is not assumed and may extend to mobile phones, game machines, digital televisions, and other digital formats. Proportional score calculations result from the number of in-scope households with Internet access divided by the total number of in-scope households.

Source: International Telecommunication Union (ITU). "ITU World Telecommunication/ICT Indicators database 2021." July 2021. http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx

1.1.4 SMS sent by population 15-69

SMS sent | 2020

SMS sent refers to the total number of mobile short-message service (SMS) messages initiated to and from national and international destinations. The indicator excludes messages sent from computers to mobile handsets or other computers. Values scale by population between the ages of 15 and 69.

Source: International Telecommunication Union (ITU). "ITU World Telecommunication/ICT Indicators database 2021." July 2021. http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx

1.1.5 Population covered by at least a 3G mobile network

Percentage of the population covered by at least a 3G mobile network | 2020

The following indicator refers to the percentage of inhabitants within range of at least a 3G mobile-cellular signal, irrespective of whether or not they are subscribers. Values are calculated by dividing the number of

Appendix II: Sources and Definitions

inhabitants covered by at least a 3G mobile-cellular signal by the total population and multiplied by 100.

Source: International Telecommunication Union (ITU). "ITU World Telecommunication/ICT Indicators database 2021." July 2021. http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx

1.1.6 International Internet bandwidth

International Internet bandwidth (Mbit/s) | 2020

International Internet bandwidth refers to the total used capacity of international Internet bandwidth in megabits per second (Mbit/s). Calculations only include the total usage capacity of all Internet exchanges (locations that exchange Internet traffic) that offer international bandwidth. If capacity is asymmetric and there is more incoming (downlink) than outgoing (uplink) capacity, then the incoming (downlink) capacity is provided.

Source: International Telecommunication Union (ITU). "ITU World Telecommunication/ICT Indicators database 2021." July 2021. http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx

1.1.7 Internet access in schools

The proportion of primary schools with access to Internet for pedagogical purposes (%) | 2020

The Internet access in schools indicator refers to the share of primary schools with access to the Internet via fixed narrowband, fixed broadband, or mobile networks. Internet for pedagogical purposes refers to web access and communications services through various devices that enhance the teaching and learning of pupils.

Source: UNESCO Institute for Statistics. "UIS.Stat" http://data.uis.unesco.org/

1.2 Content

1.2.1 GitHub commits

GitHub commits per 1,000 population | 2018

GitHub is a large host of source code, and commits are known as any saved changes initiated on the platform. As such, the GitHub commits indicator refers to the number of publicly available commits on the GitHub website. Since only a minority of GitHub users are geolocated, the data is limited because the indicator does not represent total Github commits. However, as pointed out in Ojanperä, Graham, and Zook (2019),[i] since the data limitation probably does not entail any geographic bias, the indicator is "an appropriate, if imperfect, proxy for otherwise hard to measure programming skills."

Source: Gousios, Georgios. "The GHTorrent dataset and tool suite." 2013. MSR 2013: 233-236. http://data.worldbank.org/data-catalog/world-development-indicators. Data accessed through Google BigQuery. World Development Indicators are the primary source for population data.

[i]Sanna Ojanperä, Mark Graham & Matthew Zook (2019) The Digital Knowledge Economy Index: Mapping Content Production, The Journal of Development Studies, 55:12, 2626-2643, DOI: 10.1080/00220388.2018.1554208)

1.2.2 Wikipedia edits

Wikipedia yearly page edits (per million population 15–69 years old) | 2020

All data extracts from internal sources provided by The Wikimedia Foundation. A country with edit counts in 2020 greater than 100,000 use data from that year. All data reports per million population aged

Appendix II: Sources and Definitions

15–69 years old. Data collected from China is considered missing and classified as "n/a."

Source: Wikimedia Foundation; United Nations, Department of Economic and Social Affairs, Population Division. World Population Prospects: The 2019 Revision (population). (https://wikimediafoundation.org; https://esa.un.org/unpd/wpp).

1.2.3 Internet domain registrations

Generic top-level domains (gTLDs) and country-code top-level domains (ccTLDs) per person | 2020

The Internet domain registrations indicator measures the production of Internet content. It refers to two types of top-level domains: generic top-level domains and country-code top-level domains. The gTLDs cover domain names that use .com, .net, .org, .biz, .info, and .mobi. Similar to Ojanperä, Graham and Zook (2019)[ii], a small number of countries are excluded because the high volume reported from their ccTLDs is due to the specific meaning of the domain rather than any content produced in the country itself (e.g. the use of Tuvalu.tv domain by the entertainment industry).

Source: Data on Internet domain registrations kindly provided by ZookNIC. World Development Indicators provide data on population. (http://data.worldbank.org/data-catalog/world-development-indicators).

[ii]Sanna Ojanperä, Mark Graham & Matthew Zook (2019) The Digital Knowledge Economy Index: Mapping Content Production, The Journal of Development Studies, 55:12, 2626-2643, DOI: 10.1080/00220388.2018.1554208)

1.2.4 Mobile apps development

Number of active mobile applications developed per person | 2018

The Mobile app development indicator sources the Mobile Connectivity Index published by the GSM Association. As part of the Content & services primary pillar, it is one of four indicators located within the Local Relevance sub-index. All original data sourced from AppFigures (https://appfigures.com/).

Source: GSM Association. "The GSMA Mobile Connectivity Index 2019." http://www.mobileconnectivityindex.com

1.2.5 AI scientific publications

Total number of AI scientific publications, count | 2020

The AI scientific publications indicator measures the total number of AI publications in Elsevier per economy. Any paper with a field of study categorized as "artificial intelligence" and "machine learning" according to the Microsoft Academic Graph (MAG) taxonomy is measured. Results from other fields of study, such as "natural language processing", "speech recognition", and "computer vision" are included if they also belong to the "artificial intelligence" or the "machine learning" fields of study. As such, the results are likely to be conservative. Tagging occurs through a concept detection operation.

The Microsoft Academic Graph (MAG) is a heterogeneous graph containing scientific publication records and citation relationships between each publication from authors, institutions, journals, conferences, and fields of study (Sinha et al., 2015; Wang et al., 2019).

Source: OECD. "Elsevier (Scopus) for bibliometrics." OECD.AI Policy Observatory https://oecd.ai

1.3 Future technologies

1.3.1 Adoption of emerging technologies

Appendix II: Sources and Definitions

Average answer to a survey question concerning the extent that companies adopt five types of emerging technology | 2018–19

The annual World Economic Forum's Executive Opinion Survey (EOS) gathers information from business leaders on topics with scarce or non-existent data. It is part of the effort to supplement The Global Competitiveness Report in assessing issues that drive national competitiveness.

The Adoption of emerging technologies indicator refers to the average answer of a similarly-worded question posited by the EOS regarding five different emerging technologies (Artificial intelligence, Robotics, App- and web-enabled markets, Big data analytics, and Cloud computing):

"In your country, to what extent are companies adopting Artificial intelligence?" (1: not at all; 7: to a great extent - on par with the most technologically advanced economies)

Source: World Economic Forum. "Executive Opinion Survey 2018–2019." http://reports.weforum.org

1.3.2 Investment in emerging technologies

Average answer to a survey question concerning the extent that companies invest in emerging technologies. | 2017–18

The annual World Economic Forum's Executive Opinion Survey (EOS) gathers information from business leaders on topics with scarce or non-existent data. It is part of the effort to supplement The Global Competitiveness Report in assessing issues that drive national competitiveness.

The Investment in emerging technologies indicator refers to the average answer of a similarly-worded question posited by the EOS regarding five different emerging technologies (Artificial intelligence, Robotics, App- and web-enabled markets, Big data analytics, and Cloud computing):

"In your country, to what extent do companies invest in emerging technologies (e.g., Internet of Things, advanced analytics and artificial intelligence, augmented virtual reality and wearables, advanced robotics, 3D printing)?" [1 = not at all; 7 = to a great extent]

Source: World Economic Forum. "Executive Opinion Survey 2018–2019." http://reports.weforum.org

1.3.3 Robot density

Number of robots in operation per 10,000 employees in the manufacturing industry | 2019

Robot density refers to the estimated number of multipurpose industrial robots per 10,000 persons employed in the manufacturing industry (ISIC rev.4: C). The International Federation of Robotics (IFR) collects country-level data on the operational stock of industrial robots and for certain countries computes robot densities. The annual World Robotics report publishes computed robot densities.

Source: Data on robot density and operational stock of industrial robots for 2019 kindly provided by the International Federation of Robotics (IFR, https://ifr.org). Data on employment in manufacturing in the countries for which IFR has not computed robot densities source the International Labour Organization, ILOSTAT (https://ilostat.ilo.org/)

1.3.4 Computer software spending

Total computer software spending (% of GDP) | 2020

Computer software spending refers to the total value of purchased or leased packaged software, including operating systems, database systems, programming tools, utilities, and applications. The indicator

Appendix II: Sources and Definitions

excludes expenditures for internal software development and outsourced custom software development. The data combines actual figures and estimates. Reporting occurs as a percentage of an economy's GDP.

Source: IHS Markit. "Information and Communication Technology Database". (https://www.ihs.com/index.html).

2nd pillar: People

2.1 Individuals

2.1.1 Active mobile broadband subscriptions

Active mobile-broadband subscriptions | 2020

The Active mobile broadband subscriptions indicator measures the sum of standard mobile-broadband and dedicated mobile-broadband subscriptions to the public Internet. It covers actual subscribers and excludes potential subscribers, even though the latter may have broadband enabled-handsets.

Source: International Telecommunication Union (ITU). "ITU World Telecommunication/ICT Indicators database 2021." July 2021. http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx

2.1.2 ICT skills

Average answer to a survey question concerning the extent that a country possesses sufficient digital skills. | 2018-19

The annual World Economic Forum's Executive Opinion Survey (EOS) gathers information from business leaders on topics with scarce or non-existent data. It is part of the effort to supplement The Global Competitiveness Report in assessing issues that drive national competitiveness.

The ICT skills indicator refers to the average answer of a similarly-worded question posited by the EOS regarding the digital skills of a country:

"In your country, to what extent does the active population possess sufficient digital skills (e.g., computer skills, basic coding, digital reading)?" [1 = not at all; 7 = to a great extent]

Source: World Economic Forum. "Executive Opinion Survey 2018–2019." http://reports.weforum.org

2.1.3 Use of virtual social networks

Number of active social media users (% of the population) | 2019

The Use of virtual social networks indicator refers to the penetration of active social media users expressed as a percentage of the total population. Original data comes from a variety of sources, including company statements and reports in reputable media.

Source: We Are Social and Hootsuite. "Global Digital Report 2020." 2020. https://wearesocial.com/digital-2020

2.1.4 Tertiary enrollment

Gross enrollment ratio, tertiary education (%) | 2020

Tertiary enrollment refers to the ratio of total education enrollment, regardless of age, by the population of the age group that officially corresponds to the expected level of tertiary

Appendix II: Sources and Definitions

education. Tertiary education often requires the successful completion of education at the secondary level as a minimum condition of admission. The International Standard Classification of Education (ISCED) defines the standards of the tertiary level.

Source: UNESCO Institute for Statistics. "UIS. Stat." UNESCO. http://data.uis.unesco.org/

2.1.5 Adult literacy rate

Adult literacy rate (%) | 2020

The Adult literacy rate indicator defines the percentage of the population aged 15 years and over who can read, write, and understand short, simple statements about their everyday life.

Source: UNESCO Institute for Statistics. "UIS. Stat." UNESCO. http://data.uis.unesco.org/

2.2 Businesses

2.2.1 Firms with website

Firms with a website (% of total) | 2018

The data for the Firms with website indicator consists of enterprise surveys conducted by the Organisation for Economic Co-operation and Development (OECD) and the World Bank. Data supplied by the OECD informs OECD countries, accession countries, or key partners, while all other country data sources the World Bank.

Source: OECD, ICT Access and Use by Businesses, OECD Telecommunications and Internet Statistics (database) (https://doi.org/10.1787/9d2cb97b-en)

Source: World Bank. "Enterprise Surveys." The World Bank. www.enterprisesurveys.org

2.2.2 GERD financed by business enterprise

GERD: Financed by business enterprise (% of total GERD) | 2019

The following indicator refers to the Gross expenditure on R&D (GERD) financed by a business enterprise as a percentage of total gross R&D expenditure. GERD or Intramural R&D expenditure consists of all spent funds on R&D performed within a statistical unit or sector of the economy during a specific period, regardless of the funding source. Of note, Bolivia and Burkina Faso use data from 2009.

Source: UNESCO Institute for Statistics (UIS) online database; Eurostat, Eurostat database; OECD, Main Science and Technology Indicators (MSTI) database, 2019 (2010–19). (http://data.uis.unesco.org; https://ec.europa.eu/eurostat/data/database; https://stats.oecd.org/Index.aspx?DataSet-Code=MSTI_PUB).

2.2.3 Professionals

Professionals (%) | 2019

The professionals indicator refers to the number of professionals as a share of the total workforce. Employment by occupation data sources the International Standard Classification of Occupation (ISCO) Revision 2008 (countries where ISCO Rev. 2008 is unavailable use data based on ISCO Rev. 1988). Employment categories include:

- Physical, mathematical, and engineering science professionals
- Life science and health professionals
- Teaching professionals
- Other professionals in business, legal, social sciences, and creative or performing arts in addition to archivists, librarians, and writers

Appendix II: Sources and Definitions

Source: International Labour Organization, ILOSTAT. 2020. https://ilostat.ilo.org/

2.2.4 Technicians and associate professionals

Technicians and associate professionals (%) | 2019

The technicians and associate professionals indicator refers to the number of technicians and associate professionals as a percentage of the total workforce. Employment by occupation data follows the International Standard Classification of Occupation (ISCO) Revision 2008 (countries where ISCO Rev. 2008 is unavailable use data based on ISCO Rev. 1988). Employment categories include:

- Physical and engineering science associate professionals
- Life science and health associate professionals
- Teaching associate professionals
- Other associate professionals in finance and sales, administrative, customs, entertainment and sports, and social work in addition to religious associate professionals, police inspectors, detectives, and tax and related government associate professionals.

Source: International Labour Organization, ILOSTAT. 2020. https://ilostat.ilo.org/

2.2.5 Annual investment in telecommunication services

Annual investment in telecommunication services (US$) | 2020

The Annual investment in telecommunication services indicator refers to the investments made within the financial year by entities that provide telecommunication networks and/or services (including fixed mobile and Internet services and the transmission of TV signals). Investments are considered any spent funds on the acquisition and upgrading of assets (usually referred to as CAPEX) less disinvestment owing to disposals. Fixed assets include tangible assets such as buildings and networks and intangible assets such as computer software and intellectual property.

The indicator corresponds to the gross fixed capital formation concept defined in the System of National Accounts 2008. The indicator also includes expenditures on initial installations and additions to existing installations where the usage is expected over an extended period of time. It excludes expenditures on fees for operating licenses and the use of radio spectrum. All values are notated in US$.

Source: International Telecommunication Union (ITU). "ITU World Telecommunication/ ICT Indicators database 2021." July 2021. http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx

2.2.6 GERD performed by business enterprise

GERD performed by business enterprise (% of GDP) | 2019

The indicator measures the gross expenditure on R&D performed by a business enterprise as a percentage of GDP. For the definition of GERD, see indicator 2.2.2.

Source: Science and Technology Indicators MSTI database, 2019. http://data.uis.unesco.org; https://ec.europa.eu/eurostat/data/database; https://stats.oecd.org/Index.aspx?DataSet-Code=MSTI_PUB

2.3 Governments

2.3.1 Government online services

Government Online Service Index | 2020

The Government Online Service Index (OIS) is a primary component of the E-Government Development Index (EGDI) that the United Nations Department of Economic and Social Affairs publishes. The OIS assesses the quality of a government's delivery of online services on a 0-to-1 (best) scale. Researchers create the assessment to evaluate "each country's national website in the native language, including the national portal, e-services portal, and e-participation portal, as well as the websites of the related ministries of education, labor, social services, health, finance, and environment, as applicable."

Source: United Nations Department of Economic and Social Affairs (UNDESA). UN E-Government Knowledgebase. https://publicadministration.un.org/egovkb/en-us/

2.3.2 Publication and use of open data

Open Data Barometer | 2016

The Open Data Barometer indicator refers to the fourth edition of the Open Data Barometer index that provides a measure of how governments publish and use open data based on readiness (35%), implementation (35%), and impact (30%). [iii]

[iii] Parenthesis note the weight of each dimension.

Source: World Wide Web Foundation. "Open Data Barometer 4th Edition – Global Report." 2017. https://opendatabarometer.org/4thedition/

2.3.3 Government promotion of investment in emerging technologies

Average answer to survey questions concerning the extent to which governments foster investment in five types of emerging technology | 2018–19

The annual World Economic Forum's Executive Opinion Survey (EOS) gathers information from business leaders on topics with scarce or non-existent data. It is part of the effort to supplement The Global Competitiveness Report in assessing issues that drive national competitiveness.

The following indicator refers to the simple mean of the average answer of a similarly-worded question posited by the EOS regarding a government's ability to foster investment in five emerging technology sectors (Artificial intelligence, Robotics, App- and web-enabled markets, Big data analytics, and Cloud computing):

"In your country, to what extent does the government foster investment (public and private) in artificial intelligence and machine learning?" (1: not at all; 7: to a great extent)

Source: World Economic Forum. "Executive Opinion Survey 2018–2019." http://reports.weforum.org

2.3.4 R&D expenditure by governments and higher education

Gross domestic expenditure on R&D performed by government and higher education institutions (% of GDP) | 2020

The following indicator refers to the combined expenditure by governments and higher education institutions on research and development (R&D) as a percentage of GDP. The government sector comprises all central, regional, and municipal government units. It excludes all public enterprises (public enterprises fall under the business enterprise category). Higher education institutions include an organization whose primary focus is on providing formal tertiary education (i.e. levels 5–8 of the International Standard Classification of Education, ISCED). The definition of R&D expenditure involves all current expenditure plus gross fixed capital expenditure for R&D performed by government and higher education institutions, no matter the source of funds.

Source: UNESCO Institute for Statistics. "UIS.Stat" http://data.uis.unesco.org/

3rd pillar: Governance

3.1 Trust

3.1.1 Secure Internet servers

Secure Internet servers (per million population) | 2019

Secure Internet servers are servers that use encryption technology in Internet transactions.

Source: World Bank. "World Development Indicators" The World Bank. October 29, 2021. http://data.worldbank.org/data-catalog/world-development-indicators

3.1.2 Cybersecurity

Global Cybersecurity Index | 2020

The Global Cybersecurity Index (GCI) measures the level of cybersecurity commitments made by individual countries. It is a composite index consisting of 25 indicators distributed across five main pillars: (1) Legal Measures, (2) Technical Measures, (3) Organizational Measures, (4) Capacity Building Measures, and (5) Cooperation Measures. Scores are standardized to a scale of 0–1.

Source: ITU 2021. "Global Cybersecurity Index (GCI) 2020." 2020. https://www.itu.int/epublications/publication/global-cybersecurity-index-2020/en/

3.1.3 Online access to financial account

People who used a mobile phone or the Internet to access a financial institution account in the past year (% with a financial institution account, age 15+) | 2017

The Online access to financial account indicator refers to the percentage of people who have a financial institution account that report using a mobile phone or the Internet to access their financial institution account within the past 12 months.

Source: World Bank, "Global Findex Database." The World Bank. https://globalfindex.worldbank.org/

3.1.4 Internet shopping

People who used the Internet to buy resources online in the past year (%) | 2017

The Internet shipping indicator refers to the percentage of respondents aged 15 years and older who have used the Internet in the past year to purchase goods and services online. The data sources a triennial survey carried out in more than 140 economies.

Source: World Bank, "Global Findex Database." The World Bank. https://globalfindex.worldbank.org/

3.2 Regulation

3.2.1 Regulatory quality

Regulatory quality indicator | 2018

The regulatory quality indicator captures the perception of a government's ability to formulate and implement sound policies and regulations that permit and promote private sector development. Scores are standardized to a scale from -2.5 (worst) to 2.5 (best).

Source: World Bank. "Worldwide Governance Indicators 2019 Update." The World Bank. www.govindicators.org

3.2.2 ICT regulatory environment

ICT Regulatory Tracker | 2018

The ICT regulatory environment indicator is based on the ICT Regulatory Tracker composite index that provides a measure of

the existence and features of ICT legal and regulatory frameworks. The index covers 50 indicators distributed across four pillars: (1) Regulatory Authority, (2) Regulatory Mandate, (3) Regulatory Regime, and (4) Competition Framework. Scores are standardized to a scale of 0–2.

Source: International Telecommunication Union (ITU). "ICT Regulatory Tracker 2018." https://www.itu.int/net4/itu-d/irt/

3.2.3 Legal framework's adaptability to emerging technologies

Average answer to survey questions concerning the extent to which the legal framework is adapting to five types of emerging technology | 2018–19

The annual World Economic Forum's Executive Opinion Survey (EOS) gathers information from business leaders on topics with scarce or non-existent data. It is part of the effort to supplement The Global Competitiveness Report in assessing issues that drive national competitiveness.

The Legal framework's adaptability to emerging technologies indicator refers to the simple mean of the average answer of a similarly-worded question posited by the EOS regarding five different emerging technologies (Artificial intelligence, Robotics, App- and web-enabled markets, Big data analytics, and Cloud computing):

"In your country, how adequately is the legal framework adapting to artificial intelligence, robotics, app- and web-enabled markets, big data analytics, and cloud computing? (1: not at all; 7: to a great extent - the legal framework is up-to-date)

Source: World Economic Forum. "Executive Opinion Survey 2018–2019." http://reports.weforum.org

3.2.4 E-commerce legislation

Global Cyberlaw Tracker | 2020

The E-commerce legislation indicator refers to a country's adoption of e-commerce legislation. The Global Cyberlaw Tracker provides information on whether a country has adopted legislation or has a draft law pending adoption within four areas: electronic transactions, consumer protection, privacy and data protection, and cybercrime. Scores range from 0 (no legislation) to 4 (adopted legislation in all four areas).

Source: United Nations Conference on Trade and Development (UNCTAD). "Global Cyberlaw Tracker." UNCTAD. 2020. https://unctad.org/en/Pages/DTL/STI_and_ICTs/ICT4D-Legislation/eCom-Global-Legislation.aspx

3.2.5 Privacy protection by law content

Average answer to the question "What does the legal framework to protect Internet users' privacy and their data stipulate? | 2019

The Privacy protection by law content indicator refers to responses on privacy protection given by multiple country experts on a 0-4 scale. With disagreement and measurement error taken into account, aggregated responses compute a probability distribution over country-year scores on a standardized interval scale. Point estimates are the median values of each distribution for every country-year. The scale of a measurement model variable is similar to a normal ("Z") score (e.g. typically between -5 and 5, with 0 approximately representing the mean for all country-years in the sample), though it does not necessarily follow a normal distribution. Data only includes estimates based on at least four ratings.

Source: Mechkova, Valeriya, Daniel Pemstein, Brigitte Seim, and Steven Wilson. "Digital Society Project Dataset v2". Digital Society Project. 2021. http://digitalsocietyproject.org

Appendix II: Sources and Definitions

3.3 Inclusion

3.3.1 E-Participation

E-Participation Index | 2020

The E-Participation Index assesses on a 0-to-1 (best) scale the quality, relevance, and usefulness of government websites. Usefulness refers to a website's ability to provide online information and participatory tools and services to citizens. Countries are benchmarked in three areas within the E-Participation Index: e-information, e-consultation, and e-decision-making. As such, the index indicates both the capacity and the willingness of the state to promote citizen participation in deliberative decision-making in public policy. It also indicates the reach of the state's own socially inclusive governance program.

Source: United Nations Department of Economic and Social Affairs (UNDESA). UN E-Government Knowledgebase. https://publicadministration.un.org/egovkb/en-us/

3.3.2 Socioeconomic gap in use of digital payments

Difference between rich and poor income groups that made or received digital payments in the past year (% age 15+) | 2017

The following indicator refers to the share of the poorest 40% and the richest 60% income groups in a country that made or received digital payment within the past 12 months. Made digital payments include the use of "mobile money, a debit or credit card, or a mobile phone to make a payment from an account, or report using the internet to pay bills or to buy something online." Received digital payments include receiving money "directly from or into a financial institution account or through a mobile money account." Final scores express the ratio of the share related to the poorest 40% over the share related to the richest 60%.

Source: World Bank, "Global Findex Database." The World Bank. https://globalfindex.worldbank.org/

3.3.3 Availability of local online content

Average answer to the question: "In your country, to what extent are Internet content and services tailored to the local population (e.g. in the local language, meeting local demand)?" (1 = Not at all; 7 = To a great extent] | 2018–19

The annual World Economic Forum's Executive Opinion Survey (EOS) gathers information from business leaders on topics with scarce or non-existent data. It is part of the effort to supplement The Global Competitiveness Report in assessing issues that drive national competitiveness.

Source: World Economic Forum. "Executive Opinion Survey 2018–2019." http://reports.weforum.org

3.3.4 Gender gap in Internet use

Difference between female and male population in using the Internet | 2020

The Gender gap in Internet use indicator refers to the share of women and men in a country that use the Internet. Scores are calculated as the ratio of the share related to the female population over the share related to the male population.

Source: International Telecommunication Union (ITU). "ITU World Telecommunication/ICT Indicators database 2021." July 2021. http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx

3.3.5 Rural gap in use of digital payments

Difference between the rural population and the total population that made or received

digital payments in the past year (% age 15+) | 2017

The following indicator refers to the share of the rural population against a country's total population that made or received digital payments within the past 12 months. Made digital payments include the use of "mobile money, a debit or credit card, or a mobile phone to make a payment from an account, or report using the internet to pay bills or to buy something online." Received digital payments include receiving money "directly from or into a financial institution account or through a mobile money account." Final scores express as a ratio the share related to the rural population over the share related to the total population.

Source: World Bank, "Global Findex Database." The World Bank. https://globalfindex.worldbank.org/

4th pillar: Impact

4.1 Economy

4.1.1 High-tech and medium-high-tech manufacturing

High-tech and medium-high-tech manufacturing (% of total manufacturing output) | 2018

The following indicator measures high-technology and medium-high-technology output as a percentage of total manufacturing output. Scores are based on the OECD classification of Technology Intensity Definition, itself based on International Standard Industrial Classification (ISIC) Revision 4 and ISIC Revision 3, in addition to data from the INDSTAT 2 database of the United Nations Industrial Development Organization (UNIDO).

Source: United Nations Industrial Development Organization (UNIDO). Directorate for Science, Technology and Industry, Economic Analysis and Statistics Division, "ISIC Rev. 3 Technology Intensity Definition: Classification of Manufacturing Industries into Categories Based on R&D Intensities." Industrial Statistics Database INDSTAT 2, 2020. OECD. https://stat.unido.org; www.oecd.org/sti/ind/48350231.pdf

4.1.2 High-tech exports

High technology manufactures exports (% of total exports of manufactured goods) | 2019

High-value exports refer to high-technology manufactures (electronic, electrical, and other) calculated according to the Lall classification as an export percentage of all manufactured goods.

Source: World Bank. "World Development Indicators". The World Bank. http://data.worldbank.org/data-catalog/world-development-indicators

The classification of exports is based on Lall, S. (2000), The Technological Structure and Performance of Developing Country Manufactured Exports, Oxford Development Studies, 28(3), 1985-1989

4.1.3 PCT patent applications

Number of applications filed under the Patent Cooperation Treaty (PCT) (per million population) | 2020

A PCT application refers to an international patent application filed through the WIPO-administered Patent Cooperation Treaty (PCT). The PCT system makes it possible to seek simultaneous patent protection for an invention in several countries by filing

a single international patent application. The residence of the first-named applicant determines the origin of the PCT application. Data are available only for those economies which are PCT Contracting States (153 to date). Data are scaled by Purchasing Power Parity (PPP$) GDP and shown in billions.

Source: World Intellectual Property Organization. "Intellectual Property Statistics." International Monetary Fund, World Economic Outlook Database, October 2020. www.wipo.int/ipstats; https://www.imf.org/en/Publications/SPROLLs/world-economic-outlook-databases

4.1.4 Growth rate of GDP per person engaged

Growth rate of GDP per person engaged (%, three-year average) | 2019

The following indicator refers to the growth rate of real GDP per person employed averaged over the three most recent and available years (2018, 2019, 2020). Growth of GDP per person engaged provides a measure of labor productivity (defined as output per unit of labor input). GDP per person employed is expressed as a percentage of total employment in the economy.

Source: The Conference Board. "Total Economy Database™ Output, Labor and Labor Productivity, 1950–2020 - Key Findings." April 2021 preliminary release. https://www.conference-board.org/data/economydatabase

4.1.5 Prevalence of gig economy

Average answer to the question: "In your country, to what extent is the online gig economy prevalent?" [1 = Not at all; 7 = To a great extent] | 2018–19

The annual World Economic Forum's Executive Opinion Survey (EOS) gathers information from business leaders on topics with scarce or non-existent data. It is part of the effort to supplement The Global Competitiveness Report in assessing issues that drive national competitiveness. The gig economy refers to a labor market specific to digital platforms and work arrangements focused on short-term contracts and task-based work.

Source: World Economic Forum. "Executive Opinion Survey 2018–2019." http://reports.weforum.org

4.1.6 ICT services exports

Telecommunications, computers, and information services exports (% of total trade) | 2019

The ICT services exports indicator defines telecommunications, computer, and information services as a percentage of total trade. Values are given according to the Extended Balance of Payments Services Classification EBOPS 2010, coded SI: Telecommunications, computer, and information services.

Source: World Trade Organization. "Trade in Commercial Services database." 2019. Values based on the classification of the sixth (2009) edition of the International Monetary Fund's Balance of Payments and International Investment Position Manual and Balance of Payments database, 2019. https://www.imf.org/external/pubs/ft/bop/2007/pdf/bpm6.pdf; www.oecd.org/std/its/EBOPS-2010.pdf.

4.2 Quality of Life

4.2.1 Happiness

Happiness score (life ladder) | 2019

Happiness refers to the national average response to the following survey question included in the Gallup World Poll: "Please imagine a ladder, with steps numbered from

0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time?" The indicator is also known as the Cantril life ladder, life ladder, or subjective well-being.

Source: The Gallup World Poll (2005–2019) (https://www.gallup.com/analytics/232838/world-poll.aspx), sourced from Helliwell, John F., Richard Layard, Jeffrey Sachs, and Jan-Emmanuel De Neve. "World Happiness Report 2020." New York: Sustainable Development Solutions Network, 2020. https://worldhappiness.report/

4.2.2 Freedom to make life choices

Freedom to make life choices score | 2019

Freedom to make life choices refers to the national average response to the following survey question included in the Gallup World Poll: "Are you satisfied or dissatisfied with your freedom to choose what you do with your life?"

Source: The Gallup World Poll (2005–2019) (https://www.gallup.com/analytics/232838/world-poll.aspx), sourced from Helliwell, John F., Richard Layard, Jeffrey Sachs, and Jan-Emmanuel De Neve. "World Happiness Report 2020." New York: Sustainable Development Solutions Network, 2020. https://worldhappiness.report/

4.2.3 Income inequality

Gini index | 2018

The Gini index is a measure of income inequality within an individual economy. At a technical level, it is based on a Lorenz curve that "plots the cumulative percentages of total income received against the cumulative number of recipients." The Gini index also refers to the area between the Lorenz curve and the (hypothetical) line of perfect equality. The scale of the Gini index ranges from 0 (perfect equality) to 100 (perfect inequality).

Source: World Bank, "World Development Indicators." The World Bank. http://data.worldbank.org/data-catalog/world-development-indicators

4.2.4 Healthy life expectancy at birth

Healthy life expectancy at birth (years) | 2016

The Healthy life expectancy at birth indicator expresses the "average number of years that a person can expect to live in 'full health' by taking into account years lived in less than full health due to disease and/or injury." The number of years lost due to ill health in a country is estimated by the disability rate per capita (adjusted for independent comorbidity) broken down by age and sex.

Source: World Health Organization. "Global Health Observatory (GHO) database." https://www.who.int/data/gho

4.3 SDG Contribution

4.3.1 SDG 3: Good Health and Well-Being

Universal health coverage | 2017

The following indicator refers to the Universal health coverage (UHC) service coverage index and is one of the official indicators related to SDG 3: Ensure healthy lives and promote well-being for all at all ages (indicator 3.8.1). The UHC service coverage index encompasses essential health services that include reproductive, maternal, newborn and child health, infectious diseases, service capacity and access, and non-communicable diseases among the general and the most disadvantaged population. Scores report on a scale of 0–100 and compute the geometric mean of 14 tracer indicators related to health

service coverage. The tracer indicators on service coverage compile into four components: (1)Reproductive, maternal, newborn and child health, (2) Infectious diseases, (3) Noncommunicable diseases (4) Service capacity and access.

Source: World Health Organization. "Tracking universal health coverage: 2019 Global Monitoring Report". Geneva, WHO, 2019. (https://www.who.int/data/monitoring-universal-health-coverage). Taken from United Nations, Open SDG Data Hub (http://www.sdg.org)

4.3.2 SDG 4: Quality Education

PISA average scores in reading, mathematics, and science | 2018

The SDG 4: Quality Education indicator captures data from triennial surveys provided by the OECD's Programme for International Student Assessment (PISA) that examine 15-year-old students' performance in reading, mathematics, and science. Score calculations involve a mean of 500 and a standard deviation of 100. The scores for China come from Beijing-Shanghai-Jiangsu-Guangdong.

Source: OECD. "Programme for International Student Assessment (PISA)." www.oecd.org/pisa

4.3.3 Females employed with advanced degrees

Females employed with advanced degrees, % total employed (25+ years old) | 2019

The following indicator refers to the percentage of females employed with advanced degrees out of the total employed population. Employed persons comprise all of working age who during a specified period engaged in one of the following categories: (1) paid employment; or (2) self-employment. Data are disaggregated by level of education and refers to the highest level of education completed as classified by the International Standard Classification of Education (ISCE). Data for Canada sources Table 14-10-0020-01 of the Labour Force Survey.

Source: International Labour Organization. "ILOSTAT Database of Labour Statistics; Statistics Canada." Table 14-10-0020-01 Unemployment rate, participation rate, and employment rate by educational attainment, annual, accessed February 10, 2020 (2011–20). (www.ilo.org/ilostat; https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410002001).

4.3.4 SDG 7: Affordable and Clean Energy

Energy intensity | 2016

The Affordable and Clean Energy indicator refers to the energy intensity level of primary energy (defined in megajoules per constant 2011 purchasing power parity GDP) and is an official indicator related to SDG 7: Ensure access to affordable, reliable, sustainable, and modern energy for all (indicator 7.3.1).

Source: Energy Balances, UN Statistics Division (2018) and IEA (2018), World Energy Balances. Sourced from United Nations, Open SDG Data Hub. http://www.sdg.org

4.3.5 SDG 11: Sustainable Cities and Communities

Urban safety and sustainability | 2016

Two indicators capture the safety and sustainability of cities: urban pollution and road safety. Urban pollution officially relates to SDG 11: Make cities and human settlements inclusive, safe, resilient, and sustainable (indicator 11.6.2) and is measured by the annual mean concentration of fine particulate matter in urban areas less than 2.5 microns in diameter.

Road safety refers to the death rate due to road traffic injuries per 100,000 population.

It is an official indicator related to SDG 3: Ensure healthy lives and promote well-being for all at all ages (indicator 3.6.1), and is also associated with SDG Target 11.2: By 2030, provide access to safe, affordable, accessible, and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons. The data refers to the simple mean of the reversed normalized scores of the two indicators.

Source: World Health Organization. "Global Health Observatory (GHO) Database." https://www.who.int/data/gho

Back to TOC

Appendix III: JRC Statistical Audit of the 2021 Network Readiness Index



Appendix III: JRC Statistical Audit of the 2021 Network Readiness Index

Giulio Caperna and Pablo de Pedraza
European Commission
Joint Research Centre

1. Introduction

The redesigned Network Readiness Index 2021 (NRI 2021) aims to reflect ICT deployment issues better than the NRI 2016 and NRI 2020 without losing continuity with previous exercises. It has evolved from NRI 2020. This evolution also includes new indicators that contribute to the goal of being future proof in capturing the integration of people and technology, its governance, and its economic impact. The challenges of the emerging information society and economy and the increasing importance of technology, artificial intelligence and data motivates the NRI and its goals.

NRI 2021 overall structure remains stable with respect to NRI 2020. It is composed of four pillars: Technology, People, Governance, and Impact. Technology seeks to assess the level of technology in a given country; People is concerned with the application of ICT by individuals, businesses, and governments; Governance assesses the national environment in terms of trust, regulation, and inclusion; and Impact tries to capture the economic, social, and human impact of participation in the network economy. Each pillar has the same weight in the computation of the index. All pillars are composed of three sub-pillars that are weighted equally. The number of indicators making up each sub-pillars varies. They are equally weighted in each sub-pillar, therefore the weight of each individual indicator in the overall index varies.

NRI 2021 is timely in tackling how technology benefits the general population and the economy and, in its approach, highlighting the importance of regulations, economic benefits, well-being and the achievement of SDGs. The NRI 2021 framework is well constructed, and a lot of thought has clearly been put into it. However, conceptual, and practical challenges are inevitable when trying to summarize with a single composite indicator the complexity of the emerging economic order within the information society, its regulation and its economic impact. Challenges are even more complicated when considering the changing nature of Technology and NRI's future-proof ambitions.

The European Commission's Competence Centre on Composite Indicators and Scoreboards at the Joint Research Centre (JRC) has performed this audit upon the invitation of the developers. The analysis herein aims at shedding light on the consistency, transparency, and reliability of the NRI 2021 and thus enabling policymakers to derive accurate, meaningful and consistent conclusions. The JRC assessment of the NRI 2021 presented here focuses on two main issues: the statistical coherence of the structure, and the impact of key modelling assumptions. The statistical analysis is based on the adequacy of aggregating indicators into pillars, and pillars into the overall index. Finally, the JRC analysis complements the reported country rankings for the NRI index 2021 with simulated intervals, in order to better appreciate the robustness of these ranks to the modelling choices.

TABLE A-II.1: CONCEPTUAL FRAMEWORK OF THE NRI 2021

Pillar	Sub-pillar	ID	Variable Name	Note
1. TECHNOLOGY	1.1 Access	1.1.1	Mobile tariffs	
		1.1.2	Handset prices	
		1.1.3	Households with internet access	
		1.1.4	SMS sent by population 15-69	Replaces 4G mob. net. coverage
		1.1.5	Population covered by at least a 3G mobile network	
		1.1.6	International Internet bandwidth	
		1.1.7	Internet access in schools	
	1.2 Content	1.2.1	GitHub commits	
		1.2.2	Wikipedia edits	
		1.2.3	Internet domain registrations	
		1.2.4	Mobile apps development	
		1.2.5	AI scientific publications	New Indicator
	1.3 Future Technologies	1.3.1	Adoption of emerging technologies	
		1.3.2	Investment in emerging technologies	
		1.3.3	Robot density	
		1.3.4	Computer software spending	
2. PEOPLE	2.1 Individuals	2.1.1	Active mobile broadband subscriptions	Replaces Internet users
		2.1.2	ICT skills	
		2.1.3	Use of virtual social networks	
		2.1.4	Tertiary enrollment	
		2.1.5	Adult literacy rate	
	2.2 Businesses	2.2.1	Firms with website	
		2.2.2	GERD financed by business enterprise	Replaces Ease of Doing Business
		2.2.3	Professionals	
		2.2.4	Technicians and associate professionals	
		2.2.5	Annual investment in telecommunication services	Replaces Business use digit tools
		2.2.6	GERD performed by business enterprise	Replaces R&D Expend. businesses
	2.3 Governments	2.3.1	Government online services	
		2.3.2	Publication and use of open data	
		2.3.3	Gov. promotion of investment in emerging technologies	
		2.3.4	R&D expenditure by governments and higher education	
3. GOVERNANCE	3.1 Trust	3.1.1	Secure Internet servers	
		3.1.2	Cybersecurity	
		3.1.3	Online access to financial account	
		3.1.4	Internet shopping	
	3.2 Regulation	3.2.1	Regulatory quality	
		3.2.2	ICT regulatory environment	
		3.2.3	Legal framework's adaptability to emerging technologies	
		3.2.4	E-commerce legislation	
		3.2.5	Privacy protection by law content	
	3.3 Inclusion	3.3.1	E-Participation	
		3.3.2	Socioeconomic gap in use of digital payments	
		3.3.3	Availability of local online content	
		3.3.4	Gender gap in Internet use	
		3.3.5	Rural gap in use of digital payments	
4. IMPACT	4.1 Economy	4.1.1	High-tech and medium-high-tech manufacturing	Revised Methodology
		4.1.2	High-tech exports	Revised Methodology
		4.1.3	PCT patent applications	
		4.1.4	Growth rate of GDP per person engaged	Revised Methodology
		4.1.5	Prevalence of gig economy	
		4.1.6	ICT services exports	New Indicator
	4.2 Quality of Life	4.2.1	Happiness	
		4.2.2	Freedom to make life choices	
		4.2.3	Income inequality	
		4.2.4	Healthy life expectancy at birth	
	4.3 SDG Contribution	4.3.1	SDG 3: Good Health and Well-Being	
		4.3.2	SDG 4: Quality Education	
		4.3.3	Females employed with advanced degrees	Replaces SDG 5
		4.3.4	SDG 7: Affordable and Clean Energy	
		4.3.5	SDG 11: Sustainable Cities and Communities	

Source: Elaborated by European Commission's Joint Research Centre from the NRI, 2021.

Appendix III: JRC Statistical Audit of the 2021 Network Readiness Index

2. Conceptual framework

The structure of the NRI is summarized in Table 1. Developers selected variables based on relevance to a specific pillar, literature review, expert opinion, country coverage. In NRI 2021 a total of 13 indicators have changed. Some faced a methodological change, some have been dropped from the framework, and some have been newly introduced. The last column of Table 1 gives a brief idea of what is changed and how.

In view of further evolution of the index, the developers may consider further exploration of the Network economy specific measures, which would make the framework more consistent with the changing nature of technology and foster even more the NRI's goal of being future proof. Many aspects of the digital economy and its conceptualization, its economic benefits, drawbacks and consequent governance are still under discussion and beyond current state of knowledge. This has always made NRI future-proof goal difficult to conceptualize and audit. Some notable conceptualization efforts are being done from social scientists and developers may consider them in future editions. In addition to the reference suggested in the previous audit, we suggest a further reference on conceptualizing specific aspects of the digital economy (Pedraza and Vollbracht 2020).

3. Data quality and availability

Regarding data coverage, the general practice is to establish a threshold above which an indicator is excluded from the framework. For the NRI development, the inclusion of countries and indicators is based on the double threshold approach. In terms of country coverage, this means that only countries with data available for at least 70% of all indicators are included in the NRI. In addition, countries need to pass a sub-pillar level data availability of at least 40%. In terms of indicator coverage, only indicators with availability of at least 50% of countries are included in the NRI. Despite the absence of an absolute golden standard, the JRC-team suggests to include only indicators with a maximum one-third of missing values (33%). When an indicator represents a very specific and central concept, also a looser threshold of 40% missing countries could be integrated in the structure.

According to this principle, the following indicators should be taken under observation (percentage of missing values in parenthesis): 1.1.6 International Internet (33.8%), 1.1.7 internet access in the schools (44.6%), 1.3.3. Robot density (56.9%), 2.1.2. ICT skills (44.6%), 4.3.2. SDG4 Quality education (40.8%). These indicators could be the focus of future refinement, with the aim of improving their coverage or excluding/modifying them.

The presence of outliers, which could potentially bias the effect of the indicators on the aggregates, was properly identified by developers: when the variables have simultaneously absolute skewness greater than 2.0 and kurtosis greater than 3.5 the indicator was treated. Developers report treatment of fourteen indicators. They treated them differently depending on the number of extreme values. Five indicators were winsorized via eliminating the value affecting the distribution and assigning to it the next highest/lowest value method. The process continues until the reported skewness and/or kurtosis fall within the ranges specified above. Nine indicators, with a high number of extreme values (more than five) were transformed using the logarithmic formula. From the analysis of the JRC-COIN there are four indicators (1.1.4, 1.1.5, 2.1.1, 2.2.5) that still report skewness and/or kurtosis beyond the above threshold. All of them show negative skewness, meaning that the outliers are

Appendix III: JRC Statistical Audit of the 2021 Network Readiness Index

low outliers. It happens when the country with the minimum value has a value largely below the others. It is the case of all four variables.

In particular, variables 1.1.4 and 2.1.1 are the result of an extensive measure, meaning that they depend on the concept they are representing and the dimension of the countries. The developers are aware that these elements could carry information on population dimension together with the specific meaning, but it is their primary intention to not lose a point of view on the dimension of the penetration of the specific communication systems. The denomination by – for instance – the population, would shrink the concept to a rate, while the developers are trying to assess the actual magnitude of the system. In order to understand the impact of the two extensive variables, the JRC-COIN team performed a sensitivity analysis comparing the official NRI ranks and the ranks that would result from the exclusion of the two variables. The difference between the two models does not seem to be particularly large and is presented in Section 5.

The JRC-COIN suggests taking the four variables underlined in the last two paragraphs as good candidates for further refinement in future editions.

Some indicators are constituted by other composite indicators and scores, whose composition, methodology and statistical coherence are not audited here. As a general suggestion, the JRC-COIN proposes to keep the amount of complex values to a minimum so the inexperienced reader can grasp the meaning of indicators by their names and the risk of overlaps is reduced to the minimum. In the NRI, most of the composite indicators are grouped in the Impact pillar, easing the interpretation of their role in the index.

4. Normalisation

The indicators are rescaled to a 0–100 scale using the MIN-MAX formula, with 0 as the lowest score achieved by countries, and 100 as the highest, which is a common and usually desired practice in the composite indicators' construction. The normalisation formula is selected in order to obtain higher scores representing better outcomes. The direction of some indicators may not be extremely intuitive for a non-expert reader, we suggest reconsidering the naming of some of the variables or be sure to supply clear explanations in the report. Further analysis of this aspect could be find in the previous audit and is not included for space reasons (note 1).

5. Statistical coherence

The statistical coherence is based on a multi-level analysis of the correlations among indicators and of indicators and aggregates, and a comparison of the index's rankings with the ranks defined by the pillars.

5.1 Correlation analysis

The statistical coherence of an index should be considered a necessary but not a sufficient condition for a sound index. Given that the statistical coherence is mostly based on correlations, the correspondence of each composite indicator to a real world phenomenon needs to be critically addressed because "correlations do not necessarily represent the real influence of the individual indicators on the phenomenon being measured" (OECD & JRC, 2008). This relies on the interplay between both conceptual and statistical soundness. The degree of coherence between the conceptual framework and the statistical structure of the data is an important factor for the reliability of an index, among other things.

Appendix III: JRC Statistical Audit of the 2021 Network Readiness Index

The correlation analysis is used to address to what extent the data support the conceptual framework. In the ideal case, there should be positive correlations within every level of the index. This effectively ensures that the overall index scores adequately reflect the underlying indicator values. On the one hand, not significant correlations should be avoided, as they indicate lack of contribution of a specific indicator to a higher aggregation level. On the other hand, redundancy, too high correlations, should also be avoided. If two indicators are collinear, this may amount to double counting (and therefore over-weighting) the same phenomenon making the aggregation redundant. JRC team normally set two thresholds: 0.3, after which two indicators are conspired to share a meaningful amount of their information and can be aggregated or that an indicator is contributing to its higher aggregation level; and 0.92 after which two indicators should be considered with care since they may represent very similar concepts, and at risk of double counting. When this high level of correlation is observed between and indicator and an aggregate, it is possible that the indicator is dominating the higher aggregation level especially if the other elements of the group have largely lower correlation.

5.1.1 Correlation analysis between indicators and aggregates

The exploration of correlations among indicators in the same sub-pillar shows that most of the sub-pillars are statistically consistent, many correlations are above 0.33 and below 0.93, negative correlations are rare and none of them is below -0.33. The NRI is therefore, in general, statistically coherent at the indicator level. There are some exceptions to this general rule.

For example, indicator 1.1.4 SMS sent by population 15-69, has very low correlation (below 0.33) with most of the indicators in his sub-pillar and pillar. Exploring the correlations of 1.1.4 with the rest of the framework, we observe the same pattern. This is probably due to the extensive nature of the variable used, which is not computed per-capita, and hence the information it carries is related to the population dimension. The same can be observed for variable 2.1.1 Active mobile broadband subscriptions (count).

There are two indicators in pillar 4 in a similar situation. On the one hand, indicator 4.1.4 Growth rate of GDP per person engaged is not correlated with other indicators measuring the impact of technology. Probably developed economies, with lower GDP growth rates, are those that register patents, manufacture and export technology (4.1.1, 4.1.2, 4.1.3). A solution might be to use GDP level rather than growth rate. On the other hand, 4.3.4. SDG 7: Affordable and Clean Energy SDG 7 is also not correlated with other indicators of pillar 4, and only slightly correlated with the sub-pillar and pillar.

Correlations of indicators with pillars and overall index are in general very high (Table 2).The are few indicators whose association with their pillar is below the threshold (0.33). They are the same listed in the previous paragraph, namely 1.1.4. SMS sent by population 15-69 in pillar 1, 2.1.1. Active mobile broadband subscriptions in pillar 2, and 4.1.4. Growth rate of GDP per person engaged and 4.3.4. SDG 7: Affordable and Clean Energy in pillar 4. These indicators seems also under-represented in the overall index.

Few indicators display very high correlation with their pillars. The correlations of one indicator, 1.3.1. Adoption of emerging technologies, with its sub-pillar, 1.3 future of technology, is beyond the threshold. There are no other indicators displaying correlations with their sub pillars, pillars and the index beyond the threshold. Although seven indicators are close to the threshold, their correlation with the overall index is between 0.90 and 0.92.

TABLE A-II.2: CORRELATIONS BETWEEN INDICATORS, PILLARS AND OVERALL INDEX

			p.01	p.02	p.03	p.04	NRI
1. Technology	1.1.1. Mobile tariffs		0.84	0.83	0.81	0.81	0.85
	1.1.2. Handset prices		0.87	0.83	0.84	0.82	0.87
	1.1.3. Internet access		0.81	0.79	0.79	0.79	0.82
	1.1.4. SMS sent by population 15-69	Access	0.12	0.11	0.07	-0.01	0.08
	1.1.5. Population covered by at least a 3G mobile network		0.55	0.54	0.56	0.55	0.57
	1.1.6. International Internet bandwidth		0.53	0.48	0.33	0.35	0.45
	1.1.7. Internet access in schools		0.83	0.78	0.80	0.81	0.83
	1.2.1. GitHub commits		0.80	0.75	0.80	0.75	0.80
	1.2.2. Wikipedia edits		0.79	0.77	0.79	0.77	0.80
	1.2.3. Internet domain registrations	Content	0.75	0.67	0.71	0.65	0.72
	1.2.4. Mobile apps development		0.86	0.85	0.85	0.86	0.88
	1.2.5. AI scientific publications		0.75	0.75	0.66	0.67	0.73
	1.3.1. Adoption of emerging technologies		0.93	0.88	0.87	0.85	0.92
	1.3.2. Investment in emerging technologies	Future Technology	0.82	0.72	0.73	0.71	0.77
	1.3.3. Robot density		0.73	0.75	0.61	0.62	0.72
	1.3.4. Computer software spending		0.74	0.68	0.64	0.61	0.69
2. People	2.1.1. Active mobile broadband subscriptions		0.19	0.24	0.11	0.12	0.17
	2.1.2. ICT skills		0.73	0.71	0.77	0.71	0.76
	2.1.3. Use of virtual social networks	Individuals	0.76	0.80	0.74	0.79	0.79
	2.1.4. Tertiary enrollment		0.74	0.83	0.77	0.75	0.80
	2.1.5. Adult literacy rate		0.65	0.72	0.63	0.63	0.69
	2.2.1. Firms with website		0.78	0.82	0.78	0.79	0.81
	2.2.2. GERD financed by business enterprise		0.76	0.78	0.71	0.73	0.77
	2.2.3. Professionals	Businesses	0.81	0.83	0.82	0.80	0.84
	2.2.4. Technicians and associate professionals		0.82	0.84	0.82	0.78	0.84
	2.2.5. Annual investment in telecommunication services		0.54	0.60	0.51	0.46	0.55
	2.2.6. GERD performed by business enterprise		0.72	0.76	0.65	0.70	0.73
	2.3.1. Government online services		0.77	0.83	0.82	0.78	0.82
	2.3.2. Publication and use of open data	Government	0.79	0.83	0.79	0.75	0.81
	2.3.3. Government investment in emerging technologies		0.79	0.72	0.69	0.70	0.75
	2.3.4. R&D and higher education expenditure by governments		0.69	0.71	0.68	0.59	0.69
3. Governance	3.1.1. Secure Internet servers		0.89	0.88	0.91	0.87	0.92
	3.1.2. Cybersecurity		0.73	0.74	0.78	0.71	0.76
	3.1.3. Online access to financial account	Trust	0.73	0.70	0.80	0.64	0.75
	3.1.4. Internet shopping		0.90	0.88	0.91	0.85	0.91
	3.2.1. Regulatory quality		0.87	0.83	0.92	0.85	0.90
	3.2.2. ICT regulatory environment		0.50	0.50	0.61	0.46	0.54
	3.2.3. Legal framework's adaptability to emerging technologies	Regulation	0.92	0.86	0.85	0.84	0.90
	3.2.4. e-commerce legislation		0.50	0.48	0.57	0.57	0.55
	3.2.5. Privacy protection by law content		0.31	0.32	0.43	0.32	0.36
	3.3.1. E-Participation	Inclusion	0.74	0.82	0.80	0.78	0.81
	3.3.2. Socioeconomic gap in use of digital payments		0.70	0.67	0.80	0.65	0.73
	3.3.3. Availability of local online content		0.91	0.87	0.87	0.88	0.91
	3.3.4. Gender gap in Internet use		0.38	0.41	0.47	0.46	0.45
	3.3.5. Rural gap in use of digital payments		0.41	0.41	0.51	0.36	0.44

4. Impact	4.1.1. High-tech and medium-high-tech manufacturing	Economy	0.71	0.71	0.67	0.72	0.73
	4.1.2. High-tech exports		0.62	0.63	0.61	0.71	0.66
	4.1.3. PCT patent applications		0.89	0.91	0.88	0.85	0.91
	4.1.4. Growth rate of GDP per person engaged		-0.20	-0.21	-0.16	-0.06	-0.17
	4.1.5. Prevalence of gig economy		0.73	0.64	0.65	0.66	0.69
	4.1.6. ICT services exports		0.38	0.33	0.40	0.50	0.41
	4.2.1. Happiness	Quality of life	0.77	0.76	0.81	0.84	0.82
	4.2.2. Freedom to make life choices		0.46	0.42	0.49	0.60	0.50
	4.2.3. Income inequality		0.47	0.47	0.47	0.59	0.51
	4.2.4. Healthy life expectancy at birth		0.79	0.83	0.78	0.87	0.84
	4.3.1. SDG 3: Good Health and Well-Being	SDGs	0.82	0.86	0.79	0.83	0.85
	4.3.2. SDG 4: Quality Education		0.77	0.77	0.81	0.83	0.83
	4.3.3. Females employed with advanced degrees		0.76	0.81	0.80	0.79	0.81
	4.3.4. SDG 7: Affordable and Clean Energy		0.30	0.28	0.26	0.33	0.30
	4.3.5. SDG 11: Sustainable Cities and Communities		0.73	0.70	0.71	0.79	0.75

Numbers represent the Pearson correlation coefficients. Good correlations (i.e. Pearson correlation coefficients greater than 0.30 and lower than 0.92) are written in black. Correlations with low values (between -0.30 and 0.30) are written in grey. Correlations at risk of redundancy (here >0.91) are written in red. There are no correlations with meaningful negative value (i.e <-0.30). Source: Elaborated by European Commission's Joint Research Centre, 2020.

5.1.2 Correlation analysis between sub-pillars, pillars and index

The values in Table 3 represent the correlation between the aggregates. This level is the most important as it represents the consistency of the general concepts. All pillars appear consistent, with the sub-pillars being well correlated with each other. Correlations between sub-pillars and pillars and the index show again that the NRI has a strong correlation structure being too high correlations (written in red) the main concern. It is important to notice how a correlation of 0.92, corresponds to the possibility of explaining 85% of the variance of one variable using the other.

In the case of the NRI, some sub-pillars tend to be extremely correlated with their pillar. That is the case of sub-pillars 1.1 Access and 1.2 Content and pillar 1 (0.94), sub-pillars 3.1 Trust and 3.3 Inclusion and pillar 3 (0.97 and 0.94 respectively). However, also the other sub-pillars and pillars have a high correlation. Considering this, there are no sub-pillars dominating their groups, but still there is a large room for simplification.

The highest aggregation step, between pillars and from pillars to NRI, also displays very high correlations, all above 0.9. High statistical reliability among the main components can be the result of redundancy of information. Overall, NRI indicators, pillars and sub-pillars seem to be measuring similar phenomena. The exclusion of some elements from the framework will probably have a small effect on the final result. Keeping in mind the importance of parsimony, the reduction in the number of indicators could be an interesting option that the JRC-COIN suggests for future editions.

In Figure 1 the relation between pillars and the index is visualised. The structure of the NRI Index allows for a dual narrative. On the one hand, it's a strong index in terms of statistical consistency that shows that ICT deployment is a multifaceted phenomenon where technology, users and several aspects of ICT regulation go hand in hand, especially in developed economies with high quality of life. On the other hand, taking into account several generally accepted problems of ICT deployment, the picture may reflect the repetition of some concepts and even double counting of them. Possible suggestions for the future may be also centred on the exploration of new indicators capturing vaster and more specific aspects of ICT deployment. For instance, Artificial intelligence transparency, data portability, data sharing, data markets, and antitrust concerns digital economy paradoxes.

Appendix III: JRC Statistical Audit of the 2021 Network Readiness Index

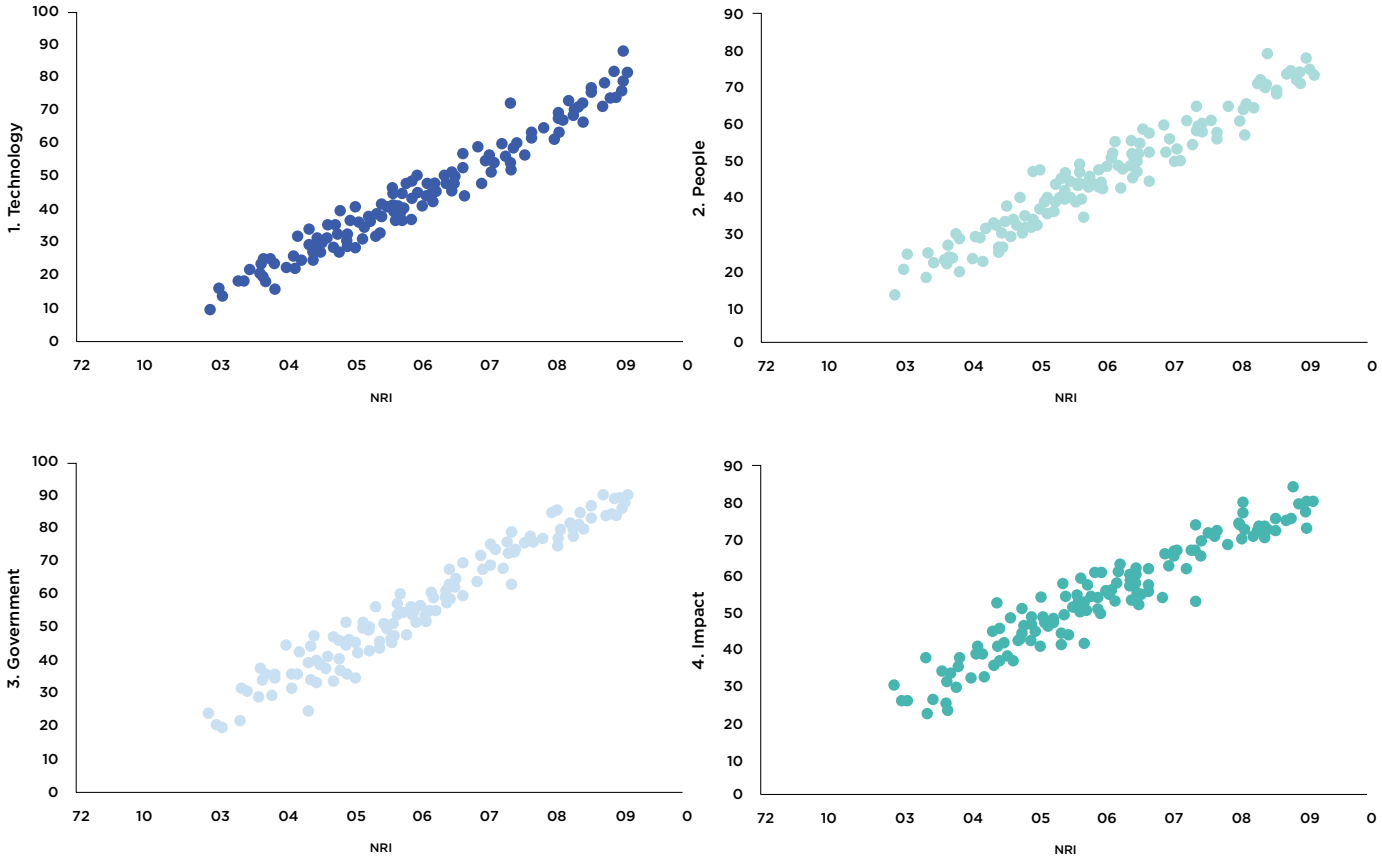
TABLE A-II.3: CORRELATIONS BETWEEN SUB-PILLARS, PILLARS AND OVERALL INDEX.

Pillars & sub-pillars		1. Technology	2. People	3. Governance	4. Impact	Index
1.1 Access	sp.01	0.94	0.91	0.89	0.87	0.93
1.2 Content	sp.02	0.94	0.91	0.92	0.88	0.94
1.3 Future Technology	sp.03	0.90	0.81	0.78	0.77	0.84
2.1 Individuals	sp.04	0.76	0.85	0.75	0.77	0.80
2.2 Businesses	sp.05	0.87	0.92	0.84	0.82	0.89
2.3 Governments	sp.06	0.90	0.92	0.88	0.83	0.91
3.1 Trust	sp.07	0.92	0.90	0.97	0.87	0.95
3.2 Regulation	sp.08	0.84	0.81	0.91	0.83	0.88
3.3 Inclusion	sp.09	0.86	0.87	0.94	0.85	0.91
4.1 Economy	sp.10	0.83	0.80	0.80	0.88	0.85
4.2 Quality of life	sp.11	0.78	0.77	0.80	0.91	0.84
4.3 SDG Contribution	sp.12	0.85	0.86	0.85	0.91	0.89
1. Technology	p.01	1.00	0.94	0.93	0.91	0.98
2. People	p.02	0.94	1.00	0.92	0.90	0.97
3. Governance	p.03	0.93	0.92	1.00	0.91	0.97
4. Impact	p.04	0.91	0.90	0.91	1.00	0.96

Numbers represent the Pearson correlation coefficients. Good correlations (i.e. Pearson correlation coefficients greater than 0.30 and lower than 0.92) are written in black. Correlations with low values (between -0.30 and 0.30) are written in grey. Correlations at risk of redundancy (here >0.91) are written in red. There are no correlations with meaningful negative value (< -0.30). Source: Elaborated by European Commission's Joint Research Centre, 2020.

Appendix III: JRC Statistical Audit of the 2021 Network Readiness Index

FIGURE A-II.1: RELATIONSHIP BETWEEN THE PILLARS AND THE NRI



Source: European Commission's Joint Research Centre, 2021.

Appendix III: JRC Statistical Audit of the 2021 Network Readiness Index

5.2 Added value of the Network Readiness Index

The high statistical reliability and coherence of an Index may sometimes determine a partial overlap among the concepts represented in the pillars. For 19% to 28% of the countries included in the index, the NRI ranking and the pillar's rankings differ by 10 positions or more (see Table 4). This suggests that the NRI ranking highlights aspects of countries' network readiness that do not emerge by looking into the four pillars separately, but only for a minority of countries. This result suggests a strong concordance among the aggregates, and implies the presence of room for simplification. In such a situation, the developers may consider excluding some elements of the index, and hence improve readability, without jeopardising the integrity of the pillars and overall Index.

TABLE A-II.4. DISTRIBUTION OF DIFFERENCES BETWEEN PILLARS AND NRI RANKINGS

Shift respect to NRI	Technology	People	Governance	Impact
More than 30 positions	0.0%	1.5%	0.0%	3.1%
11 to 30 positions	19.2%	20.8%	23.8%	25.4%
More than 10 positions	19.2%	22.3%	23.8%	28.5%
6 to 10 positions	26.2%	30.0%	18.5%	20.8%
Up to 5 positions	50.0%	36.2%	55.4%	40.8%
0 positions	4.6%	11.5%	2.3%	10.0%

Source: European Commission, Joint Research Centre, 2021.

Appendix III: JRC Statistical Audit of the 2021 Network Readiness Index

6. Impact of modelling assumptions on the NRI results

A fundamental step in the statistical analysis of a composite indicator is to assess the effect of different modelling assumptions on the scores and country rankings. Despite the efforts at the development process, there is an unavoidable subjectivity (or uncertainty) in the resulting choices. This subjectivity can be explored by comparing the results obtained under different – alternative – assumptions.

The literature on this topic suggests to assess the robustness of the index by means of a Monte Carlo simulation and by applying a multi-modelling approach, assuming 'error free' data as eventual errors have already been corrected in the preliminary stage of the index construction (Saisana, D'Hombres, Saltelli 2011).

The NRI 2021, as most composite indicators, is the outcome of several choices concerning, among other things, the underlying theoretical framework, the indicators selected, the normalisation method, the weights assigned, and the aggregation method. Some of these choices may be based on expert opinion or other considerations, driven by statistical analysis or by the need to ease communication and draw attention to specific issues.

This section aims to test the impact of varying some of these assumptions within a range of plausible alternatives in an uncertainty analysis. The objective is therefore to try to quantify the uncertainty in the ranks of the NRI 2021, which can demonstrate the extent to which countries can be differentiated by their scores.

The modelling issues considered in the robustness assessment of the NRI 2021 are the aggregation formula and pillars' weights (note 2).

Aggregation formula. The NRI team opted for the arithmetic averaging of the four pillars, which implies a strong compensability allowing for an outstanding performance in some aspects to balance the weaknesses in others and vice-versa. This approach puts at the same level countries with both high and low results with more "balanced" countries showing average results. To assess the impact of this choice, the JRC included in the analysis a comparison with the geometric mean. The comparison of the two aggregation approaches should be able to highlight countries with unbalanced profiles, since the geometric mean tends to penalize low values, especially in the presence of other values that are not so low (unbalanced profiles).

Weights. The simulation comprised 1,000 runs of different set of weights for the pillars constituting the Index. In the 1,000 runs, the weights are the result of a random extraction based on uniform continuous distributions centred in the reference value (1/4) plus or minus 20% of this value. All simulated 1,000 runs are then used in all the scenaria determined by the other assumptions.

As summarised in Table 5, four models were tested comparing the different aggregation formulas, the different imputation methods and applying the 1,000 runs of different sets of weights resulting in a total of 2,000 runs of simulations.

Appendix III: JRC Statistical Audit of the 2021 Network Readiness Index

TABLE A-II.5. ALTERNATIVE ASSUMPTIONS CONSIDERED IN THE ANALYSIS

	Reference	Alternative
I. Aggregation formula	Arithmetic average	Geometric average
II. Weighting system	Equal weights	Varying
Technology	0,25	U [0.2; 0.3]
People	0,25	U [0.2; 0.3]
Governance	0,25	U [0.2; 0.3]
Impact	0,25	U [0.2; 0.3]

Source: European Commission, Joint Research Centre, 2021.

The main results obtained from the robustness analysis are shown in Figure 2, with median ranks and 90% intervals computed across the 2,000 Monte Carlo simulations. Countries are ordered from best to worst according to their NRI rank where the blue dots represent the median rank among the simulations. For each country, the error bars represent the 90% interval across all simulations, that is, from the 5th to the 95th percentile of the countries' rank among all the simulations.

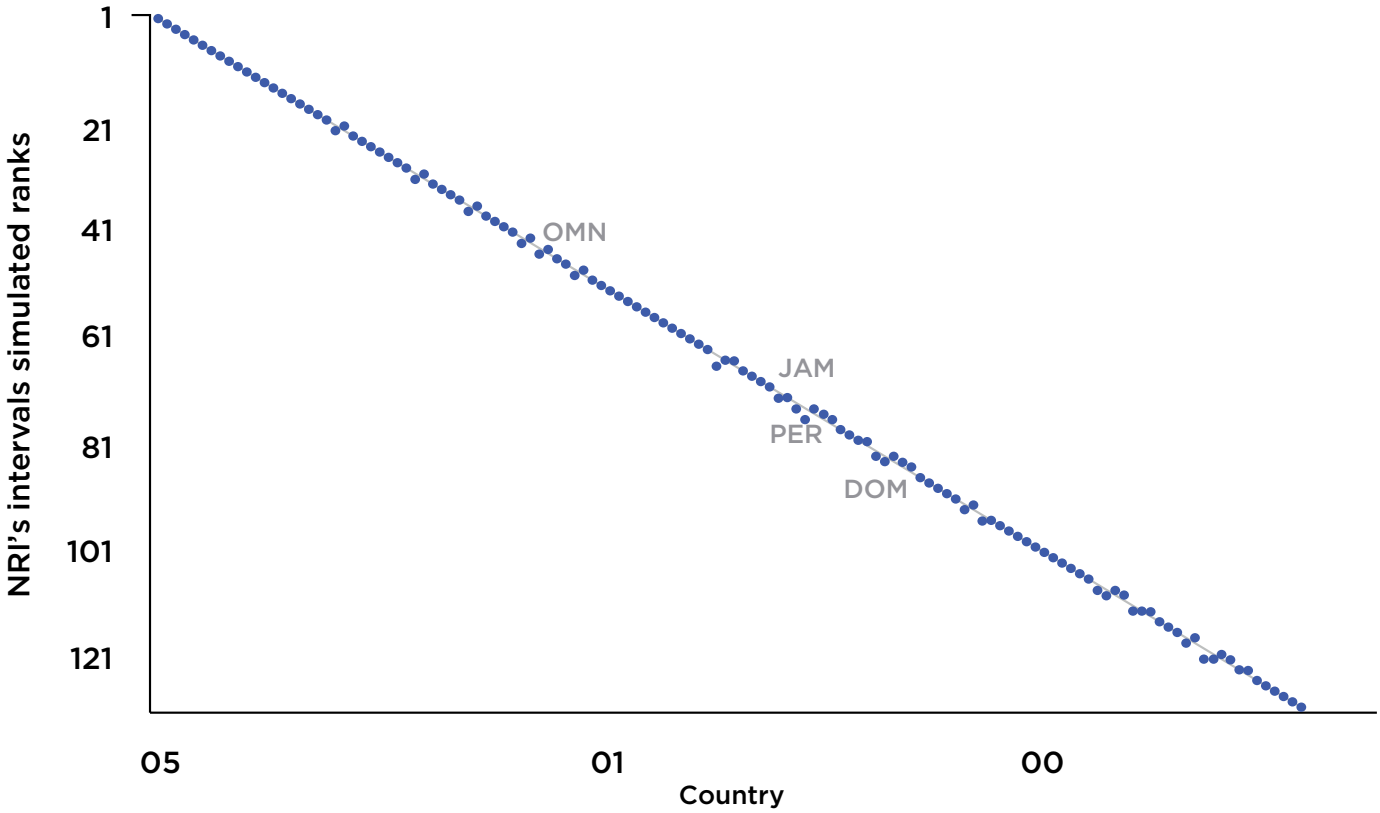
NRI ranks are shown to be representative of a plurality of scenarios and extremely robust to changes in the assumptions. Considering the median rank across the simulated scenarios, as being representative of these scenarios, then the fact that the NRI rank is close to the median rank (less than three positions away) for 100% of the countries suggests that NRI is a suitable and stable summary measure. Furthermore, the majority of the countries' ranks hardly vary across simulations (less than 5 positions for all countries but four). These results imply that the NRI ranks are robust to changes in the pillars' weights and aggregation formula.

Only the Dominican Republic, Jamaica, Oman and Peru are showing a simulated interval larger than 5 positions but still smaller than 10. This result is a direct effect of the correlation structure among pillars and Index. It makes the NRI ranks very stable for all countries.

Overall, country ranks in NRI are highly robust to changes for all the countries considered, enough to allow for meaningful inferences to be drawn. For full transparency and information, Table 6 reports the NRI country ranks together with the simulated intervals (central 90 percentiles observed among the 2,000 scenarios) in order to better appreciate the robustness of these ranks to the computation methodology, and to ease the analysis of the behaviour of specific countries respect to perturbations.

Appendix III: JRC Statistical Audit of the 2021 Network Readiness Index

FIGURE A-II.2: ROBUSTNESS ANALYSIS ON RANKS (NRI RANK VS MEDIAN RANK AND 90% INTERVALS).



Source: European Commission, Joint Research Centre, 2021.

Appendix III: JRC Statistical Audit of the 2021 Network Readiness Index

TABLE A-II.6. NRI RANK AND 90% INTERVAL OF ALL COUNTRIES

Country	NRI ranks	Interval	Country	NRI Ranks	Interval
Netherlands	1	[1-1]	Indonesia	66	[64-66]
Sweden	2	[2-3]	India	67	[66-68]
Denmark	3	[3-4]	Georgia	68	[68-69]
United States	4	[3-5]	Moldova	69	[68-70]
Finland	5	[4-6]	South Africa	70	[68-72]
Switzerland	6	[5-7]	Mauritius	71	[71-76]
Singapore	7	[6-7]	Jordan	72	[70-74]
Germany	8	[8-8]	Peru	73	[71-77]
Norway	9	[9-9]	Jamaica	74	[72-78]
United Kingdom	10	[10-11]	Panama	75	[71-76]
Canada	11	[10-11]	Azerbaijan	76	[73-77]
South Korea	12	[12-12]	Egypt	77	[74-77]
Australia	13	[13-14]	Sri Lanka	78	[77-78]
France	14	[13-14]	Iran	79	[79-81]
Austria	15	[15-15]	Albania	80	[79-81]
Japan	16	[16-17]	Morocco	81	[79-82]
Luxembourg	17	[16-17]	Dominican Republic	82	[81-87]
Belgium	18	[18-19]	Philippines	83	[82-87]
Ireland	19	[18-20]	Kenya	84	[82-86]
New Zealand	20	[19-21]	Trinidad and Tobago	85	[83-86]
Estonia	21	[21-22]	Bosnia and Herzegovina	86	[83-87]
Israel	22	[20-22]	Tunisia	87	[84-87]
Spain	23	[23-23]	Paraguay	88	[88-90]
Czech Republic	24	[24-24]	Mongolia	89	[88-90]
Iceland	25	[25-25]	Ecuador	90	[88-91]
Slovenia	26	[26-26]	Cabo Verde	91	[91-93]
Malta	27	[27-28]	Kyrgyzstan	92	[91-93]
Italy	28	[27-29]	Lebanon	93	[89-93]
China	29	[28-32]	Bolivia	94	[94-97]
Lithuania	30	[29-32]	Bangladesh	95	[94-96]
Portugal	31	[30-31]	Ghana	96	[94-97]
Hong Kong	32	[29-34]	Pakistan	97	[94-98]
Poland	33	[32-34]	El Salvador	98	[97-99]
United Arab Emirates	34	[33-34]	Senegal	99	[98-100]
Slovakia	35	[35-36]	Algeria	100	[99-101]

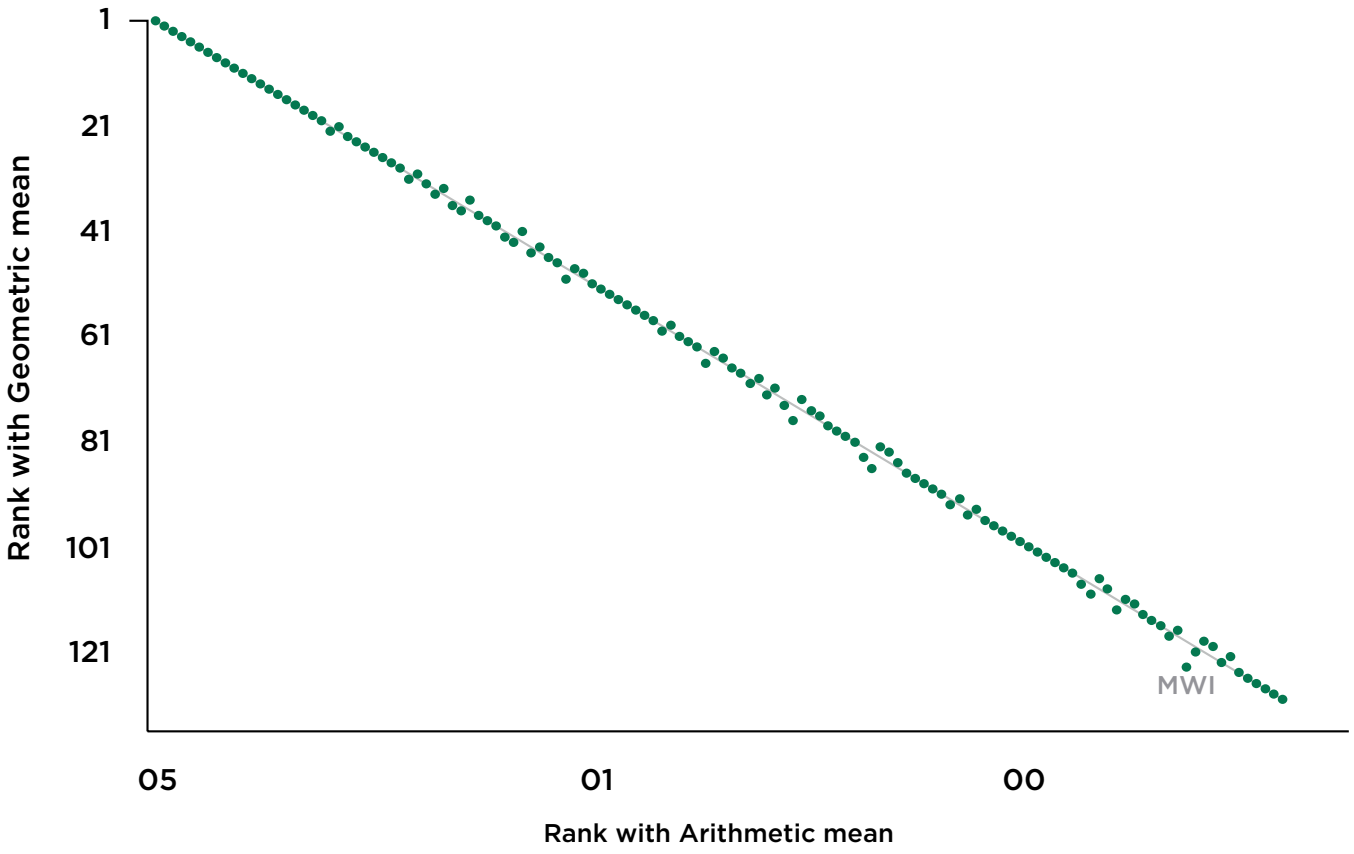
Appendix III: JRC Statistical Audit of the 2021 Network Readiness Index

Country	NRI ranks	Interval	Country	NRI Ranks	Interval
Latvia	36	[36-38]	Rwanda	101	[100-102]
Hungary	37	[35-37]	Botswana	102	[101-102]
Malaysia	38	[37-39]	Nigeria	103	[103-105]
Cyprus	39	[38-40]	Honduras	104	[104-105]
Saudi Arabia	40	[39-40]	Guatemala	105	[103-105]
Croatia	41	[41-43]	Cambodia	106	[106-107]
Qatar	42	[41-44]	Tanzania	107	[106-110]
Russia	43	[41-43]	Côte d'Ivoire	108	[108-110]
Chile	44	[44-46]	Namibia	109	[107-110]
Turkey	45	[43-47]	Laos	110	[107-110]
Greece	46	[46-48]	Tajikistan	111	[111-114]
Romania	47	[44-48]	Zambia	112	[111-113]
Oman	48	[46-53]	Gambia	113	[111-113]
Uruguay	49	[46-50]	Cameroon	114	[113-114]
Bulgaria	50	[49-51]	Nepal	115	[115-115]
Bahrain	51	[49-53]	Uganda	116	[116-116]
Brazil	52	[49-53]	Burkina Faso	117	[117-118]
Ukraine	53	[51-53]	Mali	118	[117-118]
Thailand	54	[54-54]	Malawi	119	[119-124]
Kuwait	55	[55-55]	Madagascar	120	[120-122]
Costa Rica	56	[56-57]	Eswatini	121	[119-123]
Serbia	57	[56-57]	Zimbabwe	122	[119-123]
Argentina	58	[58-58]	Lesotho	123	[120-124]
Mexico	59	[59-60]	Guinea	124	[120-124]
Armenia	60	[59-60]	Mozambique	125	[125-125]
Kazakhstan	61	[61-61]	Angola	126	[126-126]
Montenegro	62	[62-64]	Ethiopia	127	[127-127]
Vietnam	63	[62-64]	Burundi	128	[128-128]
North Macedonia	64	[63-67]	Democratic Republic of the Congo	129	[129-129]
Colombia	65	[63-65]	Chad	130	[130-130]

Source: European Commission, Joint Research Centre, 2021.

Appendix III: JRC Statistical Audit of the 2021 Network Readiness Index

FIGURE A-II.3: SENSITIVITY ANALYSIS: COMPARISON OF RANKS ACCORDING TO ARITHMETIC AND GEOMETRIC MEAN.

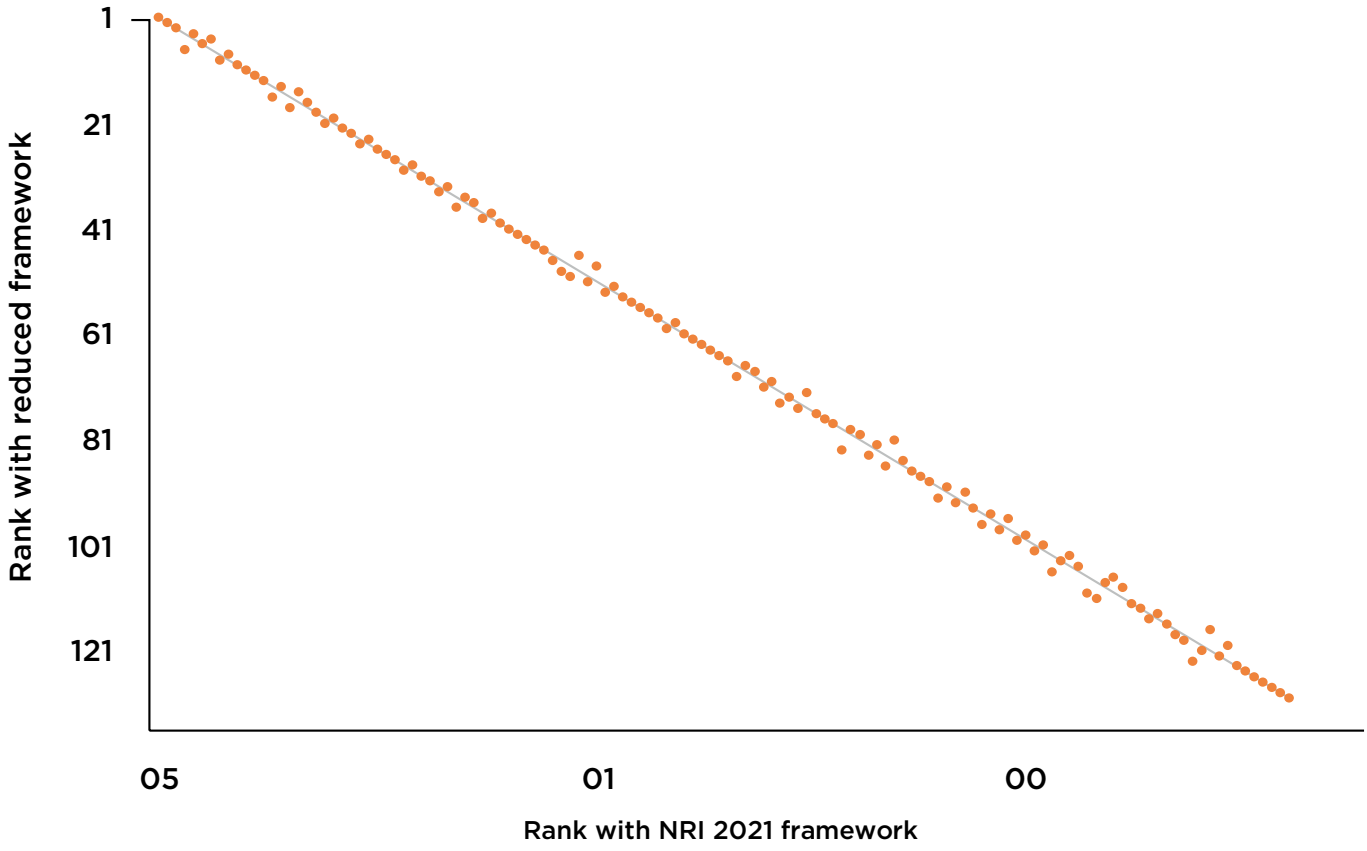


Source: European Commission, Joint Research Centre, 2021.
Note: countries are labelled when they show a shift of at least 5 positions between the two aggregation formulas.

Appendix III: JRC Statistical Audit of the 2021 Network Readiness Index

Figure A-II.4 compares NRI ranks with ranks obtained excluding the two indicators highlighted in Section 3 (1.1.4 and 2.1.1) which show poor correlations due to their definition, partially dependent on the population dimension. The differences among the two rankings are not significantly large. No country shows a difference of ranks above the five positions. This result show how small is the effect of the two indicators

FIGURE A-II.4: SENSITIVITY ANALYSIS: RANKS COMPARISON NRI VS NRI WITHOUT 1.1.4 AND 2.1.1.



Source: European Commission, Joint Research Centre, 2021.
Note: countries are labelled when they show a shift of at least 5 positions between the two treatments of missing data.

Appendix III: JRC Statistical Audit of the 2021 Network Readiness Index

The uncertainty analysis and sensitivity analysis portray the NRI as a deeply stable index. This result allows for inference on the ranks and suggests also the presence of similar concepts across the pillars. Thanks to the correlation structure of the index, the developers could consider simplifying the framework excluding some indicators, often described by the other indicators of the same sub-pillars and pillars, without any worries about the coherence of the index.

7. Conclusions

The JRC statistical audit delves into the extensive work carried out by the developers of the NRI 2021 to suggest improvements in terms of data characteristics, structure and methods used. The analysis aims to ensure the transparency of the index methodology and the reliability of the results.

The NRI 2021 is a strong index in terms of conceptual and statistical consistency. It shows that ICT deployment is a multifaceted phenomenon where technology, users and several aspects of ICT regulation go hand in hand. The data coverage of the framework is good. Most indicators contain no or very few missing values. Some indicators, 5 out of 60, may be candidates for special attention as their percentage of missing values is above what is usually recommended. Developers decided not to impute them. It is a common practice in composite indicators construction.

The index is statistically well balanced with respect to its indicators, sub-pillars and pillars. Correlations between each pillar and the respective sub-pillar are mostly significant and positive. Most of the indicators are meaningfully correlated with the index and relative pillars. The possible presence of redundancy is the only concern in the analysis of the NRI structure. The suggestion is to use the index's very stable and correlated structure to explore and open to the simplification of the framework or to some even more specific aspects of the network economy.

Treatment of outliers conducted by the NRI developers is appropriate. Despite this, four indicators are identified as good candidates for refinement in the audit because of their distribution and/or definition. The exclusion of two of these indicators is tested, verifying their limited effect on the rankings. JRC-COIN analysed a series of different choices that are made during the index construction. The results of the uncertainty analysis reveal that NRI is a robust summary measure in general, the present audit confirms that the NRI 2021 Index is reliable, with a statistically coherent framework and acknowledges the important efforts done by the developers' team.

Appendix III: JRC Statistical Audit of the 2021 Network Readiness Index

References

Groeneveld, R. A. and G. Meeden. 1984. 'Measuring Skewness and Kurtosis'. The Statistician 33: 391–99.

OECD/EC JRC (Organisation for Economic Co-operation and Development/European Commission, Joint Research Centre). 2008. Handbook on Constructing Composite Indicators: Methodology and User Guide. Paris: OECD.

Pedraza Garcia, P. de and Vollbracht, I., (2019) The semicircular flow of the data economy , EUR 29825 EN, Publications Office of the European Union, Luxembourg, 2019, ISBN 978-92-76-09232-2, doi: 10.2760/40733, JRC117362.

Saisana, M., B. D'Hombres, and A. Saltelli. 2011. 'Rickety Numbers: Volatility of University Rankings and Policy Implications'. Research Policy 40: 165–77.

Saisana, M., A. Saltelli, and S. Tarantola. 2005. 'Uncertainty and Sensitivity Analysis Techniques as Tools for the Analysis and Validation of Composite Indicators'. Journal of the Royal Statistical Society A 168 (2): 307–23.

Notes

The previous audit is included in the NRI 2020 report.

The analysis of the effect of the imputation of missing data is not included as it was already presented in the audit to the previous edition of the NRI

Back to TOC

About STL

STL is an industry-leading integrator of digital networks. With STL's 25 years of experience in Optical Fibre innovations and India-made secure 5G solutions, we enable full value of connectivity by building end to end technology solutions that make digital networks ready for tomorrow. We design and integrate these digital networks for our customers. With core capabilities in Optical Interconnect, Virtualized Access Solutions, Network Software and System Integration, we are the industry's leading end-to-end solutions provider for global digital networks. We partner with global telecom companies, cloud companies, citizen networks and large enterprises to deliver solutions for their fixed and wireless networks for current and future needs.

Learn more about:
www.stl.tech

About Portulans Institute

Co-founded in 2019 by Soumitra Dutta and Bruno Lanvin, the Portulans Institute (PI) is an independent nonprofit, nonpartisan research and educational institute based in Washington DC.

Our Mission

Portulans Institute's areas of expertise include technology competitiveness, innovation readiness, and people and global talent. Our mission includes:

- To develop cross-community knowledge and dialogue on how people, technology, and innovation contribute to sustainable and inclusive growth.
- To inform policymakers by producing independent, data-based research.
- To collaborate with private sector leaders in driving a business agenda that invests in people, technology and innovation.
- To host and co-organize events and conferences on the above issues affecting human-centric sustainable economic prosperity.

Where our name and logo come from

Portulans (or portolans) are ancient nautical maps, first made in the 13th century in the Mediterranean basin and later expanded to include other regions. The word portolan comes from the Italian portulano, meaning "related to ports or harbors," and which since at least the 17th century designates "a collection of sailing directions," In these maps, only a few harbors were visible, and much of the coastlines were hypothetical.

This is how we see our mission: In an uncertain world, much is yet to be explored, and many opportunities have yet to be identified. Like the navigators of the 16th century, modern leaders have to make decisions on the basis of imperfect information and incomplete maps.

The Portulans Institute aims to provide them with the best available data and analysis, and the directions that they need. This is why our logo combines a compass and pi, which is not only a powerful number found in geometry, algebra, physics, and arts, but also an infinite series of digits, with no pre-written rule telling us what the next one might be.

Learn more at:
www.portulansinstitute.org
and www.networkreadinessindex.org

The NRI Team



Prof. Bruno Lanvin
Co-editor and Co-author

Bruno Lanvin is Co-Founder of Portulans Institute and INSEAD Distinguished Fellow. He worked for the World Bank, where he was inter alia Senior Advisor for E-strategies, Regional Coordinator (Europe and Central Asia) for ICT and e-government issues, and Chairman of the Bank's e-Thematic Group. Since 2002 he has been co-authoring the Global Information Technology Report (INSEAD-World Economic Forum), now the Network Readiness Index Report (Portulans Institute), and he is currently (and has been since 2007) the co-editor of the Global Innovation Index Report (WIPOPortulans Institute). From June 2001 to December 2003, he was the Manager of the Information for Development Program (infoDev) at the World Bank. In 2000, Dr Lanvin was appointed Executive Secretary of the G8-DOT Force. Until then, he occupied several high-level positions at the United Nations in Geneva and New York, including that of Chief of Cabinet of the Director General. Dr Lanvin holds a BA in Mathematics and Physics from the University of Valenciennes (France), an MBA from Ecole des Hautes Etudes Commerciales (HEC) in Paris, and a PhD in Economics from the University of Paris I (La Sorbonne) in France. He is also an INSEAD alumnus (IDP-C). A frequent speaker at high-level meetings, he advises a number of global companies and governments and has been a member of numerous boards, including those of IDA Infocomm (Singapore), ICANN, GovTech (Singapore), the Mohammed Bin Rashid Center for Government Innovation (United Arab Emirates), IPWatch, and the Association for Accountability and Internet Democracy (AAID).



Prof. Soumitra Dutta
Co-editor and Co-author

Soumitra Dutta is Professor of Management and the former founding dean of the Cornell SC Johnson College of Business. Previously, he was the Anne and Elmer Lindseth Dean of the Samuel Curtis Johnson Graduate School of Management. Prior to joining Cornell in 2012, he was on the faculty and leadership team of INSEAD. Mr. Dutta is an authority on technology and innovation policy, and has engaged in a number of multi-stakeholder initiatives to shape global, regional, and industry agendas. He is the co-editor and author of The Global Information Technology Report, published by the World Economic Forum, and The Global Innovation Index, published by the World Intellectual Property Organization.

Mr. Dutta is on the global boards of Sodexo and Dassault Systèmes, and is a member of the Shareholder Council of Chicago-based ZS Associates. He serves on the advisory boards of several business schools, including HEC, Montreal; ESADE, Barcelona; and ESCP, Paris. He has co-founded two firms, including Fisheye Analytics, which WPP group acquired. He is currently Chair of the Board of Directors of the Global Business School Network.

Mr. Dutta was previously the Chair of AACSB, the leading global body for the accreditation of business schools. He is a member of the Davos Circle, an association of long-time participants in the World Economic Forum Annual Meeting in Davos. He is also the co-chair of the World Economic Forum's Global Future Council on Innovation Ecosystems.

Mr. Dutta received a Bachelor of Technology in Electrical Engineering and Computer Science from the Indian Institute of Technology (IIT), New Delhi, a Master of Science in both Business Administration and Computer Science, and a PhD in Computer Science from the University of California at Berkeley. In 2017, he received the Distinguished Alumnus Award from his alma mater, IIT Delhi.



Rafael Escalona Reynoso
Portulans Institute, CEO

Rafael Escalona Reynoso has been Senior Research Associate and Data Scientist for Portulans Institute since 2020. Before joining the Portulans Team he was the Lead Researcher at The Global Innovation Index (GII) from 2013 to 2020. He is a leader leveraging a unique combination of data and policy analysis and public relations skills plus an ability to influence long-term strategy by demonstrating thought leadership on project management.

His previous professional experience was as a member of the Trade and Foreign Investment Advisory Board at the office of the President of Mexico and as Economic, Science and Technology Policy Advisor to the Senate of Mexico (LVIII Legislature). As part of the congressional advisory group he led research on the economic effects of international biosafety regulations on Mexico's basic research, industry, and trade and directed comparative analyses on international food and drug safety policies and regulations. These efforts assisted with the enactment of Mexico's biosafety of genetically modified organisms law (DOF 18-03-2005) and of the regulatory framework for Mexico's Federal Commission for Sanitary Risks (DOF-13-04-2004).

His research experience at Cornell University includes comparative studies between Mexico and Spain's National Systems of Innovation and regulatory aspects of modern biotechnology and the biosafety of genetically modified organisms (GMOs), and on the reach and scope of intellectual property rights (IPRs) in the information technologies era. He holds a PhD in Regional Planning with concentrations on Science and Technology Studies and Risk Analysis, Communication, and Policy and a Master of Public Administration with a concentration in Science, Technology, and Infrastructure Policy from Cornell University. He also holds a Bachelor of Arts in Economics from Universidad Panamericana in Mexico.



Mariam Chaduneli
Project Manager

Mariam is a Policy Associate who has worked extensively on research and policy analysis in the area of technology policy, and digital rights, cybercrime and emerging threats. As the NRI 2021 Project Manager she has been in charge of monitoring relevant national and international policy developments and producing research content relating to digital readiness, innovation policy, and digital transformation. She has also been coordinating and managing communications, and administrative work across key workstream and stakeholders of the Network Readiness Index 2021.

Mariam has a master's degree in Innovation, Technology, and the Law from the University of Edinburgh focusing on

the interplay of law, technology, and digital rights. Prior to obtaining the UK Government's Chevening Scholarship for her master's studies, she was a Chief Project Management Specialist in the Ministry of Internal Affairs of Georgia where she gained hands-on experience initiating and managing international projects with public and private sector organizations operating on a national, regional and international level.



Sylvie Antal
Digital Strategy Manager

Sylvie is a Policy Research Associate with prior experience in digital privacy issues relating to minors and vulnerable populations, technology policy development research, and technology for international development. Prior to joining Portulans Institute, she spent time interning at the Family Online Safety Institute and the U.S. Federal Communications Commission, and was a Technology and Innovations writer for The Borgen Project.

Sylvie holds a Bachelor of Science in Information Science from the University of Michigan's School of Information, where she was a member of Tech for Social Good and an affiliate with The Center for Ethics, Society, and Computing. She is currently working towards completing her Masters degree in Human-Computer Interaction.



Abdellah Bouhamidi
Data Scientist

Abdellah is the Practice Leader at Sustainable Development Value Ltd., a consulting practice focused on Sustainable Growth Strategy. With a background in Operations Research, an MBA from Cornell University, and more than eight years of hands-on experience providing research and advisory services for strategy and investment executives, Abdellah Bouhamidi has helped 25 client organizations across 12 industries find and activate levers for growth.

Abdellah's work benefited corporate and governmental programs by bringing the advantage of technology and analytics to the table and drawing from the best practices of sustainability to identify quick wins and opportunities for impact that add incremental value toward the SDGs, on top of increasing the benefit to shareholders and client organizations.

NRI's Technical Advisory Board (2021)



Chris Ferguson

Chris Ferguson was a member of the original senior management team that built the UK's Government Digital Service. In 2011, he was brought into the Cabinet Office to take on the digital identity challenge and created the team that developed GOV.UK Verify. In January 2015, Chris became the GDS director responsible for the digital group comprising GOV.UK, GOV.UK Verify, and the Government-as-a-Platform delivery team. In February 2017, Chris established the National, International & Research Group within GDS. This will focus on how GDS engages and collaborates with the UK's wider public sector, devolved administrations, and partner organizations worldwide. Chris is the chair of the cross-government Digital Leaders network and head of the digital profession within HM Government. Prior to his involvement with the digital transformation of public services, Chris's career mainly focused on diplomacy and security in the UK and overseas.



John Garrity

John Garrity is an economist, policy advisor, and program manager focusing on digital inclusion through pro-poor information and communications technology (ICT) policy and projects to foster universal Internet access and adoption. Currently he is an independent consultant to public sector and private sector organizations, including Connectivity Capital, a sector-focused investment management firm providing debt capital to Internet Service Providers (ISPs), UNDP as the technical advisor on a national rollout of free public WiFi in Southeast Asia, and with the UN Broadband Commission. Previously, John was the senior connectivity advisor in the Global Development Lab at USAID. Before USAID, John spent 10 years at Cisco, and prior to that, John was in the Corporate Strategy Group at the World Bank and held previous roles at the Federal Trade Commission and in state government. John has co-authored several reports on technology and development and has presented around the world on efforts to close the digital divide.



Elena Kvochko

Elena Kvochko is Chief Trust Officer working in the field of cybersecurity and started with SAP in 2020. She is a former COO of cybersecurity technologies at Bank of America, CISSP, CEH. She also served as a technology, cybersecurity, and business operations executive. Kvochko is a Certified Information Security Professional (CISSP) and Certified Ethical Hacker (CEH). She was named one of the Top 100 CIOs and is a member of the Wall Street Journal CIO Council. Kvochko was named one of Fortune magazine's Most Powerful Women International, one of the "Leading CIOs Who Happen to Be Female" by CIO Magazine, and Business Role Model of the Year by Women in IT. She is also a published author and an inventor with patents pending in security, privacy, and digital payments technology.



Irene Mia

Dr Mia is an experienced professional (economist by training) with a successful 20-year track-record in economic and policy research and on engaging with policy-makers and senior corporate leaders. Dr Mia has expertise in managing large teams with proven strategic, financial, planning and team building skills. Dr Mia holds a PHD in International Economic and Trade Law from L. Bocconi University and MA in Latin American studies from the Institute for Latin American Studies, London University. Before her recent appointment as Senior Fellow for Latin America at the International Institute for Strategic Studies (IISS), Dr Mia was the Global Editorial Director for Thought Leadership at Economist Group, Economist Intelligence Unit.



Andrew Puddephatt

Andrew is the founder and director of Cedar Partners, a network of individuals working to improve life for all, and the founder and director of Adapt, a new startup helping companies manage user data ethically. Andrew also is the chair of the Internet Watch Foundation, which helps prevent child sex abuse online, board chair of the Board of Global Partners Digital, focusing on human rights implications of Internet policy, and deputy chair of the Sigrid Rausing Trust and management committee member of European Council of Foreign Relations.



Michaela Saisana

Michaela Saisana is acting head of the Monitoring, Indicators and Impact Evaluation Unit, and she also leads the European Commission's Competence Centre on Composite Indicators and Scoreboards (COIN) at the Joint Research Centre in Italy. She has been working in the JRC since 1998, where she was awarded "best young scientist of the year" in 2004 and, along with her team, the "JRC policy impact award" for the Social Scoreboard of the European Pillar of Social Rights in 2018. As a scientist and engineer specializing in process optimization and spatial statistics, she collaborates, by auditing performance indices, with over 150 international organizations and world-class universities, including the United Nations, Transparency International, Oxfam, the World Economic Forum, INSEAD and WIPO. She is the author of about 30 articles in academic journals, 100 working papers, and a co-author of two books: 2008 OECD/JRC Handbook on Composite Indicators and 2008 Global Sensitivity Analysis-The Primer (Wiley).

NRI's Advisory Board (2021)



Dr. Hessa Al-Jaber

Dr. Hessa Al-Jaber is the chairperson of Trio Investment, a technology investment company that invests in innovative technology that addresses some of the most pressing health problems in the MENA region. As an expert in technology, media, and telecom practice, her focus is the impact of a digital economy in productivity and competitiveness. Dr. Hessa was the former and the first-ever Minister of Information and Communication Technology in Qatar. Prior to becoming a minister, Dr. Hessa held the position of Secretary General of the Supreme Council of Information and Communication Technology since its inception in 2005. Dr. Al Jaber was a member of United Nations ITU Broadband Commission for Sustainable development and a member at the Network of Global Agenda Councils of the World Economic Forum (WEF). Dr. Al Jaber is currently the Chairperson of Qatar Satellite Company, and Malomatia, in addition to being a member of several boards including Volkswagen (AG) Supervisory Board in Germany, Qatar University's Board of Regents, Qatar Museums Authority's Board. Dr. Hessa holds a Bachelor of Science in Engineering from Kuwait University, and a Master's Degree and Ph.D in Computer Science from George Washington University, Washington, DC.



Dr. Tawfik Jelassi

Tawfik Jelassi was recently appointed as an Assistant-Director General at UNESCO. He is a Professor of Strategy and Technology Management at IMD Business School in Lausanne (Switzerland). He is also Co-Director of the "Orchestrating Winning Performance" program in Lausanne, Singapore and Dubai, which is IMD's signature program and its biggest executive education offering (with more than 650 participants enrolled in it annually). Before joining IMD, Dr. Jelassi was Minister of Higher Education, Scientific Research, and Information & Communication Technologies in the post-Arab Spring Tunisian Government, which was mandated to finalize the democratic transition in the country. Dr. Jelassi was Chairman of the Board of Directors of Ooredoo Tunisia, the leading mobile telecom operator in the country. Between 2000 and 2013, he was Professor and Dean of the Business School of Ecole Nationale des Ponts et Chaussées in Paris (the oldest Grande Ecole of France). Prior to that, he was Associate Professor and Coordinator of the Technology Management academic area at INSEAD, Fontainebleau. Dr. Jelassi holds a Ph.D. degree in Management Information Systems (MIS) from the Stern School of Business at New York University (USA).



Diego Molano

Diego Molano is an international consultant on digital transformation of companies and governments. He was the minister of information and communication technologies (ICT) of Colombia from 2010 to 2015. He transformed his country with his policy plan "Vive Digital," which aims to reduce poverty and create jobs using technology. Mr. Molano has a long career in the technology industry and has had responsibilities in more than 20 countries. He has been a board member of international organizations and corporations in the telecommunications, TV, radio, and postal services sectors. He is currently senior advisor to the Inter-American Development Bank, senior advisor to McKinsey & Co. in Washington DC. Mr. Molano is an electronics engineer and economist from Xavier University in Colombia and holds an MBA from IMD in Switzerland.



Osman Sultan

Osman Sultan brings 35 years of leadership, rich with achievements in the telecom sector. His vast knowledge and expertise in the field as early as the pre-Internet period placed him as one of the pioneers in Europe, the US, Japan, and the entire MENA region. His distinguished achievements ranked him as one of the most powerful executives in the worldwide telecom industry twice on the "GTBPower100 List" in both 2010 and 2011. Sultan has developed several strategies that helped produce the profound transformations that the telecom and information sectors have been creating in our lives. Sultan has been a board member for various institutions in the telecom industry, technology space, and academic world. incl. the advisory board of the Mohammed bin Rashid School of Communications (MBRSC), the Global Blockchain Advisory Council of the WEF, the Board of Endeavor UAE, and many others.

Back to TOC

About the Network Readiness Index

The 2021 NRI is the third edition of a renewed NRI model, and it ranks a total of 130 economies based on their performance across 60 variables. This year's edition offers a review of the effects of the COVID-19 pandemic on the pace and depth of digital transformation. Although it is early to predict the full impact of this digital acceleration, the report provides a first glance at its impact on governments, businesses, and individuals.

Recognizing the pervasiveness of digital technologies in today's networked world, the index is grounded in four fundamental dimensions: Technology, People, Governance, and Impact. This holistic approach means that the NRI covers issues ranging from future technologies such as AI and the Internet of Things to the role of the digital economy in reaching the Sustainable Development Goals (SDGs).

Origins: The Network Readiness Index (NRI) was first published in 2002 and provided a holistic framework for assessing the multi-faceted impact of ICT on society and the development of nations. Until 2016, the NRI was part of the Global Information Technology Report (GITR) published by the World Economic Forum (WEF), Cornell University, and INSEAD. The NRI anticipated various aspects that would become critical in the following years. Early on, it identified three essential stakeholders for ICT: individuals/society, businesses, and governments, and it included elements of ICT application that were novel for the time.

At a time when the primary concerns in ICT revolved around infrastructure issues, the NRI provided a forward-looking and holistic perspective on the application of ICT within national economies. The NRI rapidly developed into a global benchmark for the application and utilization of ICT. Many economies utilized the NRI to design their ICT strategies, and the NRI was used and frequently quoted by leaders from the public and private sectors.

In a major redesign of the NRI framework in 2019, current topical concerns of trust, governance, inclusivity and impact on SDG goals were included into the model. The NRI framework provides a simple yet holistic view of how economies can leverage the power of digital technologies while building sustainable and inclusive futures.

This year, the renewed and revised NRI covers 130 nations across over 60 indicators and is a publication of the Portulans Institute, whose co-founders—Bruno Lanvin and Soumitra Dutta—have also been the co-editors of the GITR in previous years.

All editions of the NRI are available at
www.networkreadinessindex.org
ISBN: 978-1-68489-261-7