

Benefits of EU strategic investment in high-tech digital innovation

The European Union (EU) has set out a vision and targets to achieve the digital transformation by 2030. However, the 2024 State of the Digital Decade report points to slow progress in digital skills, connectivity and adoption of artificial intelligence (AI). Accelerating the pace here is key for the EU's pursuit of strategic competitiveness. According to a recent EPRS study, to reach the targets and catch up with leading competitors, the EU needs to triple its current annual investment in high-tech digital innovation (HTDI) to more than €300 billion per year. The study also finds that increased common strategic action in HTDI should support this transition: joint EU action would generate larger benefits than national efforts. The cost of non-Europe (absence of joint action) was estimated at between 0.3 % and 1.4 % of gross domestic product (GDP) in 2035. Overcoming challenges in investment, scaling up, market fragmentation and breakthrough research will be critical to securing EU competitiveness.

Towards high-tech digital investment that contributes to competitiveness?

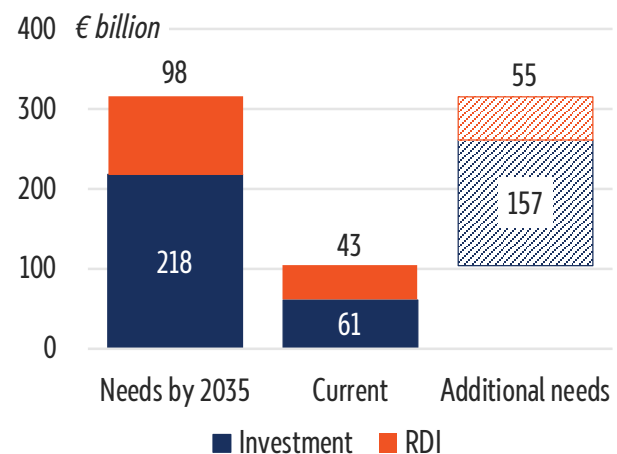
Achieving a digital transition that strengthens Europe's strategic competitiveness means addressing the persistent challenges in innovation, adoption, and technological dependency. As the [Letta](#) and [Draghi](#) Reports highlight, individual EU Member States face limited prospects for rapid development in key future technologies such as AI, owing to their small markets, reduced financial sectors, and constrained public finances. For example, the combined annual [AI investment](#) of the four largest US tech firms (around €200 billion in 2024) exceeds the EU's entire annual budget (€170 billion per year).

Low uptake of digital tools and EU businesses' weak commercialisation of AI are hampering efforts to reap the full benefits of the EU's digital single market and further weakening the EU's competitiveness. The EU is also underperforming when it comes to adopting high-tech digital-intensive technologies like cloud computing and AI. This problem is compounded by a lack of scale, in particular compared to US counterparts. The [2024 Digital Intensity Index](#) shows that while 91 % of large enterprises use at least four digital technologies, only 58 % of small and medium-sized enterprises reach at least a basic level of digitisation. Addressing these gaps is critical to achieving the EU's digital ambition of reducing dependency on a single or limited number of third-country suppliers for critical technologies. The [European Sovereignty Index](#), measuring Member States' technological capabilities, points to EU weaknesses in critical technologies, in particular for semiconductors and cloud computing.

On scaling up and infrastructure, in line with the literature, the EPRS study confirms that the EU needs an additional €157 billion in annual investment if it is to meet its 2030 digital targets (Figure 1), with at least 25 % coming from public funds. This points to a need for total investment of €316 billion in HTDI per year.

The EU produces more [tech start-ups](#) than its global competitors, but owing to a lack of access to capital and a national focus, they fail to be competitive and scale up. It is therefore crucial to ensure efficient public investment that stimulates private sector participation. As the Draghi Report explains, such strategic investment, particularly in cross-border projects and digital infrastructure, requires a

Figure 1 – EU investment needs per year



Source: EPRS.



EPRS Benefits of EU strategic investment in high-tech digital innovation

common and coordinated EU financing strategy to mobilise private capital and foster research, development and innovation (RDI) activities.

When it comes to investment in RDI, the EU spends only [20 % of its RDI](#) on ICT, compared to a 40 % global average. Furthermore, in the US, high-tech sectors account for 85 % of businesses RDI spending, whereas in the EU, the mid-tech sector accounts for 50 % of RDI, locking the EU in a '[mid-tech trap](#)'. The EPRS study finds that the EU requires an increase in high-technology RDI spending of €55 billion per year to catch up with global competitors. EU funding could be boosted by expanding initiatives such as Horizon Europe and fostering public-private partnerships, as private sector investment lags relatively far behind levels in the US and China. A recent [study](#) highlights that this lack of EU investment in RDI is increasingly leading to lower revenue growth and lower returns on capital invested.

What else could the EU do about it?

The current AI market fragmentation across the EU and the remaining scope to use the full potential of the digital single market is limiting company scale-up. Next to investment and measures to overcome fragmentation, digital transformation requires adjustments in the labour market. It is estimated that [40 % of workers](#) will need to learn new skills. Europe has also to address the talent gap as, for instance, predictions show that less than half of [quantum computing jobs](#) will be filled in 2025. Addressing talent retention is similarly critical, as many professionals move, notably to the US, attracted by renowned educational institutions, a supportive business environment, thriving innovation ecosystems, and competitive compensation. Europe could enhance its appeal by means of better-funded higher education systems and research institutions – in particular those actively involved in cross-border cooperation, transnational career promotion, and stronger networks and matchmaking mechanisms.

Lastly, reducing excessive technological dependency demands an EU-wide strategic vision for HTDI. This could include common strategies for cloud computing and semiconductors, as well as action to promote a thriving EU AI ecosystem. For instance, cloud computing is essential for the EU's technological development, particularly in AI and quantum, yet the lack of a unified strategy has strongly slowed and even hindered its potential. With 80 % of [European data](#) hosted by non-EU providers, the EU faces significant dependency risks, exacerbated by privacy and cybersecurity concerns. Addressing these challenges also requires harmonised rules for sensitive cloud services, a unified procurement policy, and more effort to leverage the untapped potential of EU companies to build interoperable and compliant cloud solutions.

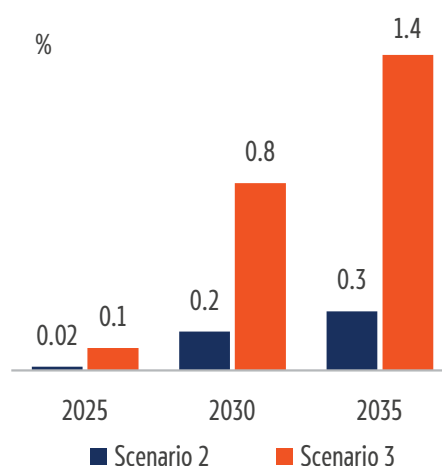
What are the potential economic benefits?

Europe's digital future depends on common and coordinated action to address investment shortfalls, policy fragmentation, and technological gaps. By accelerating efforts in these areas, the EU could improve its global competitiveness and achieve its 2030 digital transformation objectives. The EPRS study finds that such strategic action could lead to increases in GDP (Figure 2).

The study examines three scenarios. Under the first scenario, where Member States act independently, GDP is projected to increase by 0.4 % by 2035. Enhanced coordination and cooperation, coupled with emerging EU complementary actions (scenario 2), could result in a 0.7 % GDP increase by 2035. A more ambitious integrated approach (scenario 3) holds the greatest potential, driving a 1.8 % GDP growth as early as 2035. Figure 2 shows the estimated cost of non-Europe (CoNE), understood as the difference between a more integrated approach, as in scenarios 2 and 3, compared to a scenario where Member States act alone. The study estimates the CoNE here to be between 0.3 % and 1.4 % of GDP in 2035.

The full study is available on the European Parliament [Think Tank](#) website.

Figure 2 – Benefits of EU action compared to Member State-led action, % GDP



Source: EPRS