D Enterprises and digital technologies

Data given in this chapter are based on results of the **Annual Statistical Survey on the ICT Use in Enterprises (ICT 5-01)**, which has been carried out by the Czech Statistical Office (CZSO) since 2002. Since 2006, this survey has been mandatory for all EU member states according to the relevant regulation of the European Parliament and the Council.

The survey is every year conducted in the first quarter of the reference year in the sample of approximately **8 000 enterprises having 10+ employees** in selected economic activities. The results are then grossed up to the whole population of the measured enterprises, which is around 40 000 enterprises with 10+ employees.

The data obtained are available **broken** by prevailing economic activities by the CZ-NACE classification, by size of enterprises measured, and by their mutual combination.

Notes

The reference period is, in case of majority of data on equipment or ICT use in enterprises, is the month, in which the enterprise filled in the report (questionnaire), i.e. usually February to April of the relevant year. In case of indicators on e-commerce, ICT security incidents and 3D printing the reference period is the entire relevant year (in this issue it is 2021 although the survey was carried out in 2022).

Comparability of the CZSO and Eurostat Data

Since 2016 the data published by Eurostat and by the CZSO have been identical. Data for **international comparisons** are taken from the Eurostat database for digital economy and society, data of which are every year updated in January. Detailed information can be found at: https://bit.ly/Comprehensive database

Definitions (sorted alphabetically)

- A virtual private network (VPN) extends a private network across a
 public network, and enables users to send and receive data across
 shared or public networks as if their computing devices were directly
 connected to the private network. Applications running on a computing
 device, e.g., a laptop, desktop, smartphone, across a VPN may
 therefore benefit from the functionality, security, and management of
 the private network. Encryption is a common, though not an inherent,
 part of a VPN connection.
- An Artificial Intelligence (AI) refers to systems that use technologies such as: text mining, computer vision, speech recognition, natural language generation, machine learning, deep learning to gather and/or use data to predict, recommend or decide, with varying levels of autonomy, the best action to achieve specific goals. Artificial intelligence systems can be purely software based, e.g. chatbots and business virtual assistants based on natural language processing, face recognition systems based on computer vision or speech recognition systems, machine translation software, or embedded in devices, e.g. autonomous robots or drones.
- An enterprise website is a location on the World Wide Web identified by a Web address. Collection of Web files on a particular subject that includes a beginning file called a home page. Information on only enterprises' contacts published in internet databases or catalogues of enterprises are excluded.
- Cloud computing is a model for enabling ubiquitous, convenient, ondemand network access to a shared pool of configurable computing resources (e.g. networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.
- Enterprises conducting online meetings are those whose employees
 use applications such as Skype, MS Teams, Google Meet, for video
 calls, chats or online lectures. They are used via the Internet, users can
 be connected from anywhere and communication can take place
 internally, but also between the company and its clients or business
 partners.

D Enterprises and digital technologies

- Orders initiated with EDI-type messages. EDI (electronic data interchange) is an e-business tool for exchanging different kinds of business messages. EDI is here used as a generic term for sending or receiving business information in an agreed format suitable for automated processing (e.g. EDIFACT, XML, etc.) and without the individual message being manually typed. "EDI e-Commerce" is limited to EDI messages placing an order.
- Web (e-commerce) sales are sales made via an online store (web shop), via web forms on a website or extranet, or apps regardless of how the web is accessed (computer, laptop, mobile phone etc.)
- Fixed Internet connection includes an external Internet connection supplied by the provider. This includes DSL connection, optical fiber connection, cable modem 'cable TV network connection', leased lines 'frame relay, ATM, digital multiplex' and also fixed wireless connection from a fixed location using WiFi or LTE technology. This does not include mobile internet connection.
- ICT security means measures, controls and procedures applied on enterprise's ICT systems to ensure integrity, authenticity, availability and confidentiality of enterprise's data and systems.
- Mobile connection is an Internet connection via a data plan from mobile operators. Internet access takes place via the mobile telephone network, most often via a data SIM card inserted in a mobile phone / smartphone or tablet. The volume of transmitted data corresponds to the agreed data tariff.
- Remote access is the possibility of using the e-mail system of the enterprise, enterprise application or documents for users (employees) located outside the premises of the company, usually in the form of a secure connection via the Internet.
- Robots/ Robotics: according to their intended application, robots may
 be industrial or service robots. An industrial robot is an automatically
 controlled, reprogrammable, multipurpose manipulator programmable
 in three or more axes, which may be either fixed in place or mobile for
 use in industrial automation applications. A service robot is a machine
 that has a degree of autonomy and is able to operate in complex and
 dynamic environment that may require interaction with persons, objects
 or other devices, excluding its use in industrial automation applications.
- Facebook, the professional network LinkedIn or websites sharing multimedia content (e.g. YouTube, Instagram) are considered social networks in this survey. An enterprise using social networks has its own profile or account based on them.
- The Internet of Things (IoT) refers to interconnected devices or systems, often called "smart" devices or "smart" systems. They collect and exchange data and can be monitored or remotely controlled via the Internet, through software on any kind of computers, smartphones or through interfaces like wall-mounted controls.
- The unavailability of ICT services is a type of security incident when
 users cannot get to enterprises' websites or other services connected
 to them are unavailable. It can be caused by a hardware (e.g. server)
 failure or software failure (e.g. a faulty update) or an external attack,
 e.g. ransomware or a Denial of Service attack.
- 3D printing is the process of creating three-dimensional material objects on a 3D printer. 3D objects are usually created layer by layer, by gradually adding continuous layers of material (most often thermoplastics, metals or resins), according to a digital template.

Detailed information on methodology of the survey can be found in the publication Information and Communication Technologies in the Business Sphere in 2022 (code 062005-22) accessible on the CZSO website at https://bit.ly/PodnikyPublikace2022 (in the Czech language only).

Further information on the ICT use by enterprises can be found at: https://www.czso.cz/csu/czso/podnikatelsky sektor

(in the Czech language only).

Table D1 Enterprises in Czechia with internet access; 2022

| | | - | |
|---|-------|------------------|----------------|
| | Fixed | Mobile, total | Mobile only |
| Total | 89,2 | 89,6 | 7,0 |
| Small enterprises (10-49) | 87,3 | 87,8 | 8,0 |
| Medium enterprises (50-249) | 95,2 | 95,7 | 3,8 |
| Large enterprises (250+) | 99,7 | 99,3 | |
| Industry (10+ employees): | | | |
| Manufacturing | 92,4 | 90,7 | 5,3 |
| Electricity, gas and water supply | 92,4 | 92,2 | 4,6 |
| Construction | 79,9 | 89,4 | 10,8 |
| Sale and repair of motor vehicles | 94,0 | 94,5 | 4,1 |
| Wholesale trade | 90,6 | 95,4 | 7,9 |
| Retail trade | 87,2 | 79,3 | 8,9 |
| Transport and storage | 87,2 | 92,0 | 8,7 |
| Accommodation | 91,1 | 89,9 | 7,1 |
| Food and beverage services | 84,5 | 77,6 | 8,4 |
| Travel agency and related activities | 95,5 | 95,0 | |
| Media and information activities | 98,2 | 94,9 | |
| ICT activities | 97,9 | 95,0 | 2,0 |
| Professional, S&T activities | 94,5 | 91,3 | 4,3 |
| Administrative and support service activities | 81,2 | 84,7 | 9,9 |

Figure D1 Enterprises using fixed internet connection

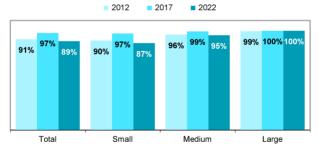
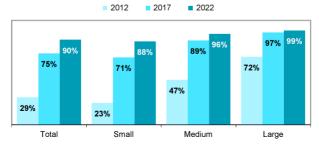


Figure D2 Enterprises using mobile internet connection

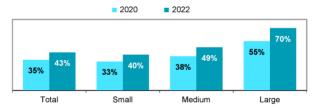


as a percentage of all enterprises with 10+ employees in a given group

Table D2 The maximum contracted download speed of fixed internet connection used by enterprises in Czechia; 2022

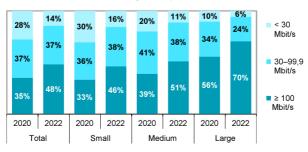
| | < 30 | 30–99,9 | ≥ 100 |
|---|--------|---------|--------|
| | Mbit/s | Mbit/s | Mbit/s |
| Total | 12,9 | 33,4 | 42,8 |
| Small enterprises (10-49) | 13,7 | 33,4 | 40,3 |
| Medium enterprises (50-249) | 10,7 | 35,9 | 48,6 |
| Large enterprises (250+) | 5,7 | 23,9 | 70,2 |
| Industry (10+ employees): | | | |
| Manufacturing | 15,0 | 35,6 | 41,9 |
| Electricity, gas and water supply | 16,6 | 36,2 | 39,7 |
| Construction | 12,2 | 26,9 | 40,8 |
| Sale and repair of motor vehicles | 10,9 | 40,2 | 42,9 |
| Wholesale trade | 11,1 | 40,0 | 39,5 |
| Retail trade | 13,6 | 39,1 | 34,5 |
| Transport and storage | 17,4 | 33,7 | 36,1 |
| Accommodation | 6,0 | 34,6 | 50,5 |
| Food and beverage services | 12,8 | 31,9 | 39,8 |
| Travel agency and related activities | 13,3 | 37,3 | 44,9 |
| Media and information activities | 9,0 | 23,9 | 65,3 |
| ICT activities | 2,2 | 23,1 | 72,6 |
| Professional, S&T activities | 11,3 | 28,2 | 55,0 |
| Administrative and support service activities | 12,4 | 28,8 | 40,0 |

Figure D3 Enterprises using fixed internet connection with maximum contracted download speed of at least 100 Mbit/s



as a percentage of all enterprises with 10+ employees in a given group

Figure D4 The maximum contracted download speed of fixed internet connection used by enterprises



as a percentage of enterprises with fixed internet connection in a given group

Figure D5 Enterprises in EU countries using fixed internet connection with the maximum contracted download speed of at least 100 Mbit/s; 2022

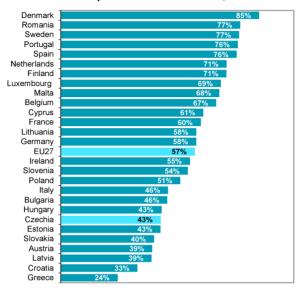


Figure D6 Enterprises in EU countries using fixed internet connection with the maximum contracted download speed of at least 1 Gbit/s; 2022

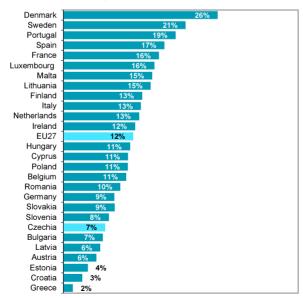


Table D3 Employees of enterprises in Czechia with internet access at work provided for business purposes; 2022

| | Total | Via mobile networks |
|---|-------|------------------------|
| Total | 51,9 | 35,5 |
| Small enterprises (10-49) | 50,0 | 39,2 |
| Medium enterprises (50-249) | 51,2 | 36,0 |
| Large enterprises (250+) | 53,5 | 33,3 |
| Industry (10+ employees): | | |
| Manufacturing | 44,9 | 26,9 |
| Electricity, gas and water supply | 61,7 | 42,0 |
| Construction | 49,4 | 41,6 |
| Sale and repair of motor vehicles | 76,0 | 50,8 |
| Wholesale trade | 69,6 | 55,7 |
| Retail trade | 45,7 | 22,2 |
| Transport and storage | 51,7 | 38,6 |
| Accommodation | 48,5 | 30,9 |
| Food and beverage services | 33,2 | 23,8 |
| Travel agency and related activities | 83,2 | 62,1 |
| Media and information activities | 91,8 | 69,6 |
| ICT activities | 95,3 | 79,2 |
| Professional, S&T activities | 87,2 | 67,0 |
| Administrative and support service activities | 28,9 | 20,3 |

Figure D7 Employees of enterprises with internet access at work provided for business purposes

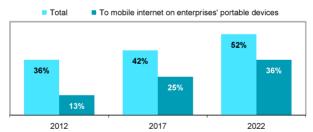
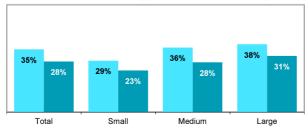


Figure D8 Employees of enterprises with remote access; 2022

- To the e-mail system of the enterprise
- To the documents, business applications or software of the enterprise



as a percentage of all employees in enterprises in a given group

Figure D9 Employees of enterprises in EU countries with internet access at work provided for business purposes; 2022

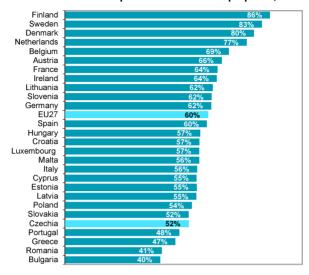


Figure D10 Employees of enterprises in EU countries which were provided with a portable device that allows mobile internet connection for business purposes; 2022

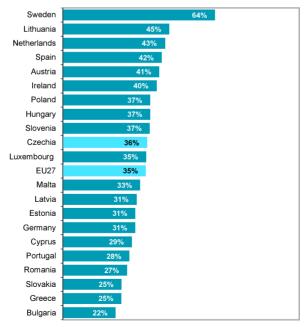


Table D4 Enterprises in Czechia that allow employees to work remotely; 2022

| | Allowing remote access to the documents and business applications | Conducting remote meetings via the internet |
|---|---|---|
| Total | 53,4 | 42,0 |
| Small enterprises (10-49) | 46,0 | 33,4 |
| Medium enterprises (50-249) | 78,3 | 69,9 |
| Large enterprises (250+) | 94,8 | 94,2 |
| Industry (10+ employees): | | |
| Manufacturing | 57,6 | 45,9 |
| Electricity, gas and water supply | 58,9 | 49,9 |
| Construction | 40,0 | 18,5 |
| Sale and repair of motor vehicles | 65,8 | 48,4 |
| Wholesale trade | 64,1 | 54,3 |
| Retail trade | 43,7 | 29,4 |
| Transport and storage | 38,5 | 23,0 |
| Accommodation | 48,4 | 29,2 |
| Food and beverage services | 20,7 | 9,8 |
| Travel agency and related activities | 70,9 | 68,8 |
| Media and information activities | 81,8 | 78,2 |
| ICT activities | 90,5 | 92,9 |
| Professional, S&T activities | 72,8 | 74,9 |
| Administrative and support service activities | 42,7 | 34,4 |

Figure D11 Enterprises with employees having remote access to the enterprises' documents and business applications

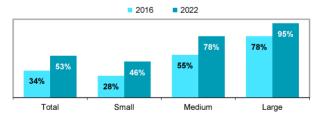
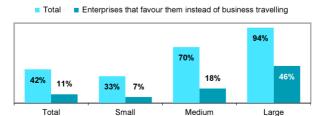


Figure D12 Enterprises conducting remote meetings via the internet; 2022



as a percentage of all enterprises with 10+ employees in a given group

Figure D13 Enterprises in EU countries with employees having remote access to the e-mail system, documents and business applications of the enterprise; 2022

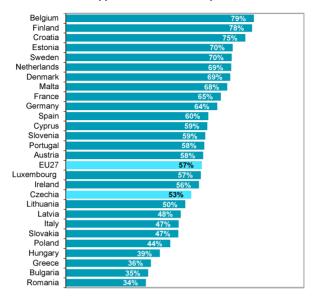


Figure D14 Enterprises in EU countries conducting remote meetings via the internet; 2022

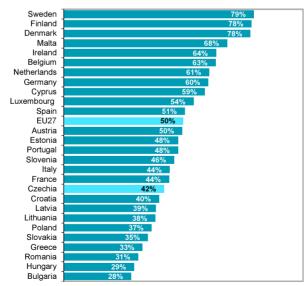


Table D5 Enterprises in Czechia having a website

| | 2012 | 2017 | 2022 |
|---|------|------|------|
| Total | 79,8 | 82,9 | 81,4 |
| Small enterprises (10-49) | 77,1 | 80,4 | 79,3 |
| Medium enterprises (50-249) | 89,9 | 91,8 | 88,9 |
| Large enterprises (250+) | 93,1 | 94,2 | 93,1 |
| Industry (10+ employees): | | | |
| Manufacturing | 80,2 | 84,4 | 83,7 |
| Electricity, gas and water supply | 81,1 | 88,2 | 86,3 |
| Construction | 83,8 | 83,3 | 76,5 |
| Sale and repair of motor vehicles | 94,9 | 92,2 | 94,3 |
| Wholesale trade | 86,8 | 89,9 | 91,7 |
| Retail trade | 63,3 | 63,4 | 69,0 |
| Transport and storage | 63,1 | 70,9 | 65,8 |
| Accommodation | 93,3 | 97,3 | 95,6 |
| Food and beverage services | 70,7 | 72,8 | 80,0 |
| Travel agency and related activities | 93,3 | 96,6 | 95,6 |
| Media and information activities | 96,9 | 98,4 | 96,2 |
| ICT activities | 95,1 | 92,8 | 91,7 |
| Professional, S&T activities | 87,5 | 88,9 | 88,6 |
| Administrative and support service activities | 69,2 | 72,9 | 66,9 |

Figure D15 Enterprises having a website customized for mobile devices

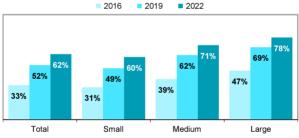
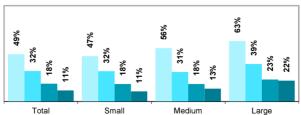


Figure D16 Enterprises whose websites enabling visitors/ customers to carry out selected activities; 2022

- View the description of goods/services or price lists
- Online ordering, reservation or booking (e.g. shopping cart)
- Customise or design online products
- Track or status of orders placed



as a percentage of all enterprises with 10+ employees in a given group

Figure D17 Enterprises in EU countries having a website; 2021

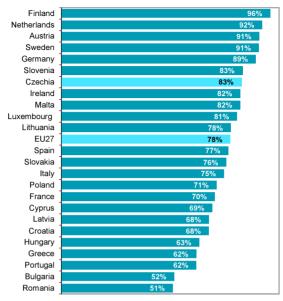


Figure D18 Enterprises in EU countries with websites providing online ordering, reservation or booking (e.g. shopping cart); 2021

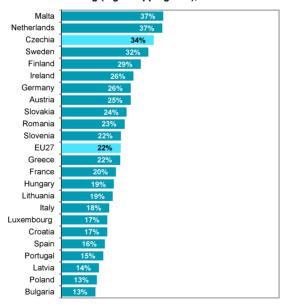


Table D6 Enterprises in Czechia having a user profile on social networks or multimedia content sharing websites; 2021

| | Facebook or LinkedIn | YouTube, Instagram etc. |
|---|-------------------------|----------------------------|
| Total | 49,4 | 22,3 |
| Small enterprises (10-49) | 45,5 | 19,1 |
| Medium enterprises (50-249) | 59,8 | 29,6 |
| Large enterprises (250+) | 83,4 | 52,6 |
| Industry (10+ employees): | | |
| Manufacturing | 43,0 | 17,7 |
| Electricity, gas and water supply | 32,3 | 11,5 |
| Construction | 26,7 | 9,2 |
| Sale and repair of motor vehicles | 65,8 | 28,3 |
| Wholesale trade | 64,9 | 39,4 |
| Retail trade | 60,5 | 30,3 |
| Transport and storage | 40,8 | 9,6 |
| Accommodation | 88,7 | 48,2 |
| Food and beverage services | 70,5 | 25,3 |
| Travel agency and related activities | 87,9 | 57,8 |
| Media and information activities | 87,6 | 71,5 |
| ICT activities | 76,5 | 46,9 |
| Professional, S&T activities | 50,3 | 24,0 |
| Administrative and support service activities | 41,9 | 14,0 |

Figure D19 Enterprises having a user profile on social networks like Facebook or LinkedIn

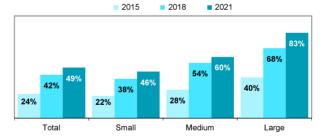
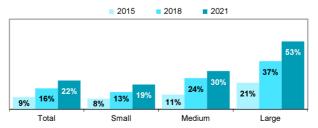


Figure D20 Enterprises having a user profile on multimedia content sharing websites or apps like YouTube or Instagram



as a percentage of all enterprises with 10+ employees in a given group

Figure D21 Enterprises in EU countries having a user profile on social networks like Facebook or LinkedIn; 2021

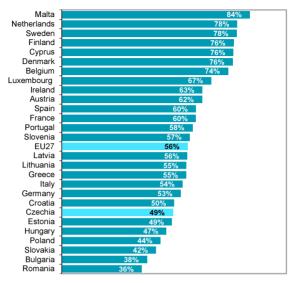


Figure D22 Enterprises in EU countries having a user profile on multimedia content sharing websites or apps like YouTube or Instagram; 2021

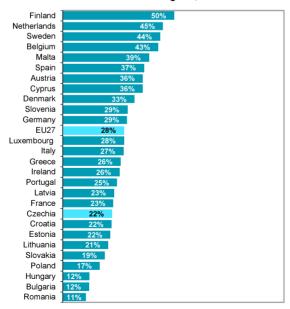


Table D7 Enterprises in Czechia having web sales; 2021

| | | . or cornage |
|---|-------|---|
| | Total | Web sales generate at least 10 % of turnover |
| Total | 20,2 | 14,1 |
| Small enterprises (10-49) | 19,7 | 14,2 |
| Medium enterprises (50-249) | 21,1 | 13,1 |
| Large enterprises (250+) | 27,7 | 16,6 |
| Industry (10+ employees): | | |
| Manufacturing | 17,7 | 9,7 |
| Electricity, gas and water supply | 4,9 | 2,6 |
| Construction | 3,8 | 2,8 |
| Sale and repair of motor vehicles | 41,4 | 31,7 |
| Wholesale trade | 41,8 | 30,1 |
| Retail trade | 39,4 | 31,4 |
| Transport and storage | 9,6 | 6,9 |
| Accommodation | 61,2 | 54,0 |
| Food and beverage services | 26,0 | 20,7 |
| Travel agency and related activities | 69,9 | 60,2 |
| Media and information activities | 55,8 | 38,9 |
| ICT activities | 20,5 | 14,5 |
| Professional, S&T activities | 10,4 | 5,8 |
| Administrative and support service activities | 6,7 | 4,8 |

Figure D23 Enterprises having web sales

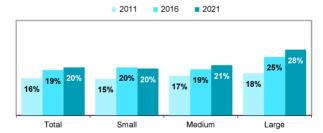
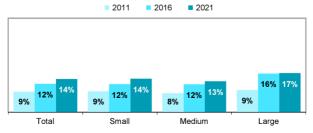


Figure D24 Enterprises for which web sales generate at least 10 % of their total turnover



as a percentage of all enterprises with 10+ employees in a given group

Figure D25 Enterprises in EU countries having web sales; 2021

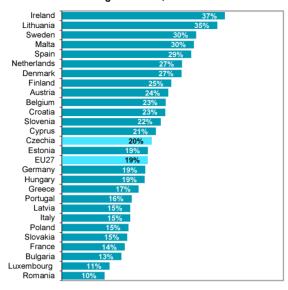


Figure D26 Enterprises in EU countries for which web sales generate at least 10 % of their total turnover; 2021

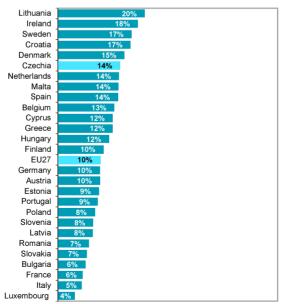


Table D8 The enterprises' turnover from electronic sales in Czechia; 2021

| | E-sales. | carried out via: | |
|---|----------|------------------|-------|
| | total | EDI-type | Web |
| | | sales* | sales |
| Total | 29,9 | 21,4 | 8,5 |
| Small enterprises (10-49) | 13,0 | 4,8 | 8,2 |
| Medium enterprises (50-249) | 20,1 | 12,7 | 7,4 |
| Large enterprises (250+) | 40,6 | 31,5 | 9,2 |
| Industry (10+ employees): | | | |
| Manufacturing | 33,3 | 30,2 | 3,1 |
| Electricity, gas and water supply | 53,8 | 44,4 | 9,5 |
| Construction | 4,8 | 4,2 | 0,6 |
| Sale and repair of motor vehicles | 22,9 | 9,4 | 13,5 |
| Wholesale trade | 22,0 | 10,3 | 11,7 |
| Retail trade | 25,9 | 3,1 | 22,8 |
| Transport and storage | 29,6 | 21,3 | 8,2 |
| Accommodation | 34,6 | 3,3 | 31,2 |
| Food and beverage services | 9,1 | 0,8 | 8,3 |
| Travel agency and related activities | 75,8 | 3,8 | 71,9 |
| Media and information activities | 46,3 | 8,2 | 38,1 |
| ICT activities | 14,6 | 5,2 | 9,4 |
| Professional, S&T activities | 6,4 | 4,9 | 1,5 |
| Administrative and support service activities | 37,7 | 23,8 | 13,8 |

Figure D27 The enterprises' turnover from web sales

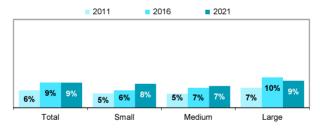
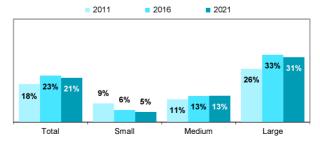


Figure D28 The enterprises' turnover from EDI-type sales*



^{*} EDI = Electronic Data Interchange

as a percentage of total enterprises' turnover in a given group

Figure D29 The enterprises' turnover from electronic sales in EU countries: 2021 (as a % of total enterprises' turnover)

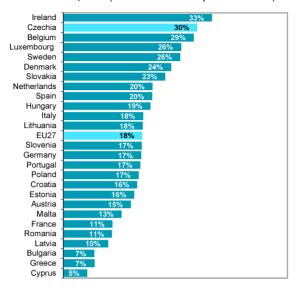
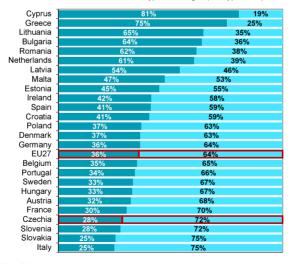


Figure D30 Enterprises' turnover from electronic sales in EU countries by type of orders; 2021

- Orders received via a website or apps (Web sales)
- Automated orders received via EDI-type messasges (EDI-type sales)*



^{*} EDI = Electronic Data Interchange

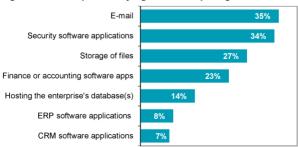
Table D9 Enterprises in Czechia buying cloud computing services; 2021

| | Total | Finance or accounting software apps | Hosting the enterprise's database(s) |
|---|-------|-------------------------------------|--------------------------------------|
| Total | 43,7 | 22,6 | 13,9 |
| Small enterprises (10-49) | 42,1 | 23,4 | 11,5 |
| Medium enterprises (50-249) | 47,2 | 20,7 | 20,5 |
| Large enterprises (250+) | 61,8 | 15,4 | 32,2 |
| Industry (10+ employees): | | | |
| Manufacturing | 39,2 | 19,7 | 12,1 |
| Electricity, gas and water supply | 34,5 | 17,4 | 12,4 |
| Construction | 42,9 | 26,5 | 7,7 |
| Sale and repair of motor vehicles | 49,6 | 25,8 | 18,8 |
| Wholesale trade | 51,4 | 24,7 | 17,9 |
| Retail trade | 40,1 | 21,8 | 14,9 |
| Transport and storage | 41,3 | 23,6 | 9,9 |
| Accommodation | 57,0 | 30,3 | 14,8 |
| Food and beverage services | 30,2 | 20,1 | 5,9 |
| Travel agency and related activities | 56,5 | 26,7 | 28,4 |
| Media and information activities | 61,0 | 23,6 | 28,3 |
| ICT activities | 57,8 | 29,2 | 42,1 |
| Professional, S&T activities | 75,8 | 22,8 | 19,1 |
| Administrative and support service act. | 53,5 | 22,2 | 11,1 |

Figure D31 Enterprises buying cloud computing services for hosting databases



Figure D32 Enterprises buying cloud computing services; 2021



as a percentage of all enterprises with 10+ employees in a given group

Source: Czech Statistical Office, Survey on ICT usage in enterprises

Figure D33 Enterprises in EU countries buying cloud computing services; 2021

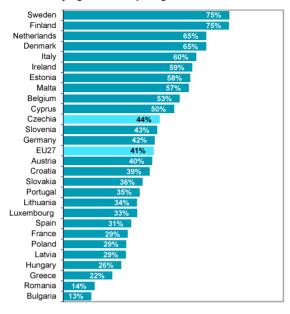


Figure D34 Enterprises in EU countries buying cloud computing services for hosting databases; 2021

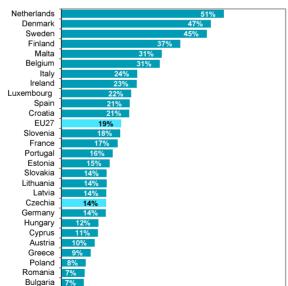


Table D10 Enterprises in Czechia using the Internet of Things or Artificial Intelligence technologies; 2021

Percentage

| | Internet | Artificial |
|---|-----------|--------------|
| | of Things | Intelligence |
| Total | 31,4 | 4,5 |
| Small enterprises (10-49) | 28,2 | 2,7 |
| Medium enterprises (50-249) | 40,8 | 7,6 |
| Large enterprises (250+) | 54,9 | 24,5 |
| Industry (10+ employees): | | |
| Manufacturing | 36,9 | 4,2 |
| Electricity, gas and water supply | 42,6 | 4,1 |
| Construction | 30,0 | 0,3 |
| Sale and repair of motor vehicles | 38,3 | 3,9 |
| Wholesale trade | 34,1 | 4,1 |
| Retail trade | 21,6 | 4,5 |
| Transport and storage | 36,5 | 3,3 |
| Accommodation | 33,3 | 1,9 |
| Food and beverage services | 22,7 | 0,6 |
| Travel agency and related activities | 18,7 | 7,9 |
| Media and information activities | 26,0 | 13,6 |
| ICT activities | 31,3 | 23,1 |
| Professional, S&T activities | 24,4 | 9,3 |
| Administrative and support service activities | 19,3 | 2,8 |

Figure D35 Enterprises using the Internet of Things or Artificial Intelligence technologies; 2021

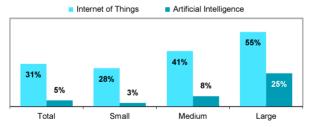
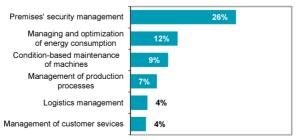


Figure D36 Enterprises using interconnected devices or systems that can be monitored or remotely controlled via the internet for selected activities; 2021



as a percentage of all enterprises with 10+ employees in a given group

Figure D37 Enterprises in EU countries using the Internet of Things; 2021

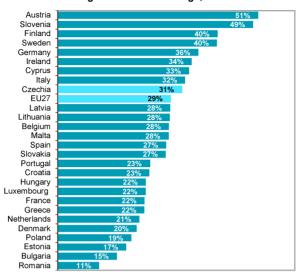


Figure D38 Enterprises in EU countries using Artificial Intelligence technologies; 2021

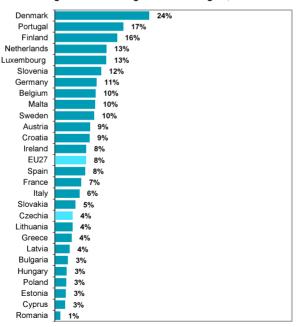
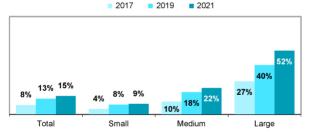


Table D11 Enterprises in Manufacturing in Czechia using 3D printing and robotics

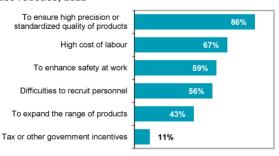
| | 3D printing (2021) | Robotics (2022) |
|--|--------------------------|--------------------|
| Manufacturing, total | 15,0 | 16,6 |
| Small enterprises (10-49) | 8,6 | 7,2 |
| Medium enterprises (50-249) | 21,6 | 28,2 |
| Large enterprises (250+) | 52,1 | 64,3 |
| Manufacturing industry (10+ epmloyees): | | |
| Manuf. of food products | 2,9 | 10,6 |
| Manuf. of textiles and wearing apparel | 5,2 | 3,8 |
| Manuf. of wood and paper | 5,6 | 8,9 |
| Manuf. of chemicals or pharmaceutical products | 13,9 | 12,3 |
| Manuf. of rubber and plastics products | 14,6 | 30,4 |
| Manuf. of glass and building materials | 10,6 | 20,0 |
| Manuf. of basic metals | 10,8 | 18,3 |
| Manuf. of computer and electronic products | 48,8 | 19,7 |
| Manuf. of electrical equipment | 30,9 | 20,2 |
| Manuf. of machinery | 27,3 | 17,0 |
| Manuf. of motor vehicles or other transport equpment | 34,7 | 42,8 |

Figure D39 Enterprises in Manufacturing using 3D printing



as a percentage of all enterprises with 10+ employees in Manufacturing

Figure D40 Reasons that influenced enterprise's decision to use robotics: 2022



as a percentage of all enterprises in Manufacturing using robotics

Figure D41 Enterprises in Manufacturing in EU countries using 3D printing; 2019

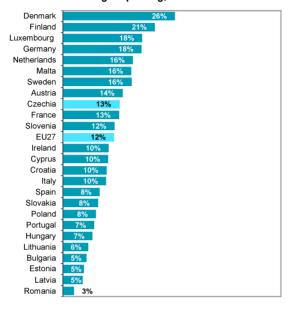


Figure D42 Enterprises in Manufacturing in EU countries using industrial robots; 2022

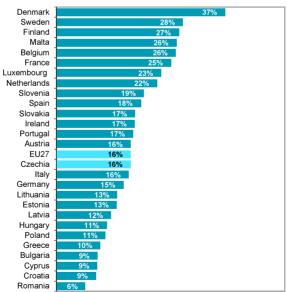


Table D12 Enterprises in Czechia that experienced ICT related security incidents; 2021

| | Unavailability of ICT services | Destruction or corruption of data |
|---|--------------------------------|---|
| Total | 26,4 | 9,0 |
| Small enterprises (10-49) | 23,4 | 8,2 |
| Medium enterprises (50-249) | 36,2 | 11,5 |
| Large enterprises (250+) | 45,7 | 14,0 |
| Industry (10+ employees): | | |
| Manufacturing | 27,5 | 8,7 |
| Electricity, gas and water supply | 28,0 | 8,0 |
| Construction | 18,9 | 7,8 |
| Sale and repair of motor vehicles | 42,1 | 11,9 |
| Wholesale trade | 27,5 | 10,4 |
| Retail trade | 33,5 | 16,1 |
| Transport and storage | 14,8 | 6,2 |
| Accommodation | 26,2 | 10,5 |
| Food and beverage services | 19,2 | 5,1 |
| Travel agency and related activities | 26,3 | 4,5 |
| Media and information activities | 42,5 | 9,8 |
| ICT activities | 41,7 | 9,5 |
| Professional, S&T activities | 33,1 | 10,7 |
| Administrative and support service activities | 20,9 | 6,5 |

Figure D43 Enterprises that experienced unavailability of ICT services

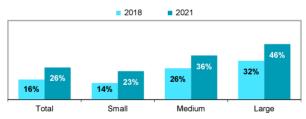
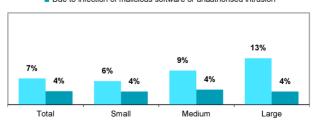


Figure D44 Enterprises that experienced destruction or corruption of data; 2021

- Due to hardware or software failures (internal reasons)
- Due to infection of malicious software or unauthorised intrusion



as a percentage of all enterprises with 10+ employees in a given group

Figure D45 Enterprises in EU countries that experienced unavailability of ICT services; 2021

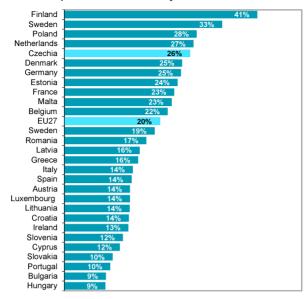


Figure D46 Enterprises in EU countries that experienced destruction or corruption of data; 2021

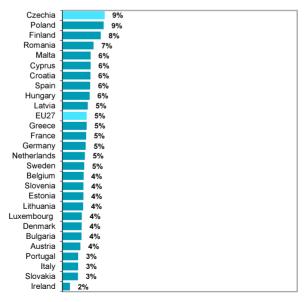


Table D13 ICT security measures used in enterprises in Czechia to ensure the security on their ICT systems; 2022

Percentac

| | Selected ICT security measures | | |
|---|--------------------------------|-------|------------|
| | Data | VPN | Encryption |
| | backup | usage | of data |
| Celkem | 81,2 | 55,6 | 32,1 |
| Small enterprises (10-49) | 78,2 | 48,6 | 27,0 |
| Medium enterprises (50-249) | 91,4 | 78,9 | 46,7 |
| Large enterprises (250+) | 97,1 | 95,0 | 71,0 |
| Industry (10+ employees): | | | |
| Manufacturing | 86,2 | 59,9 | 30,8 |
| Electricity, gas and water supply | 88,0 | 57,9 | 36,3 |
| Construction | 73,5 | 38,2 | 18,9 |
| Sale and repair of motor vehicles | 90,6 | 67,9 | 35,3 |
| Wholesale trade | 88,3 | 69,2 | 35,9 |
| Retail trade | 78,1 | 42,7 | 27,3 |
| Transport and storage | 73,9 | 45,4 | 21,0 |
| Accommodation | 82,0 | 54,9 | 32,7 |
| Food and beverage services | 49,6 | 24,0 | 12,3 |
| Travel agency and related activities | 91,4 | 71,9 | 34,1 |
| Media and information activities | 95,6 | 82,2 | 54,0 |
| ICT activities | 95,8 | 92,0 | 76,4 |
| Professional, S&T activities | 92,7 | 76,4 | 55,8 |
| Administrative and support service act. | 68,1 | 41,8 | 30,5 |

Figure D47 Enterprises using VPN to ensure ICT security

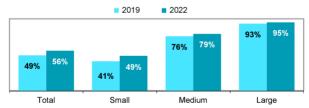
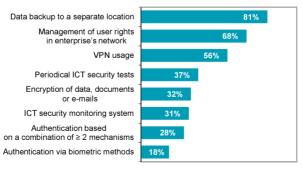


Figure D48 Selected ICT security measures used in enterprises to ensure the security on their ICT systems; 2022



as a percentage of all enterprises with 10+ employees in a given group

Figure D49 Enterprises in EU countries that backup data to a separate location (including backup to the cloud); 2022

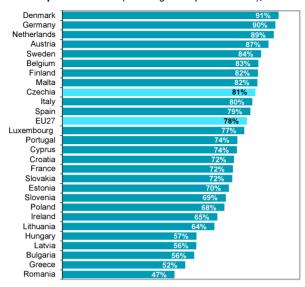


Figure D50 Enterprises in EU countries using VPN to ensure ICT security; 2022

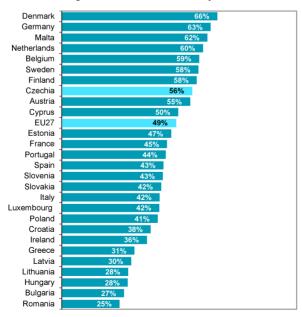


Table D14 How enterprises in Czechia deal with ICT equipment when it's no longer used; 2022

| | It is recycled | It is kept in the enterprise | It is sold or donated |
|---|----------------|------------------------------------|-----------------------------|
| Celkem | 82,5 | 40,6 | 34,5 |
| Small enterprises (10-49) | 80,2 | 37,6 | 31,0 |
| Medium enterprises (50-249) | 89,7 | 50,3 | 45,1 |
| Large enterprises (250+) | 95,9 | 59,4 | 59,0 |
| Industry (10+ employees): | | | |
| Manufacturing | 85,7 | 43,0 | 33,5 |
| Electricity, gas and water supply | 90,6 | 37,7 | 29,6 |
| Construction | 76,8 | 34,0 | 28,7 |
| Sale and repair of motor vehicles | 86,3 | 38,6 | 26,5 |
| Wholesale trade | 84,1 | 42,8 | 40,9 |
| Retail trade | 86,4 | 39,0 | 31,4 |
| Transport and storage | 76,1 | 36,3 | 23,7 |
| Accommodation | 82,4 | 34,3 | 31,0 |
| Food and beverage services | 69,8 | 26,4 | 24,4 |
| Travel agency and related activities | 90,1 | 57,5 | 45,5 |
| Media and information activities | 87,1 | 58,0 | 57,2 |
| ICT activities | 89,9 | 59,4 | 65,5 |
| Professional, S&T activities | 86,1 | 48,6 | 48,2 |
| Administrative and support service activities | 74,3 | 39,8 | 31,7 |

as a percentage of all enterprises with 10+ employees in a given group

Source: Czech Statistical Office, Survey on ICT usage in enterprises

Figure D51 Enterprises in EU countries that recycled ICT equipment when it's no longer used; 2022

