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### Towards the digital future

The COVID-19 pandemic has had an immensely disruptive impact on our daily lives and on our European economies. It is now common to say that the pandemic has made digitalisation more important. European firms agree on the importance of the digital when we ask them about their investment needs. This pandemic has been an eye-opener for all of us, when it comes to innovation and digitalisation.

According to our latest EIB investment survey (EIBIS), many firms say not only that the pandemic will make digitalisation ever more important, but that it will also affect their supply chains and the products and services they offer. Firms need to step up investment to adapt to this fast-changing reality. However, firms are also telling us that they will invest less than initially planned. That is not surprising. The crisis has left many firms with severe balance sheet issues, in particular smaller firms and those active in the sectors most affected by the crisis.

As a consequence, many firms face a trade-off between short-term viability and long-term competitiveness. They can either try to reduce the threat of insolvency by deleveraging now, or they can invest in their longer-term competitiveness at the risk of becoming insolvent before these investments pay off. For many, the answer to this dilemma is, understandably, to prioritise short-term viability. However, not investing in the future can expose them to disruption.

Still, a weak recovery in corporate investment could not come at a worse time. Even before this crisis, we were not doing enough to meet the significant challenges we are facing, notably on climate and on digitalisation. Europe is not generating the biggest players in digital. Today, several Chinese companies are emerging as important players in the digital sectors alongside US companies. The EU has global leaders in the automotive sector but has fewer firms in the fast growing digital and technological sectors. This may explain the gap between the EU and the US in creating new, leading global R&D companies, especially in the digital sector, where economies of scale and winner-take-all dynamics dominate.

It is not only the top players that are missing. European firms are lagging in digitalisation more generally. By 2020, 37% of European firms had still not

adopted any of the new wave of digital technologies, compared to 27% in the US. Encouragingly, the proportion of digital firms in the EU grew by nearly five percentage points over the 2019 period, but the US saw a comparable increase.

There is a divide between the US and the EU. But there is also a risk of polarisation within Europe too. We find that large firms tend to digitalise more quickly. The side effect is particularly pronounced among manufacturing firms: only 30% of EU firms with fewer than 10 employees adopted recent digital technologies, whereas this share increases to 80% for firms with more than 250 employees. The fact that EU firms are smaller on average than those in the US is likely to be a major disadvantage when fast-tracking the adoption of digital technologies.

It is not merely the corporate sector where change is not happening quickly enough. The European Investment Bank's survey of municipalities highlights that infrastructure gaps remain prevalent in the EU, especially for digitalisation and climate change. More than one in two municipalities considered their infrastructure investment inadequate. This is likely to have long-lasting effects. We observed that the share of firms that are digitally advanced rises in countries with the largest share of municipalities that have better digital credentials.

In a word, the lag in digitalisation is worrisome. We all have seen that technology adoption could partly shield the economy from the impact of the pandemic. Having digital technologies in place that allow us to work remotely has been a prerequisite for business continuity, also for us at the European Investment Bank. What is more, digitalisation promises to be a game-changer for productivity. If firms invest less in the coming years, it would be a disaster. It would mean a further drain on Europe's competitiveness and a setback in our ambition to close the digital gap vis-à-vis the US and other global players at a critical moment in time.

There are many fears around digitalisation, and particularly automation and the impact it might have on our societies. Indeed, the ongoing digital transformation is ushering in profound changes in EU labour markets. So far, digitalisation has had a positive impact on employment. Digital technologies

are changing the content of jobs, but they have not so far led to job destruction, on balance. The available evidence does not corroborate fears of the end of work ushered in by digital technologies. Digitalisation has supported the creation of new employment in many firms directly by creating new jobs like data analysts or software developers and, indirectly, by raising productivity, reducing prices and stimulating demand. What is more, digital companies have been able to pay their employees higher wages than their non-digital peers.

However, we know job creation goes hand in hand with creative destruction, putting pressure on routine jobs which have little complexity. Recent advances in digital technologies have tended to benefit high-skilled workers and those in less routine occupations. Investments need to focus on people, if the digital transition is to be successful. A lack of appropriate skills limits the ability of individuals to respond to economic evolution and a changing job market. Reforms to adult-learning systems and broader participation is needed to deal with the risks of a growing gap in worker skills and further labour-markets polarisation.

Digitalisation is also having a tremendous effect on innovation. Just take the example of artificial intelligence, or AI. Before the COVID-19 pandemic, healthcare professionals were already driving up the adoption of AI technologies. The pandemic has accelerated this trend tremendously. Real-time contact-tracing apps are just one example of the many AI applications used to monitor the spread of the virus and to reinforce the public health response to it. AI and advanced robotics are also key for the development and manufacturing of vaccines against COVID-19. European biotech companies relying on AI have been strong partners in the global race to deliver a COVID-19 vaccine.

Digitalisation is important not only for the current health crisis. When thinking about the climate crisis, our innovation potential is crucial. This is a defining moment in our fight against climate change and environmental degradation. Investment in new technology is key, so we need to see the link between innovation, climate and development. If we want to maintain the global temperature increase below 1.5 degrees, we need a massive drop in greenhouse-gas emissions. It should be clear that this is not possible with our current technologies.

Luckily, Europe leads the way on green innovation and on combining the potential of green and digital technologies, despite its lag in digital innovation and adoption. At the intersection of digital and green domains, Europe has 76% more patents than the US, and four times as many as China has. If we build on that lead, not only do we have a chance against climate change, but we may also boost the global competitiveness of the European economy in the decades to come.

While the EU's position is encouraging, other countries threaten to overtake it. If policymakers want the EU to stay ahead in the development and uptake of digital and green technologies, they have to address some of the barriers that hold back innovation. So time is of the essence. It is essential that investments do not stall, in

particular green investments. Given that the lifespan of factories, housing or power plants that we are building today stretches far beyond the 2050 target, it is important that investment in cleaner technology should take place today.

As the EU bank, we are already making a clear contribution to foster digitalisation. Over the past four years, the European Investment Bank has already invested over €10 billion, helping to provide 70 million households with high-speed internet. In addition, the Bank has just disbursed €150 million for AI projects in the EU, and much more is in the pipeline.

However, digital security is just as important as high-performance infrastructure, if Europe is to remain at the forefront of economic and technological developments. Increasingly frequent and successful cyberattacks over the past few years show just how crucial it is to invest in the security of networks and digital services. That is why the EU bank is supporting start-ups such as the Swedish company Clavister, whose range of security technology includes network protection for water and electricity providers – one of the very vulnerable parts of our set-up.

Europe needs to wake up to the potential of digital technologies. Our survey results suggest that the adoption of digital technologies can boost firm performance in terms of productivity, investment and innovation. At the same time, policymakers will need to pay attention to some of the social and market impacts of further digitalisation. These include a hollowing-out tendency of mid-level jobs, job-polarisation, risks of too-high market concentration and some cybersecurity threats. This issue needs to be addressed: whether Europe leads the digital transformation or just follows it.

The EU could prioritise helping firms reap performance benefits and competing successfully on the global stage. This might seem familiar to all of you, but it needs to be repeated again and again: we need to press ahead and accelerate the completion of the digital single market. This would allow many great European companies to reach the size where they stand a chance of competing with leading players from the US and elsewhere. We also need to accelerate the implementation of high-performance digital infrastructure, including 5G networks. This will make so much more innovation possible in new goods and services.

To be at the frontier of digital innovation, we need to have to have the digital infrastructure of the future, not of the past.