Council of the European Union

Brussels, 20 June 2025
(OR. en)

10407/25
ADD 60

TELECOM 196
DIGIT 122
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PI 125
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JAI 869
ENFOPOL 216
COSI 121

COVER NOTE

From:	Secretary-General of the European Commission, signed by Ms Martine DEPREZ, Director
date of receipt:	16 June 2025
To:	Ms Thérèse BLANCHET, Secretary-General of the Council of the European Union
No. Cion doc.:	SWD(2025) 295 final
Subject:	COMMISSION STAFF WORKING DOCUMENT DESI 2025 methodological note Accompanying the document Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions State of the Digital Decade 2025: Keep building the EU's sovereignty and digital future

Delegations will find attached document SWD(2025) 295 final.

Encl.: SWD(2025) 295 final

EUROPEAN
COMMISSION

Brussels, 16.6.2025
SWD(2025) 295 final

COMMISSION STAFF WORKING DOCUMENT

DESI 2025 methodological note

Accompanying the document

Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions

State of the Digital Decade 2025: Keep building the EU's sovereignty and digital future

{COM(2025) 290 final} - {SWD(2025) 290 final} - {SWD(2025) 291 final} -
{SWD(2025) 292 final} - {SWD(2025) 293 final} - {SWD(2025) 294 final}

European Commission

DESI 2025 METHODOLOGICAL NOTE

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1 The DESI 2025

In line with Article 2(1) of the Digital Decade Policy Programme 2030 (the Decision), adopted by the Council and Parliament in December 2022[1], since its 2023 edition the Digital Economy and Society Index (DESI) has been based on a set of indicators providing a multi-dimensional, detailed picture of the collective annual progress made by the EU towards the 2030 goals. DESI consists of a dashboard of indicators fully aligned with the digital targets established in the Decision. It includes all the key performance indicators of the digital decade (DD KPI) set out in the Commission Implementing Decision[2] for which national-level values are available or estimated.

The DESI 2025 dashboard features more than 30 indicators, including the DD KPIs (Table 1). However, updated values are not available for all indicators. Those without new data for 2025 are marked with the label '[no new data in 2025]'.

The DESI dashboard's indicators and metadata can be accessed and analysed via the DESI visualisation tool[3] for all the available years.

Most of the indicators are collected by the relevant authorities of the Member States and by the Commission, the European Statistical Office (Eurostat) and the Directorate-General for Communications Networks, Content and Technology (DG CNECT), via ad hoc studies for which all the details and links are provided.

The country and EU-level data analysis – state of play and level of progress – of a selection of the DESI 2025 dashboard indicators was in part generated using tested European generative AI models – Mistral Large and Small for the 2025 SDDR Country Reports. All officers responsible have verified the initial drafts for accuracy and relevance.

Table 1 DESI 2025 dashboard

Dimension	Sub-dimension	Indicator	Most recent year available
1 Digital skills	Internet user skills	Internet use	2024
		At least basic digital skills (DD KPI)	2023
		Above basic digital skills	2023
	Advanced skills and development	ICT specialists (DD KPI)	2024
		Enterprises providing ICT training	2024
2 Digital infrastructures	Fixed broadband	Overall internet take-up	2024
		Share of fixed broadband subscription ≥ 100 Mbps	2024
		Share of fixed broadband subscription ≥ 1 Gbps	2024
		Fixed Very High Capacity Network (VHCN) coverage (DD KPI)	2024
		Fibre to the Premises (FTTP) coverage (DD KPI)	2024
	Mobile broadband	Overall 5G coverage (DD KPI)	2024
		5G coverage in the 3.4-3.8 GHz band	2024

[1] Decision (EU) 2022/2481 of the European Parliament and of the Council of 14 December 2022 establishing the Digital Decade Policy Programme 2030 (Text with EEA relevance), OJ L 323, 19.12.2022, p.4.

[2] Commission Implementing Decision (EU) 2023/1353 of 30 June 2023 setting out key performance indicators to measure the progress towards the digital targets established by Article 4(1) of Decision (EU) 2022/2481 of the European Parliament and of the Council.

[3] DESI dashboard for the Digital Decade (2023 onwards) - Digital Decade DESI visualisation tool

Dimension	Sub-dimension	Indicator	Most recent year available
		5G spectrum	2025
		5G SIM cards (share of population)	2024
		Estimated number of deployed edge nodes (DD KPI)	2024
		SMEs with at least a basic level of digital intensity DII version IV (DD KPI)	2024
3 Digital transformation of businesses	Digital intensity	Data Analytics (DD KPI)	2023 (2024 data for Spain)
	Digital technologies for businesses	Cloud (DD KPI)	2023 (2024 data for Croatia, Hungary, Netherlands, and Spain)
		Artificial Intelligence (AI) (DD KPI)	2024
		AI or Cloud or Data Analytics (DD combined KPI)	2023 (2024 data for Spain)
		Number of unicorns (DD KPI)	2024
		SMEs selling online	2024
	e-Commerce	e-Commerce turnover	2024
		e-Government users	2024
4 Digitalisation of public services	e-Government	Digital public services for citizens (DD KPI)	2024
		Digital public services for businesses (DD KPI)	2024
		Prefilled forms	2024
		Transparency of service delivery, design and personal data	2024
		User support	2024
		Mobile friendliness	2024
	e-Health	Access to e-Health records (DD KPI)	2024

1.1.1 Digital skills

Table 2 Digital skills indicators

Indicator	Description	Unit	Source	Reference year (latest available year with comparable values across the EU)
Internet use	Individuals who use the internet at least once a week	% of individuals + gender and age breakdown	Eurostat – European Union survey on the use of ICT in Households and by individuals (ISOC_CI_IFP_FU [I_IUSE])	2024
At least basic digital skills (DD KPI) EU 2030 target = 80%	Individuals (aged 16-74) with 'basic' or 'above basic' digital skills in each of the following five dimensions: information, and data literacy, communication and collaboration, problem-solving, digital content creation and safety	% of individuals + gender, age, education, place of residence and competence area breakdowns	Eurostat – European Union survey on the use of ICT in Households and by Individuals (ISOC_SK_DSKL_I21 [I_DSK2_BAB])	2023
Above basic digital skills	Individuals (aged 16-74) with 'above basic' digital skills in each of the following five dimensions: information, and data literacy, communication and collaboration, problem-solving, digital content creation and safety	% of individuals + gender, age, education, place of residence and competence area breakdowns	Eurostat – European Union survey on the use of ICT in Households and by Individuals (ISOC_SK_DSKL_I21 [I_DSK2_AB])	2023
ICT specialists (DD KPI) EU 2030 target = 20 million equivalent to approximately 10% of total employment **(assuming 200 m in employment in 2030)**	Employed ICT specialists. Broad definition based on the ISCO-08 classification and including jobs like ICT service managers, ICT professionals, ICT technicians, ICT installers and servicers.	% of total employment + gender breakdown	Eurostat – Labour force survey (ISOC_SKS_ITSPT, ISOC_SKS_ITSPS)	2024

The digital skills group of indicators assesses both internet user skills of citizens and the number of specialists with advanced digital skills. 'At least basic digital skills' and 'ICT specialists' measure progress towards the targets of the Digital Decade Policy Programme.

1.1.2 Digital infrastructures

Table 3 Digital infrastructures indicators[4]

Indicator	Description	Unit	Source	Reference year (latest available year with comparable values across the EU)
Overall Internet take-up	Households with access to the Internet at home	% of households	European Union survey on the use of ICT in households and by individuals - level of internet access (table: ISOC_CI_IN_H)	2024
Share of fixed broadband subscription ≥ 100 Mbps	% of households subscribing to fixed broadband of at least 100 Mbps, calculated as overall broadband take-up multiplied by the percentage of fixed broadband lines of at least 100 Mbps	% of fixed broadband subscriptions	European Commission through the Communications Committee (COCOM) and Eurostat – European Union survey on the use of ICT in households and by individuals	2024
Share of fixed broadband subscription ≥ 1 Gbps	% of households subscribing to fixed broadband of at least 1 Gbps, calculated as overall broadband take-up multiplied by the percentage of fixed broadband lines of at least 1 Gbps	% of fixed broadband subscriptions	European Commission through the Communications Committee (COCOM) and Eurostat – European Union survey on the use of ICT in households and by individuals	2024
Fixed Very High Capacity Network (VHCN) coverage (DD KPI) EU 2030 target = 100%	% of households covered by any fixed VHCN. The technologies considered are FTTH and FTTB for 2017-2018 and FTTH, FTTB and Cable DOCSIS 3.1 for 2019 onwards	% of households + rural area breakdown	Broadband coverage in Europe studies for the European Commission by Omdia and Point Topic 'Broadband coverage in Europe 2024': https://digital-strategy.ec.europa.eu/en/news-redirect/883228 Also available via EUROSTAT ISOC_CBT	2024
Fibre to the Premises (FTTP) coverage (DD KPI) EU 2030 target = 100%	% of households covered by FTTH and FTTB	% of households + rural area breakdown	Broadband coverage in Europe studies for the European Commission by Omdia and Point Topic 'Broadband coverage in Europe 2024': https://digital-strategy.ec.europa.eu/en/news-redirect/883228 Also available via EUROSTAT ISOC_CBT	2024
Overall 5G coverage (DD KPI) EU 2030 target = 100%	% of populated areas with coverage by at least one 5G mobile network	% of households + rural area breakdown	Broadband coverage in Europe studies for the European Commission by Omdia and Point Topic 'Broadband coverage in Europe 2024' https://digital-strategy.ec.europa.eu/en/news-redirect/883228 Also available via EUROSTAT ISOC_CBT	2024

[4] Indicators' values from both COCOM and Omdia/Point Topic can be slightly revised for previous years at the request of the MS's National Regulatory Authorities. For this reason, time series included in previous versions of the DESI may not fully match the ones reported in DESI 2024.

Indicator	Description	Unit	Source	Reference year (latest available year with comparable values across the EU)
5G coverage in the 3.4-3.8 GHz band	% of populated areas with coverage by 5G using the 3.4-3.8 GHz spectrum band	% of households + rural area breakdown	Broadband coverage in Europe studies for the European Commission by Omdia and Point Topic 'Broadband coverage in Europe 2024': https://digital-strategy.ec.europa.eu/en/news-redirect/883228	2024
5G spectrum	The amount of spectrum assigned and ready for 5G use within the '5G pioneer bands'. These bands are 700 MHz (703-733 MHz and 758-788 MHz), 3.6 GHz (3400-3800 MHz) and 26 GHz (1000 MHz within 24250-27500 MHz). All three spectrum bands have an equal weight.	Assigned spectrum as a % of total harmonised 5G spectrum	European Commission services, through the Communications Committee (COCOM)	2025
5G SIM cards share of population	5G mobile subscriptions defined as SIM cards that generated any internet traffic on a domestic 5G network in the last 90 days.	% of total population	European Commission services, through the Communications Committee (COCOM)	2024
Edge nodes (estimates) **(DD KPI)** EU 2030 target = 10000	Estimated number of edge computing nodes providing latencies below 20 milliseconds.	Number of deployed edge nodes	EDGE Observatory – Edge nodes (all edge nodes with no further specification) estimated to be deployed across Europe in 2024: Data for the other Member States has been estimated as presented in the Edge Observatory methodology. **Edge Deployment Data Reports**: • 1st Edge Deployment Data Report (September 2023) Row data: IDC Survey Data, Targets 2030 calculations) • 2nd Edge Deployment Data Report (March 2024) [International comparison] • 3rd Edge Deployment Data Report (June 2024) Row data: IDC Survey Data, Targets 2030 calculations) • 4th Edge Deployment Data Report (August 2024) [International comparison]	2024

Under this group of indicators, both fixed and mobile broadband are analysed with indicators measuring the supply and the demand side. 'Fixed VHCN', 'FTTP', '5G coverage' and 'edge-node deployment' all measure progress towards the targets of the Digital Decade Policy Programme.

1.1.3 Digital transformation of businesses

Table 4 Digital transformation of businesses indicators

Indicator	Description	Unit	Source	Reference year (latest available year with comparable values across the EU)
SMEs with at least a basic level of digital intensity (DD KPI) EU 2030 target = 90%	The digital intensity score is based on counting how many of 12 technologies selected are used by enterprises. A basic level requires usage of at least four technologies (see Table 5).	% of SMEs	Eurostat – European Union survey on ICT usage and e-commerce in Enterprises (ISOC_E_DII [E_DI4_LO + E_DI4_HI + E_DI4_VHI], [E_DI4_GELO])	2024 [Ver. IV]
Data Analytics[5]	Enterprises performing data analytics (internally or externally)	% of enterprises	Eurostat – European Union survey on ICT usage and e-commerce in Enterprises (ISOC_EB_DAS [E_DA])	2023
Cloud	Enterprises buying sophisticated or intermediate cloud computing services	% of enterprises	Eurostat – European Union survey on ICT usage and e-commerce in enterprises (ISOC_CICCE_USE [E_CC1_SI])	2023
AI	Enterprises using any AI technology	% of enterprises	Eurostat – European Union survey on ICT usage and e-commerce in enterprises (ISOC_EB_AI [E_AI_TANY])	2024
AI or Cloud or Data Analytics (DD combined KPI) EU 2030 target = 75%	Enterprises using AI technologies or buying sophisticated or intermediate cloud computing services or performing data analytics	% of enterprises	Eurostat – European Union survey on ICT usage and e-commerce in enterprises (ISOC_EB_AI [E_AI_CC1SI_DA_ANY])	2023
e-Commerce turnover	SMEs' total turnover from e-commerce[6]	% of SME turnover	Eurostat – European Union survey on ICT usage and e-commerce in Enterprises (ISOC_EC_EVALS[E_ETURN])	2024

[5] In 2023, Eurostat in cooperation with all the EU National Statistical Institutes replaced the Big Data indicator with the Data Analytics one. 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) (source Eurostat). Data Analytics includes a broader set of technologies than the former Big Data.

[6] Data for e-commerce refer to the calendar year prior to the survey, e.g. 2024 values refer to 2023 e-commerce.

Indicator	Description	Unit	Source	Reference year (latest available year with comparable values across the EU)
SMEs selling online	SMEs selling online (at least 1% of turnover)	% of SMEs	Eurostat – European Union survey on ICT usage and e-commerce in Enterprises (ISOC_EC_ESELS [E_ESELL])	2024
Unicorns[7] **(DD KPI)** EU 2030 target = doubling the number	Calculated as the sum of unicorns referred to in Article 2, point (11)(a), of Decision (EU) 2022/2481 and those referred to in Article 2, point (11)(b), of that Decision	Total number of unicorns	Dealroom.co (dataset downloaded on 24.3.2025) https://app.dealroom.co/dashboard	2024

The 'Digital transformation of businesses' group of indicators is made up of four sub-groups: digital intensity, take-up of selected technologies by enterprises, e-commerce, and unicorns. 'SMEs with at least a basic level of digital intensity', and 'take-up of Cloud or Data Analytics or AI', and 'unicorns' measure progress towards the targets of the Digital Decade Policy Programme.

Table 5 Digital Intensity Index

Digital intensity is measured using the Digital Intensity Index (DII), which assesses the adoption of 12 selected technologies by enterprises. A basic level of digital intensity is defined as an enterprise utilising at least 4 of those 12 technologies. Each year, the index encompasses a wide array of technologies, ranging from basic to more sophisticated, with the aim of evaluating the digitalisation level of SMEs across the EU.
The 2024 version of the index, **DII version IV**, includes the following 12 technologies and/or criteria (source: Eurostat): 1.Enterprises where more than 50% of the persons employed used computers with access to the internet for business purposes (same as version III); 2. The maximum contracted download speed of the fastest fixed line internet connection is at least 30 Mb/s (same as version III); 3. Enterprises with e-commerce sales of at least 1% turnover; 4. Enterprises where web sales are more than 1% of the total turnover and B2C web sales more than 10% of the web sales; 5. Enterprise with document(s) on measures, practices or procedures on ICT security; 6. Enterprises make employees aware of their obligations in ICT security-related issues; 7. Use at least 3 ICT security measures; 8. Any type of training

[7] Unicorns' classification and extraction methodology: The Commission extracts from the Dealroom platform companies that are classified as unicorns and have their headquarters in the EU27. This implies that all and only unicorns with headquarters in one EU Member State at the time of the extraction are counted. Every company that is classified by Dealroom as 'verified unicorn and USD 1 billion exits' has a last reported private valuation or exit of USD 1 billion or more. The term "exit" refers to the process by which investors, such as venture capitalists or founders, sell their stake in a company, typically to realise a return on their investment. In some cases, a private unicorn may have fallen below USD 1 billion in paper value since their last disclosed funding round and valuation. In this case, they retain their unicorn classification in Dealroom until an updated valuation is confirmed. Where a company had an exit above USD 1 billion and subsequently fell in value, it is still counted due to achieving a unicorn exit. Where company valuations are reported in currencies other than USD, the exchange rate from reported currency at the time is used. In these scenarios, Dealroom's analysists may decide to allow for a limited amount of benefit-of-the-doubt due to exchange rate fluctuation.

provided to develop ICT related skills of the persons employed; 9. Employ ICT specialists; 10. Use any AI technology; 11. Any of the persons employed having remote access to any of the following: email, documents, business apps; 12. Enterprises which conducted remote meetings.

Compared to the 2023 version of the index (version III), the 2024 iteration places greater emphasis on ICT security measures, at the expense of cloud services and data analytics take-up due to the limited space available in the Eurostat's survey on ICT usage in enterprises.

1.1.4 Digitalisation of public services

Table 6 Digitalisation of public services indicators

Indicator	Description	Unit	Source[8]	Reference year (latest available year with comparable values across the EU)
e-Government users[9]	Individuals who used the Internet, in the last 12 months, for interaction with public authorities on websites or on mobile applications	% internet users	Eurostat – European Union survey on the use of ICT in households and by individuals (ISOC_CIEGI_AC [I_IGOVANYS])	2024
Digital public services for citizens (DD KPI) EU 2030 target = 100/100	Online provision of key public services for citizens, measured as the share of administrative steps that can be done online for major life events for citizens. There are seven life events simultaneously considered for citizens: 1. Family, 2. Career, 3. Studying, 4. Health, 5. Transport, 6. Moving, 7. Starting a Small Claims Procedure	Score (0 to 100)	e-Government Benchmark 2025 https://digital-strategy.ec.europa.eu/en/news-redirect/883225	2024
Digital public services for businesses (DD KPI) EU 2030 target = 100/100	Online provision of key public services for entrepreneurs, measured as the share of administrative steps that can be completed fully online for major life events. There are two life events simultaneously considered for businesses: 1. Business Start-up, 2. Regular Business Operations	Score (0 to 100)	e-Government Benchmark 2025 https://digital-strategy.ec.europa.eu/en/news-redirect/883225	2024
Prefilled forms	Prefilled forms, measured as the share of administrative steps that present prefilled data, already known to public administrations, to the user in online forms.	Score (0 to 100)	e-Government Benchmark 2025 https://digital-strategy.ec.europa.eu/en/news-redirect/883225	2024
Transparency of service delivery, design and personal data	Transparency of service delivery, design and personal data, measured as the extent to which service processes are transparent, services are designed with user involvement and users can manage their personal data	Score (0 to 100)	e-Government Benchmark 2025 https://digital-strategy.ec.europa.eu/en/news-redirect/883225	2024
User support	The extent to which online support, help features, and feedback mechanisms are available incl. cross-border	Score (0 to 100)	e-Government Benchmark 2025 https://digital-strategy.ec.europa.eu/en/news-redirect/883225	2024

[8] Eurostat dataset code in brackets with indicator filter in squared brackets.

[9] The 'eGoverment users' indicator included in DESI 2024 is defined as 'Internet use: website or app of public authorities (last 12 months)', as in the 2023 DESI dashboard.

Mobile friendliness	The share of services which are provided through a mobile-friendly interface, an interface that is responsive to the mobile device	Score (0 to 100)	e-Government Benchmark 2025 https://digital-strategy.ec.europa.eu/en/news-redirect/883225	2024
Citizens' online access to electronic health records (short name = Access to e-Health records) **(DD KPI)** EU 2030 target = 100/100	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, older people) 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	Score (0 to 100)	2025 Digital Decade eHealth Indicator Study https://digital-strategy.ec.europa.eu/en/news-redirect/883229	2024

The 'digitalisation of public services' group of indicators describes the demand and supply of e-Government as well as e-Health. The 'Digital public services for citizens and businesses' and the 'access to e-Health records' are indicators measuring progress towards the targets of the Digital Decade Policy Programme.

1.1.5 The KPI table in the country reports executive summary

Each Member State's report contains in its Executive Summary (as an Annex to the Communication on the State of the Digital Decade 2024) a summary table of the Digital Decade KPIs. That table lists:

- **Digital Decade KPIs:** in the order of appearance in the Country Report Staff Working Document. Data analytics now replaces Big Data. The new indicator on the take-up of either AI, Cloud, or Data analytics is introduced in this version of DESI 2025.
- **DESI 2024**: the last comparable data. For most KPIs, it is the value from 2023 (except for SMEs with at least a basic level of digital intensity for which the comparison is taken from year 2022). Note that since the publication of DESI 2024 in July 2024, some data might have been retroactively revised.
- **DESI 2025:** current level of the KPIs as measured in 2024 for most of the indicators and reported in 2025.
- **Annual progress:** The compound annual growth rate (CAGR), which is calculated on the basis of the two most recent available data points. Progress cannot be computed for 'Cloud', 'Data Analytics', 'take-up of either AI, Cloud, or Data analytics', and 'At least basic digital skills' since these indicators were not measured in 2024. For some Member States and for specific KPIs, methodological updates might prevent the calculation of this growth rate.
- **National trajectory:** Value of the national trajectory for 2024, as committed by the Member State in its (revised) Digital Decade national strategic roadmap. A '-' denotes that there is no measure in 2024 or that there is no national trajectory point for this year in the national roadmap, as set by the Member State.
- **EU**: The same comments apply for the EU data on DESI 2025 and annual progress.
- **Digital Decade target by 2030 MS**: the target for 2030 as defined explicitly by the Member State in its national strategic roadmap. A '-' denotes that no national target was explicitly set by the Member State.
- **Digital Decade target by 2030 EU:** EU-level digital targets set out in Article 4 of the Digital Decade Policy Programme 2030.

1.1.6 Additional indicators used in the country reports

In order to deepen the analysis and explore areas of the digital transformation not currently covered by the DESI dashboard, the SDDR25 includes several additionnal indicators, mainly related to sovereignty, cybersecurity, and the green transition.

Table 7 Additional indicators used in the country reports

Policy area	Indicator	Source	Policy relevance
Sovereignty	**Percentage of the ICT sector** in Gross value added	Eurostat https://ec.europa.eu/eurostat/databrowser/view/isoc_bde15ag/default/table?lang=en&category=isoc.isoc_se	It measures the importance of the ICT sector in the economy. A strong ICT sector often indicates strong innovation ecosystems. A high share of value added may suggest a significant role in global ICT markets, reducing reliance on external providers
Sovereignty	**Business expenditure on R&D** (BERD) in ICT sector as % of total R&D expenditure	Eurostat https://ec.europa.eu/eurostat/databrowser/view/isoc_bde15ar2/default/table?lang=en&category=isoc.isoc_se	Same as above
Sovereignty	**R&D personnel in ICT sector** as % of total R&D personnel	Eurostat https://ec.europa.eu/eurostat/databrowser/view/isoc_ic_biper2/default/table?lang=en&category=isoc.isoc_se	Same as above
Cybersecurity (people)	**Cyber awareness and readiness (households)**	Eurostat https://ec.europa.eu/eurostat/databrowser/view/isoc_sk_dskl_i21/default/table?lang=en DSI safety skills (6 sub-indicators)	This indicator measures people's awareness and preparedness. It is therefore highly policy relevant for assessing the level of cybersecurity as it reflects the human dimension of digital resilience. Cybersecurity is not only about technology (firewalls, encryption standards …) but also, and sometimes mostly, about user's behaviour
Cybersecurity (businesses)	**Security measures and staff awareness (enterprises)**	Eurostat https://ec.europa.eu/eurostat/databrowser/view/isoc_cisce_ra/default/table?lang=en&category=isoc.isoc_e.isoc_cisc Examples of indicators: • ICT security measures adoption • Awareness of ICT security related issues	It measures cyber preparedness of enterprises. Enterprises are frequent targets of cyberattacks, such as ransomware, phishing, or data breaches. This indicator reflects how well businesses are equipped to prevent such threats (cyber resilience)
Cybersecurity (businesses)	**Security incidents and consequences (enterprises)**	Eurostat ENT survey Examples of indicators: ICT security incidents leading to • ICT services unavailability	It measures the number of incidents and potential consequences like service disruption.

Policy area	Indicator	Source	Policy relevance
		• Data destruction/ corruption • Confidential data disclosure	While it could be an indicator of businesses' ability to handle cyberattacks, it could also be influenced by external factors (the number of cyberattacks suffered).
Cybersecurity (internet standards and protocols)	Monitoring the deployment of Internet standards: DNSSE, IPv6: end-user adoption	European Commission https://ec.europa.eu/internet-standards/index.html	**DNSSEC**: A high level of adoption of Domain Name System Security Extensions (DNSSEC) is essential to protect the integrity of the Domain Name System (DNS) Internet infrastructure to ensure the interoperability and security of the global cyberspace. The DNSSEC adoption rate in EU Member States is currently at a medium level, although there is quite a fragmentation among them, with some Member States better placed than others. **IPv6** is the latest version of the Internet's main communication protocol. IPv6 ensures the scalability, stability, and security of the Internet. The analysis uses a set of publicly available data sources, as well as data collected from JRC own measurements, for estimating the rate of adoption of IPv6 across two dimensions: (a) end-user adoption, i.e. end-user hosts capable of using IPv6 to connect to the Internet
Greening ICT (people)	Indicators on **recycling of ICT device** (recycling of laptop, desktop, or smartphone) + **criteria for purchasing** (eco-design, energy consumption) (households)	Eurostat Destination of ICT devices no longer in use (isoc_eco_dd) Important characteristics when buying ICT devices (isoc_eco_ic)	Measures the disposal and buying criteria of devices by the population (devices account for the majority of the footprint of the digital sector)
Greening ICT (businesses)	**Businesses green awareness and readiness**: ICT and environment statistics (enterprises applying measure on printing, energy consumption of ICT equipment, considering the environmental impact of ICT services when buying, considering e-waste, recycling ICT equipment…)	Eurostat https://ec.europa.eu/eurostat/databrowser/view/isoc_e_envn2/default/table?lang=en&category=isoc.isoc_e	Assess the enterprises' awareness and preparedness on the green aspects of their digital sector

Policy area	Indicator	Source	Policy relevance
People / ethics / democracy	Individuals - encountering **hostile or degrading online messages**	Eurostat https://ec.europa.eu/eurostat/databrowser/view/isoc_ci_hm/bookmark/table?lang=en&bookmarkId=b22f969c-7ac2-4ea4-9d3c-dccdb0f497b4 8 indicators	It measures how people perceived they were exposed to hostile/degrading messages online. It sheds light on the scale of online abuse, as perceived by the individuals, which in turn informs policies around digital safety of people, especially for vulnerable groups like the youngest (16-24) and women. Ensuring a safe online environment is critical for advancing digital transformation by increasing public trust in digital platforms.
People / ethics / democracy	**Evaluating data, information and digital content**	Eurostat https://ec.europa.eu/eurostat/databrowser/view/isoc_sk_edic_i21/bookmark/table?lang=en&bookmarkId=e0fe4850-ae96-41c5-b9d6-4457431b3e3b 9 indicators	It measures the awareness of people toward doubtful contents and their willingness to verify information online. It can be considered a proxy for the extent to which individuals are aware of mis/disinformation and their proactive efforts to verify information, which is critical for mitigating the spread of fake news.
People / ethics / democracy	Internet use**: civic or political participation**	Eurostat https://ec.europa.eu/eurostat/databrowser/view/isoc_ci_ac_i/default/table?lang=en&category=isoc.isoc_i.isoc_iiu	It measures how people use digital tools to participate in the democratic life, i.e. how individuals leverage digital tools to engage in democratic activities such as taking part in on-line consultations or voting to define civic or political issues; expressing opinions on civic or political issues on websites or in social media.

1.1.7 Data sources

Most of the data in the DESI 2025 have been collected directly by national authorities, such as the National Statistical Institutes coordinated by Eurostat or National Regulatory Authorities. Table 8 Data sourcesTable 8 presents the data sources and the role of national authorities in data collection and validation.

Table 8 Data sources

Data source	Data collection process
Eurostat	Data collected by National Statistical Institutes and verified by the National Statistical Institutes and Eurostat.
Communications Committee (COCOM)	Data collected and verified by the National Regulatory Authorities (by data experts appointed by the members of the Communications Committee in every Member State).
Broadband coverage studies	Data collected by Omdia and Point Topic and verified by the National Regulatory Authorities (by data experts appointed by the members of the Communications Committee in every Member State).
e-Government benchmark	Data collected by Capgemini and verified by relevant ministries in every Member State.
2025 Digital Decade eHealth indicator study	Data collected by Capgemini Invent by means of a specific questionnaire submitted to representatives appointed by the relevant ministries in every Member State.

1.2 Methodological considerations

1.2.1 Indicator selection criteria

To be included in the DESI dashboard, indicators must comply with the following requirements:

- *Must be collected on a regular basis*. In order to fulfil the monitoring function, the indicators used in the dashboard must be collected ideally on a yearly basis (or at least at pre-defined intervals[10]).
- *Must be relevant for the policy area of interest*. All indicators in the dashboard must be accepted as relevant metrics in their specific policy areas.
- *Must be collected in a comparable way for all the 27 Member States.* Comparable statistical indicators are needed for all 27 EU Member States to ensure fair and accurate monitoring of the collective progress made by the EU toward the Digital Decade targets. This in turn allows the EU to identify gaps and share best practices.

1.2.2 Data updates and corrections

Updates and corrections are part of the lifecycle and nature of statistical data, especially in the digital sector, which is a rapidly evolving environment. This is the case for several DESI indicators. There can be several reasons for such restatements. For example, it is typical that the values for one indicator

[10] For the data sources mentioned under 1.1.7, annual data collection exercises are planned, except for some of the data collected and verified by the National Statistical Offices or by Eurostat, which may be collected less frequently.

undergo small amendments and only stabilise completely long after the indicator was originally computed and published. Member States can also update their own methodology to collect the data for the indicators on which they report, for example to Eurostat, and revise the figures retroactively. Such revisions may impact Member States' individual indicator values and also the EU average.

The present report considers updates that were reported to the European Commission before **14 April 2025**[11], which is the **DESI 2025 cut-off date** for all indicators that had updated data or were new with respect to previous DESI editions. Any changes made after this date are not taken into account in the 2025 version of the DESI dashboard.

[11] The cut-off date for data updating and retroactive revisions is 14.4.2025 for all the indicators included in the 2025 DESI dashboard but the cut-off date for the e-Health index is 21.3.2025, and unicorns 24.3.2025.