

Global Connectivity Index (GCI) 2020 FAQ

About the GCI and methodology

Q1: Why does Huawei compile the GCI?

Nations around the world recognize that the era of the digital economy has arrived. If they do not embrace digitalization and the opportunities it presents, they will miss out on the growth that digital economies make possible. For each country, the key to creating these opportunities is understanding the pattern of global digital development and identifying where their own digital economies are lagging.

Huawei began researching digital development in 2014 and has released a GCI report every year since. Huawei continually researches how ICT innovations and applications can help national economies grow, and conducts open research into the digital economy with top universities, think tanks, and industry associations. Our goal is to provide countries and industries with authoritative, objective, quantified assessments and recommendations for digital transformation.

Q2: What is unique about the GCI?

Huawei has developed a unique research model for the GCI comprising 40 indicators that reflect both economic pillars and enabling technologies. Based on these 40 indicators, the GCI fully and objectively measures, analyzes, and forecasts the tracked economies. It quantifies their digital transformation journey and provides a reference tool for policymakers in the following ways:

- (1) Based on broad datasets, the GCI assesses the progress of national digital economies against their objectives for 2025. This forward-looking analysis helps nations at the leading edge of digitalization to map out their space for future development.
- (2) The GCI indicators cover broadband technologies, cloud, IoT, and AI. These insights support policy recommendations beyond the short term, with suggestions for mid- to long-term investment strategies.

There is no agreed definition on what the “digital economy” is, which makes measuring its exact size very difficult. However, the GCI helps countries to clearly see their digital strengths and weaknesses and how well their digital economy is developing relative to other countries. It paints a picture of each country's digital progress by analyzing indicators for digital technologies and digital applications. The 79 economies are ranked

and divided into three groups – Starters, Adopters, and Frontrunners – based on their GCI scores and GDP per capita.

The GCI report is a widely recognized, authoritative benchmark for digital transformation. It has been cited by more than 30 major development organizations, including global third-party bodies such as the G20, Asia-Pacific Economic Cooperation (APEC), and GSMA. It has served as a reference for multiple nations to develop digitalization strategies, including Sweden, Singapore, Russia, and Saudi Arabia.

Q3: What changes have been made in the GCI 2020 in terms of models, methods, and scope?

GCI 2020's research methodology has been expanded to better reflect the emergence of 5G and explain the technologies that we believe will drive economic growth in the near future. This includes the influence of 5G and AI on GDP growth, which is particularly important for policy makers as they strive to lead their economies out of the COVID-19 pandemic and into a more competitive position by digitalizing their economies.

Other slight adjustments in indicator definitions include “AI Demand” (previously “AI-enabled robotics”) and “Cloud Experience”. Please refer to “GCI Definitions” for details.

GCI 2020 has continued to assess the same list of 79 countries as GCI 2019. These countries account for 95% of global GDP and 84% of the world's population. We also reassessed each country by applying the new methodology. This gives readers a like-for-like history going back to 2015. Users of the GCI report can identify differences between these countries to help guide their own national ICT planning.

Key findings of GCI 2020

Finding 1: Starters are narrowing the gap with the leading economies thanks to improvements in broadband coverage and affordability.

Some starters are catching up with the other clusters. Over the last five years, Starters have increased mobile broadband adoption by more than 2.5 times, with several countries nearing 100% coverage. They have also increased their 4G subscriber rates from an average of 1% in 2015 to an average of 19% in 2019. Some nations have expanded 4G coverage to reach more than 30% of their population. Mobile broadband affordability as measured by the cost of mobile broadband divided by GNI per capita has also improved by 25%. This increased Internet access has opened up new economic opportunities, causing annual e-commerce spending to almost double since 2014 to surpass US\$2,000 per person on average in 2019. Some Starters increased their GCI scores by up to 17%, in turn boosting GDP by 22% more than some of their peers. Vietnam and Peru both became Adopter economies in 2020.

Finding 2: Economies with higher ICT maturity can drive digital transformation to respond quicker to the COVID-19 pandemic, mitigating the negative impact on GDP per capita by 50%.

Organizations in economies with higher GCI scores are able to react faster to the COVID-19 pandemic. They can use digital tools and services to mitigate the impact of lockdowns and social distancing. High-speed broadband, cloud services, AI, and IoT solutions enable them to quickly implement distributed workforce models, migrate to e-commerce platforms, and digitally transform their operations to maintain business continuity. The predicted decline in their GDP per capita is about 50% lower than that of emerging GCI economies.

Finding 3: Organizations in countries with more mature digital infrastructure are prioritizing maintaining IT budgets over non-IT budgets. Despite the impact of COVID-19 on business investment, organizations from Frontrunner countries still want to maintain expenditure on IT.

Research shows that the willingness of companies to invest in IT varies depending on where they are based. Organizations in Frontrunner and Adopter nations are prioritizing maintaining their IT budgets over non-IT budgets. They have also cut their IT budgets by 2.5 to 3.5 times less than organizations in other countries on average. Nations with more mature digital infrastructure are better positioned to minimize the economic impact of the pandemic, recover faster, and ensure the continuity of their transformation into higher-order productivity models.

Finding 4: The digital transformation of economic sectors will help economies develop “higher-order” productivity to spur economic recovery and future competitiveness.

The race to recovery and making up for lost productivity because of the pandemic depends on increasing the productivity of key economic sectors such as agriculture, energy, mining, manufacturing, services, and research. Economies with more advanced productivity markers enabled by ICT generally enjoy a much higher Gross Value Added (GVA) per worker or hours worked.

Finding 5: ICT maturity takes industry digital transformation through five stages of productivity: task efficiency, functional efficiency, system efficiency, organizational efficiency and agility, and ecosystem efficiency and resilience.

As economies improve their GCI scores, they are able to progressively use Intelligent Connectivity to evolve economic sectors towards higher-order operating models through use cases enabled by high-speed broadband. They can then access compute and

storage capabilities, implement AI and IoT solutions, and move from a mainly manual model towards a computerized model and finally to an integrated intelligent model.

Finding 6: The top four movers in this year's rankings were the Netherlands, Kazakhstan, Saudi Arabia and Thailand.

Where can I find more information?

For more information about the GCI, please visit:

<http://www.huawei.com/minisite/gci/en/>

You can download the full GCI report, browse by country, or run historical comparisons of up to three benchmark countries to assess their strengths and weaknesses.