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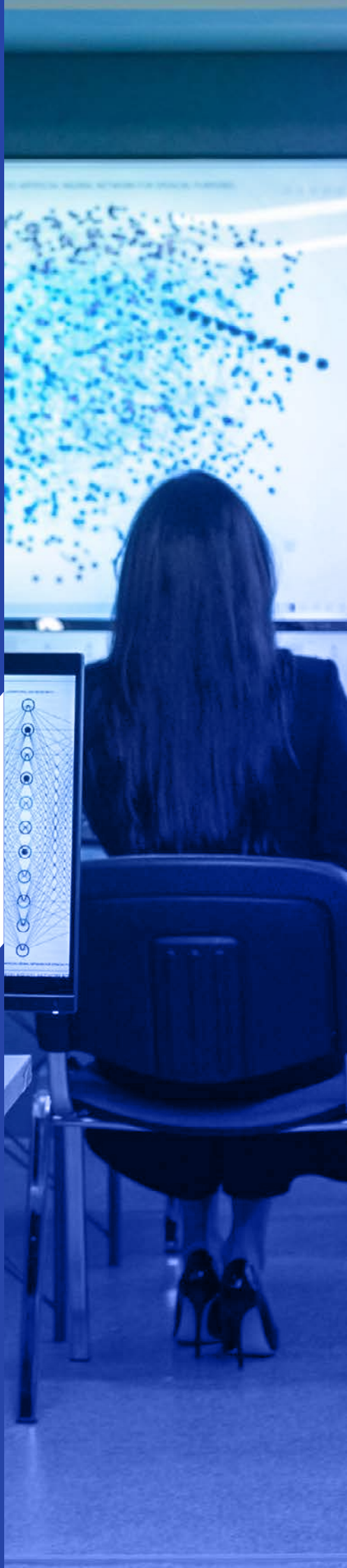
The use of artificial intelligence (AI) technologies in the European Union

Key results

2026 edition

STATISTICAL REPORT



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Contents

Abstract

The adoption of artificial intelligence (AI) technologies is transforming business operations and everyday life in the European Union (EU), affecting both enterprises and individuals. This report presents data analysis and describes the methodological approaches and challenges involved in producing official statistics on the use of AI based on data from EU surveys on the use of information and communication technology (ICT) and e-commerce in enterprises and on the use of ICT in households and by individuals.

For enterprises, the analysis examines the usage of AI technologies across size classes (small, medium and large enterprises) and different economic activities, including the purposes for which the AI technologies were used and how they were acquired. The findings reveal that larger enterprises exhibit a greater uptake of AI technologies. This might be explained, among other reasons, by the complexity of implementing AI technologies in an enterprise, economies of scale, and the costs involved. Conversely, small to medium enterprises face challenges such as a lack of relevant expertise. The analysis identifies economic sectors that have used AI more, sometimes significantly more, than others, such as the information and communication sector and professional, scientific and technical service activities sector. It also shows which sectors have lower adoption rates.

Complementing these results, the report also analyses AI use among individuals, drawing on newly introduced survey questions focused on generative AI. The results indicate that individual AI use had already reached a relatively high level by the time of this first measurement exercise and is currently dominated by use for private purposes. Socio-demographic factors such as age and education level are strong influences on individuals' levels of AI usage.

By analysing both enterprises and individuals, this paper provides a more comprehensive understanding of the dynamics of AI use in the EU, while retaining a nuanced view.

Abbreviations

AI	artificial intelligence
ICT	information and communication technology
ICT ENT	survey on the use of information and communication technology and e-commerce in enterprises
ICT HH	survey on the use of information and communication technology in households and by individuals
NSI	national statistical institute

1 Introduction

Artificial intelligence (AI) refers to the simulation of human intelligence in machines, enabling them to perform tasks such as problem-solving, decision-making and the understanding of language. Essentially, AI enables machines to carry out complex tasks by mimicking human cognitive processes. AI systems may be purely software-based (e.g. image recognition software, virtual assistants and speech- and face-recognition systems) or embedded in physical devices (e.g. autonomous robots, self-driving vehicles and drones). Today, AI technologies are increasingly present not only in the work processes of enterprises but also in the everyday lives of individuals, shaping how people work, communicate, access services and make decisions.

While enterprises have already been experimenting with AI for some time, its use by the general public surged with the release of ChatGPT in November 2022. The ensuing growth in the accessibility of AI tools has broadened their user base, but it also poses challenges for timely and accurate statistical measurement.

AI continues to develop rapidly and has the potential to transform the economy and society more broadly. In enterprises across various sectors, it can help with the automation of different tasks, which can have positive impacts such increased efficiency, cost reduction, improved quality and greater innovation. For individuals, AI can bring benefits such as more personalised services, improved access to information and new forms of interaction. At the same time, the adoption of AI poses significant challenges, such as the risk of job displacement, concerns over data protection and privacy, the effect of bias, lack of fairness, and ethical concerns related to how it is used.

The digital strategy of the European Union[1] (EU) aims to ensure that advanced technologies such as AI are adopted by EU enterprises while being developed and used in line with safety and ethical standards and in a way that benefits both the economy and society. Through its AI Act[2] Europe is already leading the way on making AI safer and more trustworthy, and on tackling the risks associated with its misuse.

To monitor the adoption of AI, Eurostat and the other members of the European Statistical System are working together to set up a comprehensive framework for measuring the uptake of AI, how it is used and the reasons behind failures to adopt it. This framework covers both enterprises and, increasingly, individuals.

This report analyses the use of AI technologies in EU enterprises and by individuals and is based on available statistical data. The report is divided into five chapters. The second chapter presents the EU's approach to measuring AI and outlines the methodology applied. The third chapter analyses from different viewpoints the use of AI technologies in EU enterprises and by individuals. The final two chapters address the difficulties involved in producing official statistics on the use of AI and explore how measurement could be extended to cover other aspects affected by AI, such as productivity, monetary value, AI-related industries and AI's impact on society in a broader sense.

(1) Digital Decade Policy Programme 2030 | Shaping Europe's digital future (europa.eu).

(2) AI Act | Shaping Europe's digital future (europa.eu).

2 Data sources and methodology

2.1. Data sources

Since 2002, EU Member States have been conducting annual surveys[3] on the use of ICT and e-commerce in enterprises (ICT ENT) and on the use of ICT in households and by individuals (ICT HH) based on EU legislation[4] aimed at ensuring a harmonised approach to the production of statistics across all reporting countries. Together, these surveys provide a benchmark measurement of ICT-driven developments in both economy and society. The ICT ENT survey focuses on the uptake of technologies and the digital transformation of enterprises, while the ICT HH survey captures how individuals and households access and use digital technologies in their everyday lives. The content of both surveys is updated every year to reflect the latest developments in ICT.

2.2. Coordination of data compilation

Eurostat is responsible for coordinating the surveys, which are conducted at national level by the national statistical institutes (NSIs) on the basis of model questionnaires and the accompanying European business statistics compilers' manuals for ICT usage and ecommerce in enterprises and for statistics on the use of ICT in households and by individuals – collectively known as the 'methodological manual'[5]. Both documents help NSIs to translate the model questionnaire into national languages and to ensure that, when conducting national surveys, all reporting countries use the same methodology to specify the concepts, definitions, compilation methods and validation rules to be applied to the data and all other aspects relevant to the collection, treatment and dissemination of the data.

The survey questions included in the model questionnaire and methodological guidelines are developed each year in close collaboration with statistical experts from NSIs and in line with the changing needs of data users and policymakers. For this purpose, each year two task force meetings for the enterprise survey, two task force meetings for the household survey and two working group meetings are organised.

Because data users are interested in a large number of topics, in any particular year a topic may or may not be included in the survey depending on the priority it has, the feasibility of collecting information and the constraints related to response burden (EU legislation specifies a maximum number of variables[6] that can be collected to avoid excessive burden on respondents).

(3) See Information on Data (europa.eu/eurostat)

(4) See Legislation (europa.eu/eurostat)

(5) See the additional methodological publications at Publications–Digital economy and society–Eurostat.

(6) The number of mandatory questions is limited to 73 answer possibilities / variables for the enterprise survey and to 139 variables for the household survey.

2.3. Methodology

2.3.1. EU survey on ICT and e-commerce in enterprises

The target population for the ICT ENT survey are enterprises with 10 or more employees and self-employed persons located in any part of the territory of any EU country[7] and engaged in one of the following economic activities under the statistical classification of economic activities in the EU (NACE Rev. 2)[8]:

- Section C – Manufacturing;
- Sections D and E – Electricity, gas and steam and air conditioning supply, water supply, sewerage, waste management and remediation activities;
- Section F – Construction;
- Section G – Wholesale and retail trade; repair of motor vehicles and motorcycles;
- Section H – Transportation and storage;
- Section I – Accommodation and food service activities;
- Section J – Information and communication;
- Section L – Real estate activities;
- Section M – Professional, scientific and technical activities;
- Section N – Administrative and support service activities;
- Group 95.1 – Repair of computers and communication equipment.

An enterprise is defined as 'the smallest combination of legal units that is an organisational unit producing goods or services, which benefits from a certain degree of autonomy in decision-making, especially for the allocation of its current resources. An enterprise carries out one or more activities at one or more locations. An enterprise may be a sole legal unit.'[9]

Enterprises are broken down into size classes according to number of employees and self-employed persons: 10-49 (small enterprises), 50-249 (medium enterprises), 250+ (large enterprises), 10+ (all enterprises).

Sampling design and resulting sample sizes are determined at country level and should be appropriate for obtaining accurate, reliable and representative results on the variables in the model questionnaire. Every year, approximately 150 000 enterprises are surveyed in the EU (157 000 were surveyed in 2025). Data are generally collected by NSIs through online web questionnaires during the first quarter of the survey year (i.e. the calendar year), sent to Eurostat in October of the survey year and published by Eurostat by the end of the survey year.

The quantitative measure used for assessing the accuracy of the data is the standard error, which is calculated at national level and reported in a quality report[10]. The maximum standard error has been set to 2 percentage points (pp) for the overall proportions and 5 pp for the proportions related to different subgroups of the population. NSIs, as producers of national official statistics, and Eurostat, as the provider of official EU statistics, are obliged to estimate statistical errors and to present them to users of the results.

In general, data relate to the current situation in the survey period or, where specified in the model questionnaire, to the calendar year prior to the survey period.

The model questionnaire provides a large variety of variables covering the following areas, among others:

- general information about ICT systems;
- access to and use of the internet;
- e-commerce;
- e-business including artificial intelligence, data analytics, cloud computing, the internet of things, etc.

(7) EU countries and some non-EU European countries.

(8) NACE stands for Nomenclature statistique des activités économiques dans la Communauté européenne.

(9) Council Regulation (EEC) No 696/93 of 15 March 1993 on the statistical units for the observation and analysis of the production system in the Community, OJ L 76, 30.3.1993, pp.1-11, ELI: http://data.europa.eu/eli/reg/1993/696/oj.

(10) ICT usage in enterprises (isoc_e) (europa.eu).

- ICT specialists, training on ICT and e-skills;
- ICT security;
- ICT and the environment.

Module on AI

The model questionnaire is structured into thematic modules. A dedicated module on AI was introduced for the first time in the 2021 model questionnaire. It was repeated in 2023, 2024 and 2025.

The first step in developing the module was to agree on a common definition of AI to be used by all countries, to ensure comparability of the data collected. The definition below is used:

'Artificial intelligence refers to systems that use technologies such as: **text mining, computer vision, speech recognition, natural language generation, machine learning and deep learning** to gather and/or use data to predict, recommend or decide on, 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.'

Data users and producers have agreed on a list of aspects related to the uptake of AI technologies by enterprises that are relevant to the survey. More specifically, the module includes questions on:

- the types of AI technology used by the enterprise (e.g. use of AI technologies to analyse written language or the use of AI technologies to convert spoken language into machine-readable format);
- the purposes for which AI technologies are used in the enterprise (e.g. for marketing or sales or for production or service processes);
- the means of acquisition of AI technologies (e.g. developed by own employees, commercial software or systems modified by own employees);
- reasons for not using AI technologies (e.g. the costs seem too high or there is lack of relevant expertise in the enterprise);
- measures to check the results generated by AI technologies for possible biases towards individuals based on sex, age, racial or ethnic origin, disability, religion or belief, or sexual orientation.

To minimise the burden on respondents, not all information has been collected on a mandatory basis at EU level. Consequently, for some optional variables, EU aggregate data is unavailable.

AI technologies and the way they are used are changing over time; since the first version of the module in 2021, some questions have been modified slightly and some aspects have been added, to capture the following:

- the use of AI technologies for accounting, controlling or financial management and the use of AI technologies for research and development or innovation activities (included in the 2023 survey);
- the implementation of measures to check the results generated by AI technologies for possible biases towards individuals based on sex, age, racial or ethnic origin, disability, religion or belief, or sexual orientation (included in the 2024 survey);
- the use of AI technologies for generating pictures, videos, sound/audio (included in the 2025 survey).

For more detail on the survey methodology, see the survey metadata, available at ICT usage in enterprises (isoc_e).

2.3.2. EU survey on the use of ICT in households and by individuals

The ICT HH survey is the EU's main tool for producing reliable statistical information on how people are using the internet and digital technologies in their daily lives.

Data are collected annually by the NSIs and are based on Eurostat's model questionnaire, which is updated every year. In most cases the ICT HH survey is conducted in the second quarter of the survey year and refers to the three months (or for some topics twelve months) preceding the survey date. Data are sent to Eurostat in October and published in December of the survey year.

The sampling design and sample size for the survey are determined at country level and must be suitable for obtaining accurate, reliable and representative results for the variables requested. In order for Eurostat to assess the accuracy of the data, NSIs provide it with the estimated standard error for the indicator 'individuals having ordered goods or services for private use over the internet in the last 12 months' and its main breakdowns. Overall information about the sampling design, non-response patterns, sampling and non-sampling errors, and methods used for the treatment of these are reported by countries in their metadata reports.

Coverage

A variety of topics related to ICT are covered in the ICT HH survey each year. The 2025 survey included the following:

- access to ICT;
- use of the internet (including artificial intelligence and online learning);
- use of e-government;
- use of electronic identification (eID);
- use of e-commerce;
- e-skills;
- privacy and protection of personal data.

Data on ICT access are collected at household level; the survey population consists of all private households with at least one member in the age group of 16 to 74 years. In 2025, around 172 000 households were surveyed by the NSIs.

The other thematic questions target individuals: the survey population consists of all individuals aged 16 to 74, although some countries also provide data on other age groups (15 or younger, 75-89, older than 89) on an optional basis. Questions are mainly aimed at active internet users: individuals who have used the internet in the three or twelve (depending on the topic) months prior to the survey. Approximately 330 000 individuals were surveyed in the EU in 2025.

Breakdowns

The survey also collects socio-demographic background information, which allows for further analysis based on the following breakdowns.

Relating to households:

- by region of residence (NUTS[11] 1, optional: NUTS 2);
- by geographical location: less developed regions, transition regions and more developed regions;
- by degree of urbanisation: densely populated areas, intermediate density areas and thinly populated areas;
- by type of household;
- by net monthly household income.

Relating to individuals:

- by age (in completed years and by groups);
- by sex;

([11]) NUTS stands for Nomenclature of Territorial Units for Statistics (French: *Nomenclature des Unités territoriales statistiques*).

- by educational level (ISCED[12] 2011);
- by occupation: manual/non-manual; ICT/non-ICT worker; 2-digit ISCO[13] categories;
- by employment situation;
- by country of birth and country of citizenship;
- by region of residence (NUTS 1 and (optionally) NUTS 2);
- by geographical location: less developed regions, transition regions and more developed regions;
- by degree of urbanisation: densely populated areas, intermediate density areas and thinly populated areas.

Artificial Intelligence in the ICT HH survey

The topic of artificial intelligence was first included in the ICT HH survey in 2025, largely as a reaction to the sudden public visibility and accessibility of generative AI following the release of ChatGPT in November 2022. What makes this addition slightly unusual is that it was not driven by a specific pre-defined policy demand at the time, but rather by a rapid shift in the technological landscape that was clearly affecting how people were using digital technologies. The appearance of the first data in 2025 might appear late, but in practice this reflects the time required for the drafting, consultation and legal adoption process.

There was much discussion on how to approach the topic methodologically: defining what 'counts' as AI is difficult when it is often embedded invisibly in software, when users may not be aware they are using it, or when the term is frequently used as a buzzword that does not actually reflect technological reality. The solution decided upon was to focus on the conscious use of AI, which is realistically the only area where high-quality self-reported data can be collected, and to deliberately further narrow the scope to generative AI, as this is what most individuals associate with the term AI today and what they would most reliably recognise. This decision allows for a clearer scope, but also comes with a trade-off, as some AI-enabled tools (such as AI assistants or AI-powered search) may not be included.

The questionnaire includes the following definition of generative AI, but also relies heavily on recent brand examples to improve identifiability:

'Generative Artificial Intelligence can **create new content** such as text, images, programming code, videos, or other data, based on available information and patterns it has learned from existing examples. To generate this content, it **requires input or a prompt by the user**, such as asking it a question or providing instructions or a topic to focus on.'

In 2025 three AI-related questions were introduced; by the 2026 survey year, these had already been moved into a dedicated module that is expected to expand as the topic grows further.

The following three questions were included in the 2025 questionnaire:

- Have you used generative AI tools (e.g. ChatGPT, Copilot, Gemini, LLaMA, Midjourney, DALL-E) to create content like text, images, programming code, or videos in the last 3 months?
  - Yes/No
- What was the purpose of using generative AI tools in the last 3 months?
  - For private purposes
  - For professional (work) purposes
  - For formal education (e.g. school or university)
- [for non-users] What is the main reason for not using generative AI tools in the last 3 months?
  - There was no need
  - I didn't know they existed
  - I didn't know how to use them
  - Concerns about privacy, security, or safety

([12]) ISCED stands for International Standard Classification of Education

([13]) ISCO stands for International Standard Classification of Occupations.

– Other

Because of space constraints, the question on reasons for not using generative AI was limited to a single main reason; it has since been expanded to a 'tick all that apply' format, with an additional response option added. The wording of the first question has also been adapted slightly to better reflect how generative AI is currently used.

3

Data analysis

3.1. The use of AI technologies in enterprises

The use of AI technologies has many benefits and a profound impact on enterprises, so measuring its use is important to understand the dynamics of AI adoption. This chapter illustrates how a set of statistics from the ICT ENT survey can be used to gain insights into the adoption of AI technologies in EU enterprises. Data for enterprises are presented by enterprise size class – i.e. small enterprises (10-49 employees and selfemployed persons), medium enterprises (50-249 employees and self-employed persons) and large enterprises (250 or more employees and self-employed persons) – as well as by economic activity.

Enterprises using AI technologies

The adoption of AI technologies is transforming enterprises across several sectors, with notable differences observed based on enterprise size and economic activity. Since data was first collected in 2021, the uptake of AI has accelerated significantly. However, despite this growth, its usage remains relatively limited. In 2025, 20.0% of all EU enterprises with 10 or more employees and selfemployed people used at least one of the following AI technologies:

- technologies analysing written language (text mining);
- technologies converting spoken language into a machine-readable format (speech recognition);
- technologies generating written or spoken language or programming codes (natural language generation, speech synthesis)[14];
- AI technologies generating pictures, videos or sound/audio[15];
- technologies identifying objects or people based on images or videos (image recognition, image processing);
- machine learning (e.g. deep learning) for data analysis;
- technologies automating different workflows or assisting in decision-making (AI-based software robotic process automation);
- technologies enabling machines to physically move by observing their surroundings and taking autonomous decisions.

The 20.0% figure is an increase of 11.9 pp compared to 2023 and 6.5 pp compared to 2024. This means that AI adoption in the EU is rising rapidly: 1 in 5 EU enterprises used at least one AI technology in 2025, compared to less than 1 in 10 a few years ago.

([14]) This category was changed for the ICT ENT survey 2025, prior to which it was 'AI Technologies generating written or spoken language (natural language generation, speech synthesis)', without mentioning 'programming codes'.

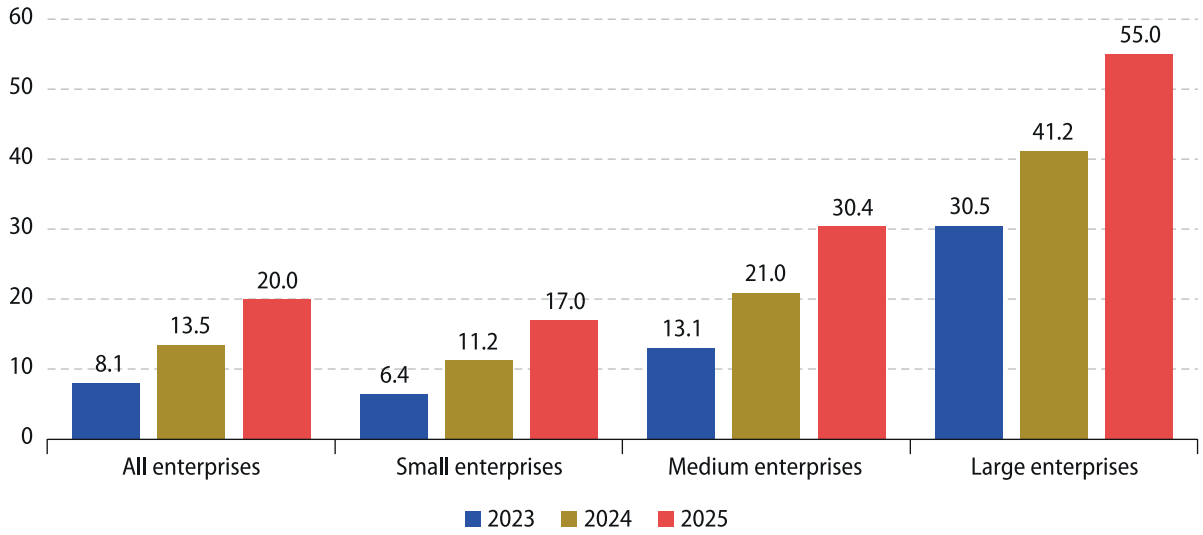
([15]) This category was included in the ICT ENT survey 2025 for the first time.

As Figure 1 shows, the use of AI technologies varies depending on enterprise size class. Large enterprises use AI technologies more intensively compared to small and medium enterprises. This could be explained, for example, by the greater ability of large companies to cope with the complexity of introducing AI technologies, achieve economies of scale, bear the associated costs (as investments in artificial intelligence may be more accessible to them), develop strategic priorities, and provide the necessary expertise. In 2025, 55.0% of large enterprises, 30.4% of medium enterprises and 17.0% of small enterprises used AI technologies. This was a significant increase for all size classes compared to previous years (2023 and 2024). The biggest increase was recorded for large enterprises: a rise of 24.6 pp compared to 2023 and 13.9 pp compared to 2024.

FIGURE 1

Enterprises using AI technologies by size class, EU, 2023, 2024, 2025

(% of enterprises)

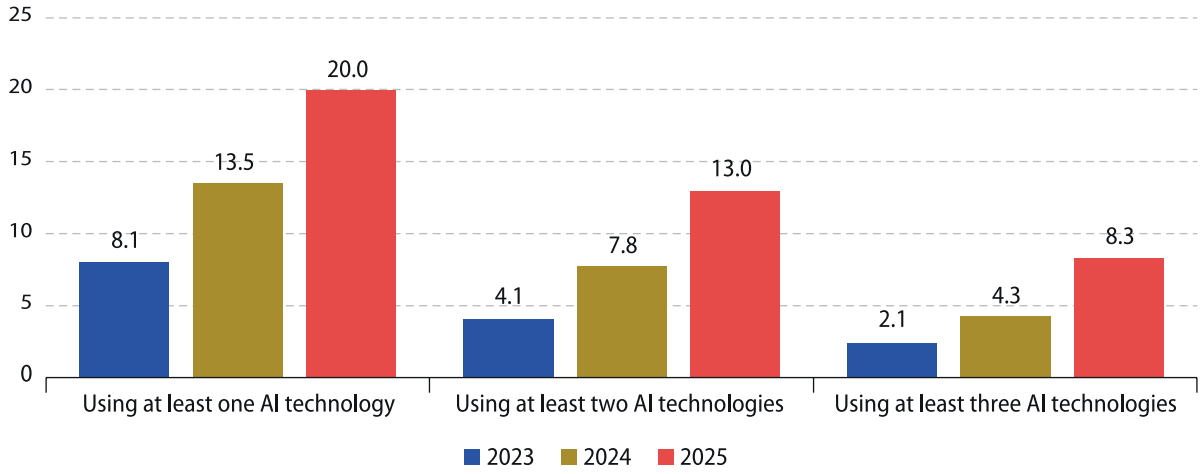


Source: Eurostat (online data code: isoc_eb_ai)

Different AI technologies can have different applications in enterprises and add complexity to an enterprise's technology ecosystem. In 2025, 20.0% of EU enterprises used at least one of the AI technologies listed above, 13.0% of enterprises used at least two of the AI technologies and 8.3% used at least three of these technologies (Figure 2). This shows that the use of multiple technologies at the same time remains less common; nevertheless, it still indicates a significant increase in AI technology adoption compared to 2023 and 2024.

FIGURE 2

Enterprises using AI technologies by number of technologies used, EU, 2023, 2024, 2025 (% of enterprises)

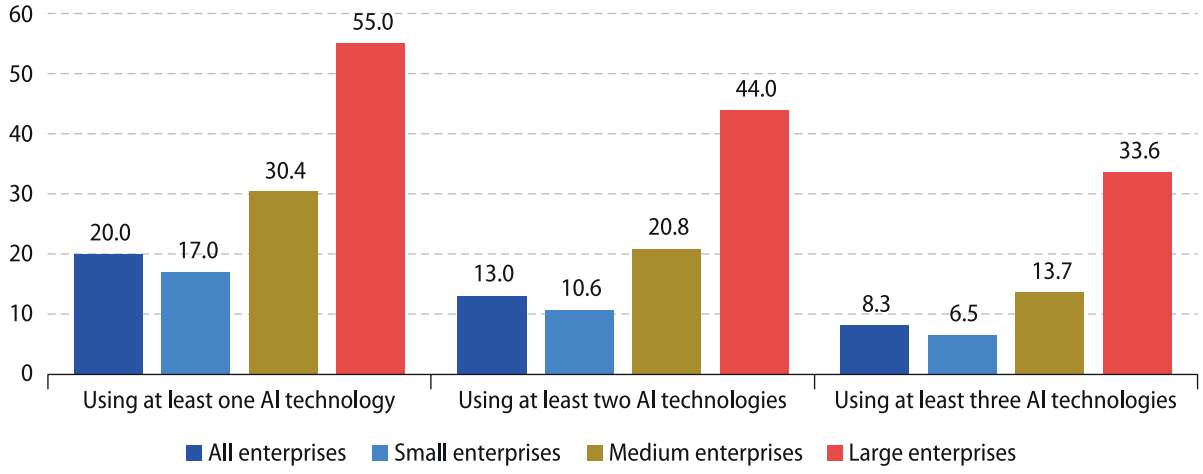


Source: Eurostat (online data code: isoc_eb_ai)

The use of AI technologies varied significantly depending on the size of the enterprise. Among large enterprises, 44.0% used at least two AI technologies, while 33.6% used at least three AI technologies. In contrast, use was lower among smaller enterprises: 10.6% of small enterprises and 20.8% of medium enterprises used at least two AI technologies, while 6.5% of small and 13.7% of medium enterprises used at least three of the AI technologies mentioned above (Figure 3). Compared to 2024, the share of large enterprises using at least two AI technologies increased by 14.8 pp and that of those using at least three or more by 13.5 pp (Eurostat database, online code: isoc_eb_ai).

FIGURE 3

Enterprises using AI technologies by number of technologies used and size class, EU, 2025 (% of enterprises)



Source: Eurostat (online data code: isoc_eb_ai)

Figure 4 illustrates the varying levels of AI technology adoption across different economic activities. The analysis highlights that certain sectors, especially the information and communication sector, which also has the highest share of enterprises with high or very high digital intensity, and the professional, scientific and technical service activities sector, have adopted AI technologies more extensively compared to those such as construction. In 2025, information and communication stood out with 62.5% of enterprises using AI technologies, followed by professional, scientific and technical service activities with 40.4%. This is consistent with trends observed in previous years. These sectors also recorded the largest increase in the use of AI technologies compared to 2023 and 2024. More specifically, the share in the information and communication sector increased by 33 pp compared to 2023 and by 13.8 pp compared to 2024. Similarly, the professional, scientific and technical activities sector recorded an increase of 21.8 pp compared to 2023 and 9.9 pp compared to 2024.

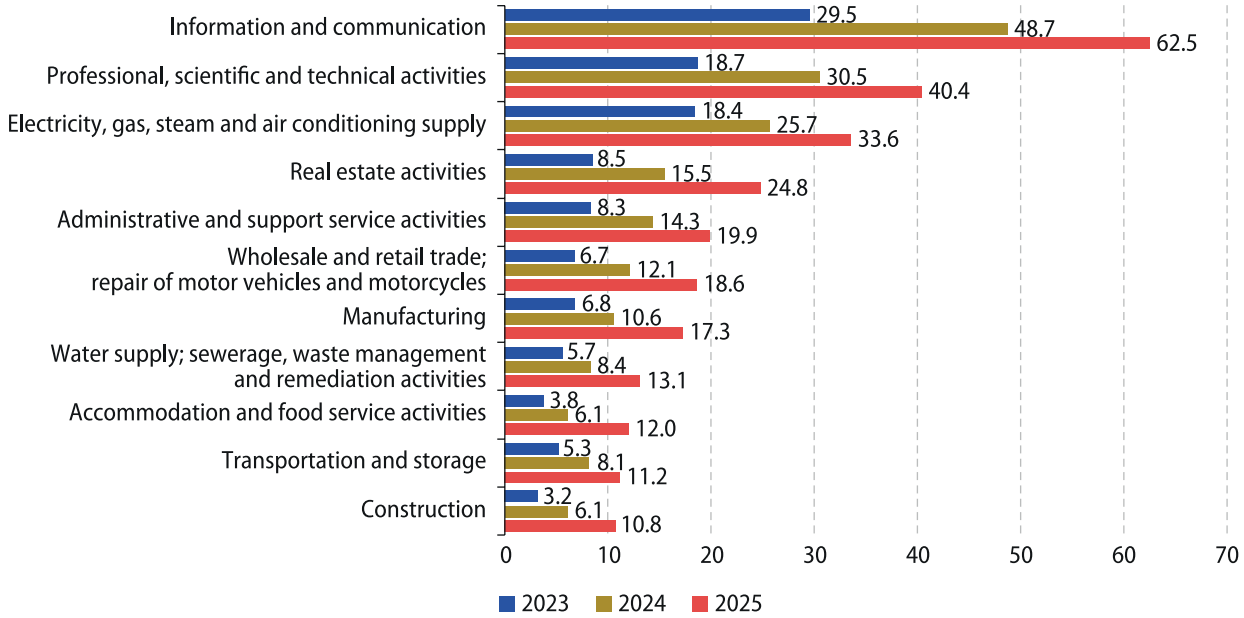
On the other hand, less than 15% of enterprises in construction (10.8%), transportation and storage (11.2%), accommodation and food services (12.0%), and water supply; sewerage, waste management and remediation activities (13.1%) used AI technologies in 2025. In other sectors, AI adoption ranged from 17.3% in manufacturing to 33.6% in electricity, gas, steam and air conditioning supply.

This marked difference in the use of AI technologies across economic sectors suggests that the relevance and practical usefulness of AI technology may vary significantly depending on sector-specific challenges, opportunities and digital maturity. This underscores the assumption that AI technologies may be more relevant and beneficial for some economic sectors than for others.

FIGURE 4

Enterprises using AI technologies by economic activity, EU, 2023, 2024, 2025

(% of enterprises)



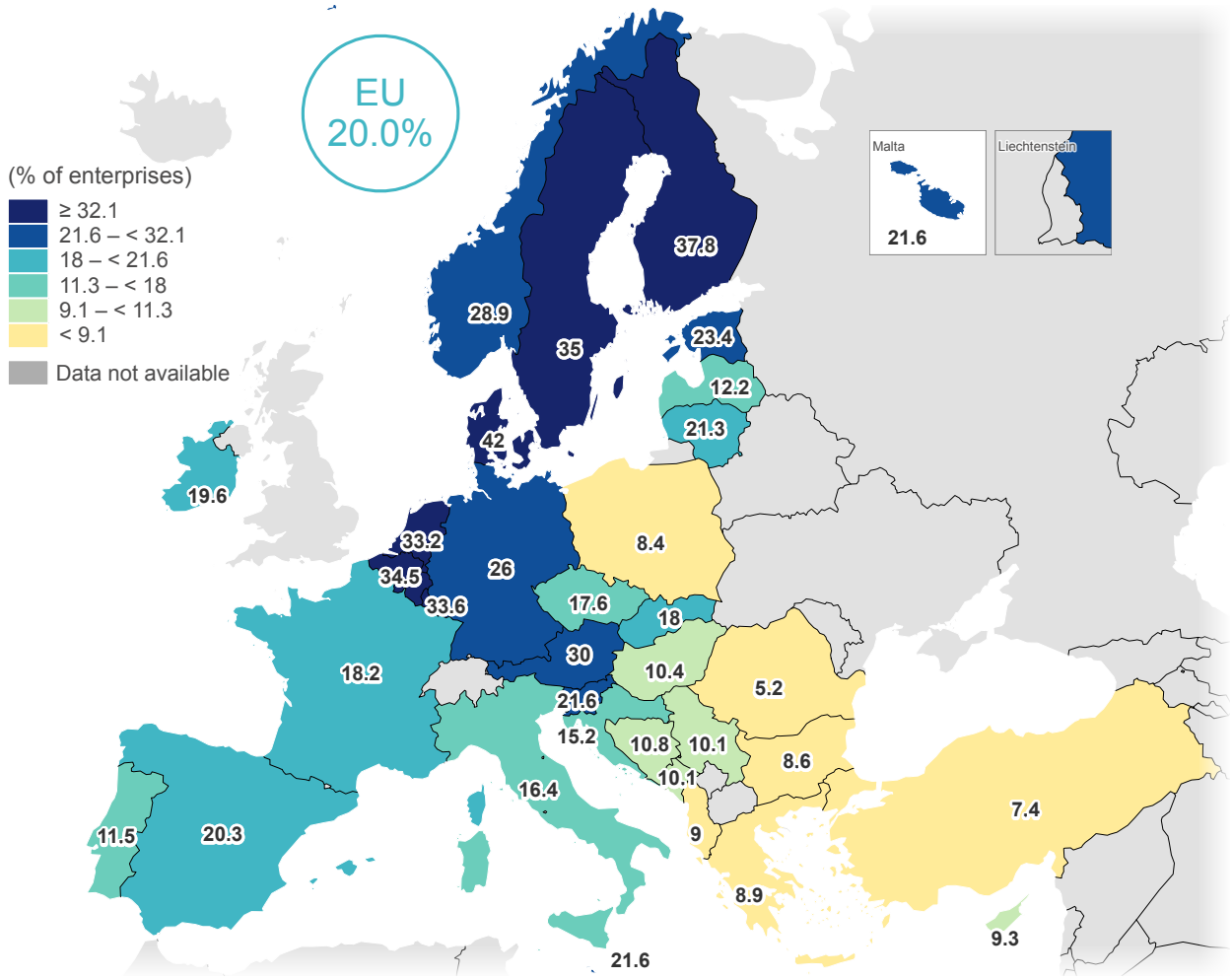
Source: Eurostat (online data code: isoc_eb_ain2)

As Figure 1 shows, 20.0% of all EU enterprises used AI technology in 2025. However, the share of enterprises using AI technologies varied significantly across countries, ranging from 5.2% to 42.0%. Various factors, such as economic conditions, industrial structures, technological infrastructure, AI readiness and workforce skills, may contribute to the differences observed in AI adoption rates. As illustrated by Figures 5 and 6, Denmark (42.0%) and Finland (37.8%) led the way the highest

percentages of enterprises using AI technologies in 2025. These were followed by Sweden (35.0%), Belgium (34.5%), Luxembourg (33.6%) and the Netherlands (33.2%)[16]. At the opposite end of the spectrum, the lowest adoption rates were recorded in Romania (5.2%), Poland (8.4%), Bulgaria (8.6%) and Greece (8.9%).

FIGURE 5

Enterprises using AI technologies, 2025



Enterprises using at least one of the AI technologies: AI_TTM, AI_TSR, AI_TNLG, AI_TIR, AI_TML, AI_TPA, AI_TAR, E_AI_TPVSG
Source: Eurostat (online data code: isoc_eb_ai)

Administrative boundaries: © EuroGeographics © OpenStreetMap
Cartography: Eurostat – IMAGE, 03/2026

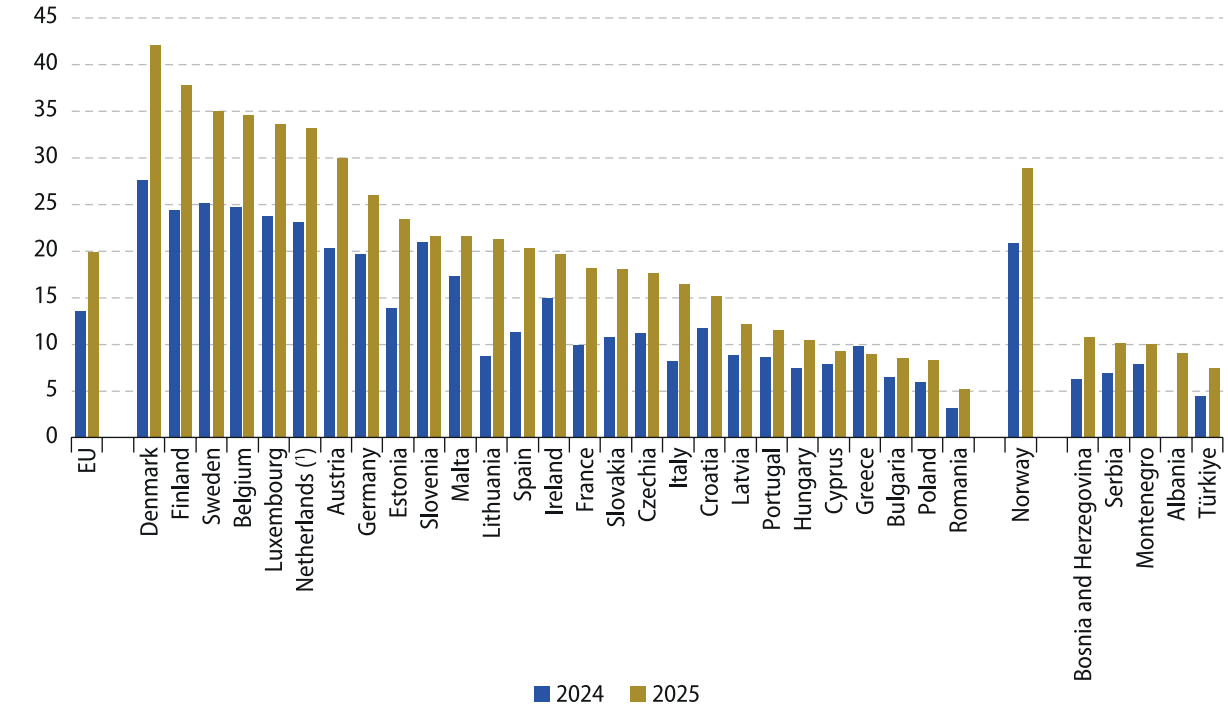
Compared to 2024, most countries saw an increase in the share of enterprises using AI technologies. Denmark experienced the greatest rise, with a 14.5 pp increase, followed by Finland with a 13.5 pp increase and Lithuania with a 12.5 pp increase (Figure 6).

(16) Break in time series, as the data collected is not fully comparable with the data from previous years.

FIGURE 6

Enterprises using AI technologies by country, EU, 2024 and 2025

(% of enterprises)



Note: 2024 data for Albania not available.
(1) Break in the time series.
Source: Eurostat (online data code: isoc_eb_ai)

As Figure 1 shows, the use of AI technologies varies by enterprise size class. Large enterprises used AI technologies at a higher rate than small and medium ones across all EU countries (Table 1). The greatest difference in AI use between large enterprises and small enterprises was observed in Slovenia (53.5 pp), followed by Belgium (47.6 pp) and Finland (45.9 pp). The most pronounced differences between medium and large enterprises were recorded in Slovenia (41.1 pp), Poland (31.0 pp) and Portugal (30.9 pp).

TABLE 1

Enterprises using AI by size class and country, 2025 (% of enterprises)

	All enterprises	Small enterprises	Medium enterprises	Large enterprises
EU	20.0	17.0	30.4	55.0
Belgium	34.5	28.8	54.5	76.4
Bulgaria	8.6	7.2	13.3	26.2
Czechia	17.6	13.4	28.8	54.1
Denmark	42.0	37.5	58.3	74.5
Germany	26.0	23.1	35.6	57.0
Estonia	23.4	20.7	33.1	52.9
Ireland	19.6	16.8	28.0	57.3
Greece	8.9	7.3	15.2	37.6
Spain	20.3	17.2	30.1	57.5
France	18.2	15.0	30.8	58.0
Croatia	15.2	12.8	25.5	39.6
Italy	16.4	14.2	27.6	53.1
Cyprus	9.3	7.7	15.3	35.1
Latvia	12.2	9.8	19.8	47.1
Lithuania	21.3	18.1	30.4	51.8
Luxembourg	33.6	30.5	43.7	58.0
Hungary	10.4	8.7	15.3	40.0
Malta	21.6	17.9	30.7	52.2
Netherlands	33.2 (b)	28.8 (b)	46.6	67.6
Austria	30.0	26.2	44.6	68.3
Poland	8.4	5.8	14.8	45.8
Portugal	11.5	9.4	18.2	49.2
Romania	5.2	4.1	7.8	20.8
Slovenia	21.6	18.3	30.6	71.7
Slovakia	18.0	15.6	23.1	43.7
Finland	37.8	33.5	51.4	79.4
Sweden	35.0	30.7	49.6	71.9
Norway	28.9	25.2	45.3	66.0
Albania	9.0	7.9	12.7	24.8
Bosnia and Herzegovina	10.8	10.4	10.6	18.6
Montenegro	10.1	: (C)	8.9	: (C)
Serbia	10.1	9.4	11.1	18.3
Türkiye	7.4	6.6	9.4	23.5

Note: (b)–break in time series; (C)–data confidential
Source: Eurostat (online data code: isoc_eb_ai)

Types of AI technology used

In 2025, EU enterprises used different types of AI technology depending on, for example, their industry, business objectives or specific use cases. As detailed in Table 2, in 2025, the most frequently used AI technologies were those analysing written language (text mining), adopted by 11.8% of EU enterprises. This was followed by AI technologies generating pictures, videos or sound/audio (9.6%) and those generating written or spoken language or programming codes (natural language generation, speech synthesis), at 8.8%. Technologies converting spoken language into a machine-readable format (speech recognition) were used by 7.2% of EU enterprises.

Technologies that automate different workflows or assist in decision-making, such us robotic process automation using AI-based software, and machine learning for data analysis (e.g. deep learning) were used by 5.4% and 5.1% of EU enterprises respectively. The least commonly used AI technologies were those for identifying objects or persons based on images or videos (image recognition, image processing), at 3.8%, and technologies enabling machines to physically move by observing their surroundings and taking autonomous decisions (such as self-driving vehicles), at 1.4%.

Table 2 also highlights the use of AI technology across different enterprise sizes. In 2025, technologies for analysing written language were the most widely adopted across all enterprise size classes. The usage increased markedly with enterprise size – ranging from 9.9% among small enterprises and 11.1% among medium enterprises to 35.0% among large enterprises. Among small and medium enterprises, the second-most-used technologies were those generating pictures, videos or sound/audio (8.1% and 9.0%, respectively). In contrast, large enterprises more often used AI for generating written or spoken language or programming codes (31.7%). Similarly, it is observed for the third-most-used technologies: small and medium enterprises used AI for generating written or spoken language or programming codes (7.0% and 8.1%, respectively), while large enterprises used AI technologies for generating picture, videos or sound/audio (27.9%).

TABLE 2

Enterprises using AI by type of AI technology and size class, EU, 2024, 2025

(% of enterprises)

	All enterprises		Small enterprises		Medium enterprises		Large enterprises	
	2024	2025	2024	2025	2024	2025	2024	2025
Performing analysis of written language (text mining)	6.9	11.8	5.8	9.9	6.4	11.1	21.4	35.0
Generating pictures, videos, sound/audio	:	9.6	:	8.1	:	9.0	:	27.9
Generating written or spoken language or programming codes (natural language generation, speech synthesis)	5.4	8.8	4.6	7.0	5.1	8.1	16.6	31.7
Converting spoken language into machine-readable format (speech recognition)	4.8	7.2	3.9	5.9	4.4	6.7	16.7	26.1
Automating different workflows or assisting in decision making (AI based software robotic process automation)	4.2	5.4	3.0	4.1	3.7	4.8	20.4	24.4
Machine learning (e.g. deep learning) for data analysis	4.2	5.1	3.1	3.8	3.7	4.5	20.6	25.1
Identifying objects or persons based on images (image recognition, image processing)	3.2	3.8	2.6	3.0	2.9	3.4	13.4	16.7
Enabling physical movement of machines via autonomous decisions based on observation of surroundings (autonomous robots, self-driving vehicles, autonomous drones)	1.0	1.4	0.7	1.0	0.8	1.2	7.2	8.6

Note: AI technologies used to generate pictures, videos, sound/audio is a new category, not present in the 2024 questionnaire, therefore there is no data for that year.
Source: Eurostat (online data code: isoc_eb_ai)

Compared to 2024, the greatest increase in AI technology adoption was observed in small and medium enterprises using technologies for analysing written language; this rose by 4.11 pp and 4.62 pp respectively. Among large enterprises the most

significant increase was in the adoption of AI technologies for generating written or spoken language or programming codes[17], which increased by 15 pp (Table 2).

Enterprises across various economic activities are using different types of AI technology. This reflects how sector-specific challenges and opportunities shape the extent and manner of AI usage. Table 3 presents the use of AI technologies by type of AI technology and by economic activity. It shows that in 2025 across nearly all economic activities, the most widely used AI technologies were those analysing written language (alongside, in the information and communication sector, AI for generating written or spoken language or programming codes). The widespread use of these technologies across all sectors might reflect the universal presence of textual data, relatively low implementation costs and the immediate productivity gains these technologies offer.

Technologies converting spoken language into machine-readable format were the second most used in construction and transportation and storage, whereas in other sectors, technologies for generating written or spoken language or programming codes were the second most frequently used.

In the information and communication sector, as well as in professional, scientific and technical activities, in which the share of enterprises using AI technologies was highest, the biggest increase, compare to 2024, was in the use of technologies performing analysis of written language (12.1 pp and 9.6 pp respectively) and in the use of technologies generating written or spoken language or programming codes (16.4 pp and 6.2 pp respectively) (Table 3).

([17]) See footnote 12.

TABLE 3

Enterprises using AI technologies by type of AI technology and economic activity, EU, 2024 and 2025 (% of enterprises)

		Type of AI technology used							
		Performing analysis of written language (text mining)	Converting spoken language into machine-readable format (speech recognition)	Generating written or spoken language or programming codes (natural language generation, speech synthesis)	Identifying objects or persons based on images (image recognition, image processing)	Machine learning (e.g. deep learning) for data analysis	Automating different workflows or assisting in decision making (AI based software robotic process automation)	Enabling physical movement of machines via autonomous decisions based on observation of surroundings (autonomous robots, self-driving vehicles, autonomous drones)	Generating pictures, videos, sound/audio
Manufacturing	**2024**	4.6	2.9	3.5	2.7	2.7	3.2	1.5	:
	2025	9.4	5.3	7.1	3.1	3.7	3.9	1.6	7.5
Electricity, gas, steam and air conditioning supply	**2024**	13.1	9.3	8.9	6.4	12.6	11.5	2.1	:
	2025	20.9	12.4	17.2	6.8	13.1	14.9	2.4	15.5
Water supply; sewerage, waste management and remediation activities	**2024**	3.1	2.5	2.4	2.1	2.2	2.3	0.8	:
	2025	6.6	3.9	4.4	2.8	2.9	2.9	0.7	4.3
Construction	**2024**	2.8	2.5	2.4	1.5	0.8	1.0	0.4	:
	2025	6.1	3.7	3.3	2.3	1.6	2.0	0.7	4.5
Wholesale and retail trade; repair of motor vehicles and motorcycles	**2024**	6.0	3.8	5.0	2.6	3.0	3.2	0.8	:
	2025	10.5	6.2	7.8	3.2	4.0	4.6	1.2	9.7

		Type of AI technology used							
		Performing analysis of written language (text mining)	Converting spoken language into machine-readable format (speech recognition)	Generating written or spoken language or programming codes (natural language generation, speech synthesis)	Identifying objects or persons based on images (image recognition, image processing)	Machine learning (e.g. deep learning) for data analysis	Automating different workflows or assisting in decision making (AI based software robotic process automation)	Enabling physical movement of machines via autonomous decisions based on observation of surroundings (autonomous robots, self-driving vehicles, autonomous drones)	Generating pictures, videos, sound/audio
Transportation and storage	**2024**	3.7	2.8	3.3	2.4	2.0	2.3	0.8	:
	2025	5.9	4.0	3.9	2.3	2.7	2.8	0.9	4.0
Accommodation and food service activities	**2024**	3.3	1.7	2.2	1.1	1.4	1.4	0.4	:
	2025	6.5	3.7	3.8	1.8	1.5	2.5	0.9	6.0
Information and communication	**2024**	30.1	20.1	25.8	13.5	25.7	21.2	3.4	:
	2025	42.2	28.8	42.2	16.0	28.6	23.7	4.5	35.5
Real estate activities	**2024**	7.2	6.8	5.8	2.2	2.9	4.5	0.5	:
	2025	15.3	8.8	10.2	3.5	4.6	5.8	1.1	9.8
Professional, scientific and technical activities	**2024**	15.6	12.5	11.5	7.4	11.4	10.3	1.7	:
	2025	25.2	16.1	17.7	6.8	12.5	12.8	2.1	18.7
Administrative and support service activities	**2024**	8.1	4.9	5.0	3.0	4.0	4.3	0.7	:
	2025	12.2	7.5	8.6	4.0	4.4	4.8	1.4	9.5

Note: AI technologies used to generate pictures, videos, sound/audio is a new category, not present in the 2024 questionnaire, therefore there is no data for that year.
Source: Eurostat (online data code: isoc_eb_ain2)

The comparison across countries shows that technologies designed for performing analysis of written language were the most widely used in most EU countries, including in those countries recording the highest shares of enterprises using AI technologies in 2025, except in Denmark, where the most-used AI technology was for generating written or spoken language or programming codes (Eurostat database, online code: isoc_eb_ai).

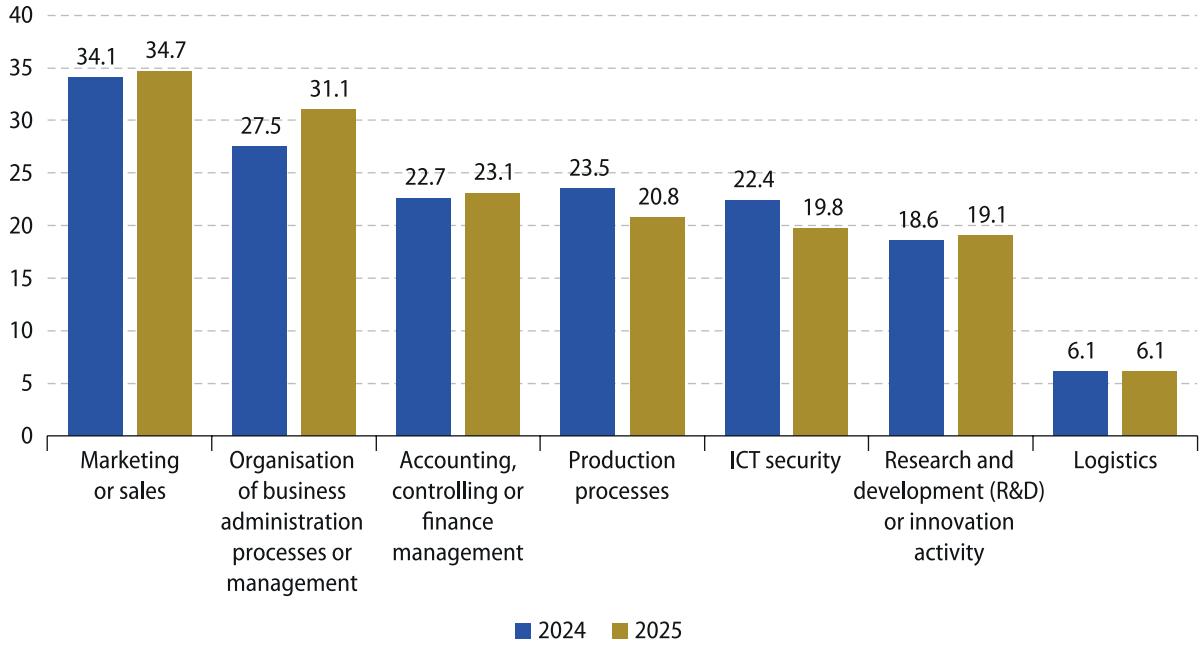
Purposes of using AI software or systems

In 2025, EU enterprises used AI software or systems for a variety of purposes, such as customer profiling, planning or business forecasting, detection and prevention of cyberattacks, and invoice processing. As Figure 7 shows, 34.7% of EU enterprises using AI technologies applied them in marketing and sales, making this their most common use. This was followed by 31.1% of enterprises using AI software or systems for organising business administration processes or management; 23.1% used AI in accounting, controlling or finance management, while 20.8% used it for production processes; 19.8% used AI for ICT security and 19.1% used it for research and development or innovation activity. AI was least frequently used for logistics, with 6.1% of enterprises using it in this area.

Compared to 2024, the distribution of AI use purposes remained relatively stable. This consistency of purposes suggests that while the adoption of AI continues to grow, the primary areas of application have stayed much the same, indicating that there are established trends in how enterprises integrate AI into their operations.

FIGURE 7

Enterprises using at least one AI technology by type of purpose, EU, 2024 and 2025 (% of the enterprises using at least one AI technology)



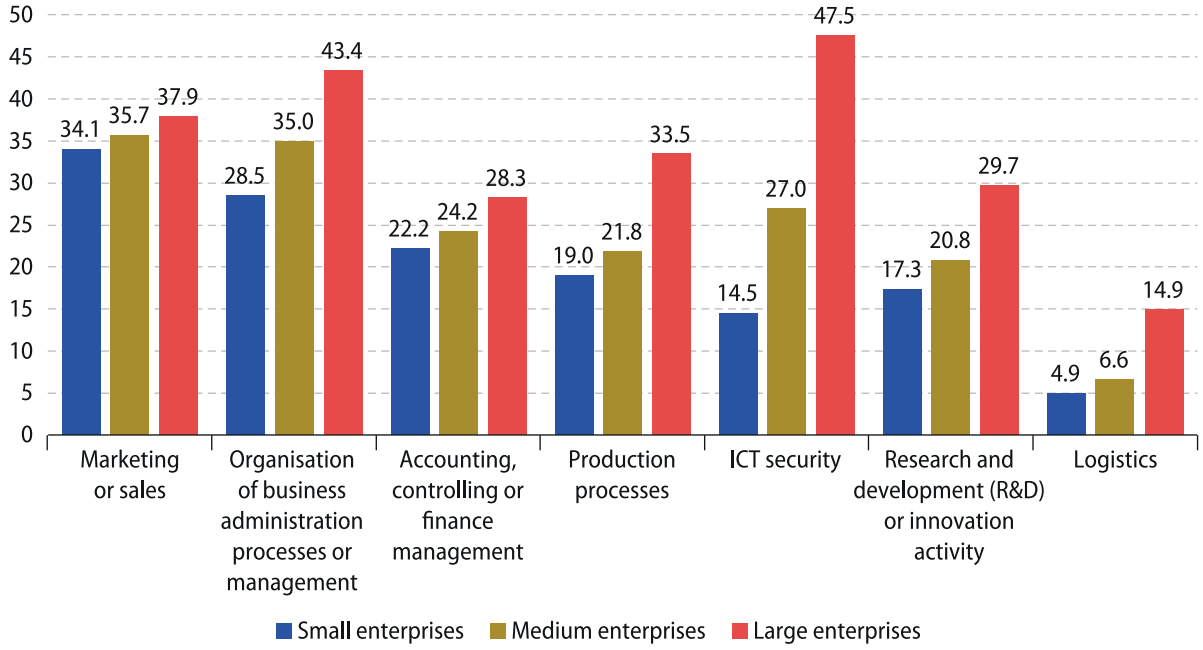
Source: Eurostat (online data code: isoc_eb_ai)

The purposes for which enterprises use AI software and systems varied significantly depending to enterprise size. This could be due to various factors, such as budget, resources, scale of operations and organisational complexity. The most significant disparity among different size classes appeared in the use of AI software or systems for ICT security, with 47.5% of large enterprises, 27.0% of medium enterprises and 14.5% of small enterprises employing AI for this purpose. Conversely, the

smallest gap across enterprise size classes was in the use of AI software and systems for marketing or sales, as illustrated by Figure 8.

FIGURE 8

Enterprises using at least one AI technology by type of purpose and size class, EU, 2025 (% of enterprises using at least one AI technology)



Source: Eurostat (online data code: isoc_eb_ai)

Table 4 presents the percentage of enterprises using AI technologies by type of purpose and economic activity, highlighting how sector-specific challenges and opportunities influence the extent and nature of AI use. In 2025, AI software or systems were predominantly used for marketing and sales in several sectors: manufacturing (30.4%), wholesale and retail trade; repair of motor vehicles and motorcycles (44.9%), accommodation and food service activities (48.1%), real estate activities (36.4%) and administrative and support service activities (35.4%). AI technologies for research and development or innovation activity were the main technology used in the information and communication sector (42.5%).

AI software or systems for organisation of business administration processes or management was the main use in the sectors of construction (27.8%), transport and storage (31.1%), professional, scientific and technical activities (35.5%), electricity, gas, steam and air conditioning supply (40.7%) and water supply; sewerage, waste management and remediation activities (31.3%).

Compared to 2024, the predominant purpose to which AI was put across different sectors remained relatively consistent, with changes observed in three sectors: electricity, gas, steam and air conditioning supply, water supply sector and professional, scientific and technical activities.

TABLE 4

Enterprises using AI technologies by type of purpose and economic activity, EU, 2024 and 2025 (% of enterprises using at least one AI technology)

	Type of purpose													
	Marketing or sales		Production processes		Logistics		ICT security		Organisation of business administration processes or management		Accounting, controlling or finance management		Research and development (R&D) or innovation activity	
	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025
Manufacturing	27.1	30.4	26.2	20.2	9.4	6.6	24.3	20.6	22.3	27.1	20.2	16.9	16.9	17.5
Electricity, gas, steam and air conditioning supply	30.0	37.3	31.6	26.8	4.8	4.5	42.2	39.4	37.2	40.7	19.5	23.0	21.6	26.2
Water supply; sewerage, waste management and remediation activities	17.3	19.8	21.2	18.1	6.7	6.6	27.4	25.6	23.8	31.3	17.8	20.7	11.3	12.8
Construction	21.4	22.8	11.4	13.3	3.0	3.8	17.9	16.2	25.5	27.8	22.5	25.6	9.9	10.0
Wholesale and retail trade; repair of motor vehicles and motorcycles	46.0	44.9	13.2	14.3	9.6	10.5	19.7	19.1	24.9	28.1	18.9	21.2	9.6	13.2
Transportation and storage	24.5	21.2	18.4	15.6	18.8	19.1	28.0	21.4	28.1	31.1	21.7	24.7	9.7	9.0
Accommodation and food service activities	49.0	48.1	14.9	12.9	3.4	4.1	15.5	9.8	27.6	26.4	19.5	21.8	4.2	7.2
Information and communication	41.8	40.6	36.9	35.2	3.8	3.8	27.9	28.3	35.8	38.3	21.3	22.5	43.5	42.5
Real estate activities	41.2	36.4	20.1	17.5	3.6	2.7	21.1	18.9	22.3	31.6	26.3	26.6	9.4	10.0
Professional, scientific and technical activities	23.9	25.4	29.1	27.3	2.0	2.3	19.8	18.6	27.4	35.5	29.8	30.9	20.5	22.3
Administrative and support service activities	33.9	35.4	20.4	15.9	5.7	4.5	23.5	17.1	30.4	31.4	25.0	23.7	11.5	14.8

Source: Eurostat (online data code: isoc_eb_ain2)

Table 5 provides a comparison across countries of the purposes for which enterprises use AI technologies. The results reveal some national differences in AI use. In Greece and Slovenia the most common use of AI technologies was for ICT security. In Estonia, Ireland, Luxembourg, the Netherlands, Portugal, Belgium and Romania, the most common use was in organisation of business administration processes or management. Denmark stands out for the leading use of AI there being in accounting, controlling or finance management. In all remaining EU countries, AI was most used for marketing and sales.

TABLE 5

Enterprises using AI technologies by type of purpose and country, 2025 (% of the enterprises using at least one AI technology)

	Type of purpose						
	Marketing or sales	Production processes	Logistics	ICT security	Organisation of business administration processes or management	Accounting, controlling or finance management	Research and development (R&D) or innovation activity
EU	34.7	20.8	6.1	19.8	31.1	23.1	19.1
Belgium	26.4	17.1	6.1	24.9	39.6	31.2	22.1
Bulgaria	36.1	24.0	10.8	13.8	32.5	24.6	19.3
Czechia	59.2	18.0	6.9	24.3	40.0	24.2	23.1
Denmark	27.1	14.6	8.7	22.4	23.8	27.6	11.7
Germany	35.1	21.1	4.6	20.6	27.6	27.4	12.8
Estonia	45.9	16.9	6.0	20.5	48.7	26.1	16.9
Ireland	26.7	16.3	7.5	26.7	38.7	23.3	26.6
Greece	26.9	21.1	2.6	53.4	26.1	12.2	17.7
Spain	29.5	21.1	7.1	17.4	28.6	20.4	21.1
France	: (u)	20.9	6.4	17.4	: (u)	: (u)	: (u)
Croatia	32.0	8.9	2.6	24.6	23.5	10.4	5.3
Italy	33.1	17.5	6.1	12.1	25.7	10.2	20.0
Cyprus	47.4	12.0	6.1	29.2	45.3	15.6	40.2
Latvia	57.0	30.5	9.0	22.7	36.2	26.8	26.2
Lithuania	36.8	17.6	13.3	26.4	34.3	30.8	22.2
Luxembourg	17.0	13.3	3.5	17.6	27.2	17.1	16.6
Hungary	34.7	22.8	6.1	13.3	31.6	15.0	17.1

	Type of purpose						
	Marketing or sales	Production processes	Logistics	ICT security	Organisation of business administration processes or management	Accounting, controlling or finance management	Research and development (R&D) or innovation activity
Malta	38.4	24.0	8.8	25.9	21.2	8.7	13.9
Netherlands	37.2 (b)	20.8	6.3	19.9	39.3	22.7	25.6
Austria	44.5	25.2	4.7	16.7	37.9	22.4	17.2
Poland	59.0	30.0	10.0	26.3	42.9	30.7	24.4
Portugal	36.9	30.1	8.5	28.8	40.8	26.2	26.0
Romania	32.9	26.7	10.3	22.0	35.2	16.3	26.0
Slovenia	30.0	20.9	5.7	39.7	35.2	11.3	19.2
Slovakia	26.9	9.9	6.0	13.5	14.8	18.1	13.7
Finland	41.8	18.2	7.1	20.8	26.4	29.2	22.4
Sweden	41.7	26.3	5.7	16.5	35.0	14.0	21.6
Norway	29.2	21.1	4.7	25.4	32.7	33.8	15.3
Albania	38.9	19.0	17.8	51.7	21.8	21.2	0.0
Bosnia and Herzegovina	34.4	23.1	: (u)	15.9	25.4	: (u)	22.4
Montenegro	27.2	: (C)	7.7	: (C)	: (C)	: (C)	17.3
Serbia	34.7	4.7	6.0	4.3	17.4	4.6	22.7
Türkiye	46.3	41.1	13.7	22.4	40.0	33.7	41.0

Note: (b)–break in time series; (u)–data with low reliability; (C)–data confidential
Source: Eurostat (online data code: isoc_eb_ai)

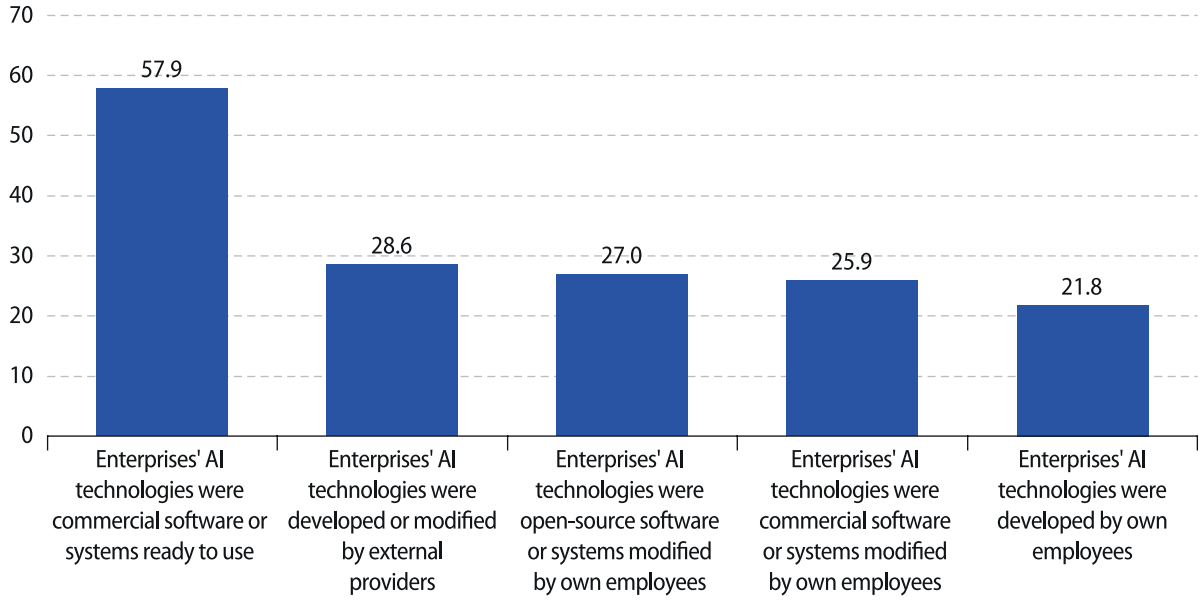
How enterprises acquire AI software or systems

Figure 9 illustrates how enterprises acquire AI software and systems. There is no data for the EU as a whole for 2025, as not all countries collected this data. For that reason 2024 data is given. In 2024, the most common way that EU enterprises acquired AI was by purchasing ready-to-use commercial AI software or systems. This is what 57.9% of enterprises using AI technologies did. 28.6% of enterprises used AI technologies developed or modified by external providers. Open-source AI software or systems modified by their employees were used by 27.0% of enterprises. Furthermore, 25.9% used commercial AI software or systems modified by their own employees and 21.8% of enterprises developed their own AI software or systems.

FIGURE 9

Enterprises using at least one AI technology by source of acquisition, EU, 2024

(% of enterprises using at least one AI technology)

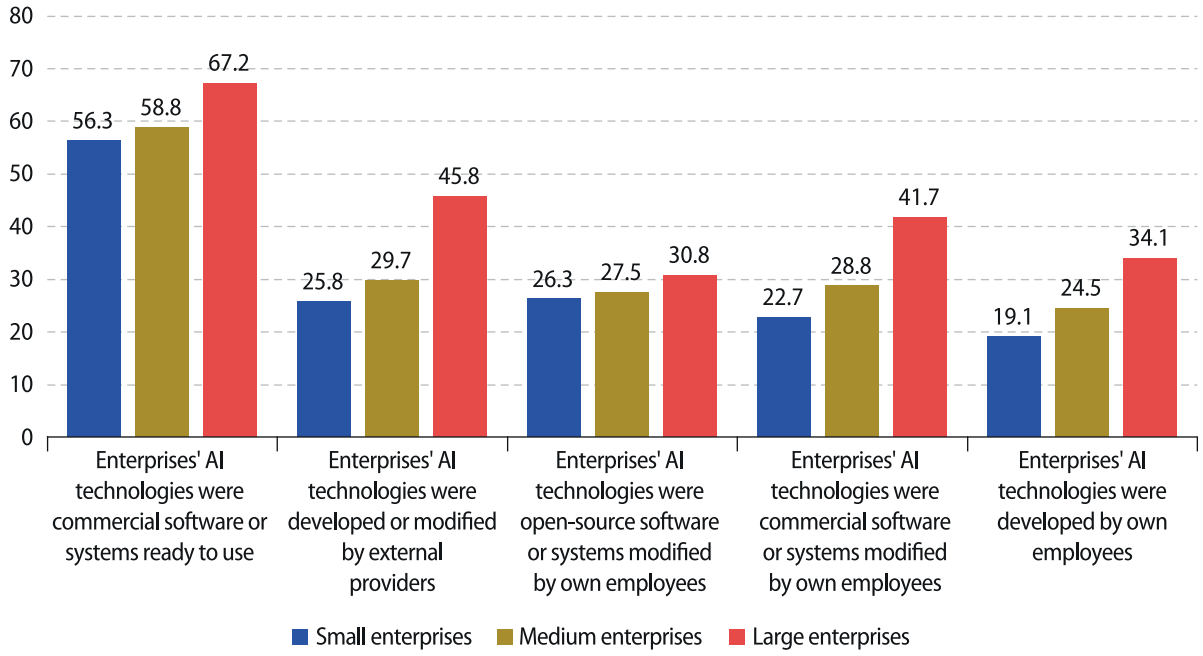


Source: Eurostat (online data code: isoc_eb_ai)

A comparison by enterprise size class reveals that the means of acquiring AI software or systems varied across different sizes of enterprise. The biggest differences between large, medium and small enterprises were recorded for the use of AI technologies developed or modified by external providers and the use of commercial software or systems modified by own employees. Among large enterprises that used AI technologies, 45.8% used AI software or systems developed or modified by external providers. The figure drops to 29.7% for medium enterprises and 25.8% for small enterprises. Additionally, 41.7% of large enterprises using AI chose commercial AI software or systems modified by their own employees, compared to 28.8% for medium enterprises and 22.7% small enterprises (Figure 10).

FIGURE 10

Enterprises using at least one AI technology by source of acquisition and size class, EU, 2024 (% of enterprises using at least one AI technology)



Source: Eurostat (online data code: isoc_eb_ai)

Table 6 indicates that across all economic sectors in 2024, the most common ways for enterprises to acquire AI software or systems were through ready-to-use commercial AI software or systems, with adoption levels ranging from 51.6% to 62.7%, and technologies developed or modified by external providers, ranging from 24.6% to 48.3%. However, two sectors stand out as exceptions: in the information and communication sector and in the professional, scientific and technical activities sector the second-most-common method was open-source software or systems modified by own employees, at 45% and 30% respectively. This might be attributed to the technical expertise or complex infrastructure typical of these sectors.

Conversely, AI software or systems developed by own employees was the least common means of acquisition across most economic activities, with the exception of the sectors of electricity, gas, steam and air conditioning supply; administrative and support services; and information and communication.

TABLE 6

Enterprises using at least one AI technology by source of acquisition and economic activity, EU, 2024 (% of enterprises using at least one AI technology)

	Enterprises' AI technologies were				
	developed by own employees	commercial software or systems modified by own employees	open-source software or systems modified by own employees	commercial software or systems ready to use	developed or modified by external providers
Manufacturing	17.1	24.5	20.3	58.4	34.8
Electricity, gas, steam and air conditioning supply	32.9	38.4	26.3	58.1	39.6
Water supply; sewerage, waste management and remediation activities	14.1	20.2	15.0	54.4	48.3
Construction	11.5	15.4	18.5	57.1	24.6
Wholesale and retail trade; repair of motor vehicles and motorcycles	16.6	24.6	22.7	57.3	31.6
Transportation and storage	15.5	22.3	21.5	52.6	34.1
Accommodation and food service activities	10.2	16.6	17.7	51.6	30.8
Information and communication	41.1	37.5	45.0	57.8	:
Real estate activities	11.7	20.9	19.7	58.7	30.2
Professional, scientific and technical activities	23.3	27.4	30.0	62.7	28.1
Administrative and support service activities	20.1	19.9	23.2	56.2	27.2

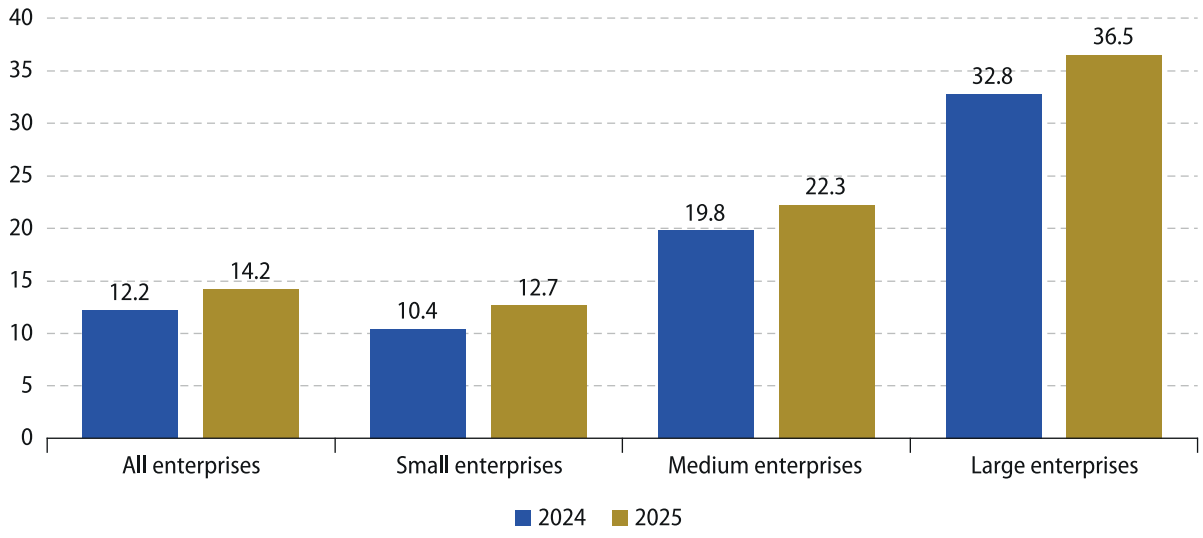
Note: not available
Source: Eurostat (online data code: isoc_eb_ain2)

Why enterprises do not use AI technologies

As mentioned above, in 2025 20.0% of the 1.5 million enterprises in the EU used at least one AI technology, and most enterprises did not use any. Among EU enterprises that did not use AI technologies in 2025, 14.2% had considered using one of the AI technologies mentioned above, which is an increase of 2 pp compared to 2024. Figure 11 shows that 36.5% of large enterprises had considered using AI technologies, compared to 22.3% of medium enterprises and 12.7% of small enterprises. Across all enterprise size classes there was an increase from the previous year in the number of enterprises considering using AI technologies (Figure 11).

FIGURE 11

Enterprises that have ever considered using AI technology by size class, EU, 2024 and 2025 (% of enterprises using no AI technologies)

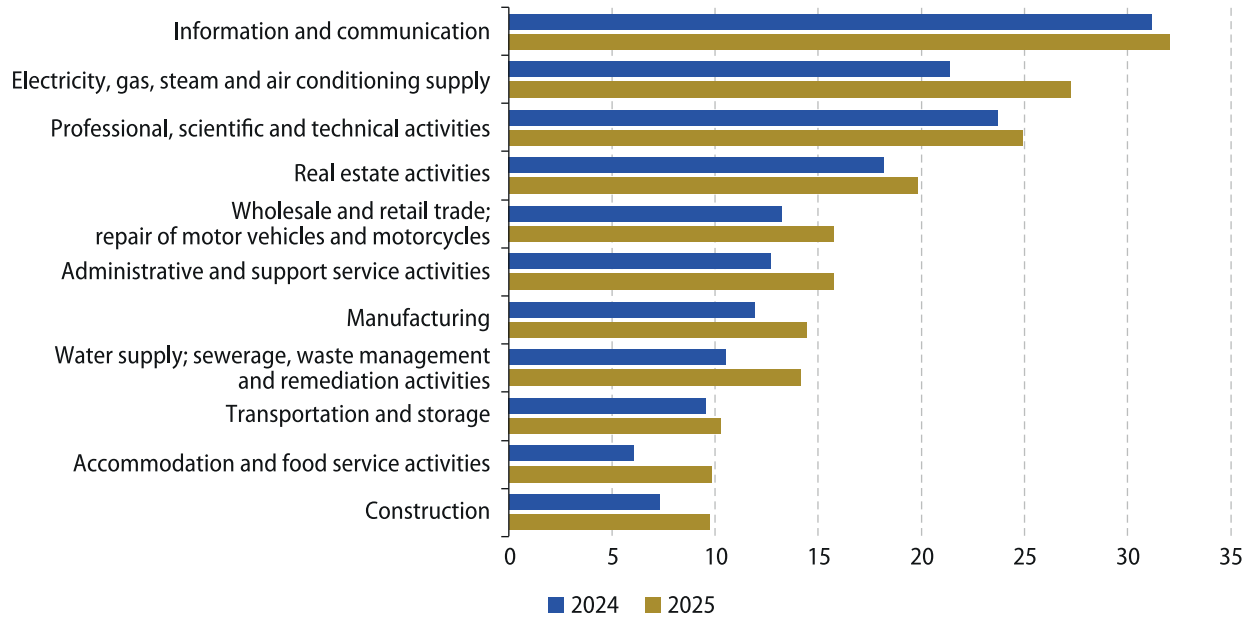


Source: Eurostat (online data code: isoc_eb_ai)

Figure 12 presents by economic activity the shares of enterprises that were not using AI technologies but had considered using one of the AI technologies mentioned above. The sector in which the greatest share of enterprises had considered using AI technologies was the information and communication sector (32.1%), followed by electricity, gas, steam and air conditioning supply (27.24%) and professional, scientific and technical activities (24.9%). Conversely, the construction sector had the lowest share of enterprises considering AI adoption (9.7%), closely followed by accommodation and food service activities (9.8%). Compared to 2024, the share of enterprises considering AI technologies increased in all sectors, with the greatest increase observed in the electricity, gas, steam and air conditioning supply sector (5.9 pp).

FIGURE 12

Enterprises that have ever considered using AI technology by economic activity, EU, 2024, 2025 (% of enterprises using no AI technologies)



Source: Eurostat (online data code: isoc_eb_ain2)

When enterprises opted not to use AI technologies, there were various reasons for this. Tables 7 and 8 provide insights into enterprises' motives for not using AI technologies. In 2025, among EU enterprises that had considered using AI technologies, the most prevalent reason for not using AI technologies was the lack of relevant expertise (70.3%), followed by lack of clarity about the legal consequences (53.6%) and concerns regarding violation of data protection and privacy (52.7%). In contrast, the least common reason, cited by 17.8% of EU enterprises that had considered using AI technologies, was the perception that these technologies were not considered useful for their business.

Interestingly, these reasons were relatively equally consistent across enterprises of all sizes. The lack of relevant expertise was the leading reason for not adopting AI, cited by 70.9% of small enterprises, 69.2% of medium enterprises and 65.1% of large enterprises. Conversely, the belief that AI was not useful was the least common reason, cited by 19.2% of small enterprises, 13.8% of medium enterprises and 9.8% of large enterprises. The second- and third-most-common reasons across all enterprise sizes were the lack of clarity about the legal consequences (54.8% for small enterprises, 49.4% for medium enterprises and 51.2% for large enterprises) and concerns regarding violation of data protection and privacy (52.5% for small enterprises, 52.3% for medium enterprises and 58.8% for large enterprises).

TABLE 7

Enterprises that have ever considered using any of the AI technologies by reasons for not using it and size class, EU, 2024, 2025 (% of enterprises which ever considered using any of the AI technologies)

	All enterprises		Small enterprises		Medium enterprises		Large enterprises	
	2024	2025	2024	2025	2024	2025	2024	2025
The costs seem too high	33.3	38.4	33.0	38.8	34.6	37.3	31.8	34.8
Lack of relevant expertise	70.9	70.3	70.8	70.9	71.6	69.2	68.9	65.1
Incompatibility with existing equipment, software or systems	41.4	41.6	41.3	41.7	42.3	42.0	39.1	38.0
Difficulties with availability or quality of the necessary data	44.4	43.5	44.4	43.7	43.8	42.8	46.7	43.8
Concerns regarding violation of data protection and privacy	48.8	52.7	48.3	52.5	49.6	52.3	52.2	58.8
Lack of clarity about the legal consequences	52.5	53.6	52.9	54.8	51.5	49.4	51.4	51.2
Ethical considerations	23.5	24.6	24.6	25.3	21.0	22.7	20.2	21.2
AI technologies are not useful for enterprise	20.7	17.8	23.0	19.2	15.5	13.8	12.6	9.8

Source: Eurostat (online data code: isoc_eb_ai)

Table 7 shows that lack of relevant expertise was the primary reason why enterprises refrained from using AI technologies, regardless of size. Similarly, Table 8 indicates that that this was the dominant reason across all economic sectors, with percentages ranging from 54.4% to 75.2%. An exception was the electricity, gas, steam and air conditioning supply sector, where concerns regarding violation of data protection and privacy were slightly higher, at 65.6%.

Concerns regarding violation of data protection and privacy ranked as the second-most-common reason for non-adoption in the sectors of water supply; sewerage, waste management and remediation activities (52.4%); accommodation and food service activities (50.3%); information and communication (54.1%); real estate activities (61.3%); and professional, scientific and technical activities (57.7%). However, for electricity, gas, steam and air conditioning supply, lack of relevant expertise was the second-most-common obstacle (64%). For other sectors, the second-most-common reason was the lack of clarity about the legal consequences.

TABLE 8

Enterprises that have ever considered using any of the AI technology by reasons for not using it and economic activity, EU, 2024, 2025 (% of the enterprises which ever considered using any of the AI technology)

	The costs seem too high		Lack of relevant expertise		Incompatibility with existing equipment, software or systems		Difficulties with availability or quality of the necessary data		Concerns regarding violation of data protection and privacy		Lack of clarity about the legal consequences		Ethical considerations		AI technologies are not useful for enterprise	
	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025
Manufacturing	38.3	39.8	73.5	71.1	46.4	44.7	48.2	45.3	42.3	49.0	47.9	51.1	20.0	21.4	19.5	15.9
Electricity, gas, steam and air conditioning supply	28.6	30.7	75.4	64.0	38.4	36.4	48.8	40.0	60.9	65.6	59.0	59.1	30.0	21.0	:	10.2
Water supply; sewerage, waste management and remediation activities	40.0	36.2	74.8	69.5	41.3	41.3	46.0	40.3	46.9	52.4	53.4	51.7	20.6	21.5	16.7	15.9
Construction	28.4	38.1	72.7	71.9	45.1	43.0	46.6	44.4	51.1	54.6	54.7	58.0	26.9	28.4	33.3	23.6
Wholesale and retail trade; repair of motor vehicles and motorcycles	34.5	43.1	72.3	72.8	47.9	44.7	44.8	44.7	50.3	52.8	53.6	55.3	25.2	26.8	21.5	15.7
Transportation and storage	39.2	39.4	73.6	69.1	43.7	43.0	42.6	44.9	42.8	50.8	49.2	51.0	23.0	26.7	21.6	21.9
Accommodation and food service activities	45.3	35.5	73.3	69.0	48.9	43.8	49.0	40.7	49.2	50.3	53.8	45.4	25.8	27.7	27.7	22.9
Information and communication	26.4	34.1	60.7	54.4	26.2	32.4	41.0	39.4	50.1	54.1	51.2	53.0	23.7	24.2	9.9	16.4
Real estate activities	32.4	28.1	74.5	67.5	35.8	35.6	42.8	33.5	53.2	61.3	57.8	57.6	25.1	18.3	24.5	12.4
Professional, scientific and technical activities	25.8	32.4	68.4	67.6	26.9	32.5	41.3	43.2	54.9	57.7	56.0	55.3	20.9	21.1	11.4	15.9
Administrative and support service activities	27.8	36.7	64.7	75.2	36.8	36.6	35.8	41.7	48.9	55.0	52.9	58.9	26.6	24.6	26.1	18.6

Note: not available
Source: Eurostat (online data code: isoc_eb_ain2)

3.2. The use of generative AI tools by individuals

The use of AI technologies is also increasingly shaping how individuals work, learn, and organise their everyday lives. Measuring AI use at the level of households and individuals is therefore essential to gain an understanding of how these technologies diffuse beyond enterprises and into society more broadly. This chapter shows how statistics from the ICT HH survey can be used to analyse the adoption and use of AI by individuals in the EU. The analysis focuses on reported use of generative AI tools and examines differences by purpose of use and by key socio-demographic characteristics, providing insights into who is using AI and who isn't, and for what reasons.

Generative AI use across the EU population

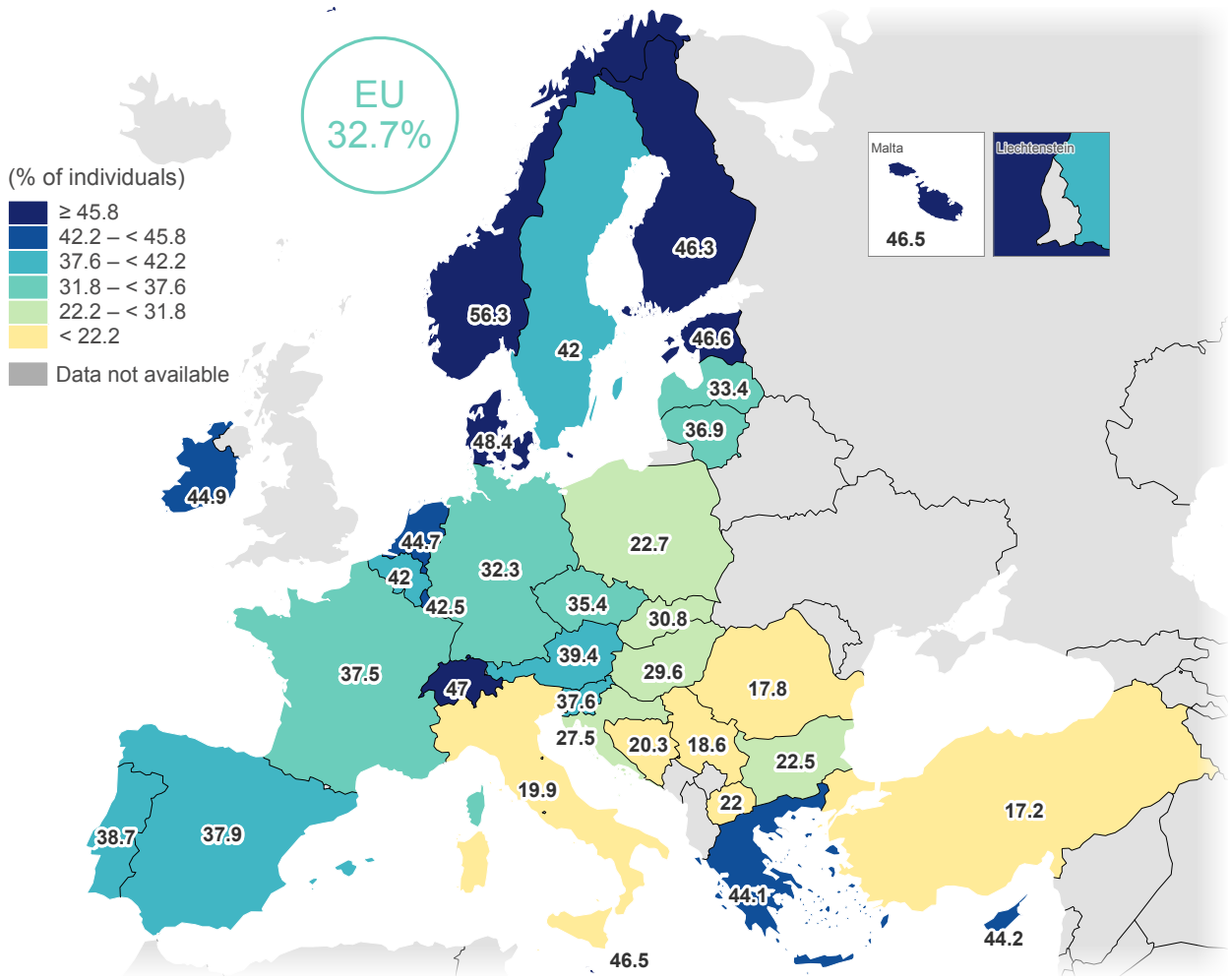
Before looking more closely at individual findings and the socio-demographic patterns of AI use, it is useful to examine how the adoption of generative AI by individuals varies across the EU. Figure 13 presents the percentage of individuals across EU countries who report having used generative AI tools in the three months preceding the survey.

At the EU level, reported use is already relatively high at 32.7%. This reflects how quickly generative AI tools have been adopted into everyday life. At the same time, it is important to note that by the time data on the topic were first collected (in the second quarter of 2025), generative AI was no longer a novelty and had already been available to the general public for more than two years. The data thus capture a first consolidation rather than experimentation by early adopters.

FIGURE 13

Individuals who used generative AI tools in the last 3 months, EU, 2025

(% of individuals)



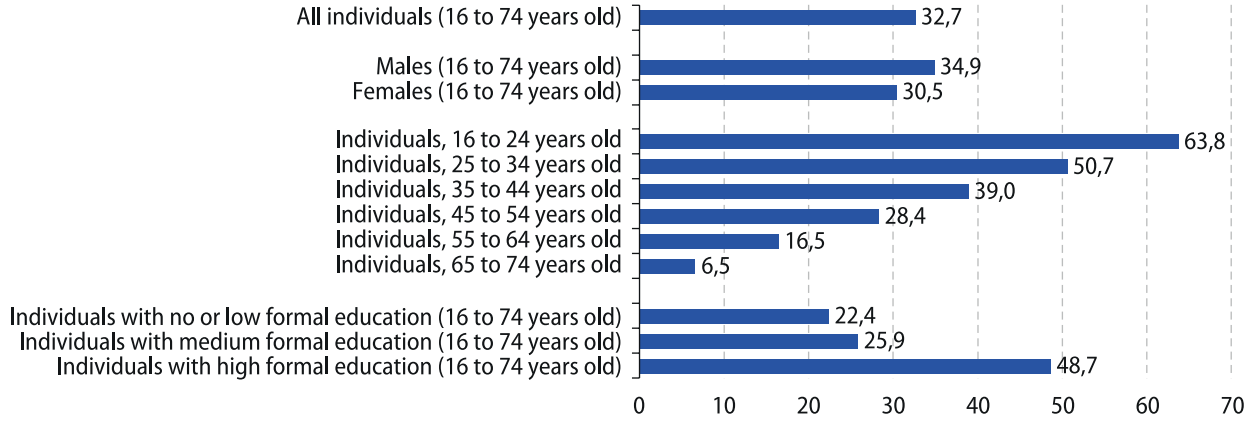
Use of generative AI tools: in the last 3 months
Source: Eurostat (online data code: isoc_ai_iaiu)

Administrative boundaries: © EuroGeographics © OpenStreetMap
Cartography: Eurostat – IMAGE, 03/2026

As Figure 13 illustrates, adoption patterns differed between countries. Among the EU countries, Denmark (48.4%), Estonia (46.6%), Malta (46.5%), and Finland (46.3%) had the highest proportions of individuals using generative AI. Norway (56.3%) and Switzerland (47%) also had a high number of adopters. Meanwhile, the lowest usage rates in the EU were recorded in Romania (17.8%), Italy (19.9%), and Bulgaria (22.5%).

FIGURE 14

Individuals who used generative AI in the last 3 months by population group, EU, 2025 (% of individuals)



Source: Eurostat (online data code: isoc_ai_iaiu)

The use of generative AI is not evenly distributed across the population. Figure 14 breaks down reported use by key socio-demographic characteristics, including sex, age group and education level, alongside the overall population average.

According to the data, men used generative AI slightly more than women, at 34.9% compared to 30.5%.

As is common with many digital technologies, younger people reported higher levels of use than older age groups: individuals aged 16 to 24 showed the highest adoption rate at 63.8%, and the share of users decreased steadily with age, standing at only 6.5% among those aged 65 to 74.

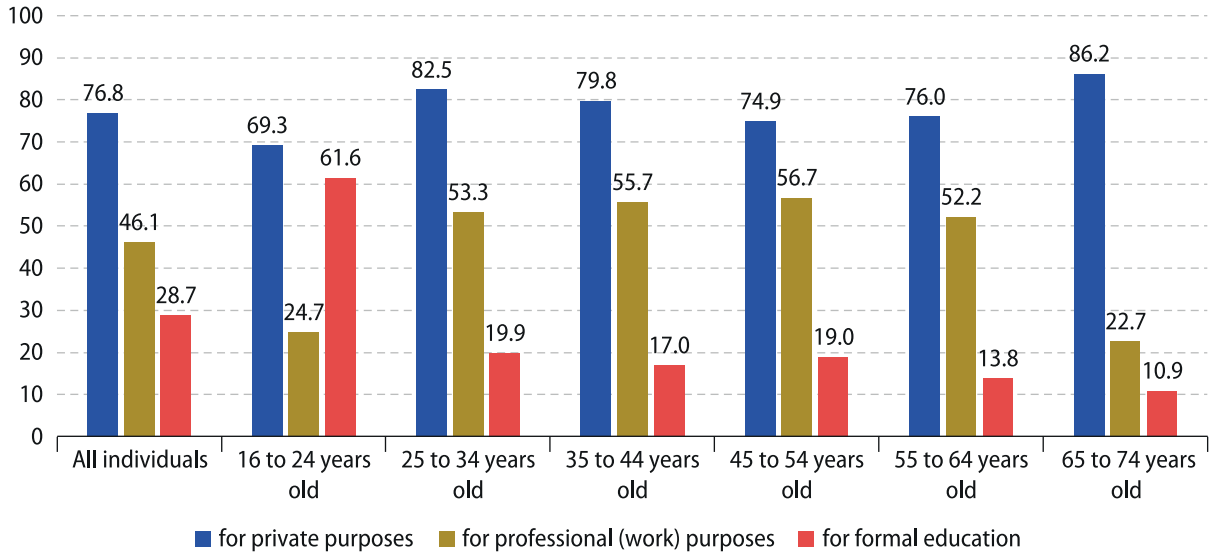
Education also plays a significant role in generative AI adoption. Individuals with a high level of formal education were the most likely to use these tools (48.7%), followed by those with a medium level education (25.9%), while only 22.4% of people with no or low levels of formal education reported using generative AI. Overall, the data show that age and education are among the strongest socio-demographic predictors of generative AI use, mirroring broader patterns in the adoption of digital skills and technologies.

Purposes of generative AI use

A look at only those individuals who reported having used generative AI tools reveals big differences between population groups in the purposes for which these tools were used. While private use is the most common overall, the distribution between private, professional and education-related purposes varies across age groups and education levels.

FIGURE 15

Purposes of use of generative AI by age group, EU, 2025 (% of individuals who have used generative AI tools in the last 3 months)



Source: Eurostat (online data code: isoc_ai_iaiu)

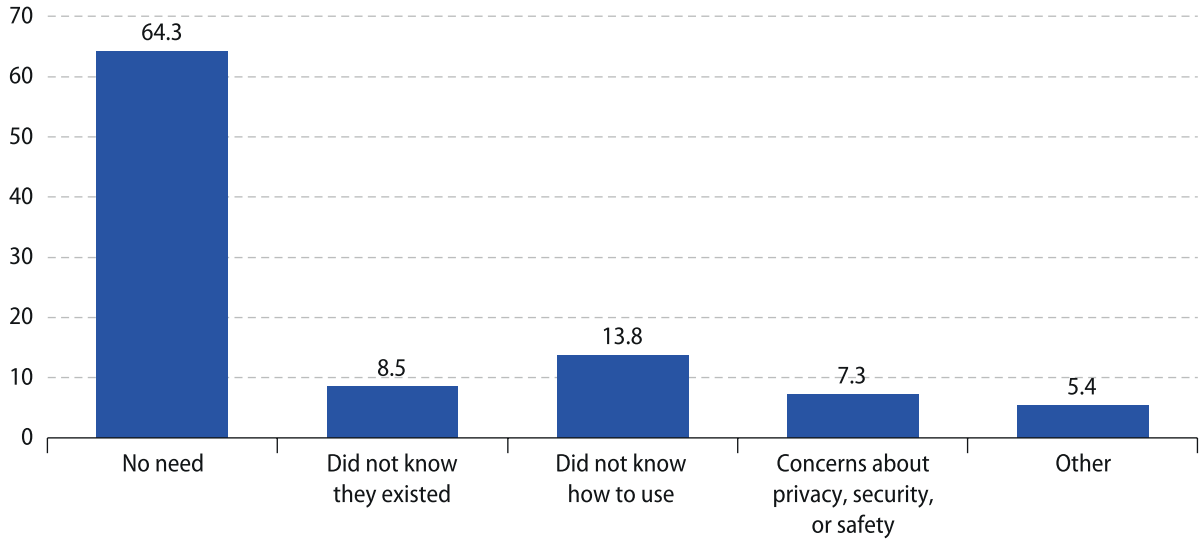
Figure 15 shows breakdown by age group. The use of generative AI for formal education is most prevalent among younger individuals aged 16 to 24 (61.6%); these are more likely to still be in school or university. In contrast, the use of generative AI for professional purposes is strongly represented across the main working-age groups, namely those aged 25 to 34, 35 to 44, 45 to 54, and 55 to 64 (all above 50%). This indicates that the use of generative AI for professional purposes extends across much of people's working life.

Reasons for not using generative AI tools

While a significant number of individuals have adopted generative AI tools, many still report not having used them. The ICT HH survey asked non-users for the main reason why they did not use these tools in the three months preceding the survey. As Figure 16 shows, the majority of non-users simply did not feel the need to use these tools (64.3%). Other reasons, such as an uncertainty about how to use the tools (13.8%), lack of awareness (8.5%) and concerns about privacy and security (7.3%), were cited less frequently. This shows that the main reason for non-use is still a perceived lack of relevance rather than accessibility, skill or trust issues.

FIGURE 16

Main reason for not using generative AI tools, EU, 2025 (% of individuals who have not used any generative AI tools in the last 3 months)



Source: Eurostat (online data code: isoc_ai_iaiuxr)

4

Challenges

The task of measuring the uptake of ICT, and in particular of AI, in both enterprises and households presents several challenges to producers of national official statistics and for Eurostat. While the surveys address different populations and use cases, they face common difficulties related to the fast pace of technological change and the need to capture a complex phenomenon in a harmonised and comparable way. Addressing these challenges requires close cooperation between Eurostat, data users and national statistical experts. The main challenges faced by the statistical community in each survey year are set out below.

Capturing a fast-changing and complex phenomenon

The complexity of AI technology and its applications makes it difficult to define AI in a way that can be easily understood by respondents (whether private individuals or respondents working in enterprises in different sectors of the economy). Official statistics are not always agile enough to keep up with rapid technological developments; this is because the model questionnaire is prepared two years in advance of the survey year (the model questionnaire for 2027 was prepared in 2025, for instance), so as to enable the adoption of a legal basis and proper preparation of the surveys by NSIs. Furthermore, it is difficult for statistical experts to remain abreast of developments: they need to constantly monitor the latest advances to ensure their measurement is relevant and up to date.

It is also difficult to properly identify ICT applications that use AI technologies, as the technologies are frequently embedded in or combined with other technologies. It is therefore necessary to specify the scope of the applications that should be considered when assessing the use of AI. Data users have also been deeply involved in the process of developing questionnaires so that emerging technologies and all relevant information on AI can be captured.

In the ICT HH survey these challenges have led to a deliberate narrowing of the scope of the survey exercise. Given the rapid evolution of AI technologies and the difficulty faced by respondents in identifying AI in embedded or automated systems, the survey currently focuses on generative AI, which has a clearer and more recognisable form for individuals – especially when it appears under easily recognisable brand names. In addition, the survey concentrates on the conscious and intentional use of AI tools, rather than involuntary or indirect exposure to AI-driven functionalities. The aim behind this approach is to improve data quality and comparability by ensuring that results reflect situations in which respondents consciously choose to use what they recognise as AI tools.

Making questions understandable to respondents

The complexity of the technology and the rapid technological advances in the field also make it difficult for respondents to understand the survey questions. To obtain high-quality data, it is essential that a respondent reading the questions and instructions easily understands them and feels familiar with the topic. Feedback from national statisticians suggests that in

enterprises, the person responsible for completing the questionnaire is not always the one best placed to answer questions about AI.

However, as mentioned above, the model questionnaire is prepared in close cooperation with statistical experts from NSIs and with the task force that is responsible for formulating the questions. When the ICT ENT questions were introduced for the first time, they were pre-tested to gain insights into how respondents interpreted the questions and to detect any issues that needed to be addressed. After the first data collection exercise in 2021, the questions and the methodological manual were discussed again and improved slightly based on experience gained from fieldwork. Statistical experts also provide continuous feedback on questions about AI use by individuals that are tested or included in the final questionnaire at a national level.

As described above, the scope of the ICT HH survey is deliberately limited to the conscious use of generative AI. This design choice also tends to make the questions more comprehensible to respondents. In particular, the inclusion of recognisable brand names as examples of AI technologies helps respondents who are less familiar with technical terms to identify the relevant AI tools more easily.

Balancing relevance and maintaining time series

It requires constant effort to achieve a balance between capturing information on new developments in AI technologies and making consistent measurements of their use over longer periods of time.

When the AI module for the ICT ENT survey was being designed, four different aspects were taken into account: the types of technology, the purposes of use, the means of acquisition and any reasons for not using AI. Over time these four aspects have remained relevant, but a few modifications have been needed, especially with the recent proliferation of large language models; the use of AI to generate video and audio and for research and development purposes has been added, for instance. Other modifications have been done to capture measures taken by enterprises to check if the results of generative AI are biased (based on sex, age, racial or ethnic origin, disability, religion or belief, or sexual orientation). This requires a yearly check of the aspects measured to ensure that the indicators yielded on this particular technology remain relevant and that continuity is ensured so that trends in the adoption of these technologies can be measured over time.

When the AI module for the ICT HH survey was being designed, the focus was initially placed on a limited set of basic questions: about the use of generative AI, the purposes for which it was used and any reasons for not using it. These elements were chosen as they provide a baseline level of information and are relatively straightforward for respondents to understand and report on. As the measurement of AI use by individuals becomes more established, and as feedback from data compilers and users becomes available, work to expand the module is developing. As with the survey of enterprises, this work requires a careful balance to be struck between capturing emerging developments in AI use and maintaining sufficient continuity over time to allow the meaningful analysis of trends.

Complying with the burden limit set by the framework regulation

As mentioned above, due to the limit laid down in the relevant EU legislation on the burden to be imposed on respondents, there is a cap on the number of variables that the annual model questionnaire can include. Given the multiple data needs that users had, this means that, in some cases, not all the information that might be relevant can be collected mandatorily and in detail. The challenge is tackled by making certain questions mandatory and others optional, within a reasonable limit (to limit the additional burden, the number of optional questions cannot be infinite), taking into account policy needs and priorities. When a question is included as optional, it is not collected by all countries, which means that it may not be possible to calculate an EU aggregate or make a comparison across countries.

5

Opportunities and next steps

As this report shows, work on measuring AI at EU level has so far concentrated primarily on the adoption of AI by enterprises and on enterprises' reasons for not using AI. The measurement of AI use by individuals in parallel to this is a more recent development and currently focuses on the use of generative AI, the purposes to which it is put, and reported reasons for non-use.

Given the expected economic and societal impact of AI in the coming years, the EU statistical community is increasingly discussing the inclusion of additional dimensions beyond those of the adoption of AI. For enterprises, this includes new aspects such as the economic impact of AI or its impact on productivity. For individuals there is a strong interest in expanding the current module. Topics such as levels of trust in AI, ethical concerns and the perceived impact of AI on employment, education and democratic processes are under discussion for inclusion.

All of this points towards a gradual expansion of AI-related modules in order to cover the rapidly evolving role of AI in economy and society.

Measuring productivity and growth

One relevant aspect for business statistics is the impact of AI on enterprise productivity and growth. To provide valuable insights into this, micro-data linking techniques could be explored to link the results of the ICT ENT survey with other existing data sets (such as structural business statistics, community innovation statistics and research and development statistics) to understand differences in the performance levels of enterprises using AI and those not using it.

Measuring AI investment

Another relevant aspect that should be explored is the investment made by enterprises in AI-related assets. This encompasses a range of resources, technologies and human capital (such as the purchase of data for training models, the purchase of AI software, the purchase of dedicated infrastructure for running AI models and the provision of AI-related training to upskill current employees). In the ICT ENT survey a question on the total cost of cloud computing services purchased by the enterprise has already been introduced. The data generated by this would benefit national accounts by measuring the size of the digital economy through the consumption of cloud computing services and assessing the implications for IT and software investments. In the future, a similar approach for AI-related investments could be envisaged.

Measuring AI industries

Eurostat and the European Statistical System are already measuring the economic impact of the ICT sector in Europe, using the NACE classification of economic activities. A new version of the classification was published in 2024 and takes into

account emerging economic activities. However, other potential changes in the classification could help to identify enterprises that produce AI hardware and models and data brokers that specialise in datasets used to train AI models, for example. This would help to estimate the size of the AI industries.

Measuring the number of and demand for AI specialists

As is the case for ICT specialists, collecting data on AI-related occupations could help us to understand the AI industry's development and labour market dynamics, and to identify skills gaps. There is no standardised definition of 'AI specialist' and AI job titles are not standardised across countries and economic activities. For that reason new categories of job, such as prompt engineer, would need to be included in future versions of the International Standard Classification of Occupations (ISCO) or the European Skills, Competences, Qualifications and Occupations (ESCO) Classification[18] to fully capture the phenomenon. In the same way, the demand for specific skills related to training AI models and using them in the labour market could help to provide a comprehensive view of AI use.

Data sources for AI

As this report shows, the measurement of AI uptake in enterprises is based on the EU survey on ICT use by enterprises. This is a general survey on the use of technologies and it includes other technologies such as the cloud, data analytics, e-commerce and ICT security. As explained above, in line with efforts to reduce the burden on respondents, the legal basis for this survey limits the number of questions that can be asked, which means that other, alternative sources and techniques should be explored to measure other aspects of AI. These sources could be multiple and combined. Of the avenues to be explored, web-scraping of data could be used to capture the demand for AI-related skills in job advertisements on the internet, and data from cloud companies providing dedicated AI services could be used to supplement the data on adoption and investment. The new amendment to Regulation (EC) No 223/2009 on European statistics, published in 2024, enables the use of these techniques and allow us to tap into new data sources that could potentially play a role in measuring the use of AI.

Measuring AI's impact on society

Increased use of AI will affect not just economic activities and industries but also people's everyday lives and broader societal processes. The rapid spread of generative AI applications in particular has the potential to change our private lives, how we interact with digital tools, our work and our education systems.

Measurement of generative AI use was first included in the ICT HH survey in 2025 and so is a relatively recent addition. For now the available data focus on adoption, purposes of use and reported reasons for not using these tools. While this offers an important first picture of the uptake of AI by individuals, there is also a strong desire within the EU statistical community to expand the scope of measurement.

Topics under consideration for future inclusion include trust in AI systems, ethical concerns (including the replication of biases, misleading output and the production of deepfakes) and the perceived impact of AI on factors such as employment, education, and democratic processes. Expanding the module in this direction would allow for a more comprehensive assessment of how AI technologies shape society. At the same time, these more subjective topics have proven challenging to measure; developing robust methodologies for them will require extensive discussions and careful testing and experimentation.

([18]) The ESCO Classification | ESCO (europa.eu).

6 Conclusions

The use of AI technologies presents significant opportunities and challenges for the EU's economy and society, and affects both enterprises and individuals. This statistical analysis is based on available data from the ICT ENT and ICT HH surveys. ICT ENT gives key insights into the dynamics of AI usage broken down by enterprise size and economic activity, while ICT HH offers complementary perspectives on how AI is being adopted, used and perceived by individuals.

Results from the ICT ENT survey show that since data was first collected in 2021, the uptake of AI has accelerated significantly. However, despite this growth, its usage remains relatively limited. There are notable disparities in AI uptake across EU countries and across enterprise size classes and economic activities.

The analysis also shows that certain sectors – such as information and communication, and professional, scientific and technical service activities – have adopted AI technologies more extensively than others, such as construction. This indicates that sectorspecific challenges and opportunities influence the extent and nature of AI use. EU enterprises vary in their use of AI technologies and their reasons for using it. The data do not reveal a dominant AI technology in use. Among those enterprises that are using AI technologies, the most common way of acquiring them was by purchasing ready-to-use commercial AI software or systems.

The analysis also revealed that among EU enterprises that did not use AI technologies in 2025, 14.2% had considered using them. The main reason for not having done so was a lack of relevant skills, regardless of enterprise size class and economic activity.

When AI use was first captured in the ICT HH survey in 2025, reported adoption among individuals had already reached 33%. This reflects the rapid surge in popularity of generative AI applications, to which the scope of survey questions was restricted. The data further show that the use of AI technologies by individuals is predominantly oriented towards private purposes at the moment, with considerably lower use reported for work- or education-related activities.

AI use among individuals is strongly shaped by socio-demographic factors. Age and education level are among the most influential determinants, with younger and more highly educated individuals reporting significantly higher use rates, an observation in line with similar trends for digital skills data. Differences by sex are also observed, although these are generally smaller in magnitude compared to age- and education-related gaps. Among individuals who reported not having used generative AI, the most commonly cited reason was that they saw no need for it.

Finally, the paper also highlighted the need to improve national statistical measures of AI uptake given the rapid growth and development of the field. Current approaches face challenges in terms of relevance, the ability to maintain consistency over time and the need to moderate the burden on respondents. Future work should aim to extend the scope of AI measurement beyond adoption indicators to cover impacts on productivity, growth and demand for AI specialists, while exploring alternative data sources beyond traditional surveys. It should also consider incorporating selected ethical and societal dimensions, such as trust in AI systems and concerns about biased or unreliable outputs, as these may significantly

influence both rates of adoption of AI and the impact of AI on society. The explicit integration of AI-related aspects into international standards (such as ISCO) will be essential for capturing developments across both enterprises and households consistently. Addressing these challenges and refining measurement methodologies will be critical for understanding and supporting the future growth of AI technologies in the economy and in society.

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The use of artificial intelligence (AI) technologies in the European Union

Artificial intelligence (AI) is transforming the European Union's economy and society, reshaping how businesses operate and how individuals live and work. This statistical report examines the usage of AI technologies among the enterprises as well as citizens of the EU, providing key insights based on the latest available data.

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