

The Digital Decade KPIs are defined in the Commission [Implementing decision setting out key performance indicators to measure the progress towards the digital targets.](#)

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## Digital Skills

**A digitally skilled population and highly skilled digital professionals,  
with the aim of achieving gender balance.**

### Basic digital skills

*Definition: At least basic digital skills, measured as the percentage of individuals aged between 16 and 74 years old disaggregated by sex with “basic” or “above basic” digital skills in each of the following five dimensions: information, communication, problem solving, digital content creation and safety skills. It is measured based on the activities that individuals carried out during the previous three months; and gender convergence, measured as the percentage of women and men among those individuals with “basic” or “above basic” digital skills.*

**Latest Data: 2023** EU: 55.56%, 54.46% of females and 56.69% of males  
LU: 60.14%, 56.56% of females and 63.60% of males

**Source:** [Eurostat](#) - European Union Survey on the use of ICTs in Households and by Individuals

**Additional Information:** Individuals able to perform at least one activity per dimension (information, communication, problem solving, digital content creation and safety skills) are considered as possessing at least basic digital skills. Considered are the following dimensions and activities:

- 1) Information:** To articulate information needs. To locate and retrieve digital data, information, and content. To judge the relevance of the source and its content. To store, manage, organize digital data, information, and content.

*E.g., Finding information about goods or services, seeking health-related information, reading online news sites, newspapers or news magazines, activities related to fact-checking online information and its sources.*

- 2) Communication:** To interact, communicate and collaborate through digital technologies while being aware of cultural and generational diversity. To participate in society through public and private digital services and participatory citizenship. To manage one’s digital identity and reputation.

*E.g., Sending/receiving emails, telephoning/video calls over the internet, instant messaging, participating in social networks, expressing opinions on civic or political issues on websites or in social media, taking part in online consultations or voting to define civic or political issues.*

**3) Problem solving:** To identify needs and problems, and to resolve conceptual problems and problem situations in digital environments. To use digital tools to innovate processes and products. To keep up to date with the digital evolution.

*E.g., Downloading or installing software or apps, changing settings of software, app or device, online purchases (in the last 12 months), selling online, used online learning resources, internet banking, looking for a job or sending job applications.*

**4) Digital content creation:** To create and edit digital content. To improve and integrate information and content into an existing body of knowledge while understanding how copyright and licences are to be applied. To know how to give understandable instructions for a computer system.

*E.g., Using word processing software, using spreadsheet software, editing photos, video or audio files, copying or moving files (such as documents, data, images, video) between folders, devices (via e-mail, instant messaging, USB, cable) or on the cloud, creating files (such as documents, image, videos) incorporating several elements such as text, picture, table, chart, animation or sound, using advanced features of spreadsheet software (functions, formulas, macros and other developer functions) to organize, analyse, structure or modify data, Writing code in a programming language*

**5) Safety skills:** To protect devices, content, personal data, and privacy in digital environments. To protect physical and psychological health, and to be aware of digital technologies for social well-being and social inclusion. To be aware of the environmental impact of digital technologies and their use.

*E.g., Managing access to own personal data by checking that the website where the respondent provided personal data was secure, managing access to own personal data by reading privacy statements before providing personal data, managing access to own personal data by restricting or refusing access to own geographical location, managing access to own personal data by limiting access to profile or content on social networking sites or shared online storage, managing access to own personal data by refusing allowing use of personal data for advertising purposes, changing settings in own internet browser to prevent or limit cookies on any of the respondent devices.*

## ICT specialists

**Definition:** *ICT specialists, measured as the number of individuals aged 15-74 who are employed as ICT specialists; and gender convergence, measured as the percentage of women and men among those individuals employed as ICT specialists. In accordance with the ISCO-08 code classification, ICT specialists are workers who have the ability to develop, operate and maintain ICT systems, and for whom ICT constitutes the main part of their job, including but not limited to ICT service managers, ICT professionals, ICT technicians, ICT installers and servicers.*

**Latest Data: 2023**    **EU: 4.80 %** of which 19.40% are females  
                                  **LU: 8.00%** of which 22.50% are females

**Source:** [Eurostat](#) - Labour Force Survey

**Additional Information:** ISCO-08 code classification

### I. ICT MANAGERS, PROFESSIONALS AND ASSOCIATE PROFESSIONALS

- 133 ICT Service managers
- 25 Information and communications technology professionals
- 251 Software and applications developers and analysts
- 2511 Systems analysts
- 2512 Software developers
- 2513 Web and multimedia developers
- 2514 Application programmers
- 2519 Software and applications developers and analysts not elsewhere classified
- 252 Database and network professionals
- 2521 Database designers and administrators
- 2522 Systems administrators
- 2523 Computer network professionals
- 2529 Database and network professionals not elsewhere classified
- 35 Information and communications technicians
- 351 ICT operations and user support technicians
- 3511 ICT operations technicians
- 3512 ICT user support technicians
- 3513 Computer network and systems technicians
- 3514 Web technicians
- 352 Telecommunications and broadcasting technicians
- 3521 Broadcasting and audio-visual technicians
- 3522 Telecommunications engineering technicians

## **II. OTHER UNIT GROUPS THAT PRIMARILY INVOLVE THE PRODUCTION OF ICT GOODS AND SERVICES**

- 2152 Electronic engineers
- 2153 Telecommunication engineers
- 2166 Graphic and multimedia designers
- 2356 Information technology trainers
- 2434 ICT sales professionals
- 3114 Electronics engineering technicians
  - 742 Electronics and telecommunications installers and repairers
- 7421 Electronics mechanics and servicers
- 7422 ICT installers and servicers

## Secure and sustainable digital infrastructures

### Secure, resilient, performant and sustainable digital infrastructures

#### Gigabit connectivity

**Definition:** *Gigabit connectivity, measured as the percentage of households covered by fixed Very High-Capacity Networks (VHCN). The technologies considered are those currently able to deliver gigabit connectivity, namely Fibre to the Premises and Cable DOCSIS 3.1. The evolution of the Fibre to the Premises coverage will also be monitored separately and taken into consideration when interpreting VHCN coverage data.*

**Latest Data: 2023** EU: 78.81% VHCN and 63.99% Fiber  
LU: 94.70% VHCN and 78.90% Fiber

**Source:** [Broadband coverage in Europe studies](#) for the European Commission by IHS Markit, Omdia and Point Topic

#### 5G coverage

**Definition:** *5G coverage, measured as the percentage of populated areas covered by at least one 5G network regardless of the spectrum band used.*

**Latest Data: 2023** EU: 89.30% - LU: 99.60%

**Source:** [Broadband coverage in Europe studies](#) for the European Commission by IHS Markit, Omdia and Point Topic

#### Semiconductors

**Definition:** *Semiconductors, measured as value generated, in terms of revenues, by semiconductor activities in the Union, in all stages of the value chain, with respect to the global market value. For the first year, reporting will be done on the basis of those activities in Europe.*

**No data yet available.**

**Source:** Subscription data provision

## Edge Nodes

**Definition:** *Edge nodes, measured as the number of compute nodes providing latencies below 20 milliseconds; such as an individual server or other set of connected computing resources, operated as part of an edge computing infrastructure, typically residing within an edge data centre operating at the infrastructure edge, and therefore physically closer to its intended users than a cloud node in a centralised data centre.*

**Latest Data:** 2023 EU: 687 - LU: 5

**Source:** [Edge Observatory – Number of Edge nodes deployed per member state](#)

## Quantum Computing

**Definition:** *Quantum computing measured as the number of operational quantum computers or quantum simulators, including accelerators of High-Performance Computing supercomputers, deployed and accessible to the user communities.*

**No data yet available.**

**Source:** Subscription data provision

## Digital transformation of businesses

### Cloud Computing

**Definition:** *Cloud computing, measured as the percentage of enterprises (Enterprises with 10 or more persons employed. All manufacturing and service sectors, excluding the financial sector.) using at least one of the following cloud computing services: finance or accounting software applications, enterprise resource planning (ERP) software applications, customer relationship management (CRM) software applications, security software applications, hosting the enterprise's database(s), and computing platform providing a hosted environment for application development, testing or deployment.*

**Latest Data: 2023** EU: 38.90% – LU: 32.60%

**Source:** [Eurostat](#) - European Union survey on ICT usage and e-commerce in enterprises.

**Additional information:** Cloud computing refers to ICT services that are used over the internet to access software, computing power, storage capacity etc., where the services have all of the following characteristics:

- are delivered from servers of service providers,
- can be easily scaled up or down (e.g. number of users or change of storage capacity),
- can be used on-demand by the user, at least after the initial set up (without human interaction with the service provider),
- are paid for, either per user, by capacity used, or they are pre-paid.

Cloud computing may include connections via Virtual Private Networks (VPN)

For more information, please consult [European businesses statistics compilers' manual for ICT usage and e-commerce in enterprises – 2023 edition](#).

### Big data

**Definition:** *Big data, measured as the percentage of enterprises (Enterprises with 10 or more persons employed. All manufacturing and service sectors, excluding the financial sector.) analysing big data from any data source (internal or external). As of the 2024 report, big data will be measured by the percentage of enterprises performing data analytics (internally or externally).*

**Latest Data: 2023** EU: 33.20% - LU: 32.40%

**Source:** [Eurostat](#) - European Union survey on ICT usage and e-commerce in enterprises.



**Additional Information:** Data analytics refers to the use of technologies, techniques, or software tools for analysing data to extract patterns, trends, and insights to make conclusions, predictions and better decision-making with the aim of improving performance (e.g., increase production, reduce costs). Data may be extracted from your own enterprise' data source or from external sources (e.g., suppliers, customers, government).

For more information, please consult [European businesses statistics compilers' manual for ICT usage and e-commerce in enterprises – 2023 edition](#).

## Artificial Intelligence

**Definition:** *Artificial intelligence, measured as the percentage of enterprises (Enterprises with 10 or more persons employed. All manufacturing and service sectors, excluding the financial sector.) using at least one artificial intelligence technology.*

**Latest Data:** 2023    EU: 8.00% - LU: 14.40%

**Source:** [Eurostat](#) - European Union survey on ICT usage and e-commerce in enterprises.

**Additional information:** Artificial intelligence refers to systems that use technologies such as: text mining, computer vision, speech recognition, natural language generation, machine learning, deep learning to gather and/or use data to predict, recommend or decide, with varying levels of autonomy, the best action to achieve specific goals.

Artificial intelligence systems can be purely software based, e.g.:

- chatbots and business virtual assistants based on natural language processing;
- face recognition systems based on computer vision or speech recognition systems;
- machine translation software;
- data analysis based on machine learning, etc.;

or embedded in devices, e.g.:

- autonomous robots for warehouse automation or production assembly works;
- autonomous drones for production surveillance or parcel handling, etc.

For more information, please consult [European businesses statistics compilers' manual for ICT usage and e-commerce in enterprises – 2023 edition](#).

## SMEs with at least a basic level of digital intensity SMEs

**Definition:** *SMEs with at least a basic level of digital intensity, measured as the percentage of SMEs (10-249 persons employed, without the financial sector) using at least 4 of 12 selected digital technologies.*

**Latest Data: 2023** EU: 57.70% - LU: 57.80%

**Source:** [Eurostat](#) - European Union survey on ICT usage and e-commerce in enterprises.

**Additional information:** The 12 selected digital technologies for [2023](#) are:

- Enterprises where more than 50% of the persons employed used computers with access to the internet for business purposes;
- Have ERP software package to share information between different functional areas;
- The maximum contracted download speed of the fastest fixed line internet connection is at least 30 Mb/s;
- Enterprises where web sales were more than 1% of the total turnover and B2C web sales more than 10% of the web sales;
- Data analytics for the enterprise is performed by the enterprise's own employees or by an external provider;
- Use any social media;
- Have CRM;
- Buy sophisticated or intermediate CC services;
- Use any AI technology;
- Buy CC services used over the internet;
- Enterprises with e-commerce sales of at least 1% turnover;
- Use two or more social media.

## Unicorns

**Definition:** *Unicorn' means either: (a) an undertaking founded after 31 December 1990, which had an initial public offering or trade sale above USD 1 billion; or (b) an undertaking that has been valued at over USD 1 billion in its last private venture funding round, including where the valuation has not been confirmed in a secondary transaction.*

**Latest Data: 2023** EU: 263 – LU : 2

**Source:** Subscription data provision: [Unicorns | Dealroom.co](#)

## Digitalisation of public services

### Online provision of key public services for citizens

**Definition:** *Online provision of key public services for citizens, measured as the share of administrative steps that can be done fully online for major life events. The following life events are considered: moving; transport; starting a small claims procedure; family; career; studying; health.*

**Latest Data: 2023** EU: 79.44/100 - LU: 94.78/100

**Source:** eGovernment Benchmarking Reports (2012-2023)

### Online provision of key public services for businesses

**Definition:** *Online provision of key public services for businesses, measured as the share of administrative steps needed to start a business and conduct regular business operations, which can be done fully online.*

**Latest Data: 2023** EU: 85.42/100 - LU: 96.67/100

**Source:** eGovernment Benchmarking Reports (2012-2023)

### **Additional information:**

The indicator broadly reflects the share of public services needed for starting a business and conducting regular business operations that are available online for domestic as well as foreign users. Services provided through a portal receive a higher score, services which provide only information (but have to be completed offline) receive a more limited score.

### Access to e-health records

**Definition:** *Access to e-health records, measured as: (i) the nationwide availability of online access services for citizens to their electronic health records data (via a patient portal, or a patient mobile app) with additional measures in place that enable certain categories of people (e.g. guardians for children, people with disabilities, elderly) to also access their data, and (ii) the percentage of individuals that have the ability to obtain or make use of their own minimum set of health-related data currently stored in public and private electronic health-record (EHR) systems.*

**Latest Data: 2023** EU: 79.12/100 - LU: 76.10/100

**Source:** Digital decade e-Health indicators development report

## Access to eID

**Definition:** Access to eID measured by two KPIs: (1) as the number of Member States that have notified at least one national eID scheme in accordance with Regulation (EU) No 910/2014 and (2) as the number of Member States that have provided access to secure privacy-enhancing eID via the European Digital Identity Wallet in accordance with the Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) No 910/2014 as regards establishing a framework for a European Digital Identity.

**Latest Data: 2024** (1) EU: 24 Member States - LU: Yes  
(2) No data available.

**Source:** [Commission services](#)