Report on the State of the Digital Decade 2024

Annex - Short Country Report 2024

Finland

Executive summary

Finland brings a very strong contribution to the European Union's (EU) Digital Decade objectives and targets, in view of a successful digitalisation that fosters competitiveness, resilience, sovereignty, European values and climate action.

In 2023, Finland made notable progress in **gigabit networks roll-out** and continued to record growth in the **digital skills of the population and the digitalisation of its enterprises**. However, **challenges persist** to **keep up with gigabit networks deployment** across its territory and in the area of e-government, where there is a need to **improve on e-health and to ensure that access to other digital public services remains at highest possible levels.**

Using digitalisation as a tool to achieve a thriving and resilient economy and a safe, inclusive society is a priority for the Finnish authorities. Finland set out its vision for 2030 in the national digital compass, in line with the EU-level objectives. As the digital transition is at full speed in Finland, the country is focusing on research, development and innovation (RDI) in advanced technologies, 6G connectivity and opportunities deriving from the data economy. The production of semiconductors and quantum computing are also given a top priority. These developments in Finland are in a context of accessible online public services and a highly digitally literate population. ICT specialists remain sought after to meet labour shortages.

According to the **Special Eurobarometer 'Digital Decade 2024'[1], 78% of the Finnish population consider that the digitalisation of daily public and private services makes their life easier.** This is slightly above the EU average of 73%.

Finland is participating in the works to set up **European Digital Infrastructure Consortia** (EDICs) for the Genome EDIC, the Mobility and Logistics Data EDIC and Connected Public Administration EDIC (IMPACTS-EDIC). The country is finalising membership negotiations for the Local Digital Twins (LDT – CitiVERSE) EDIC and has decided to seek an observer status in the Alliance for Language Technologies one (ALT-EDIC)[2](both already set up). The country also participates in the EuroHPC Joint Undertaking, hosting LUMI, one of the supercomputers procured by the Joint Undertaking.

Finland's recovery and resilience plan dedicates 29% of its budget to digital policy measures (EUR 0.5 billion), with priorities given to e-Health, cybersecurity, and R&D in key technologies (6G, AI, quantum)[3]. Under Cohesion Policy, an additional EUR 0.4 billion (20% of the country's total Cohesion Policy funding) is allocated to the country's digital transformation[4].

[1] Special Eurobarometer 551 on 'the Digital Decade' 2024: https://digital-strategy.ec.europa.eu/en/news-redirect/833351

[2] Information last updated on 31 May 2024.

[3] The share of financial allocations that contribute to digital objectives has been calculated using Annex VII to the Recovery and Resilience Facility Regulation.

[4] This amount includes all investment specifically aimed at or substantially contributing to digital transformation in the 2021-2027 Cohesion Policy programming period. The source funds are the European Regional Development Fund, the Cohesion Fund, the European Social Fund Plus, and the Just Transition Fund.

Digital Decade KPI [1]	Finland			EU		Digital Decade target by 2030	
	DESI 2023	DESI 2024	Annual progress	DESI 2024 (year 2023)	Annual progress	**FI**	**EU**
Fixed Very High-Capacity Network (VHCN)	70.8%	77.7%	9.8%	78.8%	7.4%	100%	100%
Fibre to the Premises (FTTP) coverage	50.3%	61.2%	21.5%	64.0%	13.5%	x	-
Overall 5G coverage	94.7%	98.4%	3.9%	89.3%	9.8%	100%	100%
Semiconductors		NA					
Edge Nodes		24		1 186		x	10 000
SMEs with at least a basic level of digital intensity	81.6%	85.6%	2.4%	57.7%	2.6%	90%	90%
Cloud	66.3%	73.0%	4.9%	38.9%	7.0%	75%	75%
Artificial Intelligence	15.8%	15.1%	-2.2%[2]	8.0%	2.6%	75%	75%
Data analytics	NA	40.6%	NA	33.2%	NA	75%	75%
AI or Cloud or Data analytics	NA	79.5%	NA	54.6%	NA		75%
Unicorns		7		263		x	500
At least basic digital skills	79.2%	82.0%	1.8%	55.6%	1.5%	87%	80%
ICT specialists	7.6%	7.6%	0.0%	4.8%	4.3%	10%	~10%
e ID scheme notification		No					
Digital public services for citizens	91.6	90.6	-1.1%	79.4	3.1%	100	100
Digital public services for businesses	100.0	100.0	0.0%	85.4	2.0%	100	100
Access to e-Health records	90.1	82.6	-8.3%	79.1	10.6%	100	100

[1] See the methodological note for the description of the indicators and other descriptive metrics

[2] The variation between the two years is not considered statistically significant but in line with the stagnation of this indicator.

National digital decade strategic roadmap

With respect to **Finland's** contribution to the Digital Decade reflected in its roadmap, it is demonstrating **a very high ambition** and based on this document, intends to allocate **significant effort** to achieve the Digital Decade objectives and targets.

The roadmap is ambitious and coherent including all objectives. Finland's national roadmap includes 2030 targets for all KPIs except for FTTP, edge nodes and unicorns. It also demonstrates ambitions in areas such as semiconductors and quantum. In total, all the national targets presented are aligned with EU 2030 targets. At this stage, trajectories are missing for FTTP, edge nodes, unicorns, take-up of cloud, AI and data analytics, digital public services for citizens and e-health. The roadmap covers all objectives of the Digital Decade, such as technological leadership, sovereignty, competitiveness, cybersecurity, protection of fundamental rights in the digital space and the green transition. The proposed set of measures to achieve them is underpinned by values such as trust and sustainability.

The total budget for the measures is an estimated EUR 499.7 million (0.2% of GDP). The priorities are the uptake of cloud, artificial intelligence and data analytics/big data, the development of quantum computing capacities, innovations in connectivity (such as 6G) and increasing RDI expenditure.

Recommendations for the roadmap

Finland should, when submitting adjustments to its national roadmap in accordance with Article 8(3) of the DDPP Decision:

- **TARGETS:** (i) Propose a target and trajectory for **FTTP**, **edge nodes and unicorns,** design a trajectory for **VHCN, cloud, data analytics, AI, digital public services for citizens and e-health;** (ii) Propose a higher target for **basic digital intensity of enterprises.**
- **MEASURES:** (i) Strengthen the measures on **ICT specialists and gigabit**, add measures on **digital public services and e-health**; (ii) Review **the budget description** of all presented measures, duly highlighting national and EU sources such as Recovery and Resilience Facility; (iii) Provide **more information on the implementation of digital rights and principles** (and Digital Decade general objectives), including what national measures contribute to it.

Digital rights and principles

The Digital Decade Eurobarometer reveals detailed views from Finland on digital rights. While the majority find digitalisation beneficial, only 58% of Finns believe their rights are well protected by the EU, a 9-point drop since 2023 but still higher than the EU average (45%). Key concerns include safe internet for children and digital legacy control, with only 33% and 36% feeling secure, respectively. However, 71% feel they have sufficient freedom of expression and information online, up by 5 points. Positive trends are seen in access to high-speed internet (68% satisfaction, up 2%) and online privacy protection (69% satisfaction). The monitoring of the Declaration on Digital Rights and Principles shows that increasing the profile of the Declaration at national level and fostering better stakeholder engagement could help improve outcomes in the years to come[5].

A competitive, sovereign, and resilient EU based on technological leadership

To underpin its technological leadership and competitiveness, Finland is equipped with excellent mobile network infrastructures, a high level of digitalisation of businesses and high level of investment in disruptive technologies. On infrastructures, Finland is already very close to reaching 100% coverage for 5G (98.4%). 5G in the 3.4-3.8 GHz band, essential for enabling advanced applications requiring large-spectrum bandwidth, covers 89.7% of Finnish households. The rate of deployment of gigabit networks (VHCNs) is rising steadily but the coverage remains slightly below the EU average. However, fixed broadband subscriptions with download speeds of 1 Gbps or more are at 4%, lower than the EU average of 18.5%.

85.6% of SMEs in Finland have at least a basic level of digital intensity and almost 80% use AI, Cloud or Data analytics. Companies are continuously encouraged to increase their productivity and competitiveness by tapping the potential of 6G, the data economy and AI. The Government and industry invest heavily in research and development across multiple digital areas, notably semiconductors, AI and quantum computing. The current approach to cybersecurity frames the issue as an exercise for the whole society, with public investments in citizen skills and resilience of businesses. The national strategy in this area will be updated in 2024.

Recommendations – Finland should:

- **CONNECTIVITY INFRASTRUCTURE:** (i) Intensify efforts to develop fixed gigabit connectivity, including by reinforcing public investments where necessary; (ii) Ensure

[5] See SWD 'Digital Decade in 2024: Implementation and perspective' with annexes, SWD(2024)260: https://digital-strategy.ec.europa.eu/en/news-redirect/833325, Annex 4.

sufficient access of new players to spectrum for innovative business-to-business (B2B) and business-to-consumer (B2C) applications and encourage operators to continue the deployment of 5G stand-alone core networks.

- **AI/CLOUD/DATA ANALYTICS:** (i) Encourage enterprises to apply existing advanced technological solutions, such as AI or quantum testing possibilities and innovate further in these areas; (ii) Stimulate the adoption of next generation cloud infrastructure and services by companies of all sizes, including by liaising with the Cloud IPCEI Exploitation office and/or the coordinators and the Member States participating in the IPCEI-CIS.
- **CYBERSECURITY:** Continue the implementation of the 5G Cybersecurity Toolbox to ensure secure and resilient 5G networks.
- **TECHNOLOGICAL LEADERSHIP:** Secure further sources of funding and encourage private investment in disruptive technologies.

Protecting and empowering EU people and society

Finland is well equipped to deliver the digital transformation based on trust and putting people at the centre. Finland has already reached the EU-level target of at least basic skills with measures planned to boost societal resilience and to keep bridging geographical and demographical divides in formal and informal education and training. The country aims to achieve a 10% proportion of ICT specialists in employment, which requires keeping up the momentum, even though it performs better than other EU countries. To increase the number of employees with advanced digital skills, Finland's roadmap proposes a higher number of places in higher education institutions and incentives for foreigners. The country scores 90.6 in the accessibility of digital public services for citizens and 100 on access for businesses. The e-ID is very widely used, and in 2023 Finland has started the process to notify an e-ID for cross-border authentication under the eIDAS Regulation. Looking beyond the country's above-average performance in e-health, digital support in health and care services could help offset labour shortages in these fields and additional features of the e-health system – increase its user-friendliness.

Recommendations – Finland should:

- **BASIC DIGITAL SKILLS:** Focus on integrating basic digital skills in primary and lower-secondary education at national level, to ensure there is an equal level of basic digital skills among the Danish population, paying particular attention to the existing urban-rural divide and gender gap.
- **ICT SKILLS:** Follow up on the plans set out in the new digitalisation strategy to upskill and reskill ICT specialists. Design schemes to improve young people's interest in ICT, including among women, and retain international students in ICT-related degree programmes to increase enrolment rates.
- **E-HEALTH:** Make the data type of medical images available to citizens through the online access service.

Finland

Leveraging digital transformation for a smart greening

Finland's ambition for digital leadership is based on sustainability as an underlying value and the goal of facilitating a digital green transition. The government published a Climate and Environmental Strategy for the ICT Sector in 2021 in cooperation with the private sector and research community and keeps following its implementation. In Finland, research and other activities are ongoing to not only reduce its carbon footprint but also to create a handprint of technological industries. The aim is therefore to develop digital technologies that can help overcome global climate and environmental challenges. One example is the choice of Finnish supercomputer LUMI to run the Climate Change Adaptation Digital Twin (Climate DT), a high-priority digital twin under the EU flagship initiative *Destination Earth*.

Recommendations - Finland should:

- Continue developing a coherent approach to twinning the digital and green transitions. First, promote improvements in energy and material efficiency of digital infrastructures, in particular data centres. Second, support the development and deployment of digital solutions that reduce the carbon footprint in other sectors, such as energy, transport, buildings, and agriculture, including the uptake of such solutions by SMEs.
- Monitor and quantify the emission reductions of the deployed digital solutions in line with the relevant EU guidance and with the support of the methodology developed by the European Green Digital Coalition, in view of future policy development, as well as of attracting relevant financing.
- Demonstrate leadership in using digital transition for environmental purposes by promoting national tools and methodologies at European level.