D Enterprises and ICT

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, the survey has been conducted in accord with the **Regulation (EC) No 808/2004** of the European Parliament and of the Council of 21 April 2004 concerning Community statistics on the information society. This allows obtaining of internationally comparable data within the EU28 Member States.

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, **January of a given year** (in this issue it is January 2019) when the survey is carried out. In the case of indicators on e-commerce, selected indicators on experience with ICT related security incidents and on ICT specialists the reference period is the **whole previous year** (in this issue it is 2018).

Comparability of the CZSO and Eurostat Data

Data given by Eurostat for **Czechia can be slightly different** from the data published by the CZSO. This difference was till 2015 caused by the fact Eurostat published data **did not include** all enterprises of the economic section '**financial intermediation**', on the contrary to the CZSO data. Small differences are also in sampling. Some industries are defined slightly differently.

Data for **international comparisons** are taken from the Eurostat database for digital economy and society. The latest update was in January 2020: Detailed information can be found at: https://bit.ly/2SBKls9

Definitions

- **ICT security** means measures, controls and procedures applied on ICT systems in order to ensure integrity, authenticity, availability and confidentiality of data and systems.

- **Customer Relationship Management (CRM)** refers to any information system or software application for managing information about customers. CRM is aimed at relationship with customers.

- The **electronic data interchange (EDI)** refers to the transmission of structured messages, as orders, invoices, etc., for instance, between two computer applications, information or database systems, implemented over the internet or other network and used in advance agreed format of the data messages based on standards enabling their automatic processing (EDI, EDIFACT, XML, cXML, etc.). That means the EDI is always implemented without any manual typing, retyping, or copying of the messages.

- **Electronic commerce, e-commerce (purchase or sale)** shall mean placing or accepting electronic orders via the internet or other computer networks by means of websites or EDI regardless of the method of payment or delivery. *Purchases (sales) carried out on the basis of orders prepared from information obtained on the internet but placed in a traditional way (by phone, fax, or written order) or by e-mail are not included.*

- **Enterprise Resource Planning (ERP)** is an information system used to manage resources by sharing information among different functional areas (e.g. accounting, planning, production, marketing, etc.). ERP can be a software package or a tailored application (it can be customized to enterprises' needs).

- An **extranet** shall mean a closed enterprise network used for secured information sharing. It usually has a form of a special web page or extension to the intranet and serves for communication with suppliers, sellers, partners, customers, and other enterprises, which are located out of the enterprise headquarters. Access to the extranet is allowed after logging in.
- **Business Information Systems** are applications that support processes in the areas of financial management, human resource management, manufacturing, warehouse management, customer and supply chain. The most common systems are ERP, CRM, SCM, accounting programs and others.
- An **ICT specialist** refers in the survey to an employee who is an expert on hardware, software, or services in ICT, and whose core activity is to contribute to new technology development or to enable use of information and communication technologies to other persons.
- An **internal computer network (LAN)** shall mean a local enterprise network connecting, at least, two computers or other IT devices and most frequently serving for data transmission and sharing (files, internal emails, for instance) and, furthermore, for communication or sharing the connection to the internet within the enterprise. End devices can be connected to the enterprise computer network also by a wireless technology (WLAN).
- An **intranet** shall mean internal web pages and their applications revealing their contents and services exclusively to authorised users within the enterprise, as employees, management, etc.
- **Customisation/design** shall mean possibility for enterprises' website visitors to customise or design online goods or services. They can configure in case of goods e.g. size, composition, equipment; in case of services e.g. scope according to customers' requests, requirements or needs.
- **Unavailability of ICT services** e.g. Denial of Service (DoS) attacks (an attempt to make a computer resource unavailable to its intended users), ransomware attacks, hardware or software failures.
- **To provide employees with ICT devices** shall mean to give them the possibility to use devices at work. Enterprises pay for all or at least up to a limit the subscription and the use costs.
- **Online social networks (e.g. Facebook, LinkedIn)** shall mean on-line communication tools enabling the enterprises to create their own user profiles by means of which they can besides other things communicate with other users, share information or multimedia content.
- An **enterprise website** shall mean a web page(s) presenting the enterprise on the internet. The enterprise is expected to have control over the contents - it may be changed or modified by authorised persons only. Information on only enterprises' contacts published in internet databases or catalogues of enterprises are excluded.
- **Destruction or corruption of data** e.g. due to infection of malicious software (malware) or unauthorised intrusion (e.g. hacker's attack).

Detailed information on methodology of the survey can be found in the publication **Information and Communication Technologies in the Business Sphere in 2019** (code **062005-19)** accessible on the CZSO website at https://bit.ly/2uwPEBc (in the Czech language only).

Further information on the ICT use by enterprises can be found at: https://bit.ly/2SM1fFP (in the Czech language only).

Tab. D1 Enterprises in Czechia using computer networks; 2019

%

	LAN	Intranet	Extranet
Total (10+ employees)	77,8	32,6	16,1
Small enterprises (10-49)	73,3	26,2	12,4
Medium enterprises (50-249)	93,1	50,0	25,5
Large enterprises (250+)	98,6	80,2	46,0
Industry (10+ employees):			
Manufacturing	80,6	32,7	12,8
Electricity, gas and water supply	85,7	42,5	22,4
Construction	67,3	19,6	6,6
Sale and repair of motor vehicles	86,3	37,6	16,7
Wholesale trade	86,6	38,7	23,5
Retail trade	75,7	34,6	18,7
Transport and storage	71,0	27,8	10,4
Accommodation	79,9	25,9	18,2
Food and beverage services	54,7	19,9	6,4
Travel agency and related activities	87,4	47,0	32,4
Media industries including publishing activities	98,1	63,6	34,3
Telecommunications	96,6	76,4	47,4
Computer programming and related activities	97,5	70,4	49,5
Real estate activities	84,0	31,6	17,5
Professional, scientific and technical activities	88,5	36,9	21,5
Administrative and support activities	62,5	26,0	18,9

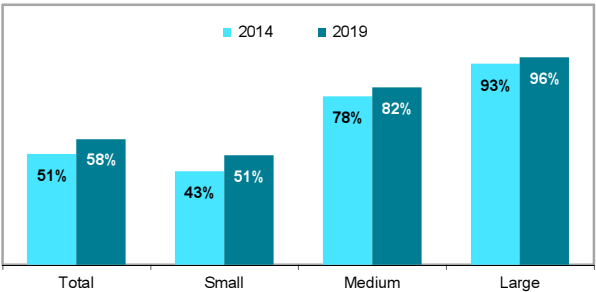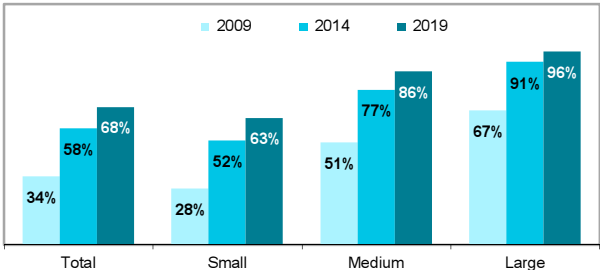**Figure D1 Enterprises enabling employees remote access to enterprises' apps, documents or files**

Figure D2 Enterprises with wireless Local Area Network

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

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

Tab. D2 Enterprises in Czechia with access to the internet; 2019

%

	Total	connection speed*	
		at least 30 Mbps	at least 100 Mbps
Total (10+ employees)	**97,1**	**39,9**	**14,5**
Small enterprises (10-49)	96,4	34,3	11,1
Medium enterprises (50-249)	99,5	56,8	22,9
Large enterprises (250+)	99,6	76,1	44,3
Industry (10+ employees):			
Manufacturing	98,1	35,9	11,7
Electricity, gas and water supply	97,1	59,8	21,2
Construction	95,8	35,1	10,4
Sale and repair of motor vehicles	99,1	41,0	10,8
Wholesale trade	98,7	45,1	12,6
Retail trade	93,2	37,2	14,2
Transport and storage	97,6	33,5	11,6
Accommodation	99,5	49,2	25,1
Food and beverage services	92,8	23,9	6,2
Travel agency and related activities	98,7	50,2	22,1
Media industries including publishing activities	100,0	68,1	42,1
Telecommunications	100,0	88,2	69,7
Computer programming and related activities	99,8	77,1	47,5
Real estate activities	96,4	43,8	19,3
Professional, scientific and technical activities	98,1	52,9	22,9
Administrative and support activities	95,0	32,3	12,0

Figure D3 Internet connection speed* used by enterprises
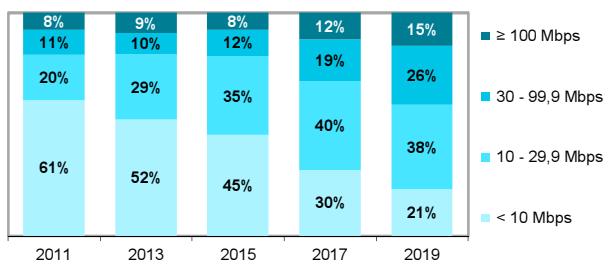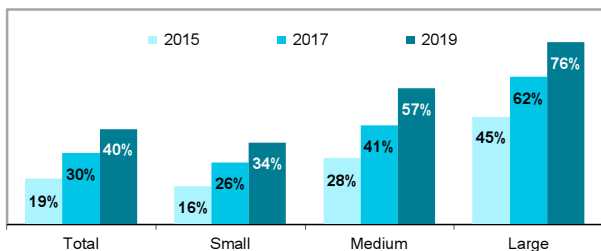

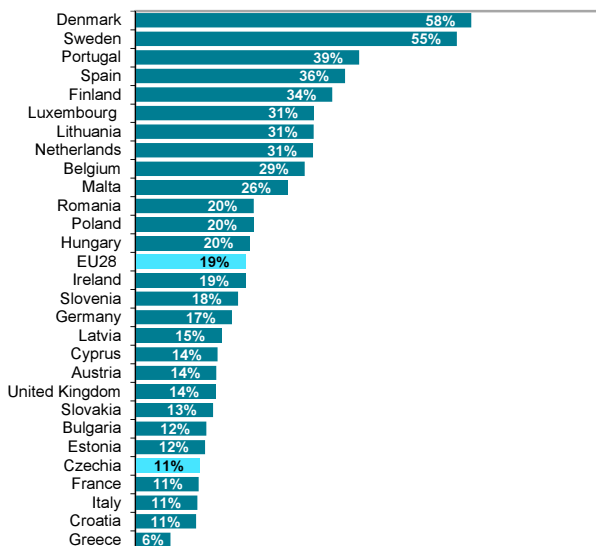## Figure D4 Enterprises with at least 30 Mbps connection speed*

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

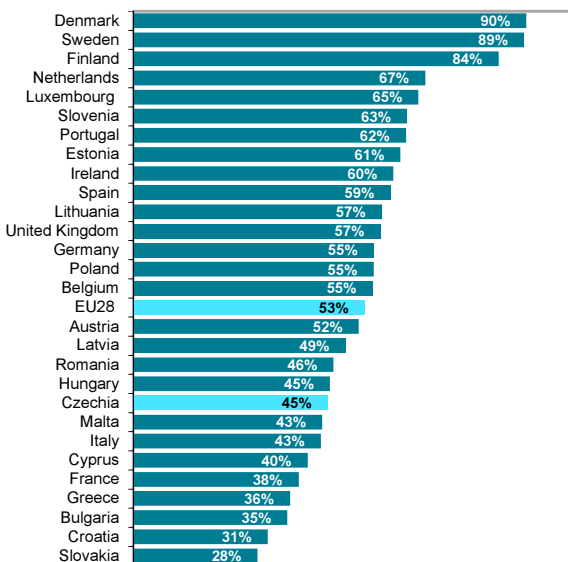** maximum contracted download speed of the fastest fixed internet connection*

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

Figure D5 Small enterprises in EU countries with internet connection speed at least 100 Mbps; 2019
(as a % of small enterprises)

Country	%
Denmark	58%
Sweden	55%
Portugal	39%
Spain	36%
Finland	34%
Luxembourg	31%
Lithuania	31%
Netherlands	31%
Belgium	29%
Malta	26%
Romania	20%
Poland	20%
Hungary	20%
EU28	19%
Ireland	19%
Slovenia	18%
Germany	17%
Latvia	15%
Cyprus	14%
Austria	14%
United Kingdom	14%
Slovakia	13%
Bulgaria	12%
Estonia	12%
Czechia	11%
France	11%
Italy	11%
Croatia	11%
Greece	6%

Figure D6 Large enterprises in EU countries with internet connection speed at least 100 Mbps; 2019
(as a % of large enterprises)

Country	%
Denmark	90%
Sweden	89%
Finland	84%
Netherlands	67%
Luxembourg	65%
Slovenia	63%
Portugal	62%
Estonia	61%
Ireland	60%
Spain	59%
Lithuania	57%
United Kingdom	57%
Germany	55%
Poland	55%
Belgium	55%
EU28	53%
Austria	52%
Latvia	49%
Romania	46%
Hungary	45%
Czechia	45%
Malta	43%
Italy	43%
Cyprus	40%
France	38%
Greece	36%
Bulgaria	35%
Croatia	31%
Slovakia	28%

Source: Eurostat

D Enterprises and ICT

Tab. D3 Enterprises in Czechia with a website

%

	2009	2014	2019
Total (10+ employees)	**74,7**	**82,8**	**83,3**
Small enterprises (10-49)	68,3	80,5	81,0
Medium enterprises (50-249)	89,3	91,2	91,1
Large enterprises (250+)	93,0	93,8	93,4
Industry (10+ employees):			
Manufacturing	74,7	84,0	85,8
Electricity, gas and water supply	68,2	82,6	88,8
Construction	68,3	84,4	78,1
Sale and repair of motor vehicles	73,6	91,9	95,3
Wholesale trade	79,7	91,3	90,9
Retail trade	60,9	63,7	67,0
Transport and storage	65,3	66,6	69,6
Accommodation	85,8	95,2	98,8
Food and beverage services	56,0	82,9	80,1
Travel agency and related activities	97,6	98,3	92,3
Media industries including publishing activities	96,5	96,9	97,4
Telecommunications	94,5	96,3	96,0
Computer programming and related activities	92,7	94,6	94,3
Real estate activities	61,0	78,3	83,7
Professional, scientific and technical activities	85,6	90,9	89,4
Administrative and support activities	60,2	65,3	75,9

Figure D7 Enterprises with a website customized for mobiles
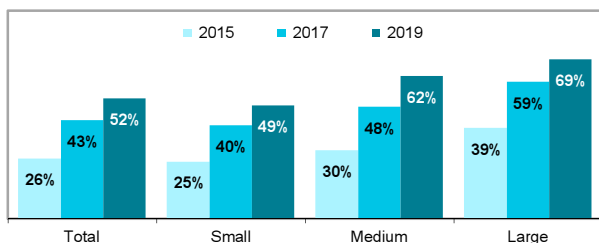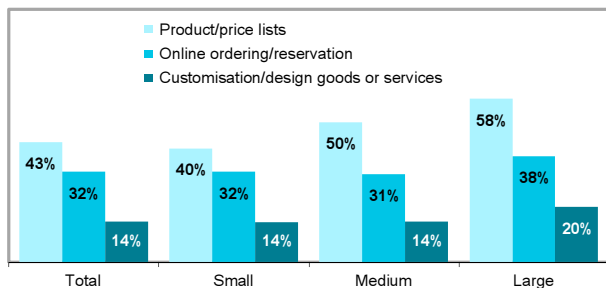

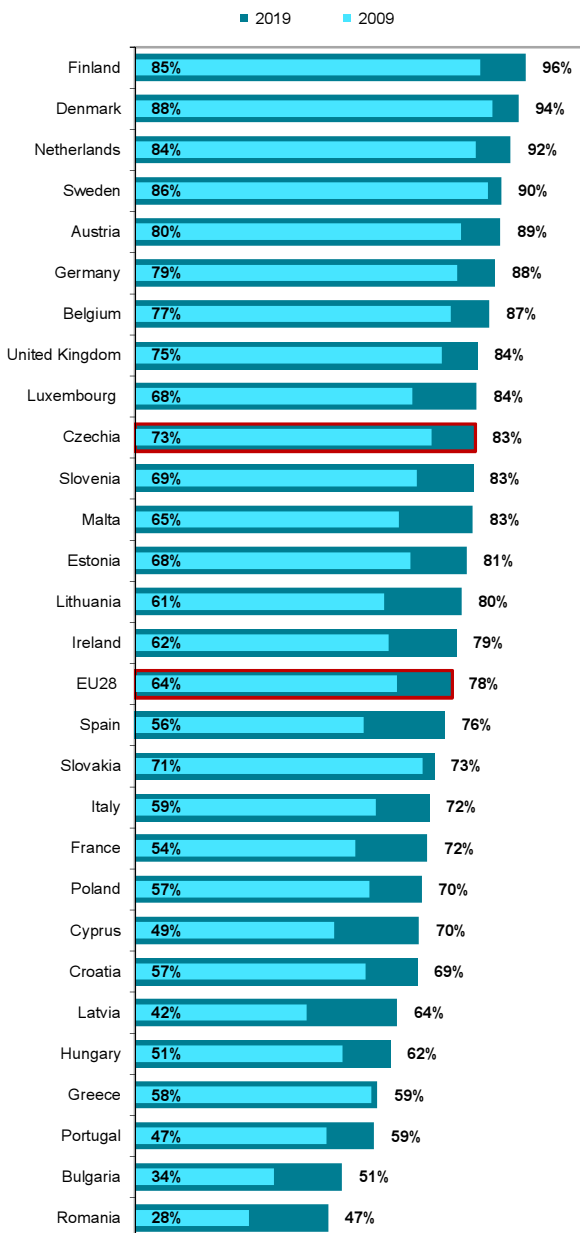**Figure D8 Enterprises with selected websites facilities; 2019**

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

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

Figure D9 Enterprises with 10+ employees in EU countries with a website (as a % of all enterprises)

■ 2019 ■ 2009

Country	2009	2019
Finland	85%	96%
Denmark	88%	94%
Netherlands	84%	92%
Sweden	86%	90%
Austria	80%	89%
Germany	79%	88%
Belgium	77%	87%
United Kingdom	75%	84%
Luxembourg	68%	84%
Czechia	73%	83%
Slovenia	69%	83%
Malta	65%	83%
Estonia	68%	81%
Lithuania	61%	80%
Ireland	62%	79%
EU28	64%	78%
Spain	56%	76%
Slovakia	71%	73%
Italy	59%	72%
France	54%	72%
Poland	57%	70%
Cyprus	49%	70%
Croatia	57%	69%
Latvia	42%	64%
Hungary	51%	62%
Greece	58%	59%
Portugal	47%	59%
Bulgaria	34%	51%
Romania	28%	47%

Source: Eurostat

Tab. D4 Enterprises in Czechia selling via websites or apps; 2018

%

	Total	of which sales via websites or apps >10 % of total turnover
Total (10+ employees)	**23,2**	**15,8**
Small enterprises (10-49)	23,1	16,0
Medium enterprises (50-249)	22,7	14,5
Large enterprises (250+)	28,9	17,6
Industry (10+ employees):		
Manufacturing	18,9	11,8
Electricity, gas and water supply	8,9	4,3
Construction	10,5	4,1
Sale and repair of motor vehicles	42,8	29,4
Wholesale trade	41,4	27,3
Retail trade	33,4	26,0
Transport and storage	18,0	13,3
Accommodation	70,5	62,1
Food and beverage services	22,3	14,0
Travel agency and related activities	71,0	64,3
Media industries including publishing activities	61,4	41,4
Telecommunications	53,6	35,9
Computer programming and related activities	27,0	20,5
Real estate activities	11,3	8,0
Professional, scientific and technical activities	15,8	10,3
Administrative and support activities	15,1	13,5

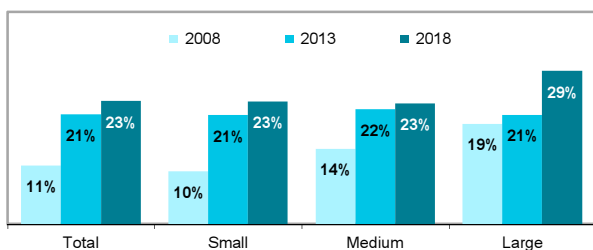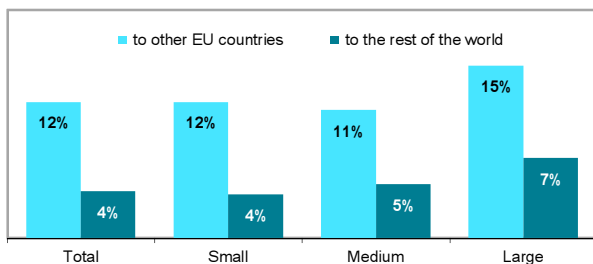**Figure D10 Enterprises selling via websites or applications**

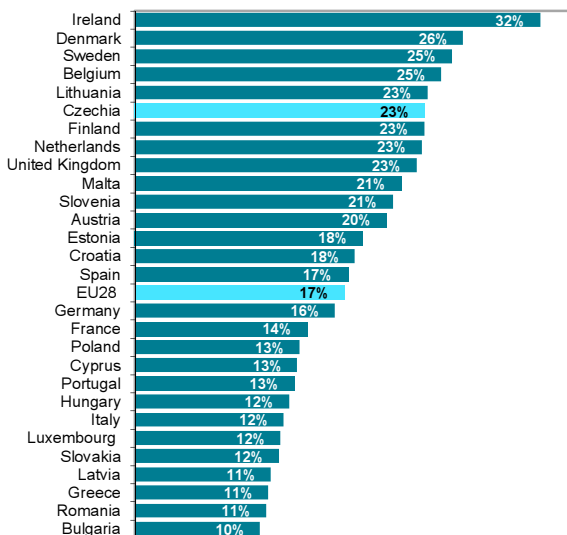**Figure D11 Enterprises selling via websites to abroad; 2018**

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

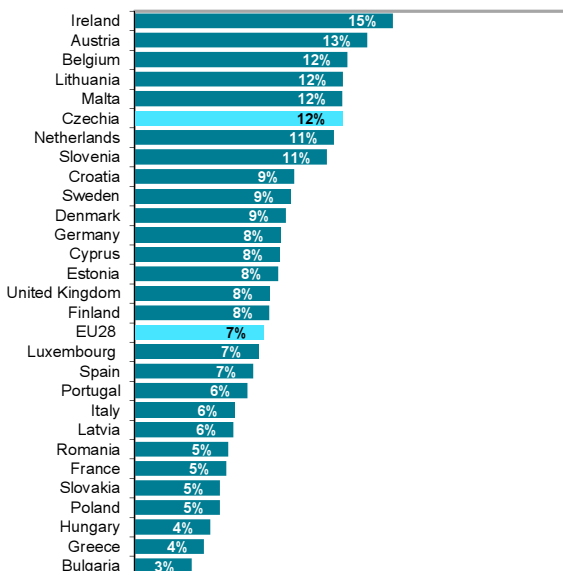*Source: Czech Statistical Office, Survey on ICT usage in enterprises*

**Figure D12 Enterprises with 10+ employees in EU countries
selling via websites or apps; 2018**
(as a % of all enterprises)

Country	%
Ireland	32%
Denmark	26%
Sweden	25%
Belgium	25%
Lithuania	23%
Czechia	23%
Finland	23%
Netherlands	23%
United Kingdom	23%
Malta	21%
Slovenia	21%
Austria	20%
Estonia	18%
Croatia	18%
Spain	17%
EU28	17%
Germany	16%
France	14%
Poland	13%
Cyprus	13%
Portugal	13%
Hungary	12%
Italy	12%
Luxembourg	12%
Slovakia	12%
Latvia	11%
Greece	11%
Romania	11%
Bulgaria	10%

**Figure D13 Enterprises with 10+ employees in EU countries
selling via websites to abroad; 2018**
(as a % of all enterprises)

Country	%
Ireland	15%
Austria	13%
Belgium	12%
Lithuania	12%
Malta	12%
Czechia	12%
Netherlands	11%
Slovenia	11%
Croatia	9%
Sweden	9%
Denmark	9%
Germany	8%
Cyprus	8%
Estonia	8%
United Kingdom	8%
Finland	8%
EU28	7%
Luxembourg	7%
Spain	7%
Portugal	6%
Italy	6%
Latvia	6%
Romania	5%
France	5%
Slovakia	5%
Poland	5%
Hungary	4%
Greece	4%
Bulgaria	3%

Source: Eurostat

Tab. D5 E-commerce: turnover resulting from enterprises' electronic sales in Czechia; 2018

%

	Total	from	
		EDI*-type sales	Web sales
Total (10+ employees)	**31,8**	**23,0**	**8,8**
Small enterprises (10-49)	14,6	5,5	9,0
Medium enterprises (50-249)	25,6	17,7	7,9
Large enterprises (250+)	40,8	31,8	9,1
Industry (10+ employees):			
Manufacturing	37,9	32,4	5,6
Electricity, gas and water supply	41,9	37,2	4,7
Construction	4,3	2,8	1,4
Sale and repair of motor vehicles	29,0	16,3	12,7
Wholesale trade	29,9	14,9	14,9
Retail trade	18,9	4,6	14,3
Transport and storage	33,0	22,3	10,7
Accommodation	40,6	8,5	32,2
Food and beverage services	7,7	1,5	6,2
Travel agency and related activities	45,0	8,0	37,0
Media industries incl. publishing activities	36,3	7,1	29,1
Telecommunications	26,3	11,9	14,4
Computer programming and related act.	23,2	10,9	12,3
Real estate activities	7,9	3,8	4,1
Professional, scientific and technical act.	5,6	2,7	2,9
Administrative and support activities	26,5	10,6	15,9

as a percentage of total enterprises' turnover in a given group
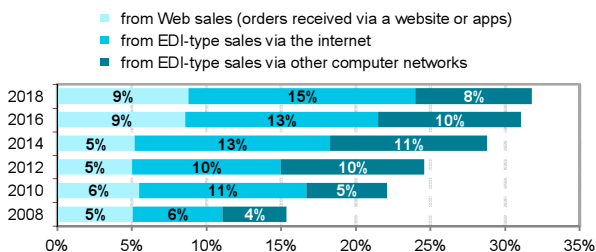
* EDI = Electronic data interchange

Figure D14 Enterprises selling over computer networks
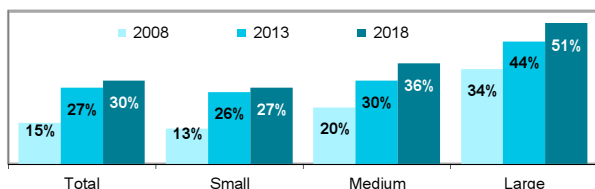
as a percentage of all enterprises with 10+ employees in a given group

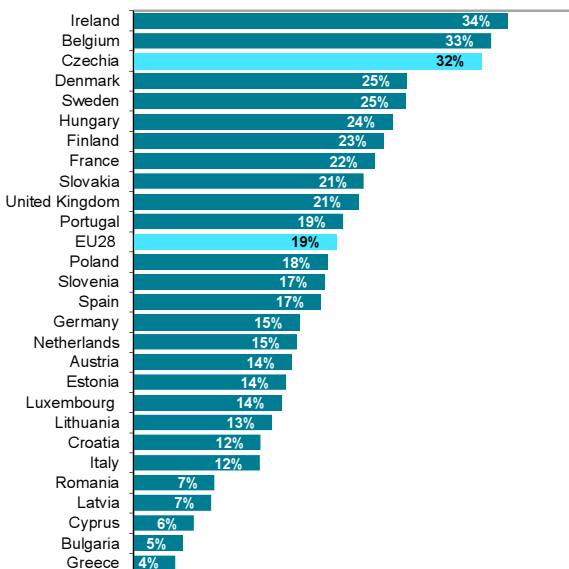**Figure D15 Turnover from enterprises' electronic sales**

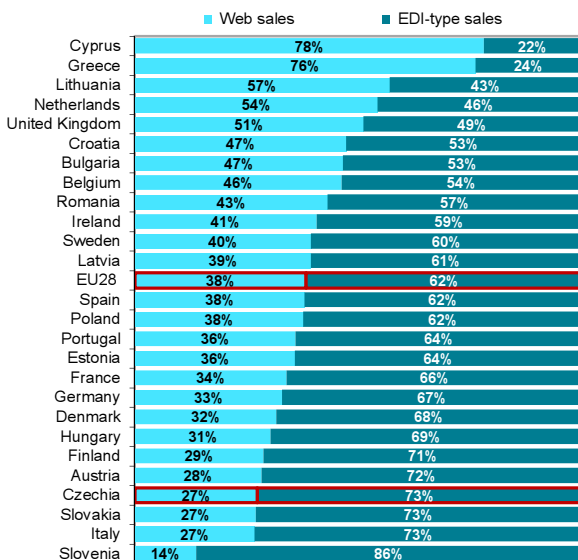*as a percentage of total enterprises' turnover in a given group*

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

Figure D16 Total turnover resulting from enterprises' electronic sales in EU countries; 2018

(as a % of total enterprises' (10+ employees) turnover)

Country	%
Ireland	34%
Belgium	33%
Czechia	32%
Denmark	25%
Sweden	25%
Hungary	24%
Finland	23%
France	22%
Slovakia	21%
United Kingdom	21%
Portugal	19%
EU28	19%
Poland	18%
Slovenia	17%
Spain	17%
Germany	15%
Netherlands	15%
Austria	14%
Estonia	14%
Luxembourg	14%
Lithuania	13%
Croatia	12%
Italy	12%
Romania	7%
Latvia	7%
Cyprus	6%
Bulgaria	5%
Greece	4%

Figure D17 Turnover structure resulting from enterprises' electronic sales in EU countries by type of sales; 2018

| Country	Web sales	EDI-type sales
Cyprus	78%	22%
Greece	76%	24%
Lithuania	57%	43%
Netherlands	54%	46%
United Kingdom	51%	49%
Croatia	47%	53%
Bulgaria	47%	53%
Belgium	46%	54%
Romania	43%	57%
Ireland	41%	59%
Sweden	40%	60%
Latvia	39%	61%
EU28	38%	62%
Spain	38%	62%
Poland	38%	62%
Portugal	36%	64%
Estonia	36%	64%
France	34%	66%
Germany	33%	67%
Denmark	32%	68%
Hungary	31%	69%
Finland	29%	71%
Austria	28%	72%
Czechia	27%	73%
Slovakia	27%	73%
Italy	27%	73%
Slovenia	14%	86%

Source: Eurostat

Tab. D6 Enterprises in Czechia using* online social networks

%

	2015	2017	2019
Total (10+ employees)	**23,5**	**34,1**	**45,0**
Small enterprises (10-49)	21,7	30,4	41,5
Medium enterprises (50-249)	27,6	44,1	54,1
Large enterprises (250+)	39,9	62,3	73,3
Industry (10+ employees):			
Manufacturing	17,3	26,5	37,6
Electricity, gas and water supply	13,2	22,5	31,4
Construction	10,7	17,8	29,1
Sale and repair of motor vehicles	36,7	51,1	59,7
Wholesale trade	30,8	43,2	52,7
Retail trade	28,9	45,1	58,7
Transport and storage	13,2	23,9	39,2
Accommodation	66,1	78,5	82,4
Food and beverage services	40,5	52,3	64,6
Travel agency and related activities	72,9	84,2	79,4
Media industries including publishing activities	69,9	78,9	83,5
Telecommunications	55,8	69,4	70,6
Computer programming and related activities	45,2	62,1	66,7
Real estate activities	18,0	22,3	35,1
Professional, scientific and technical activities	28,0	37,7	47,9
Administrative and support activities	21,9	28,5	36,9

Figure D18 Enterprises using* online social networks
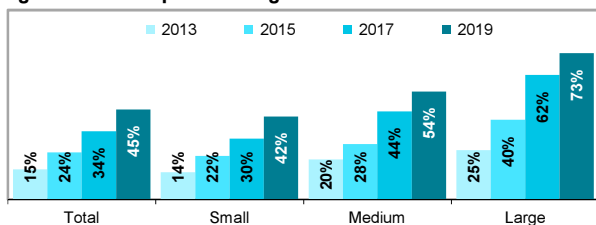
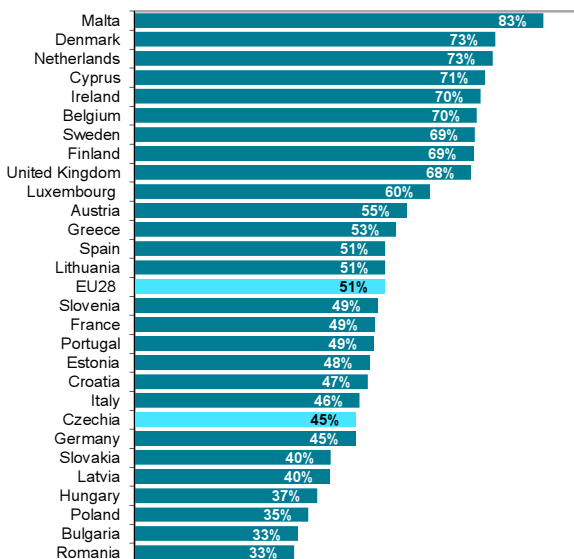## Figure D19 Top 5 industries with the highest share of enterprises using* online social networks
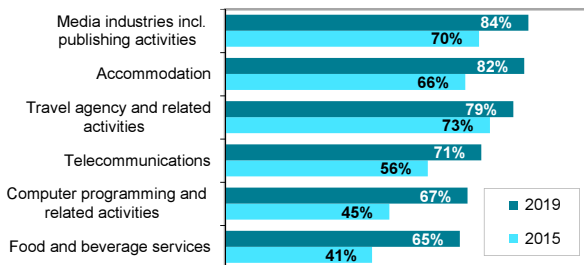
having a user profile on online social networks such as Facebook orLinkedIn

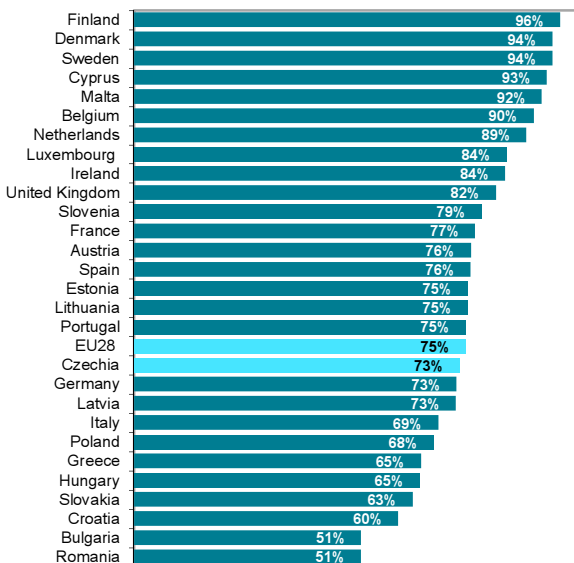*as a percentage of all enterprises with 10+ employees in a given group*

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

Figure D20 Enterprises with 10+ employees in EU countries using* online social networks; 2019 (as a % of all enterprises)

Country	%
Malta	83%
Denmark	73%
Netherlands	73%
Cyprus	71%
Ireland	70%
Belgium	70%
Sweden	69%
Finland	69%
United Kingdom	68%
Luxembourg	60%
Austria	55%
Greece	53%
Spain	51%
Lithuania	51%
EU28	51%
Slovenia	49%
France	49%
Portugal	49%
Estonia	48%
Croatia	47%
Italy	46%
Czechia	45%
Germany	45%
Slovakia	40%
Latvia	40%
Hungary	37%
Poland	35%
Bulgaria	33%
Romania	33%

Figure D21 Large enterprises in EU countries using* online social networks; 2019 (as a % of large enterprises)

Country	%
Finland	96%
Denmark	94%
Sweden	94%
Cyprus	93%
Malta	92%
Belgium	90%
Netherlands	89%
Luxembourg	84%
Ireland	84%
United Kingdom	82%
Slovenia	79%
France	77%
Austria	76%
Spain	76%
Estonia	75%
Lithuania	75%
Portugal	75%
EU28	75%
Czechia	73%
Germany	73%
Latvia	73%
Italy	69%
Poland	68%
Greece	65%
Hungary	65%
Slovakia	63%
Croatia	60%
Bulgaria	51%
Romania	51%

** having a user profile on online social networks such as Facebook orLinkedIn*

Source: Eurostat

**Tab. D7 Enterprises in Czechia using ERP, CRM and SCM software/information systems; 2019**

%

	ERP	CRM	SCM
Total (10+ employees)	**37,9**	**24,0**	**6,5**
Small enterprises (10-49)	28,7	19,2	4,9
Medium enterprises (50-249)	68,0	39,1	9,9
Large enterprises (250+)	87,0	51,5	22,3
Industry (10+ employees):			
Manufacturing	48,4	24,1	7,1
Electricity, gas and water supply	51,0	33,2	4,4
Construction	17,5	8,1	1,2
Sale and repair of motor vehicles	41,2	39,2	20,2
Wholesale trade	57,1	41,3	10,4
Retail trade	35,2	17,5	7,9
Transport and storage	23,5	13,6	5,2
Accommodation	24,3	21,1	6,2
Food and beverage services	14,3	6,1	2,6
Travel agency and related activities	33,9	47,5	8,2
Media industries including publishing activities	42,9	53,5	8,7
Telecommunications	52,8	65,3	9,6
Computer programming and related activities	55,6	65,4	12,7
Real estate activities	28,4	19,2	2,4
Professional, scientific and technical activities	34,3	26,3	5,4
Administrative and support activities	30,2	20,7	3,5

Figure D22 Enterprises using an ERP software to manage resources by sharing information among different functional areas
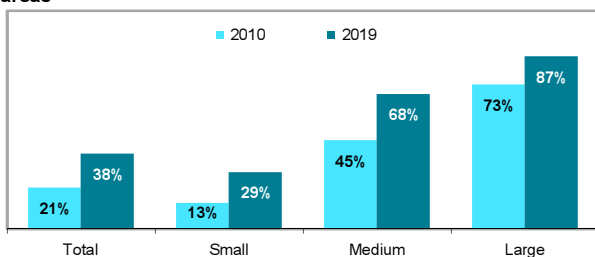
Figure D23 Enterprises using a CRM software to manage information on customers to various business functions
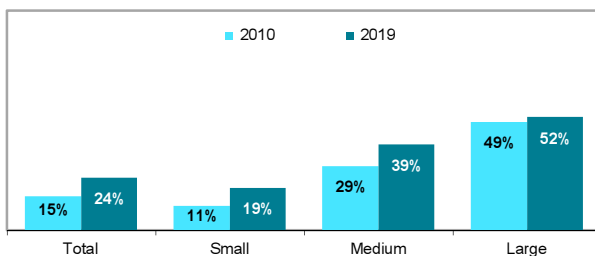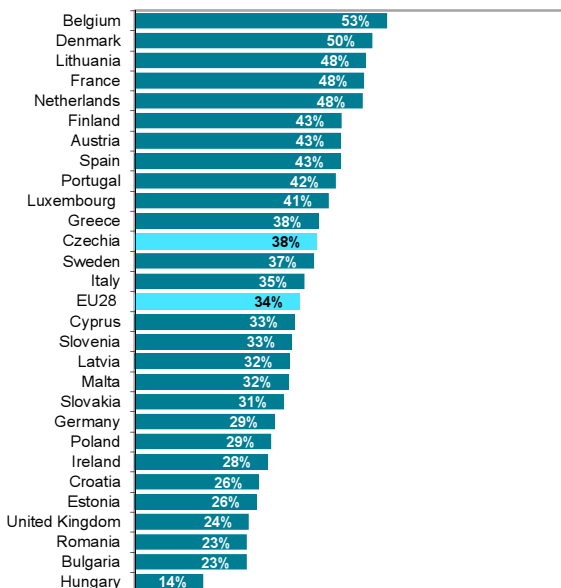

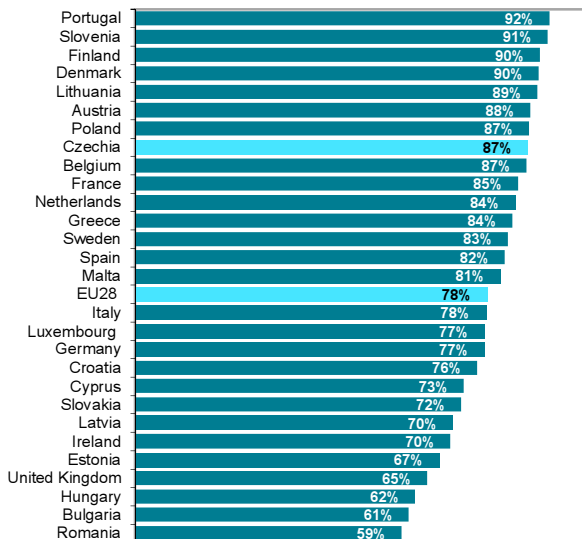*as a percentage of all enterprises with 10+ employees in a given group*

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

Figure D24 Enterprises with 10+ employees in EU countries using an ERP software/information system; 2019 (as a % of all enterprises)

Country	%
Belgium	53%
Denmark	50%
Lithuania	48%
France	48%
Netherlands	48%
Finland	43%
Austria	43%
Spain	43%
Portugal	42%
Luxembourg	41%
Greece	38%
Czechia	38%
Sweden	37%
Italy	35%
EU28	34%
Cyprus	33%
Slovenia	33%
Latvia	32%
Malta	32%
Slovakia	31%
Germany	29%
Poland	29%
Ireland	28%
Croatia	26%
Estonia	26%
United Kingdom	24%
Romania	23%
Bulgaria	23%
Hungary	14%

Figure D25 Large enterprises in EU countries using an ERP software/information system; 2019 (as a % of large enterprises)

Country	%
Portugal	92%
Slovenia	91%
Finland	90%
Denmark	90%
Lithuania	89%
Austria	88%
Poland	87%
Czechia	87%
Belgium	87%
France	85%
Netherlands	84%
Greece	84%
Sweden	83%
Spain	82%
Malta	81%
EU28	78%
Italy	78%
Luxembourg	77%
Germany	77%
Croatia	76%
Cyprus	73%
Slovakia	72%
Latvia	70%
Ireland	70%
Estonia	67%
United Kingdom	65%
Hungary	62%
Bulgaria	61%
Romania	59%

Source: Eurostat

Tab. D8 ICT security measures used in enterprises in Czechia; 2019

%

| | Selected ICT security measures | | |
	Data backup	VPN networks	Data encryption
Total (10+ employees)	**81,8**	**49,1**	**35,8**
Small enterprises (10-49)	78,2	40,9	30,4
Medium enterprises (50-249)	94,8	75,6	51,6
Large enterprises (250+)	95,9	93,2	71,6
Industry (10+ employees):			
Manufacturing	85,5	50,7	33,9
Electricity, gas and water supply	88,1	64,0	42,0
Construction	73,2	29,5	22,6
Sale and repair of motor vehicles	88,1	53,7	35,9
Wholesale trade	90,9	67,0	39,8
Retail trade	74,9	46,1	43,3
Transport and storage	78,0	41,2	28,7
Accommodation	78,4	41,7	31,2
Food and beverage services	57,2	21,2	17,0
Travel agency and related activities	85,8	63,1	39,0
Media industries incl. publishing activitie	92,6	77,7	63,6
Telecommunications	91,0	84,8	64,5
Computer programming and related activ	95,1	87,9	78,7
Real estate activities	84,1	49,5	40,2
Professional, scientific and technical act	91,4	63,2	47,2
Administrative and support activities	73,7	36,8	39,6

Figure D26 Enterprises that experienced at least one ICT related security incident; 2018
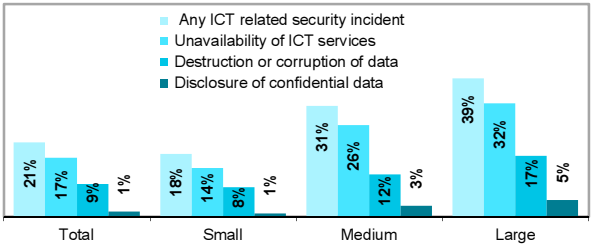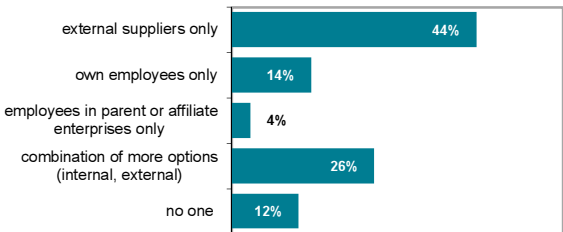

Figure D27 Who carries out the ICT security related activities in enterprises; 2019
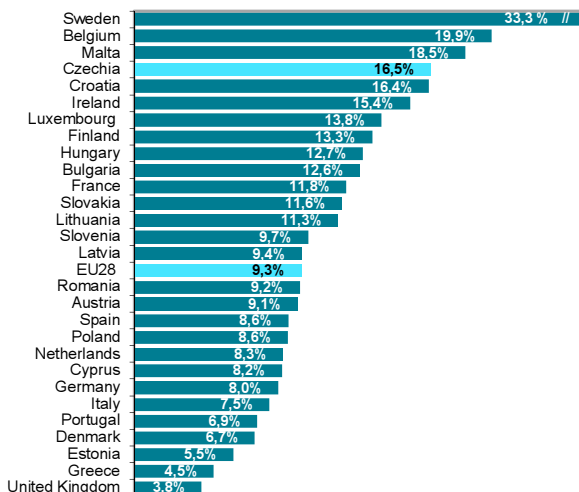

as a percentage of all enterprises with 10+ employees in a given group

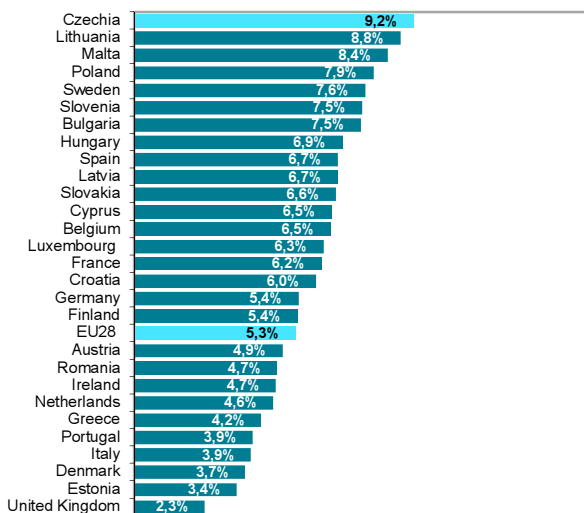*Source: Czech Statistical Office, Survey on ICT usage in enterprises*

Figure D28 Enterprises with 10+ employees in EU countries that experienced unavailability of ICT services*; 2018
(as a % of all enterprises)

Country	Value
Sweden	33,3 % //
Belgium	19,9%
Malta	18,5%
Czechia	16,5%
Croatia	16,4%
Ireland	15,4%
Luxembourg	13,8%
Finland	13,3%
Hungary	12,7%
Bulgaria	12,6%
France	11,8%
Slovakia	11,6%
Lithuania	11,3%
Slovenia	9,7%
Latvia	9,4%
EU28	9,3%
Romania	9,2%
Austria	9,1%
Spain	8,6%
Poland	8,6%
Netherlands	8,3%
Cyprus	8,2%
Germany	8,0%
Italy	7,5%
Portugal	6,9%
Denmark	6,7%
Estonia	5,5%
Greece	4,5%
United Kingdom	3,8%

* including Denial of Service attacks, ransomware attacks, hardware or software failures

Figure D29 Enterprises with 10+ employees in EU countries that experienced destruction or corruption of data*; 2018
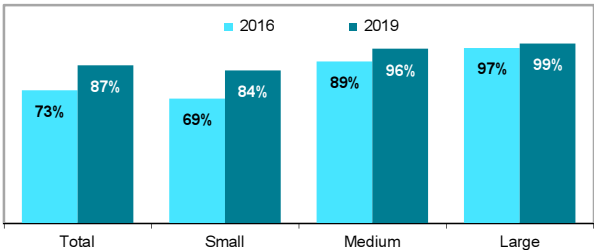(as a % of all enterprises)

Country	Value
Czechia	9,2%
Lithuania	8,8%
Malta	8,4%
Poland	7,9%
Sweden	7,6%
Slovenia	7,5%
Bulgaria	7,5%
Hungary	6,9%
Spain	6,7%
Latvia	6,7%
Slovakia	6,6%
Cyprus	6,5%
Belgium	6,5%
Luxembourg	6,3%
France	6,2%
Croatia	6,0%
Germany	5,4%
Finland	5,4%
EU28	5,3%
Austria	4,9%
Romania	4,7%
Ireland	4,7%
Netherlands	4,6%
Greece	4,2%
Portugal	3,9%
Italy	3,9%
Denmark	3,7%
Estonia	3,4%
United Kingdom	2,3%

* including data destruction or corruption due to infection of malicious software or unauthorised intrusion (e.g. hacker's attack)

Source: Eurostat
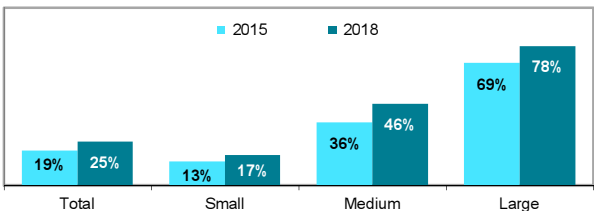
D Enterprises and ICT

Tab. D9 Enterprises in Czechia providing employees with mobile phones and computers; 2019

%

	Mobile phone	Desktop	Laptop or tablet
Total (10+ employees)	**86,7**	**89,7**	**78,7**
Small enterprises (10-49)	84,0	88,0	74,5
Medium enterprises (50-249)	95,9	95,5	93,1
Large enterprises (250+)	98,8	97,2	98,6
Industry (10+ employees):			
Manufacturing	88,3	93,8	79,9
Electricity, gas and water supply	93,1	93,4	86,4
Construction	86,4	90,1	74,4
Sale and repair of motor vehicles	89,2	96,0	87,8
Wholesale trade	92,0	92,3	87,9
Retail trade	80,8	87,3	64,5
Transport and storage	90,0	82,5	79,2
Accommodation	84,6	95,9	76,6
Food and beverage services	65,4	77,9	55,5
Travel agency and related activities	89,6	97,3	86,3
Media industries incl. publishing activities	93,6	93,7	94,7
Telecommunications	99,3	96,5	98,7
Computer programming and related activ	95,0	79,5	98,6
Real estate activities	87,0	88,4	79,8
Professional, scientific and technical activ	90,3	89,4	86,3
Administrative and support activities	78,6	84,9	72,8

Figure D30 Enterprises providing employees with mobile phones that allow internet connection

Figure D31 Enterprises providing training for employees to develop their ICT related skills
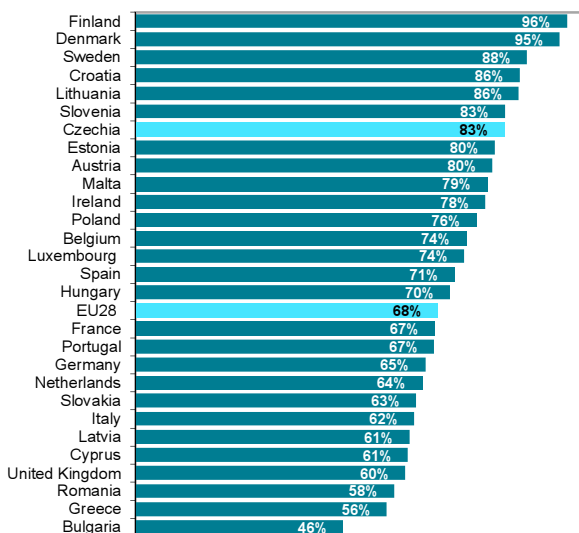

as a percentage of all enterprises with 10+ employees in a given group

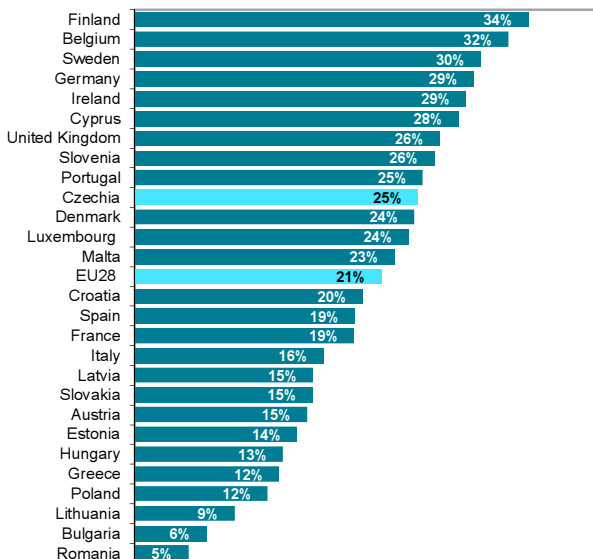*Source: Czech Statistical Office, Survey on ICT usage in enterprises*

Figure D32 Enterprises with 10+ employees in EU countries providing employees with portable devices* that allow internet connection; 2019 (as a % of all enterprises)

Country	%
Finland	96%
Denmark	95%
Sweden	88%
Croatia	86%
Lithuania	86%
Slovenia	83%
Czechia	83%
Estonia	80%
Austria	80%
Malta	79%
Ireland	78%
Poland	76%
Belgium	74%
Luxembourg	74%
Spain	71%
Hungary	70%
EU28	68%
France	67%
Portugal	67%
Germany	65%
Netherlands	64%
Slovakia	63%
Italy	62%
Latvia	61%
Cyprus	61%
United Kingdom	60%
Romania	58%
Greece	56%
Bulgaria	46%

* smartphone, laptop or tablet

Figure D33 Enterprises with 10+ employees in EU countries providing training for employees to develop their ICT related skills; 2018 (as a % of all enterprises)

| Country	%
Finland	34%
Belgium	32%
Sweden	30%
Germany	29%
Ireland	29%
Cyprus	28%
United Kingdom	26%
Slovenia	26%
Portugal	25%
Czechia	25%
Denmark	24%
Luxembourg	24%
Malta	23%
EU28	21%
Croatia	20%
Spain	19%
France	19%
Italy	16%
Latvia	15%
Slovakia	15%
Austria	15%
Estonia	14%
Hungary	13%
Greece	12%
Poland	12%
Lithuania	9%
Bulgaria	6%
Romania	5%

Source: Eurostat

**Tab. D10 Enterprises in Czechia employing ICT specialists; 2019**

%

	Total	of which enterprises that during 2018:	
		recruited or tried to recruit new ICT spec.	had vacancies for ICT spec. difficult to fill
Total (10+ employees)	**20,4**	**8,1**	**6,5**
Small enterprises (10-49)	12,7	5,0	4,1
Medium enterprises (50-249)	40,8	14,2	11,0
Large enterprises (250+)	80,5	43,1	33,5
Industry (10+ employees):			
Manufacturing	22,6	7,1	4,8
Electricity, gas and water supply	30,0	9,4	5,9
Construction	9,7	3,8	2,8
Sale and repair of motor vehicles	19,0	2,0	1,8
Wholesale trade	22,8	6,6	5,3
Retail trade	19,5	6,4	5,4
Transport and storage	9,2	2,5	1,9
Accommodation	14,1	1,7	1,3
Food and beverage services	5,2	1,4	1,1
Travel agency and related activities	22,1	15,0	12,8
Media industries	58,4	34,9	29,8
Telecommunications	86,8	52,0	49,9
IT programming and related activ.	91,1	75,2	70,7
Real estate activities	17,8	3,3	2,6
Professional, scientific & techn. act.	19,3	8,6	7,2
Administrative and support activ.	12,0	5,7	3,7

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

Figure D34 Enterprises* having vacancies for ICT specialists that were difficult to fill
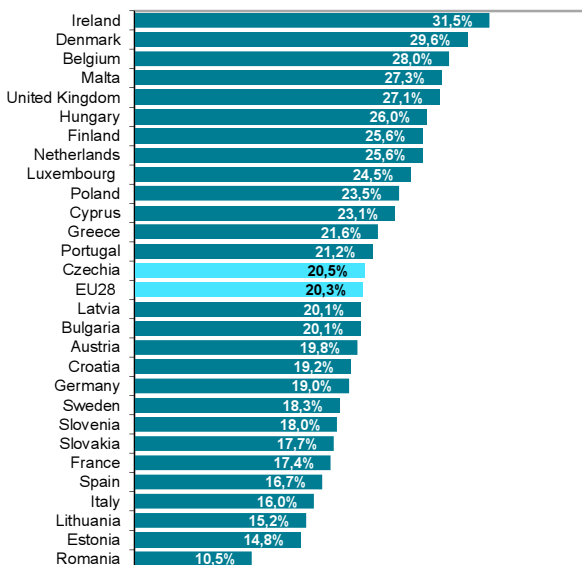

	2014	2016	2018
Total	21%	29%	32%
Small	24%	32%	33%
Medium	17%	22%	27%
Large	23%	35%	42%
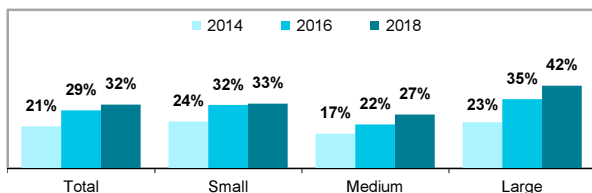
Figure D35 Enterprises* providing training for ICT specialists to develop their ICT related skills

	2014	2016	2018
Total	48%	53%	56%
Small	37%	42%	45%
Medium	52%	59%	61%
Large	71%	74%	77%
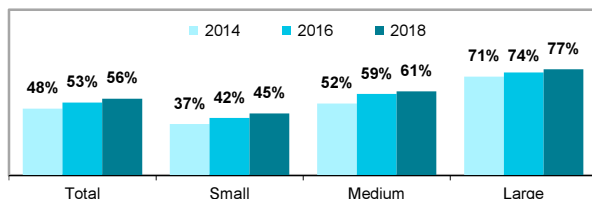
* as a percentage of all enterprises with 10+ employees employing ICT specialists in a given group

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

Figure D36 Enterprises with 10+ employees in EU countries employing ICT specialists; 2019 (as a % of all enterprises)

Country	%
Ireland	31,5%
Denmark	29,6%
Belgium	28,0%
Malta	27,3%
United Kingdom	27,1%
Hungary	26,0%
Finland	25,6%
Netherlands	25,6%
Luxembourg	24,5%
Poland	23,5%
Cyprus	23,1%
Greece	21,6%
Portugal	21,2%
Czechia	20,5%
EU28	20,3%
Latvia	20,1%
Bulgaria	20,1%
Austria	19,8%
Croatia	19,2%
Germany	19,0%
Sweden	18,3%
Slovenia	18,0%
Slovakia	17,7%
France	17,4%
Spain	16,7%
Italy	16,0%
Lithuania	15,2%
Estonia	14,8%
Romania	10,5%

Figure D37 Enterprises with 10+ employees in EU countries having vacancies for ICT specialists that were difficult to fill; 2018 (as a % of all enterprises)

Country	%
Belgium	9,5%
Luxembourg	9,3%
Malta	8,7%
Denmark	8,3%
Netherlands	8,1%
Finland	8,1%
Sweden	7,1%
Germany	7,0%
Czechia	6,5%
Austria	6,4%
Hungary	5,8%
Ireland	5,8%
France	5,5%
EU28	5,2%
Slovenia	5,1%
United Kingdom	5,0%
Cyprus	4,8%
Croatia	4,7%
Estonia	4,6%
Lithuania	4,2%
Bulgaria	4,1%
Italy	3,5%
Greece	3,2%
Spain	3,2%
Slovakia	3,2%
Portugal	3,1%
Romania	3,0%
Latvia	2,6%
Poland	2,1%
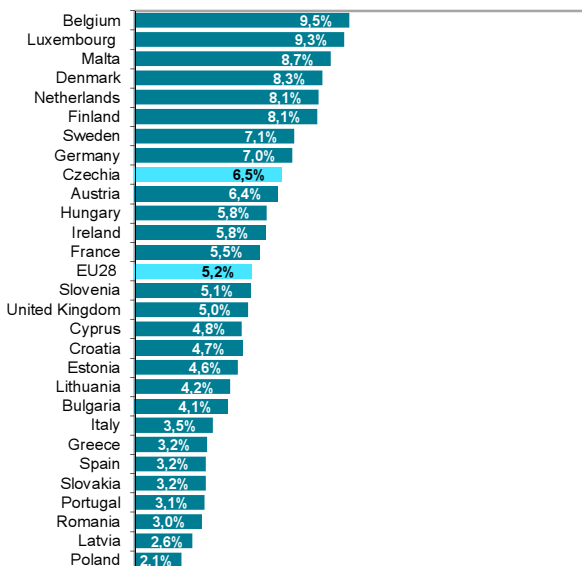
Source: Eurostat

Tab. D11 Employees in enterprises in Czechia using mobile phones or computers at work; 2019

%

| | **Total** | of which with: | |
		access to the internet	mobile telephone networks*
Total (10+ employees)	**53,6**	**45,6**	**27,6**
Small enterprises (10-49)	52,2	48,5	31,2
Medium enterprises (50-249)	50,8	45,6	27,5
Large enterprises (250+)	56,0	44,1	25,7
Industry (10+ employees):			
Manufacturing	47,0	38,4	20,6
Electricity, gas and water supply	63,4	56,3	32,7
Construction	50,7	47,7	34,1
Sale and repair of motor vehicles	72,4	69,7	37,4
Wholesale trade	74,5	69,6	46,5
Retail trade	53,7	40,4	18,2
Transport and storage	60,3	40,3	26,0
Accommodation	45,5	41,7	21,4
Food and beverage services	35,0	25,7	14,6
Travel agency and related activities	83,0	81,3	28,7
Media industries incl. publishing activities	91,9	91,0	60,8
Telecommunications	95,4	94,0	86,5
Computer programming and related activ.	94,5	94,1	79,0
Real estate activities	65,2	62,0	38,5
Professional, scientific and technical activ	83,0	81,2	53,7
Administrative and support activities	24,8	22,6	14,0

enterprise provides employees with portable devices that allow a mobile connection to the internet using mobile telephone networks and pay for all or at least up to a limit

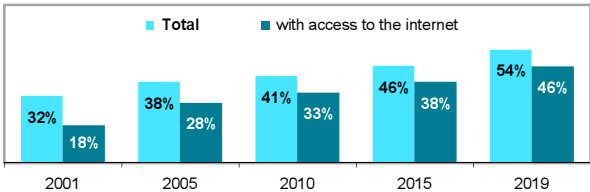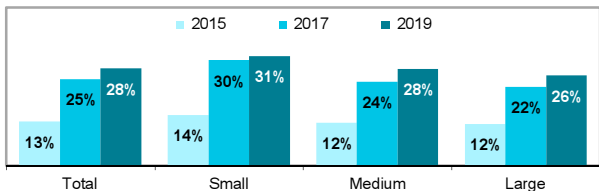## Figure D38 Employees using computers at work

Legend: ■ Total ■ with access to the internet

	2001	2005	2010	2015	2019
Total	32%	38%	41%	46%	54%
with access to the internet	18%	28%	33%	38%	46%

Figure D39 Employees using portable devices provided by the enterprise, that allows internet connection via mobile telephone networks at work
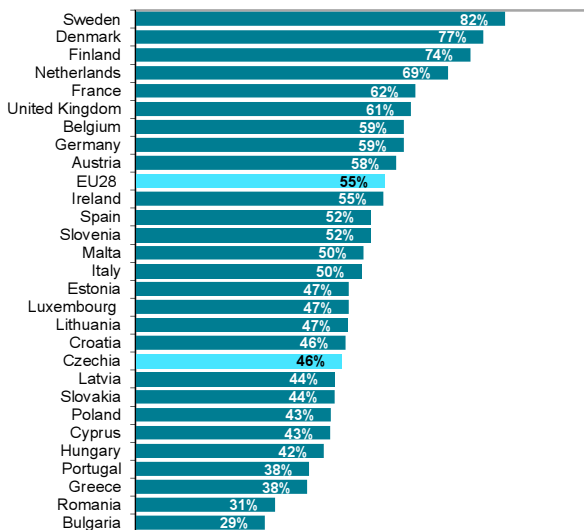

Legend: ■ 2015 ■ 2017 ■ 2019

	Total	Small	Medium	Large
2015	13%	14%	12%	12%
2017	25%	30%	24%	22%
2019	28%	31%	28%	26%

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

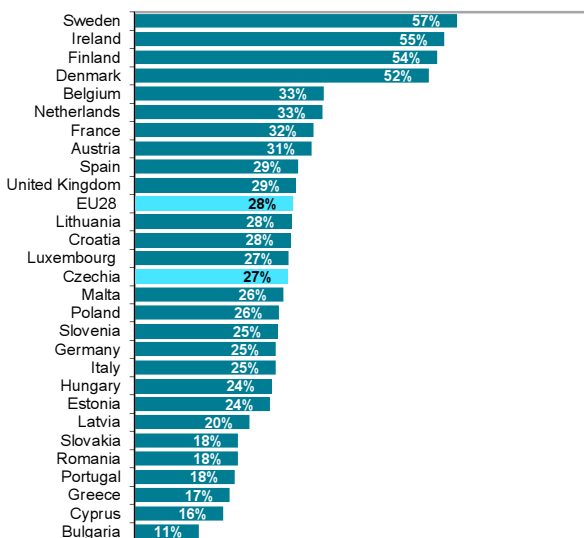*Source: Czech Statistical Office, Survey on ICT usage in enterprises*

Figure D40 Employees in enterprises with 10+ employees in EU countries using computers with access to the internet at work; 2019 (as a % of all employees)

Country	%
Sweden	82%
Denmark	77%
Finland	74%
Netherlands	69%
France	62%
United Kingdom	61%
Belgium	59%
Germany	59%
Austria	58%
EU28	55%
Ireland	55%
Spain	52%
Slovenia	52%
Malta	50%
Italy	50%
Estonia	47%
Luxembourg	47%
Lithuania	47%
Croatia	46%
Czechia	46%
Latvia	44%
Slovakia	44%
Poland	43%
Cyprus	43%
Hungary	42%
Portugal	38%
Greece	38%
Romania	31%
Bulgaria	29%

Figure D41 Employees in enterprises with 10+ employees in EU countries using portable devices provided by the enterprise, that allows internet connection via mobile telephone networks at work; 2019 (as a % of all employees)

Country	%
Sweden	57%
Ireland	55%
Finland	54%
Denmark	52%
Belgium	33%
Netherlands	33%
France	32%
Austria	31%
Spain	29%
United Kingdom	29%
EU28	28%
Lithuania	28%
Croatia	28%
Luxembourg	27%
Czechia	27%
Malta	26%
Poland	26%
Slovenia	25%
Germany	25%
Italy	25%
Hungary	24%
Estonia	24%
Latvia	20%
Slovakia	18%
Romania	18%
Portugal	18%
Greece	17%
Cyprus	16%
Bulgaria	11%

Source: Eurostat

Tab. D12 Share of ICT specialists on all employees in enterprises in Czechia; 2019

%

	Total	of which programmers*
Total (10+ employees)	**3,0**	**0,8**
Small enterprises (10-49)	2,9	1,0
Medium enterprises (50-249)	2,8	0,8
Large enterprises (250+)	3,2	0,7
Industry (10+ employees):		
Manufacturing	0,9	0,3
Electricity, gas and water supply	1,3	0,3
Construction	1,0	0,5
Sale and repair of motor vehicles	1,1	0,4
Wholesale trade	1,7	0,6
Retail trade	1,6	0,4
Transport and storage	0,7	0,1
Accommodation	0,6	0,1
Food and beverage services	0,4	0,1
Travel agency and related activities	3,1	1,5
Media industries including publishing activities	12,5	4,1
Telecommunications	23,3	4,5
Computer programming and related activities	58,5	13,9
Real estate activities	1,7	0,5
Professional, scientific and technical activities	3,7	0,9
Administrative and support activities	0,7	0,2

Figure D42 ICT specialists in all enterprises
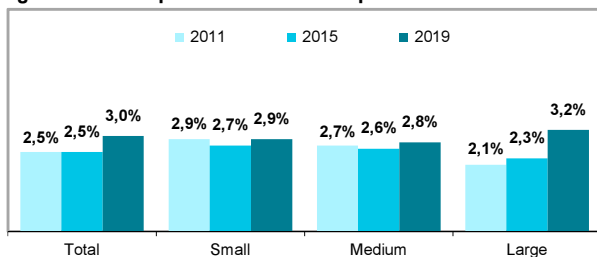
Figure D43 Programmers* in all enterprises
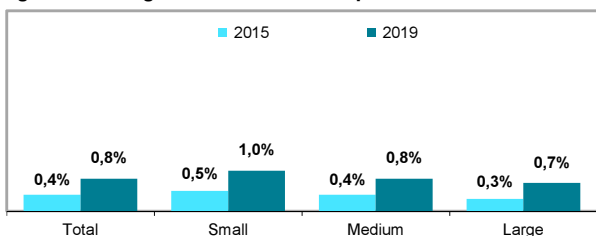
* programmers developing software, applications and information systems designed for the company's internal needs

as a percentage of <u>all employees</u> in enterprises in a given group

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