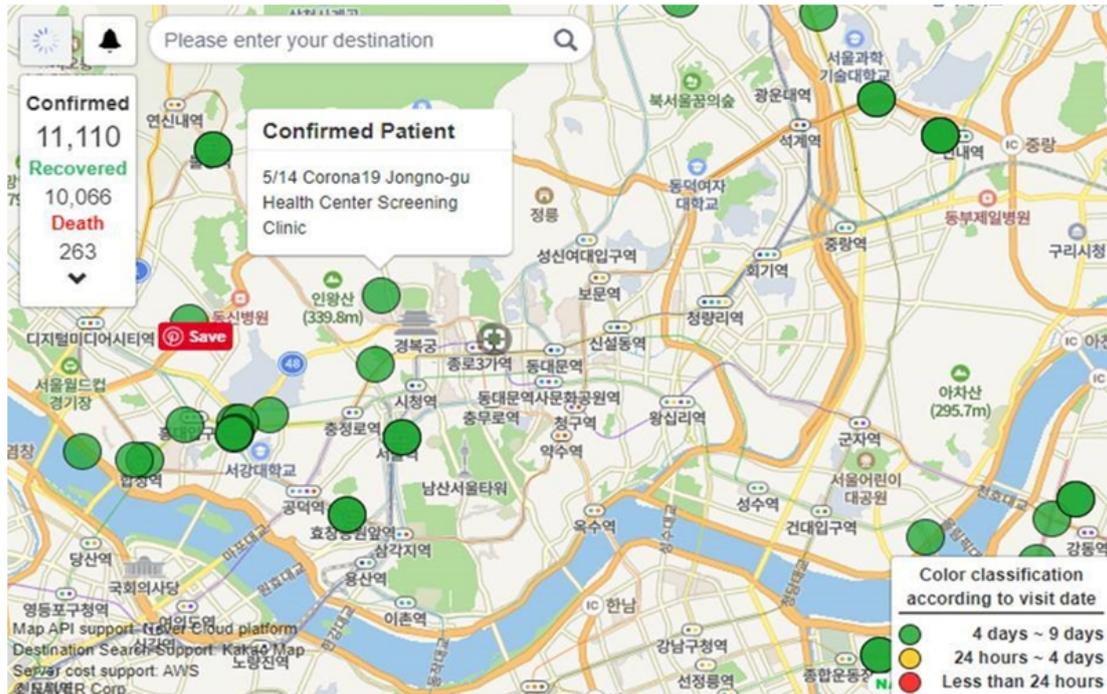


# Korea: Roadmap to narrow digital gaps

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When it comes to emerging digital technologies, Korea is a top player, with an outstanding digital infrastructure and a dynamic ICT sector. 5G has been introduced nationwide earlier than in any other country in the world and has spurred numerous projects supported by the government to enhance competitiveness, innovation and the quality of life: smart factories, smart grids, smart healthcare, smart cities, smart roads. Korea also stands out for its swift and effective use of advanced digital tools to contain COVID-19 without shutting down the economy. For instance, artificial intelligence enables fast testing, mobile apps provide real-time information on locations visited by patients diagnosed with COVID-19 (Figure 1) and untact (contactless) lifestyle limits the spread of the virus. The recent New Digital Deal further supports the use of digitalisation with projects exploiting synergies between the government and the business sector, including strengthening data infrastructures, expanding data collection and usage, establishing 5G network infrastructure early, promoting untact industries and developing artificial intelligence.

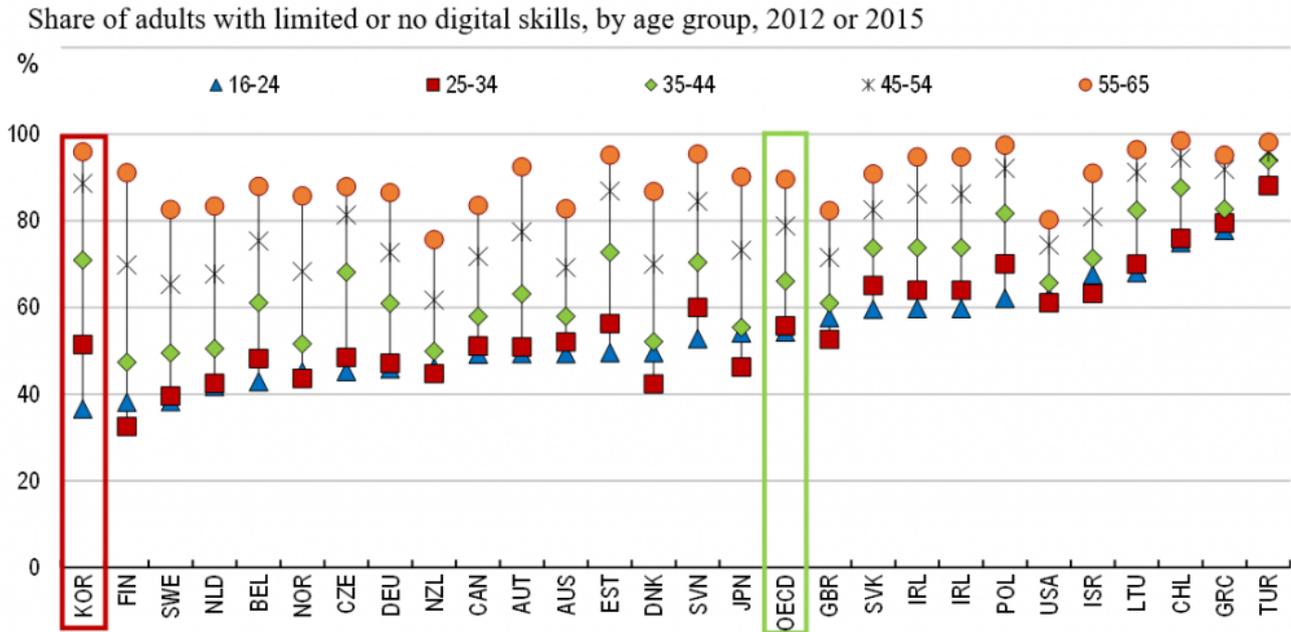
**Figure 1. Corona Map App plots locations with confirmed cases of COVID-19**



Source: <https://coronamap.site>

However, the diffusion of digital technologies among firms and workers is slow. The digital gap between SMEs and large enterprises is wide because SMEs face obstacles to the adoption of advanced technologies, like cloud computing and big data: lack of innovation, lack of information and funds, lack of skilled workers and low access to training. This digital gap creates wide productivity gaps, weighing on economy-wide productivity, which is far below the OECD average. Moreover, the digital gap between generations is the highest among OECD countries (Figure 2). In an ageing and increasingly digitalised society, this exacerbates well-being inequalities, as part of the population is left behind.

**Figure 2. The digital skill gaps between generations is the highest among OECD countries**



Source: OECD Economic Survey of Korea (2020).

Digital opportunities to boost productivity and well-being are numerous but are not used to their full potential. To promote the diffusion of technology, the 2020 OECD Economic Survey of Korea highlights recommendations focussing on three main areas.

First, regulations for product and service markets remain stringent, holding back innovation and new business models, as well as competition and productivity growth. The government has introduced regulatory sandboxes allowing firms in new technologies and new industries to test their products and business models without being subject to all existing legal requirements. The temporary lifting of the ban on telemedicine during the COVID-19 outbreak illustrates the potential benefits of a timely review of regulations. After four years at most, if a regulatory sandbox is considered effective and safe, it can lead to the permanent suppression of the regulation that was temporarily waived, its amendment, or the extension of the trial period. It can also lead to the creation of licences with a narrower scope, for example for FinTech companies, which could be allowed to provide some banking services without needing a full banking licence.

Follow up on this strategy should allow identifying excessive regulation and revise or abolish it, notably in the case of telemedicine.

Second, subsidies to SMEs should better target innovative and productive companies. Extensive government R&D support still largely props up low-productivity companies and scale-up success is limited. Innovation vouchers in the form of a one-off payment should be provided to SMEs in manufacturing and services to commission R&D and studies on potential for new technology introduction from universities and research institutions. They would help develop innovation networks, which are still limited in Korea, and facilitate the diffusion of digital technology. In addition to promoting collaboration between SMEs and academia, collaboration between SMEs and large enterprises should be further strengthened to enhance innovation diffusion, for instance through open collaborative platforms to exchange new products, services and big data. Financial support for technology R&D should also be reallocated to commercialisation for SMEs that successfully developed new technology.

Third, addressing the lack of adequate skills and awareness of digital benefits or dangers is crucial. SMEs face a lack of skilled workers in digital fields, limited access to ICT training and insufficient awareness of managers of the potential of digital technologies. Older generations often lack digital and basic skills to participate in online activities like e-commerce. Most teachers feel they are not sufficiently prepared to use ICT for teaching, which has been a hurdle during the COVID-19 school closures. A relatively high share of individuals experience privacy violation and youth are at higher risk of cyber-bullying and addiction to ICT technologies. More specialists and high-level researchers are needed in fourth industrial revolution core technologies like artificial intelligence and big data, as well as next-generation security technologies like blockchains and quantum

cryptography communication. Higher-quality ICT education and training should be provided to enable students, teachers, SME workers and older people to thrive in a digital society.

The COVID-19 outbreak is strengthening the existing trend towards digitalisation, with a growing use of artificial intelligence and remote services like telework, telemedicine and e-commerce by firms and households. Narrowing the digital gap between firms and between workers is key to bring about a more rapid diffusion of technology and to make the most of digital opportunities to raise productivity and well-being.

### **References:**

OECD (2020), OECD Economic Surveys: Korea 2020, OECD Publishing, Paris.

<https://doi.org/10.1787/2dde9480-en>

Pak, M. (2020), "Promoting the diffusion of technology to boost productivity and well-being in Korea", OECD Economics Department Working Papers, OECD Publishing, Paris, forthcoming.