

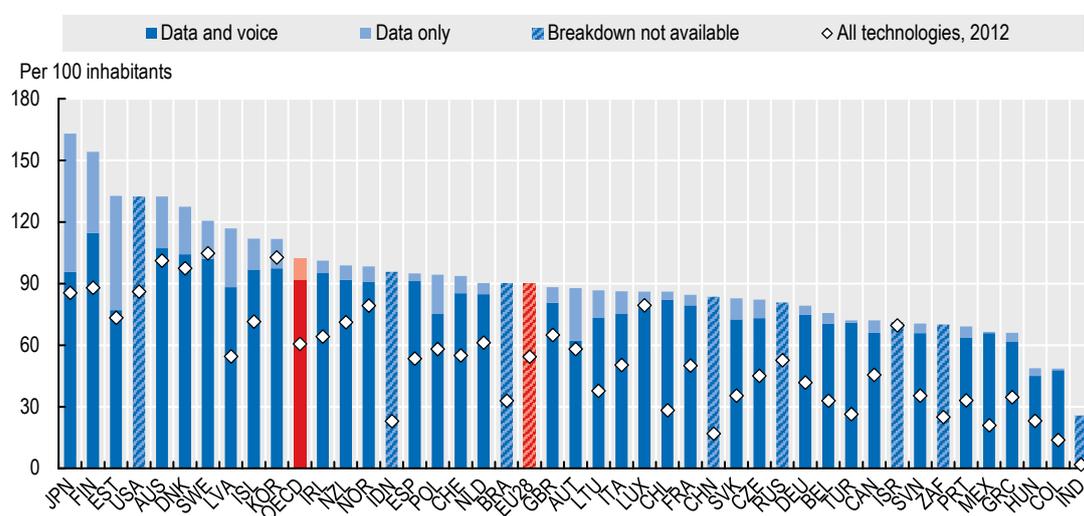
OECD Going Digital Summit - Issues Note

Session 5A: Ensuring Connectivity for All

Communications infrastructures and services underpin the use of digital technologies, and facilitate interactions between connected people, organisations and machines. They serve as the basis for an open, interconnected and distributed Internet that enables the global free flow of information. High-quality access to communication networks and services at competitive prices is therefore fundamental to the digital transformation.

Figure 1. There are more mobile broadband subscriptions than people in the OECD

Mobile broadband subscriptions per 100 inhabitants, by package type, December 2017



Source: OECD (2019^[6]), *Measuring the Digital Transformation*, <https://dx.doi.org/10.1787/9789264311992-en>.

Demand for connectivity and capacity remains strong in the OECD, with over 100 million new mobile broadband subscriptions in 2017 and a doubling of data downloaded per subscription. Connected objects, not just people, will be a key characteristic of the digital future. The Internet of Things (IoT) enables digital technologies to expand further across economies and societies, including in sectors such as agriculture, education, health, transportation, manufacturing and energy systems. Looking ahead, an estimated three devices per person are expected to be online worldwide by 2022. Many connected devices, including those powered by emerging digital technologies like artificial intelligence (AI), will require real-time transmission of huge amounts of data.

As demands for reliable and fast connections increase, policy makers must invest in high-quality communication infrastructures and services. This involves ongoing investment in fixed networks, including fibre. At the end of 2017, there were only 7 fibre subscriptions per 100 people across the OECD. In particular, it is becoming increasingly critical to deploy fibre backhaul further into fixed networks to support increases in speed and capacity across all next-generation technologies, including 5G networks.

5G networks hold many promises, including 100 times the current data-transfer capacity at 10 times the current network speed. 5G networks will be able to process more connections, enabling more devices to go on line without the need for wired connections. However, even as more connections are made wirelessly, the speed and rate of download of these connections ultimately depends on the capacity of fixed networks, which take on the “heavy lifting” of the increasing demands on mobile networks. Therefore, the emergence of 5G networks represents an impetus for investment in next-generation network deployment. While technical and industry standards have not been fully realised, many expect that deploying 5G networks will require smaller cell sites, complementing traditional large cell towers. Such cells will need to be connected to backhaul, again underlining the need for increased investment in next-generation access infrastructures.

Competition among network operators drives investment. Although markets vary, some countries with more mobile network operators (MNOs), (e.g. four rather than three) have experienced competitive and innovative services as a result. Other mechanisms, like passive infrastructure sharing and co-investment, can help extend coverage, depending on local market conditions. Internet exchange points (IXPs), efficient allocation of spectrum, and new generation Internet protocol (IP) addresses are also critical to attracting investment. Moreover, simplifying administrative procedures (i.e. streamlining rights of way) facilitates the roll-out of key infrastructures, such as towers and masts. While the technology and business cases are still rapidly evolving, it is likely that some of these traditional telecommunication regulatory issues, e.g. streamlining rights of way, infrastructure sharing, access to backbone and backhaul facilities, as well as efficient spectrum management, will become even more relevant for the successful deployment of the 5th generation of wireless technologies.

Achieving an inclusive digital transformation is a key objective among OECD countries, therefore measures aiming to reduce the digital divide will become increasingly important. While rural areas are increasingly connected to broadband, much of this access is not high-quality. In all OECD countries, rural areas lag behind urban and other areas in their access to fixed broadband access with a minimum download speed of 30 megabits per second (Mbps), a speed needed to use advanced connected devices and services. Governments may invest directly in high-speed fixed networks or incentivise private investment, including by competitive tendering, tax exemptions, low-interest loans or lower spectrum fees. Satellite broadband technologies also hold promise.

Q1: How can policy makers strengthen connectivity and ensure affordable access to high quality broadband networks for all? What policies and regulations have proven to be effective?

Q2: How can policy and regulation best complement market mechanisms to optimise incentives for all market players to innovate, compete and invest along the entire value chain?

Q3: What policies and regulatory measures have proven effective in enabling high-quality access to broadband networks in rural and remote areas?

Q4: How can the OECD help in addressing these challenges?