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INTRODUCTION

One year on, the Czech Statistical Office has issued again its flagship publication on digital society titled **Information Society in Figures 2020**.

This summary publication strives to bring to readers information, in an easy to comprehend form, on trends about the development in usage of modern **information and communication technologies (ICT)** in the main areas of our society in **Czechia** and in **Member States of the European Union** by means set of tables and figures outputs.

The publication consists of **seven chapters** as follows:

- A. **ICT Infrastructure** contains basic data on the number of voice and data subscriptions in fixed and mobile networks.
- B. **Households and ICT** provides information on households' access to computers and the internet broken down by type of the household measured.
- C. **Persons and ICT** includes basic information on internet users with focus on type of devices used to access the internet by different categories of persons. This basic information is supplemented with data on selected activities carried out by persons over the internet for travel related or entertainment purposes. Detailed information on internet banking and online purchases is also included here.
- D. **Enterprises and ICT** provides an overview on deployment, ways, and rate of use of the internet, websites and other information systems by enterprises. The information is added with data on social networks, e-Commerce and also on the ICT security measures and cyber incidents.
- E. **Government and ICT** gives information on usage of selected eGovernment services as the Czech POINT and Data Boxes. The chapter includes data on electronic submissions of tax forms. It also includes information how persons use the internet in relation with the government authorities and public institutions.
- F. **ICT in Education and Digital Skills** gives an overview on ICT equipment of schools. This chapter includes detailed data on the 15-year-old students accessing selected ICTs at home and at school. Furthermore, information on the ICT use by pupils and students and data on computer (digital) skills of people are also included here.
- G. **Health and ICT** gives information on ICT equipment of physicians and overview of offered on-line services on their websites. Furthermore, information on the search of health-related information on the internet and the use of on-line services of health establishments by persons are also included here.

The data are **broken down** by various criteria, as type of the household, sex, age, and educational attainment for persons, or economic activity and size for enterprises. Thus, readers may learn, how is the internet use structured by age or educational attainment in persons, or by income for households.

In figures, the **publication uses the Czech decimal comma**, instead of the English decimal point, as decimal separator for internal reasons.

Detailed information on the CZSO surveys can be found at:

https://www.czso.cz/csu/czso/information_technologies

Prague, April 2020

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A ICT Infrastructure

This chapter examines trends in the available services provided within **fixed** and **mobile electronic communication networks** measured mainly by number of **voice (telephone)** and **broadband (data) subscriptions**. Data used in this chapter are collected from **the providers** of these services (supply side) and should be distinguished from data based on ICT users' surveys (demand side).

The reference period: end of the year unless otherwise stated.

Definitions

- A **Domain** (an **Internet domain** or also a **domain name**) is a unique name (identifier) of a computer to the Internet. The domain of second level is registered at a registrar authorized to administer respective top-level domains. The national top-level domain in the Czechia is .cz and www.czso.cz could be an example of second-level domain.
- A **subscriber** to publicly accessible **voice** and **data** services in **fixed** and **mobile communication networks** shall mean a legal or natural person, which has concluded a contract on the use of such services with a provider. *Data in the tables and figures include solely services provided in the retail segment, i.e. services provided to end users.*
- The **Fixed telephone infrastructure** is measured by number of active **voice subscriptions** in a fixed network by means of 'traditional' **PSTN** residential and business **telephone lines** and by means of **VoIP stations**.
- The **Mobile telephone infrastructure** is measured by number of **SIM cards** that have been used at least once in the last three months for voice or data communication. *The SIM cards are **prepaid ones**, in which case the customer does not conclude any contract with the provider yet buys a credit; and **postpaid ones** in which case customers have a contract concluded with the provider and pay for contracted services by monthly invoice.*
- **Machine-To-Machine (M2M)** embedded mobile cellular subscription includes SIM cards designed exclusively for wireless communication between machines, devices and IS without direct human intervention and which are not part of a consumer subscription. Note: It includes cards in personal navigation devices, smart meters, trains, cars, etc.
- The **Broadband access** is an access to the Internet with nominal speed ≥ 256 kb/s towards the subscriber (download).
- The **Fixed broadband** is measured on the basis of so-called access points (active connections) where subscribers are provided with the Internet access from a fixed point for one of technology as follows: xDSL (incl. FTTCab), cable television network (CATV), access via an optical fibre (FTTH/B), and wireless connection (e.g. WiFi).
- The **Fixed wireless access (FWA)** is the terrestrial internet connection by means of a radio system including non-licensed frequency (WiFi). It is characteristic by placing of the end point device on a fixed location (house, apartment).
- The **Mobile broadband** includes internet connection over mobile network using: i) **handset-based (Voice and Data)** mobile broadband subscriptions measured by number of active data SIM cards installed in telephones or other handset devices within standard voice services or ii) **computer-based (Data only)** mobile data subscriptions measured by number of active USB keys, dongles or SIM cards installed in computers or tablets for using data services separated from voice services.

Data for **Czechia** are taken from data sources of the Czech Telecommunication Office (hereinafter CTO), except for the number of registered domains which is taken from cz.nic. Further information can be found at www.ctu.cz and www.nic.cz.

International comparisons is based on publicly available data from the ITU, OECD and European Commission.

Further information on this theme can be found at: <https://bit.ly/2K9wKEo>

A ICT infrastructure

Tab. A1 Fixed telephone subscriptions in Czechia

Thousand

| | 2015 | 2017 | 2018 |
|--------------------------------------|--------------|--------------|--------------|
| Total | 1 896 | 1 633 | 1 506 |
| By type of subscriber | | | |
| Individuals (households) | 831 | 614 | 606 |
| Legal entities (enterprises) | 1 065 | 1 018 | 900 |
| By technology (network) | | | |
| Switched network - PSTN lines | 994 | 740 | 665 |
| Individuals - PSTN residential lines | 523 | 355 | 311 |
| Legal entities - PSTN business lines | 471 | 385 | 354 |
| Internet network - VoIP lines | 902 | 893 | 841 |
| Individuals (households) | 309 | 259 | 295 |
| Legal entities (enterprises) | 594 | 634 | 546 |

PSTN: Public Switched Telephone Network; VoIP: Voice over Internet Protocol

Figure A1 Fixed telephone subscriptions - PSTN lines

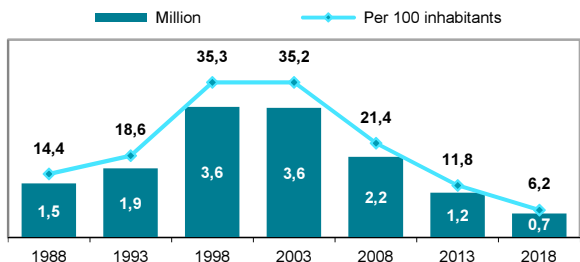


Figure A2 PSTN fixed telephone lines by subscriber (million)

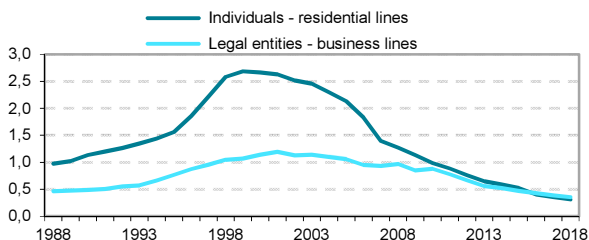
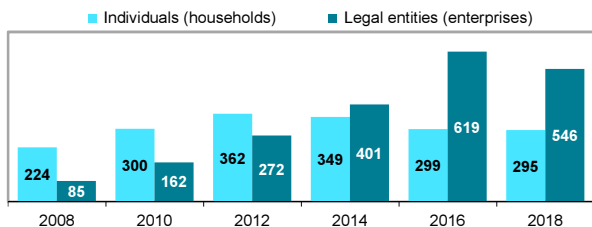


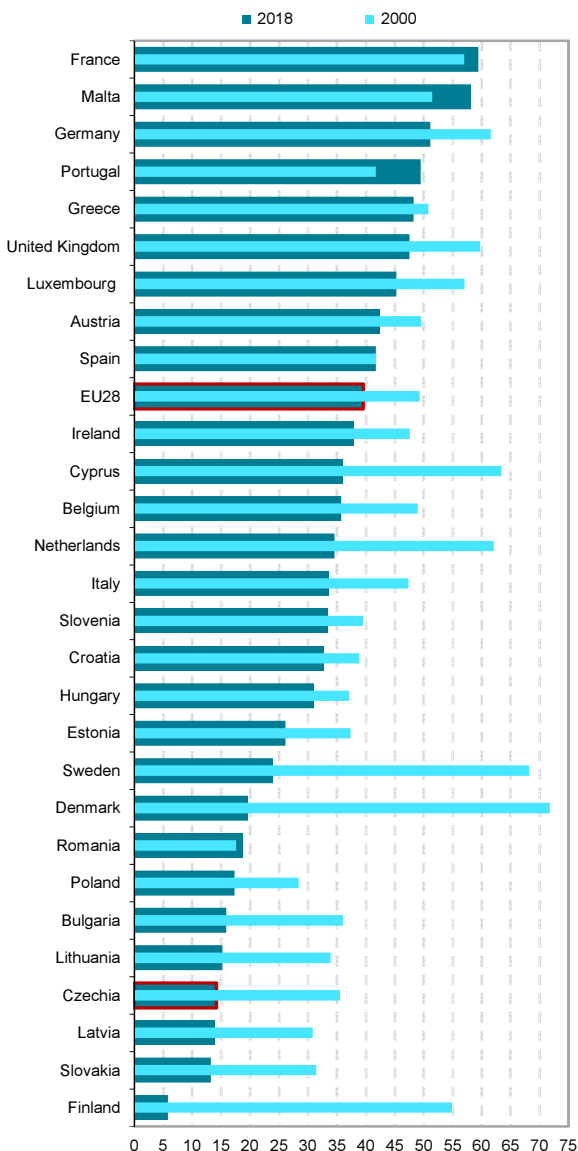
Figure A3 VoIP fixed telephone subscriptions (thousand)



Source: CZSO calculations based on Czech Telecommunication Office data

A ICT infrastructure

**Figure A4 Fixed telephone subscriptions*
in EU countries (per 100 inhabitants)**



* It includes active voice subscriptions in fixed network using both traditional PSTN (Public Switched Telephone Network) lines or VoIP (Voice over Internet Protocol) technology.

Source: CZSO calculations based on ITU data

A ICT infrastructure

Tab. A2 Mobile telephone subscriptions in Czechia

Thousand

| | 2015 | 2017 | 2018 |
|---|---------------|---------------|---------------|
| Total* | 14 017 | 14 511 | 14 756 |
| By type of subscriber | | | |
| Individuals | 9 222 | 9 144 | 9 097 |
| Legal entities (enterprises) | 4 795 | 5 367 | 5 658 |
| By type of subscription (SIM card) | | | |
| Prepaid SIM cards | 4 893 | 4 656 | 4 480 |
| Postpaid SIM cards | 9 124 | 9 855 | 10 276 |

* The indicator applies to mobile-cellular subscriptions that offer voice or data communication. It includes SIM cards that have been used at least once in the last 3 months. Machine-to-Machine (M2M) SIM cards are excluded.

Figure A5 Mobile telephone subscriptions

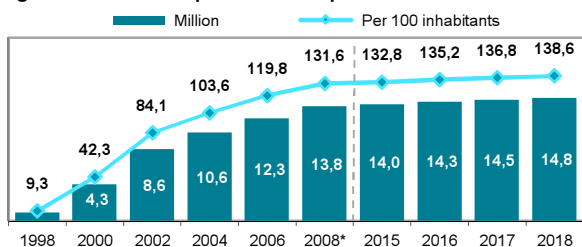
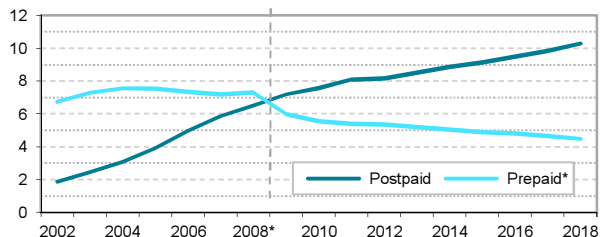
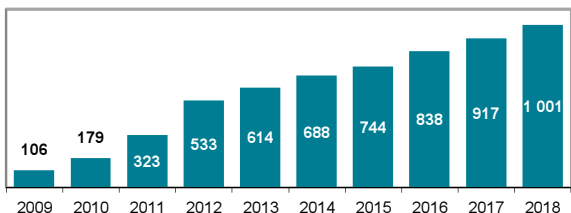


Figure A6 SIM cards used for voice communication (million)



* Break in time series. Since 2008 only prepaid SIM cards used at least once in the last 3 months are included. Until 2017 at least once in the last 13 months.

Figure A7 Machine-To-Machine (M2M) subscriptions* (thousand)

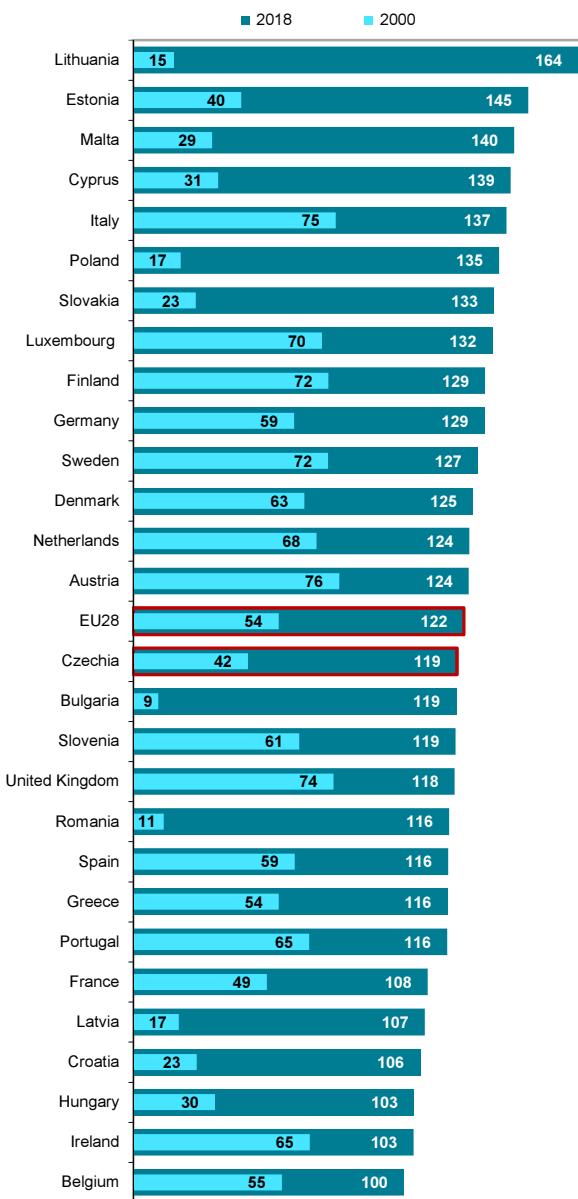


* Machine-To-Machine (M2M) embedded mobile cellular subscription includes SIM cards designed exclusively for wireless communication between machines, devices and IS without human intervention.

Source: CZSO calculations based on Czech Telecommunication Office data

A ICT infrastructure

**Figure A8 Mobile telephone subscriptions
in EU countries (per 100 inhabitants)**



Source: CZSO calculations based on ITU data

A ICT infrastructure

Tab. A3 Fixed telephone traffic in Czechia

| | Million outgoing called minutes | | |
|---|---------------------------------|--------------|--------------|
| | 2015 | 2017 | 2018 |
| Total | 1 765 | 1 514 | 1 420 |
| <i>By type of subscriber</i> | | | |
| Calls made by individuals as subscriber | . | 692 | 620 |
| Calls made by legal entities as subscriber | . | 822 | 800 |
| <i>By technology</i> | | | |
| Calls generated from traditional PSTN lines | 1 117 | 963 | 886 |
| Calls generated from VoIP | 648 | 550 | 534 |
| <i>By destination and network</i> | | | |
| Domestic calls, total | 1 498 | 1 321 | 1 275 |
| Fixed-to-fixed telephone traffic | 1 007 | 709 | 628 |
| Fixed-to-mobile telephone traffic | 491 | 612 | 647 |
| International calls | 110 | 95 | 89 |

PSTN: Public Switched Telephone Network; VoIP: Voice over Internet Protocol

Figure A9 Domestic calls from fixed network (minutes)

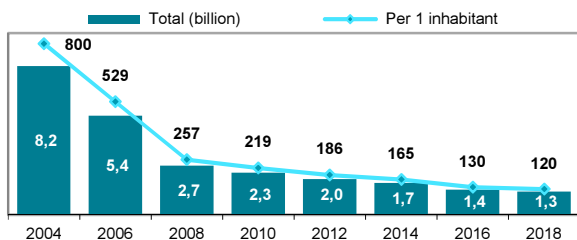


Figure A10 Domestic calls from fixed network by technology (million outgoing minutes)

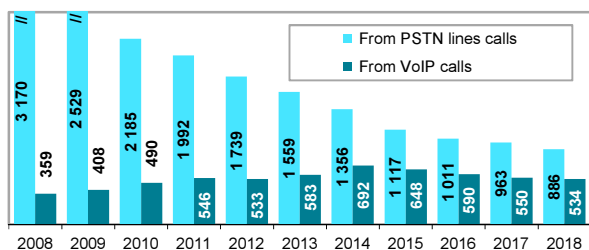
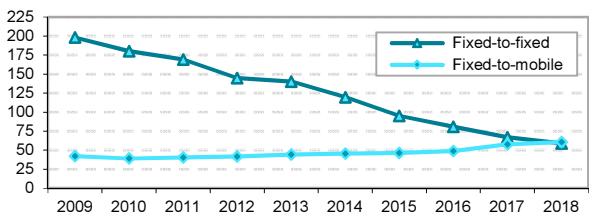


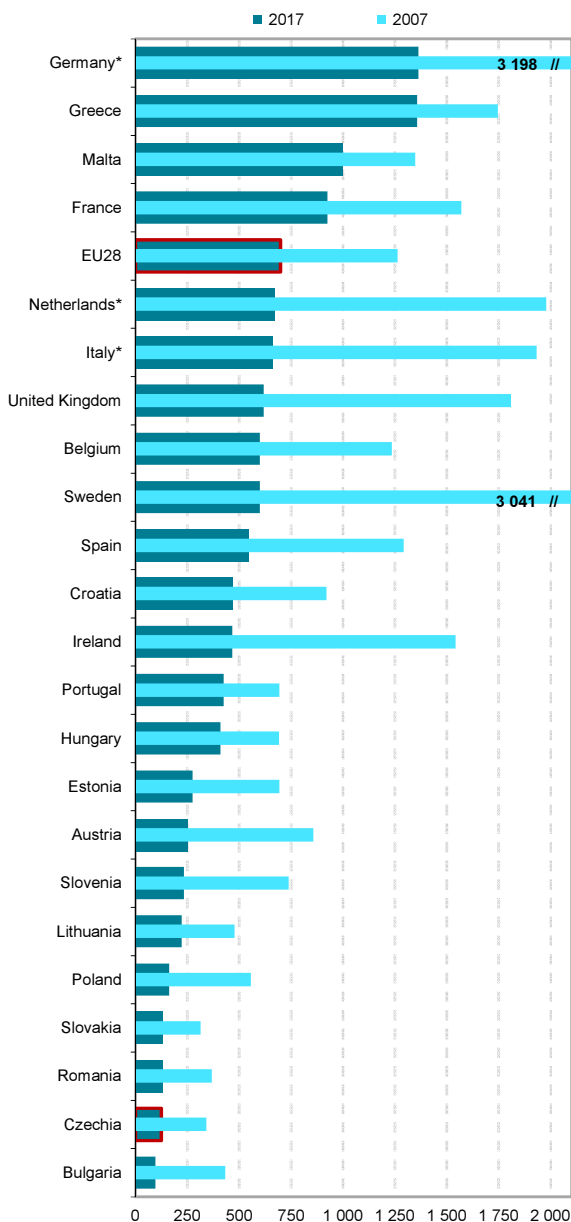
Figure A11 Domestic fixed telephone voice traffic by network (outgoing minutes per one inhabitant)



Source: CZSO calculations based on Czech Telecommunication Office data

A ICT infrastructure

Figure A12 Domestic fixed telephone traffic in EU countries (outgoing called minutes per 1 inhabitant)



* 2005 instead of 2007

Source: CZSO calculations based on ITU data

A ICT infrastructure

Tab. A4 Mobile telephone traffic in Czechia

| | Million outgoing called minutes | | |
|--|---------------------------------|---------------|---------------|
| | 2015 | 2017 | 2018 |
| Total* | 20 635 | 21 328 | 21 556 |
| By type of subscriber | | | |
| Calls made by individuals as a subscriber | 11 550 | 11 591 | 11 685 |
| Calls made by legal entities as a subscriber | 9 084 | 9 737 | 9 870 |
| By destination and network | | | |
| Domestic calls, total | 20 176 | 20 907 | 21 152 |
| To the same mobile carrier | 11 660 | 11 482 | 11 443 |
| To the different mobile carrier | 7 694 | 8 587 | 8 889 |
| To fixed telephone network | 822 | 838 | 821 |
| International calls (including roaming) | 760 | 1 215 | 1 553 |

* outgoing called minutes from outbound roaming are excluded here

Figure A13 Domestic calls from mobile network (minutes)

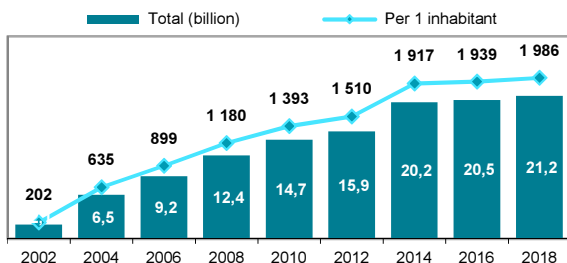


Figure A14 Domestic calls from mobile network by destination

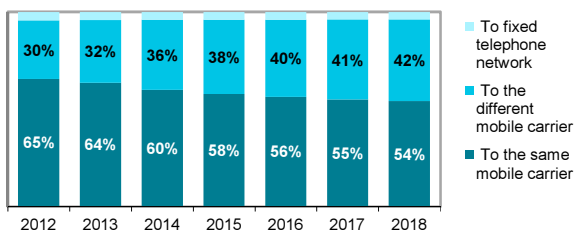
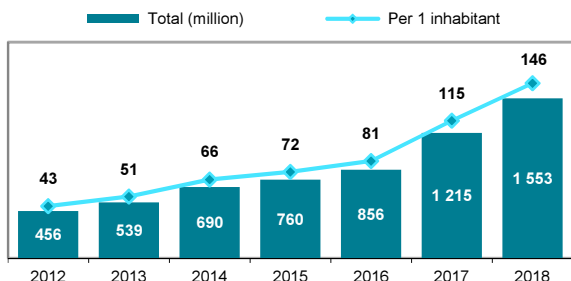


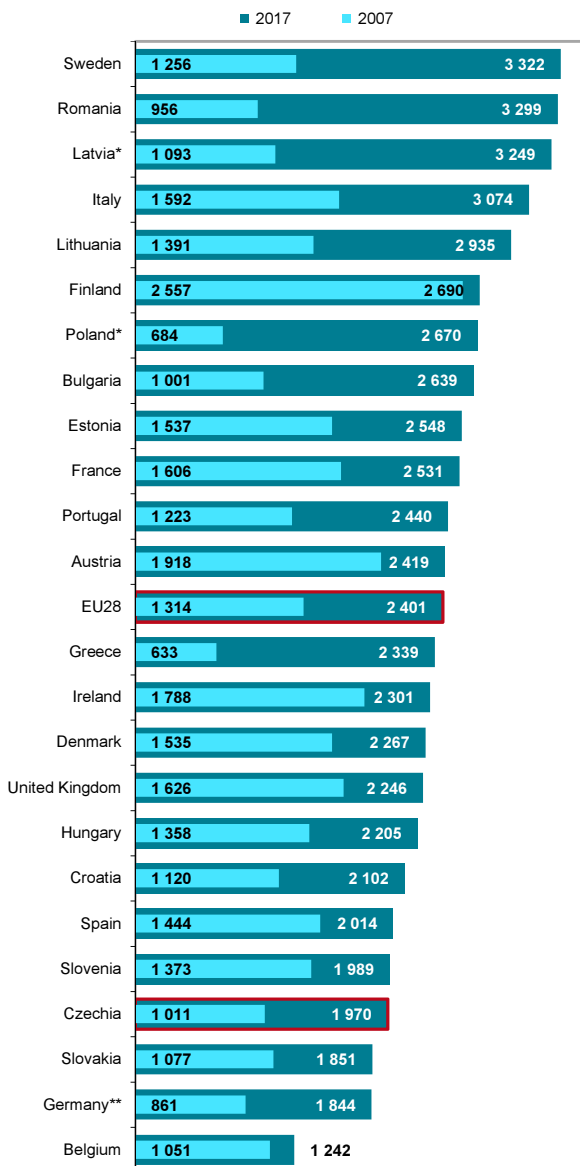
Figure A15 International calls from mobile network (minutes)



Source: CZSO calculations based on Czech Telecommunication Office data

A ICT infrastructure

Figure A16 Domestic mobile telephone traffic in EU countries (outgoing called minutes per one inhabitant)



* 2006 instead of 2007

** 2014 instead of 2017

Source: CZSO calculations based on ITU data

A ICT infrastructure

Tab. A5 Fixed broadband subscriptions in Czechia

Thousand

| | 2015 | 2017 | 2018 |
|---|--------------|--------------|--------------|
| Total | 2 963 | 3 134 | 3 212 |
| <i>By type of subscriber</i> | | | |
| Individuals (households) | 2 500 | 2 649 | 2 727 |
| Legal entities (enterprises) | 463 | 485 | 485 |
| <i>By technology and network</i> | | | |
| Fixed wired access, total | 1 959 | 2 035 | 2 107 |
| DSL line | 941 | 876 | 888 |
| Cable modem (CATV) | 541 | 589 | 597 |
| Fibre (FTTH/B) | 476 | 570 | 622 |
| Fixed wireless access (FWA - WiFi) | 1 004 | 1 099 | 1 105 |

Figure A17 Fixed broadband internet subscriptions

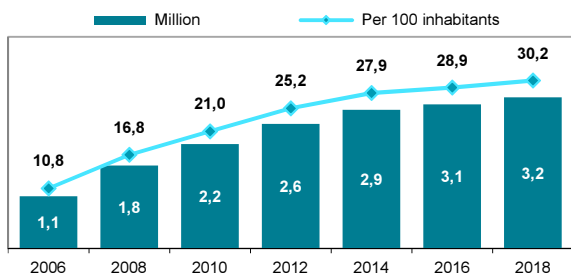


Figure A18 Fixed wired broadband subscriptions by technology (thousand)

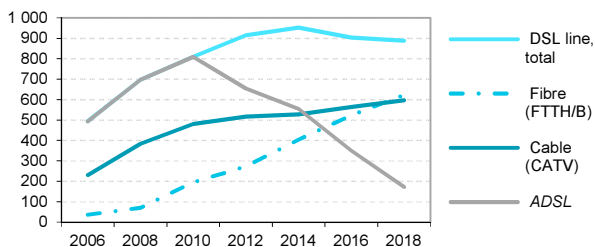
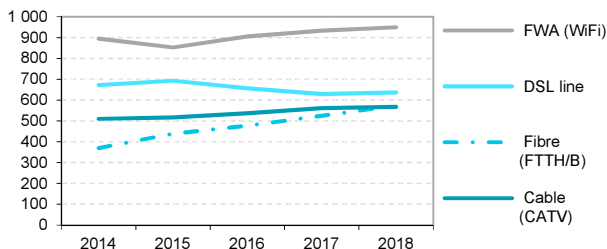


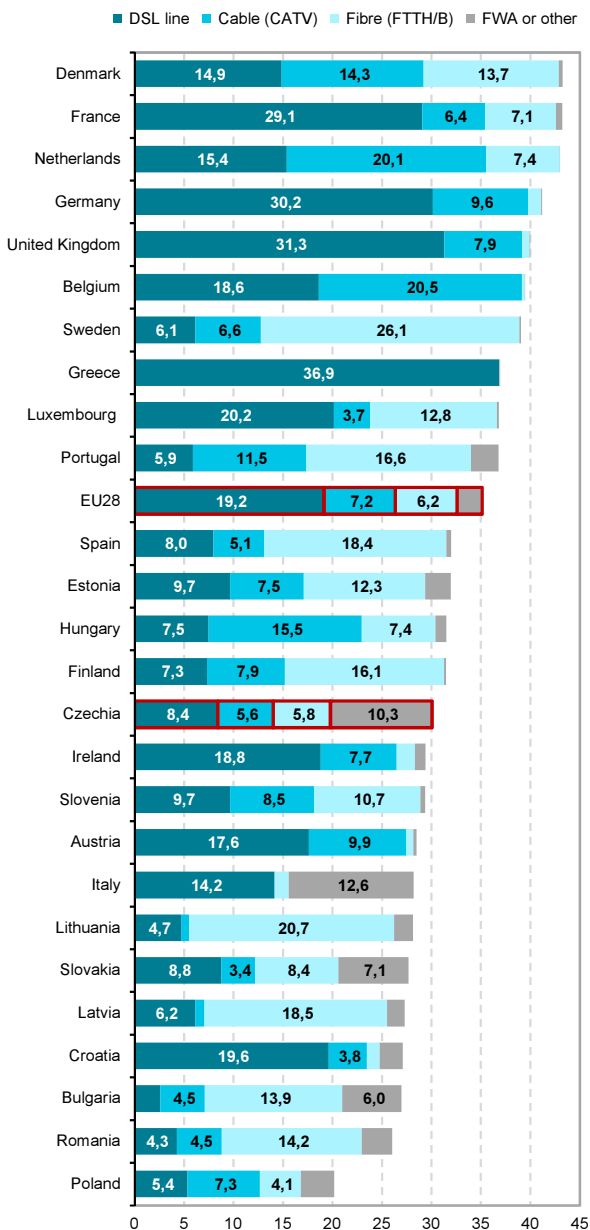
Figure A19 Households fixed broadband subscriptions by technology (thousand)



Source: CZSO calculations based on Czech Telecommunication Office data

A ICT infrastructure

Figure A20 Fixed broadband subscriptions in EU countries by technology; 2018 (per 100 inhabitants)



Source: CZSO calculations based on OECD data

A ICT infrastructure

Tab. A6 Fixed broadband subscriptions in Czechia by speed*

Thousand

| | 2015 | 2017 | 2018 |
|-----------------------|--------------|--------------|--------------|
| Total | 2 963 | 3 134 | 3 212 |
| By speed tiers | | | |
| < 10 Mbps | 848 | 513 | 353 |
| ≥ 10 < 30 Mbps | 1 100 | 1 140 | 1 119 |
| ≥ 30 < 100 Mbps | 679 | 731 | 916 |
| ≥ 100 Mbps | 335 | 749 | 823 |

* contracted (advertised) maximum download speed

Figure A21 Fixed broadband subscriptions ≥ 30 Mbps

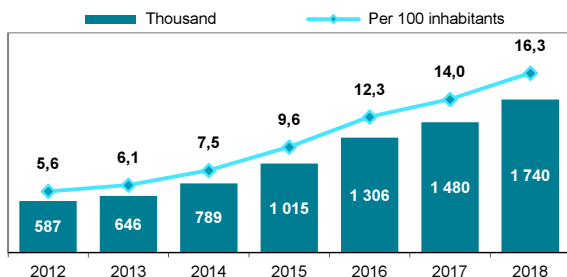


Figure A22 Fixed broadband subscriptions by speed tiers

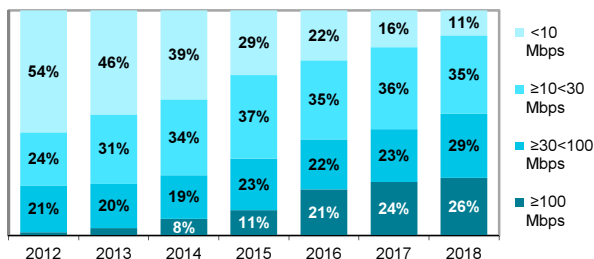
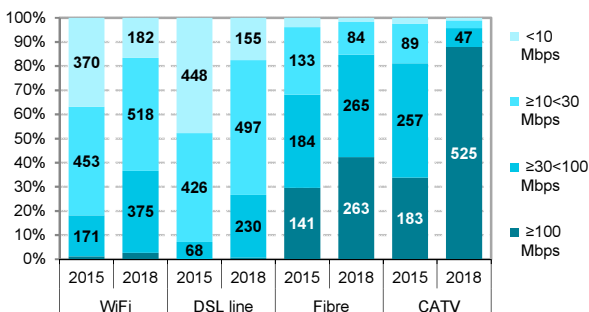


Figure A23 Fixed broadband subscriptions by technology and speed tiers (thousand; %)



Source: CZSO calculations based on Czech Telecommunication Office data

A ICT infrastructure

Figure A24 Fixed broadband subscriptions ≥ 30 Mbps in EU countries; June 2019 (per 100 inhabitants)

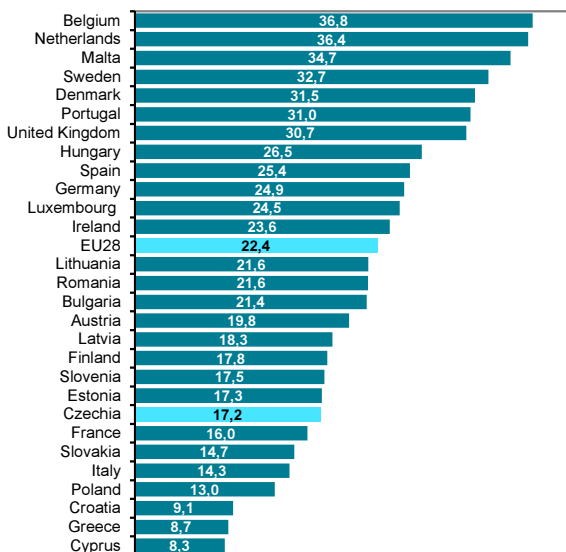
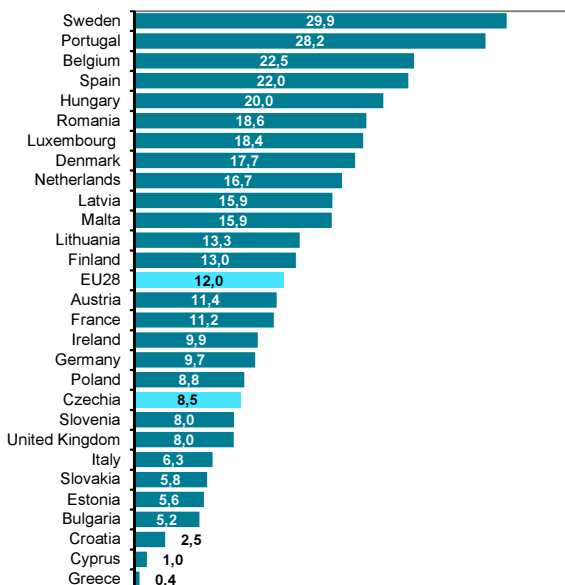


Figure A25 Fixed broadband subscriptions ≥ 100 Mbps in EU countries; June 2019 (per 100 inhabitants)



Source: CZSO calculations based on European Commission data

A ICT infrastructure

Tab. A7 Mobile broadband subscriptions in Czechia

Thousand

| | 2015 | 2017 | 2018 |
|--|--------------|--------------|--------------|
| Total | 7 918 | 8 777 | 9 384 |
| by package type and device | | | |
| Data&Voice: handset-based (SIM cards) | | | |
| mobile data subscriptions, total | 7 100 | 7 748 | 8 333 |
| Temporary "ad-hoc" access | 2 068 | 1 461 | 1 494 |
| Permanent access (monthly tariffs) | 5 032 | 6 288 | 6 839 |
| Data only: computer-based | | | |
| mobile data subscriptions, total | 818 | 1 028 | 1 050 |
| of which fixed-LTE subscriptions | . | 227 | 358 |

Figure A26 Mobile broadband subscriptions

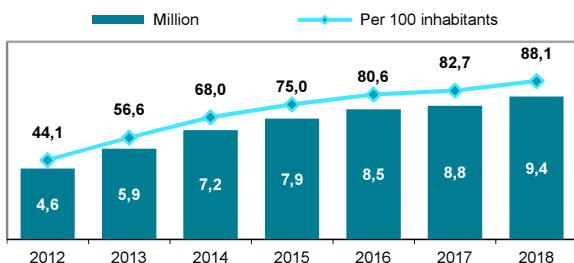


Figure A27 SIM cards with a permanent data and voice mobile broadband subscription

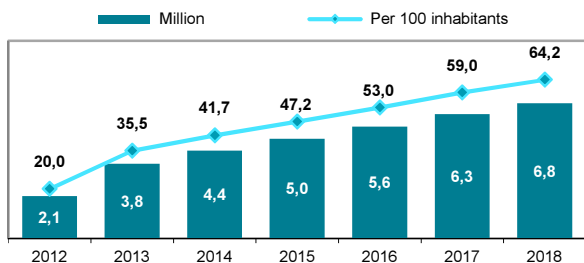
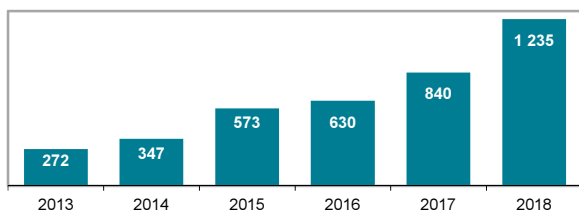


Figure A28 Average mobile data consumption*
(megabytes per one active SIM card used for data services)

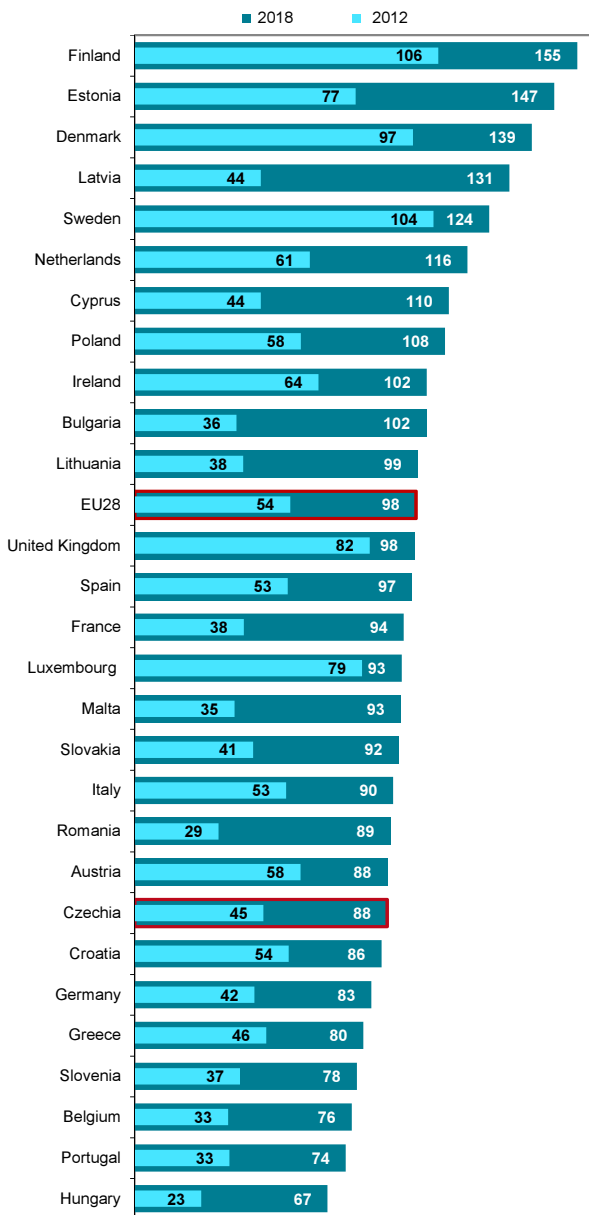


* fixed-LTE subscriptions are not included

Source: CZSO calculations based on Czech Telecommunication Office data

A ICT infrastructure

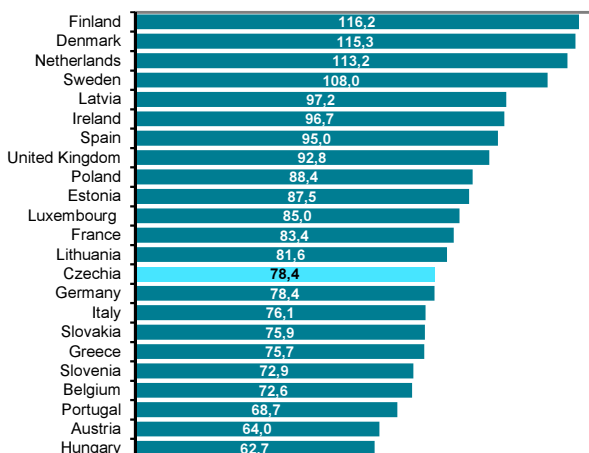
**Figure A29 Mobile broadband subscriptions
in EU countries (per 100 inhabitants)**



Source: CZSO calculations based on European Commission data

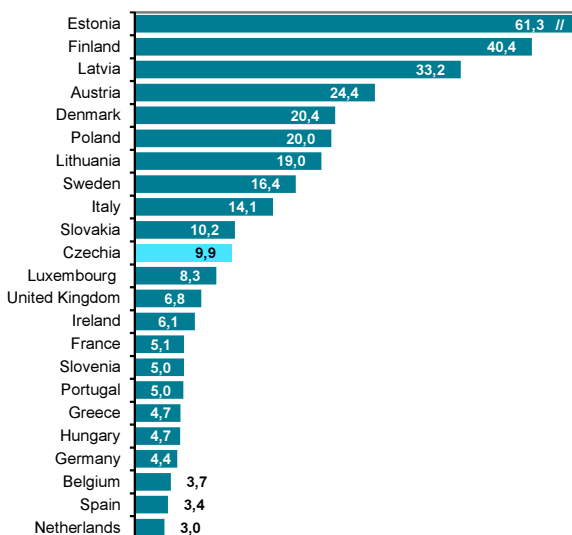
A ICT infrastructure

Figure A30 Voice and data mobile broadband subscriptions* in EU countries; 2018 (per 100 inhabitants)



* Handset-based mobile broadband subscriptions - active data SIM cards installed in telephones or other handset devices for using both voice and data services in the mobile network.

Figure A31 Data only mobile broadband subscriptions* in EU countries; 2018 (per 100 inhabitants)

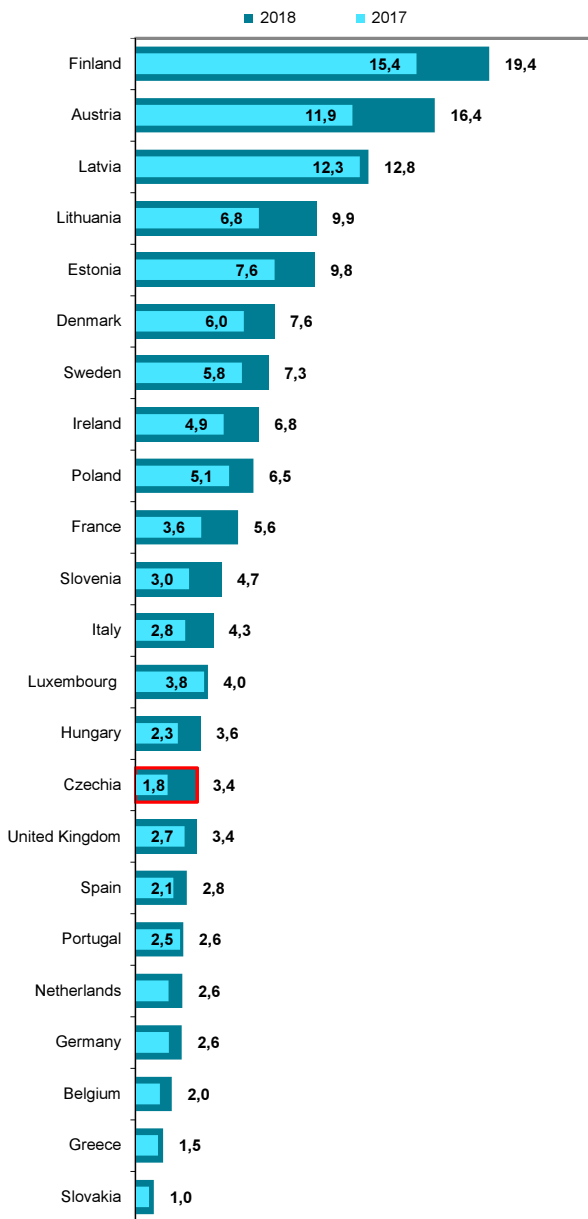


*Computer-based mobile data subscriptions - active USB keys, dongles or SIM cards installed in computers or tablets for using data services only in the mobile network.

Source: CZSO calculations based on OECD data

A ICT infrastructure

Figure A32 Monthly mobile data consumption in EU countries (GB per one mobile broadband subscriber)



Source: CZSO calculations based on OECD data

A ICT infrastructure

Tab. A8 Number of (.CZ) second-level domains in Czechia

Thousand

| | 2015 | 2018 | 2019 |
|--------------------------------|--------------|--------------|--------------|
| Total | 1 230 | 1 323 | 1 329 |
| Domains protected by DNSSEC | 477 | 723 | 787 |
| Domains using IPv6 protocol | 314 | 412 | 422 |
| By registrant's country | | | |
| Czechia | . | 1 227 | 1 234 |
| Slovakia | . | 22,7 | 23,5 |
| Germany | . | 15,8 | 16,0 |
| United States of America | . | 8,9 | 9,4 |
| United Kingdom | . | 5,1 | 5,4 |
| other countries | . | 26,1 | 34,4 |

Figure A33 Number of (.CZ) second-level domains

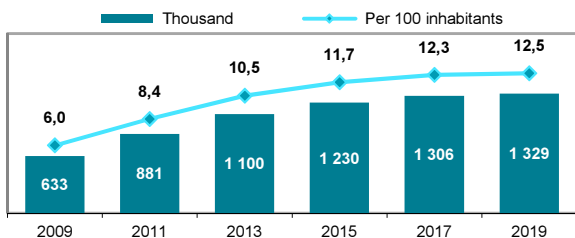


Figure A34 Number of registered and revoked (.CZ) second-level domains (thousand)

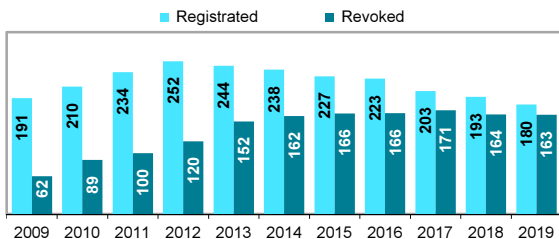
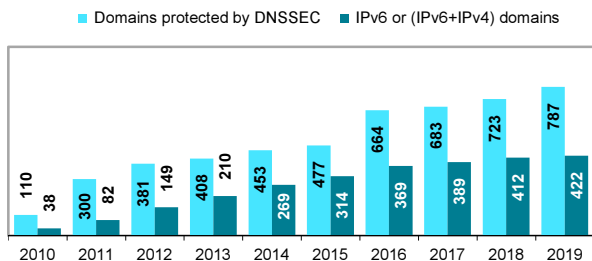


Figure A35 Number of (.CZ) second-level domains protected by DNSSEC and using IPv6



Source: CZSO calculations based on CZ.NIC data

B Households and ICT

The Czech Statistical Office (CZSO) has been monitoring data on penetration of selected information and communication technologies in Czech households by means of a separate annual statistical survey named **Sample Survey on the ICT Use in Households and by Individuals (VŠIT)**. The first pilot survey was carried out in 2002.

The survey applies the method of personal interviews with the use of personal computer (Computer Assisted Personal Interviewing – CAPI) in a sample of around 10 000 individuals aged 16+ years in approx. 6 000 households. Since 2006, the survey has been carried out 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 EU Member States.

Notes

The **Reference Period** is the 2nd quarter of the monitored year.

Income quartiles: Households were divided into four groups (quartiles) by household net income.

Comparability of the CZSO and Eurostat Data:

Data published by Eurostat for Czech households slightly differ from data published by the CZSO. This difference is due to the fact that Eurostat includes solely households with at least one person aged 16–74 years. The CZSO publishes data for all households as a standard procedure.

International data and comparisons of certain indicators are taken from the Eurostat database for digital economy and society, data of which are every year updated in December. Detail information can be found at: <https://ec.europa.eu/eurostat/web/digital-economy-and-society/overview>

Definitions

- **Households with a computer** involve households, which at the time of the survey stated, that at least one of the household members used a computer at home (desktop PC, laptop, or tablet). *Type of its ownership is not relevant The important is that it is used at home.*
- **Households with the internet** shall mean households, which at the time of survey stated, that at least one of the household members used the internet at home, no matter what type is the device used or the way of connection. The internet connection at home to any of devices is counted. That means not merely to a computer, yet also to tablet, mobile phone, smart television, game console, etc.
- **Households of persons aged up to 40 years with no children** shall mean households in which merely persons aged up to 40 years, who have no child, live.
- **Households of persons aged 65+ years with no children** shall mean households in which merely persons aged 65+ years live.
- **Households with children** shall mean households with children up to 15 years of age, included.
- **Portable computers** include laptops and tablets.

Detailed information on methodology and data from the survey, including international comparison, can be found in the CZSO publication **ICT Use in Households and by Individuals in 2019, code 062004-19**, accessible on the CZSO website at <https://www.czso.cz/csu/czso/vyuzivani-informacnich-a-komunikacnich-technologie-v-domacnostech-a-mezijednotlivci> (in the Czech language only).

Further information on the theme can be found at

https://www.czso.cz/csu/czso/domacnosti_a_jednotlivci (in the Czech language only).

B Households and ICT

Tab. B1 Households in Czechia with a computer

| | 2015 | 2018 | 2019 |
|--|-------------|-------------|-------------|
| Total | 73,1 | 78,4 | 77,9 |
| Total (with at least one member younger than 75) | 78,9 | 84,0 | 83,4 |
| Type of household (HH) | | | |
| Households with no children, total | 65,1 | 71,6 | 71,9 |
| HHs of persons aged up to 40 years | 93,0 | 94,6 | 94,6 |
| HHs of persons aged 65+ years | 24,9 | 37,6 | 38,3 |
| Households with children | 93,8 | 95,8 | 94,2 |
| Household income group | | | |
| The lowest income group (first quartile) | 34,3 | 44,1 | 43,7 |
| Second quartile income group | 57,2 | 76,4 | 69,9 |
| Third quartile income group | 85,7 | 94,7 | 90,8 |
| The highest income group (fourth quartile) | 96,7 | 98,2 | 98,4 |

as a percentage of all households of a given type

Figure B1 Households with a computer

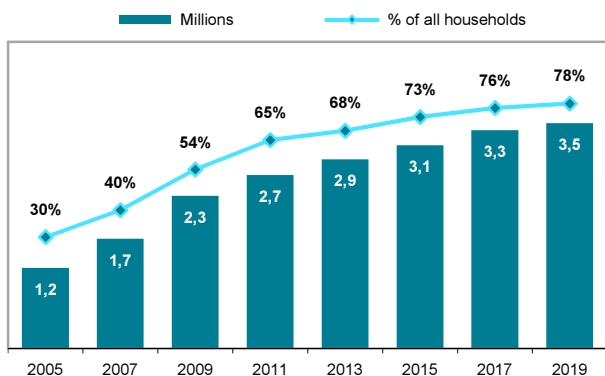
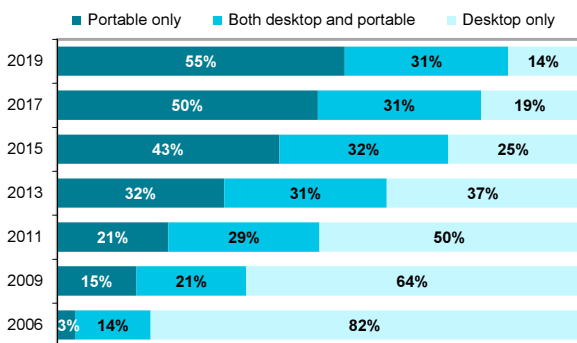


Figure B2 Czech households with a computer by type of computer used at home



as a percentage of households with a computer

Source: Czech Statistical Office, ICT use survey in households

B Households and ICT

Tab. B2 Households in Czechia with a computer by its type; 2019

| | % | | |
|--|-------------|-------------|-------------|
| | Desktop | Laptop | Tablet |
| Total | 34,9 | 61,9 | 31,3 |
| Type of household (HH) | | | |
| Households with no children, total | 33,0 | 54,6 | 23,7 |
| HHs of persons aged up to 40 years | 26,3 | 83,7 | 41,2 |
| HHs of persons aged 65+ years | 22,2 | 19,4 | 7,5 |
| Households with children | 40,9 | 82,2 | 52,1 |
| Household income group | | | |
| The lowest income group (first quartile) | 17,9 | 28,1 | 10,6 |
| Second quartile income group | 29,3 | 52,0 | 20,6 |
| Third quartile income group | 40,3 | 76,3 | 38,8 |
| The highest income group (fourth quartile) | 52,0 | 91,4 | 55,0 |

as a percentage of all households of a given type

Figure B3 Households with a portable (laptop or tablet) computer

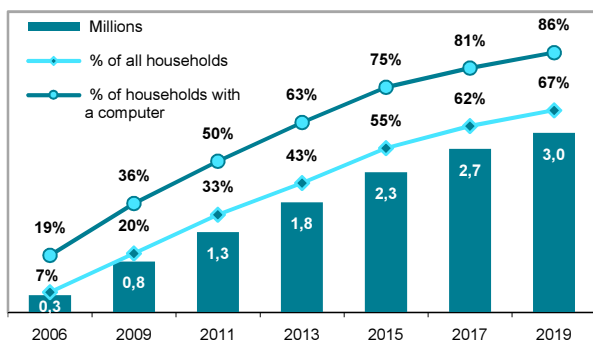
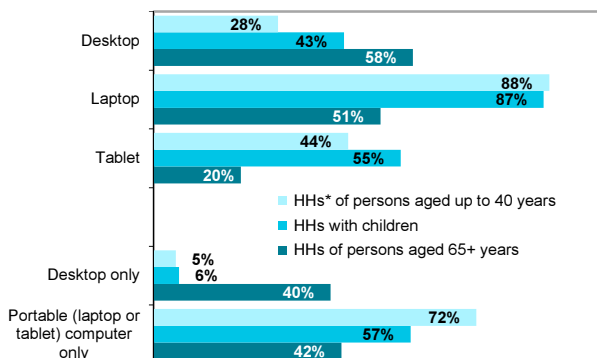


Figure B4 Czech households (HHs) with a computer used at home; 2019



as a percentage of all households of a given type with a computer

* Households with no children

Source: Czech Statistical Office, ICT use survey in households

B Households and ICT

Tab. B3 Households in Czechia with internet access

| | 2015 | 2018 | 2019 |
|--|-------------|-------------|-------------|
| Total | 73,1 | 80,5 | 81,1 |
| Total (with at least one member younger than 75) | 79,0 | 86,4 | 87,0 |
| Type of household (HH) | | | |
| Households with no children, total | 65,2 | 73,8 | 75,3 |
| HHs of persons aged up to 40 years | 94,7 | 97,7 | 98,2 |
| HHs of persons aged 65+ years | 24,2 | 37,4 | 40,0 |
| Households with children | 93,6 | 97,8 | 97,2 |
| Household income group | | | |
| The lowest income group (first quartile) | 33,8 | 47,1 | 50,8 |
| Second quartile income group | 57,2 | 78,8 | 77,6 |
| Third quartile income group | 85,8 | 96,5 | 96,6 |
| The highest income group (fourth quartile) | 96,8 | 99,5 | 99,4 |

as a percentage of all households of a given type

Figure B5 Households with access to the internet at home

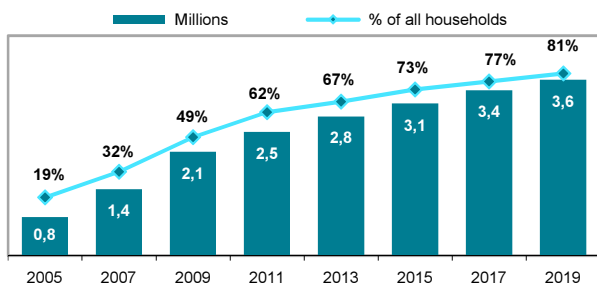
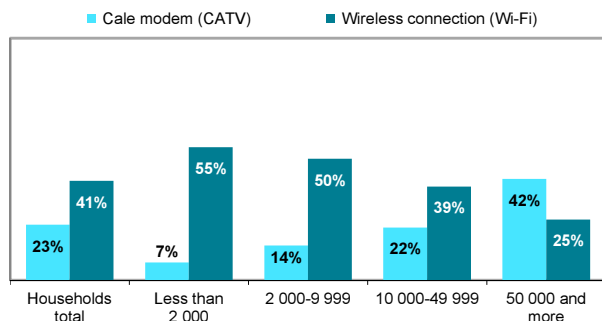


Figure B6 Type of connection* used by Czech households to access the internet at home by size of the municipalities (number of inhabitants); 2019



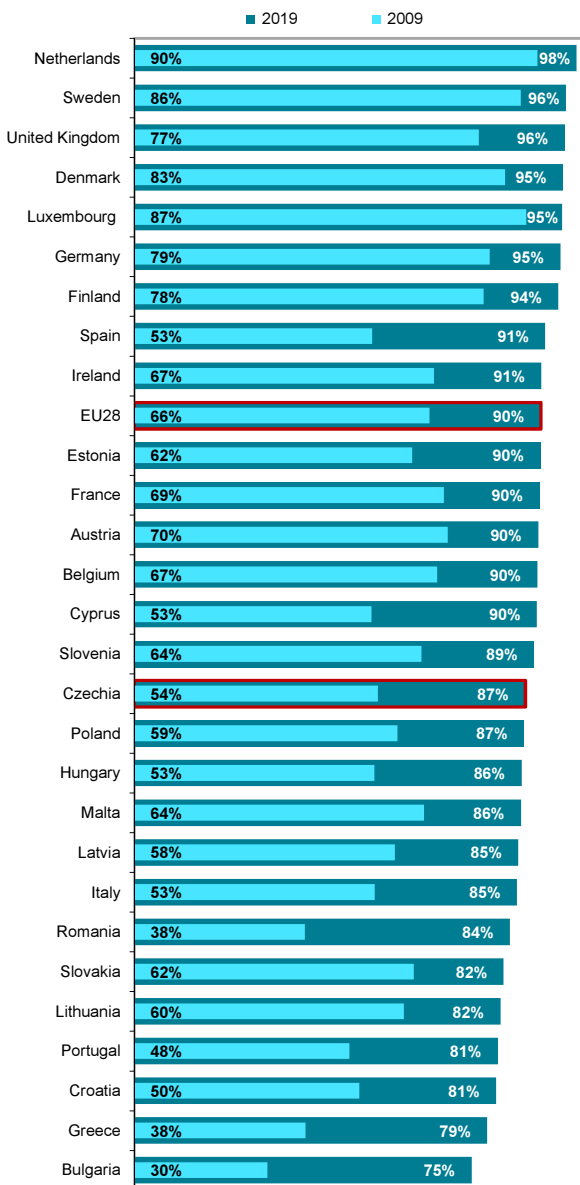
as a percentage of all households with the internet in given municipalities size

* Type of connection includes merely the type of household connectivity delivered by the provider and not a method of potential sharing of this connectivity by multiple computers within one household.

Source: Czech Statistical Office, ICT use survey in households

B Households and ICT

Figure B7 Households in EU countries with access to the internet at home



as a percentage of all households in a given country where at least one member is younger than 75 years

Source: Eurostat

B Households and ICT

Tab. B4 Households in Czechia with a Wi-Fi router

%

| | 2015 | 2018 | 2019 |
|--|-------------|-------------|-------------|
| Total | 47,7 | 62,7 | 63,5 |
| Type of household (HH) | | | |
| Households with no children, total | 39,7 | 54,6 | 56,9 |
| HHs of persons aged up to 40 years | 64,1 | 79,2 | 81,9 |
| HHs of persons aged 65+ years | 8,8 | 19,1 | 22,4 |
| Households with children | 68,4 | 83,5 | 81,8 |
| Household income group | | | |
| The lowest income group (first quartile) | 13,5 | 28,5 | 30,5 |
| Second quartile income group | 28,7 | 54,4 | 55,8 |
| Third quartile income group | 53,4 | 78,0 | 79,2 |
| The highest income group (fourth quartile) | 76,8 | 89,7 | 88,5 |

as a percentage of all households of a given type

Figure B8 Households with a Wi-Fi router

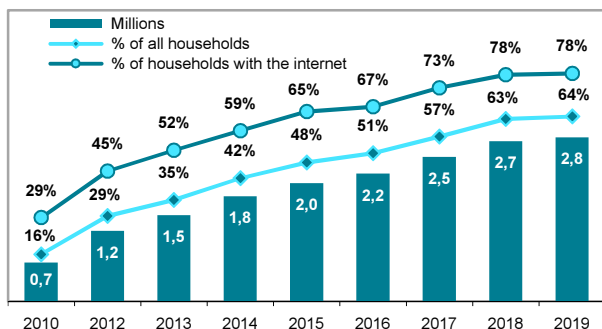
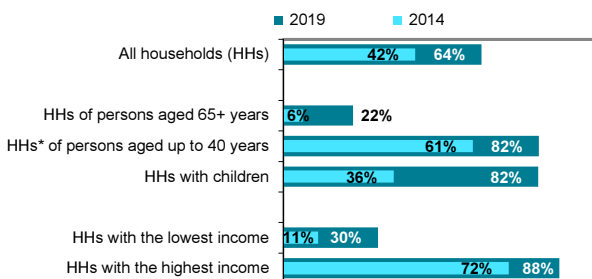


Figure B9 Selected types of households with a Wi-Fi router



as a percentage of all households of a given type

* Households with no children

A WiFi router is a device that enables internet distribution within the household, i.e. it enables connection of more devices at the same time and from different places within the reach of WiFi network.

Source: Czech Statistical Office, ICT use survey in households

C Persons and ICT

The Czech Statistical Office (CZSO) has been collecting detailed information on individuals using selected information and communication technologies (ICT) by means of a separate annual statistical survey named **Sample Survey on the ICT Use in Households and by Individuals (VŠIT)**. The first pilot survey was carried out in 2002.

Since 2006, the survey has been carried out 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 EU Member States.

The survey applies the method of **personal interviews** with the use of personal computer (Computer Assisted Personal Interviewing – CAPI) in a sample of around 10 000 individuals aged 16+ years living in **private households** on the territory of Czechia. This means the survey does not cover individuals living in collective households (penitentiaries, social care establishments, retirement homes, etc.).

The survey results are grossed up to the whole population aged 16+ years. The data are available broken by a wide spectrum of demographic and social characteristics as, for instance, sex, age, educational attainment, economic activity, income group, region, and residential municipality size.

Notes

Time of survey: 2nd quarter of reference year

Reference period:

3 months prior to the survey: use of the internet on selected devices, activities performed on the internet (shopping excluded) and internet security. A person uses selected devices, performs the activities or experience security incidents if she/he used the device, performed the activity or experienced the incident at least once in the last 3 months prior to the interview.

12 months prior to the survey: shopping online. A person purchased over the internet at least one item in the last 12 months.

Educational attainment is published for the age group 25-64 years. For purposes of this publication educational attainment was divided in four categories: primary, secondary without A level exam, secondary with A level exam and tertiary.

Comparability of data published by the CZSO and Eurostat

Data published by Eurostat for Czechia slightly differ from data published by the CZSO. This difference is due to the fact that Eurostat includes solely individuals aged 16 to 74 years whereas the CZSO includes people aged 16 and over. For that reason tables for Czechia in this publication give two values - for total individuals aged 16+ years, and for total individuals aged 16–74 years.

International data and comparisons of certain indicators are taken from the Eurostat database for digital economy and society, data of which are every year updated in December or January. Detailed information can be found at: <https://ec.europa.eu/eurostat/web/digital-economy-and-society/overview>

Definitions

- **Wireless internet connection (WiFi)** shall mean the internet connection through a local wireless network, secured or not. Typical examples include household wireless networks, local wireless networks of cafes, hospitals, airports, transport means, schools, etc. The WiFi connection is usually for free, it may be paid in certain cases as at the airports, for instance, or with limited access time.
- **Seeking information on travel and accommodation** includes searching for information in this field both in the form of browsing via an internet browser, and direct visits to selected web pages. Examples of information on travel may include information on

available flights, bus or railway connections, accommodation, car renting, or travel insurance.

- **Smartphone** is a mobile phone with operating system. Most of the smartphones are touchscreen phones, but there are exceptions (e.g. BlackBerry) which can be also operated by buttons. A smartphone user can use on his/her mobile phone the internet (including mobile apps).
- The **internet banking** is operated by means of an internet portal enabling remote control and administration of bank accounts through the internet. The portal shall enable, for instance, checking the account remainder, setting up of a payment or permanent payments, setting up limits of cash withdrawing from ATMs, etc. The internet banking can also be accessible through a mobile phone by means of an application of so-called mobile banking.
- A **purchase over the internet** shall mean ordering of any goods or services on a website or by means of an application for private purposes. Orders placed by means of email are not included. Goods or services ordered this way may not be paid over the internet, they could be paid in cash on delivery, or while delivered in person.
- **Hacking of an e-mail or social media account** refers to a fraudulent technique which results in sending of unwanted content from the owner's account without his knowledge. This category does not include receiving of spam e-mails, e.g. advertising messages.
- **Receiving fraudulent** messages (so called phishing) is a fraudulent technique used on the internet to retrieve sensitive data (passwords, credit card numbers, etc.) via e-mail communication.
- **Listening to music** includes listening to the web radio and listening to music on any other websites or via apps (e.g. Youtube or Spotify).
- **Redirection to fake websites** (so called pharming) is a fraudulent technique used on the internet to retrieve sensitive data from attack victims. Fake websites which are almost identical with the original websites require the user to enter a username, password, account number or credit card information.
- **Internet connection via mobile data** includes access to the internet on a mobile phone using a paid data plan from a mobile operator.
- **Watching videos** includes watching videos on webpages intended for sharing (e.g. Youtube), on webpages of TV broadcasters or internet TVs and watching videos on demand (e.g. via Netflix or HBO GO).

Detailed information on methodology of the survey can be found in the CZSO publication **ICT Use in Households and by Individuals in 2019**, code **062004-19**, accessible for free on the CZSO website at <https://www.czso.cz/csu/czso/vyuzivani-informacnich-a-komunikacnich-technologii-v-domacnostech-a-mezi-jednotlivci> (in the Czech language only).

Further information on the theme can be found at https://www.czso.cz/csu/czso/domacnosti_a_jednotlivci (in the Czech language only)

C Persons and ICT

Tab. C1 Persons in Czechia using a mobile phone; 2019

%

| | Total | Smartphone | Mobile phone without operating system |
|--|-------------|-------------|---------------------------------------|
| Total (aged 16+ years) | 96,9 | 69,6 | 31,3 |
| Total (aged 16–74) | 97,8 | 75,8 | 26,3 |
| Sex (aged 16+ years) | | | |
| Men | 96,6 | 71,3 | 29,4 |
| Women | 97,1 | 68,0 | 33,0 |
| Age group (years) | | | |
| 16–24 | 99,2 | 98,6 | 4,7 |
| 25–34 | 98,4 | 94,8 | 10,2 |
| 35–44 | 98,3 | 91,2 | 11,7 |
| 45–54 | 98,8 | 81,5 | 22,0 |
| 55–64 | 97,7 | 60,4 | 40,5 |
| 65+ | 91,6 | 19,8 | 73,7 |
| Education attainment (aged 25–64) | | | |
| Primary | 87,8 | 53,6 | 34,5 |
| Secondary without A-level examination | 98,8 | 73,6 | 29,3 |
| Secondary with A-level examination | 98,7 | 88,3 | 16,0 |
| Tertiary | 99,8 | 95,5 | 9,8 |

as a percentage of all persons in a given socio-demographic group

Figure C1 Persons using a mobile phone by sex and age

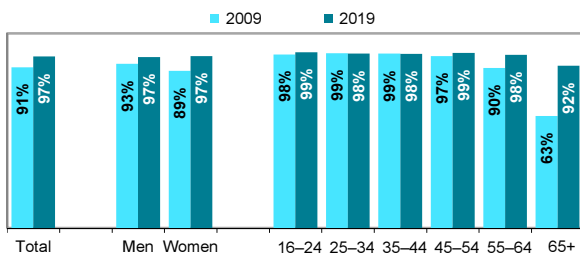
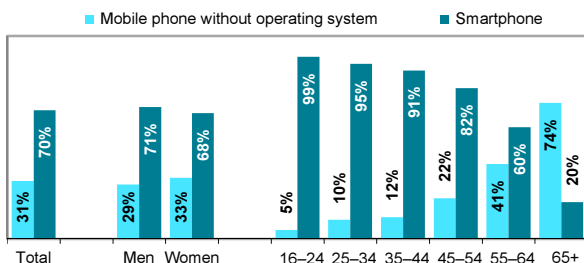


Figure C2 Types of mobile phones used by persons; 2019



as a percentage of all persons in a given socio-demographic group

Source: Czech Statistical Office, ICT use survey in households

C Persons and ICT

Tab. C2 Persons in Czechia using the internet

%

| | 2015 | 2018 | 2019 |
|--|-------------|-------------|-------------|
| Total (aged 16+ years) | 75,7 | 80,7 | 80,9 |
| Total (aged 16–74) | 81,3 | 86,5 | 87,0 |
| Sex (aged 16+ years) | | | |
| Men | 77,9 | 82,8 | 83,6 |
| Women | 73,5 | 78,7 | 78,3 |
| Age group (years) | | | |
| 16–24 | 97,0 | 99,1 | 98,3 |
| 25–34 | 95,4 | 98,9 | 97,3 |
| 35–44 | 93,9 | 97,6 | 97,1 |
| 45–54 | 86,7 | 93,4 | 94,3 |
| 55–64 | 68,0 | 77,3 | 81,2 |
| 65+ | 28,4 | 38,4 | 39,2 |
| Education attainment (aged 25–64) | | | |
| Primary | 49,2 | 66,6 | 67,8 |
| Secondary without A-level examination | 78,1 | 87,2 | 87,6 |
| Secondary with A-level examination | 95,0 | 97,2 | 97,8 |
| Tertiary | 99,4 | 99,7 | 99,7 |

as a percentage of all persons in a given socio-demographic group

Figure C3 Persons aged 16+ using the internet

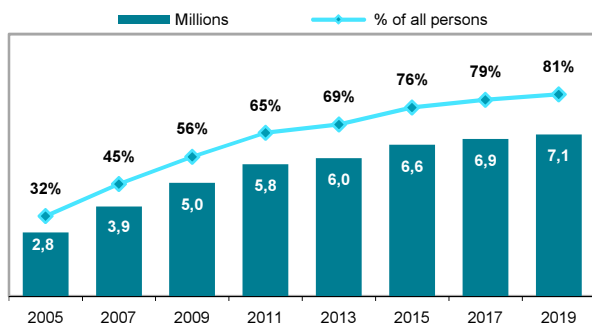
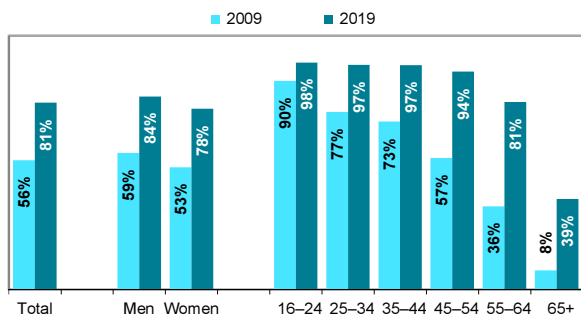


Figure C4 Usage of the internet by sex and age

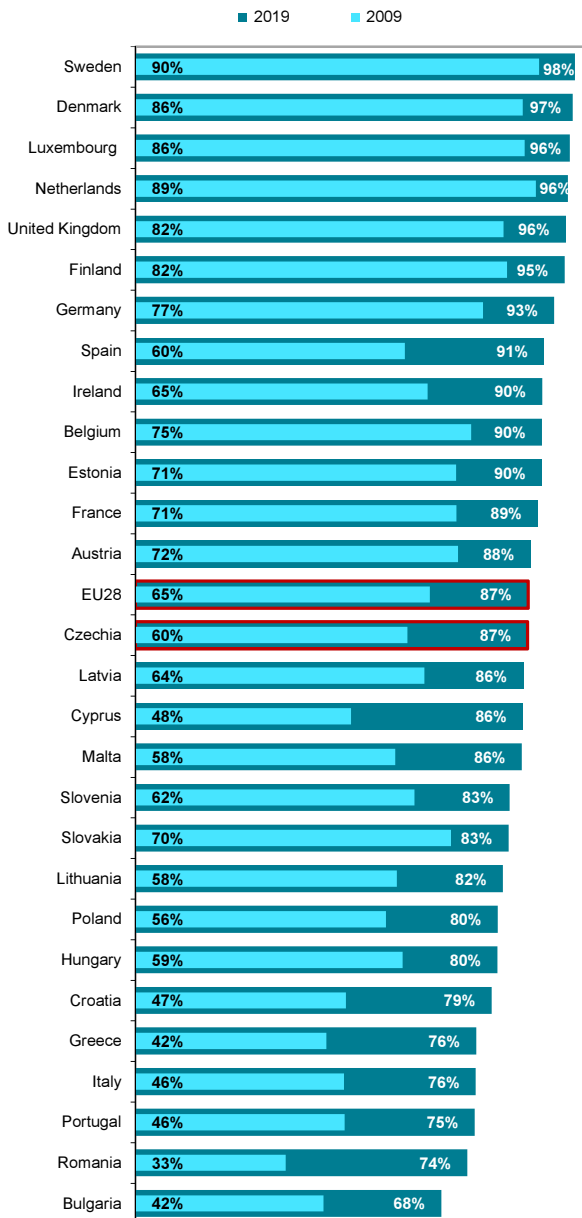


as a percentage of all persons in a given socio-demographic group

Source: Czech Statistical Office, ICT use survey in households

C Persons and ICT

Figure C5 Persons in EU countries aged 16–74 years using the internet



Source: Eurostat

C Persons and ICT

Tab. C3 Persons in Czechia using the internet on mobile phones %

| | 2015 | 2018 | 2019 |
|--|-------------|-------------|-------------|
| Total (aged 16+ years) | 37,0 | 58,4 | 64,5 |
| Total (aged 16–74) | 40,1 | 63,7 | 70,5 |
| Sex (aged 16+ years) | | | |
| Men | 41,7 | 60,7 | 66,8 |
| Women | 32,5 | 56,3 | 62,3 |
| Age group (years) | | | |
| 16–24 | 77,1 | 93,7 | 96,8 |
| 25–34 | 68,0 | 90,0 | 92,7 |
| 35–44 | 48,6 | 81,6 | 87,1 |
| 45–54 | 28,1 | 66,6 | 73,9 |
| 55–64 | 14,2 | 35,9 | 52,6 |
| 65+ | 3,1 | 9,9 | 13,9 |
| Education attainment (aged 25–64) | | | |
| Primary | 15,5 | 43,2 | 49,9 |
| Secondary without A-level examination | 27,9 | 56,3 | 65,0 |
| Secondary with A-level examination | 43,4 | 76,8 | 83,7 |
| Tertiary | 68,3 | 87,5 | 93,6 |

as a percentage of all persons in a given socio-demographic group

Figure C6 Persons aged 16+ using the internet on mobile phones

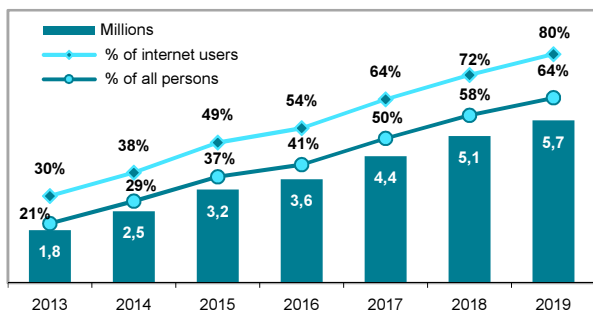
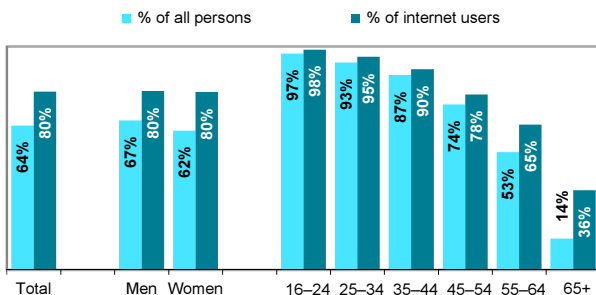


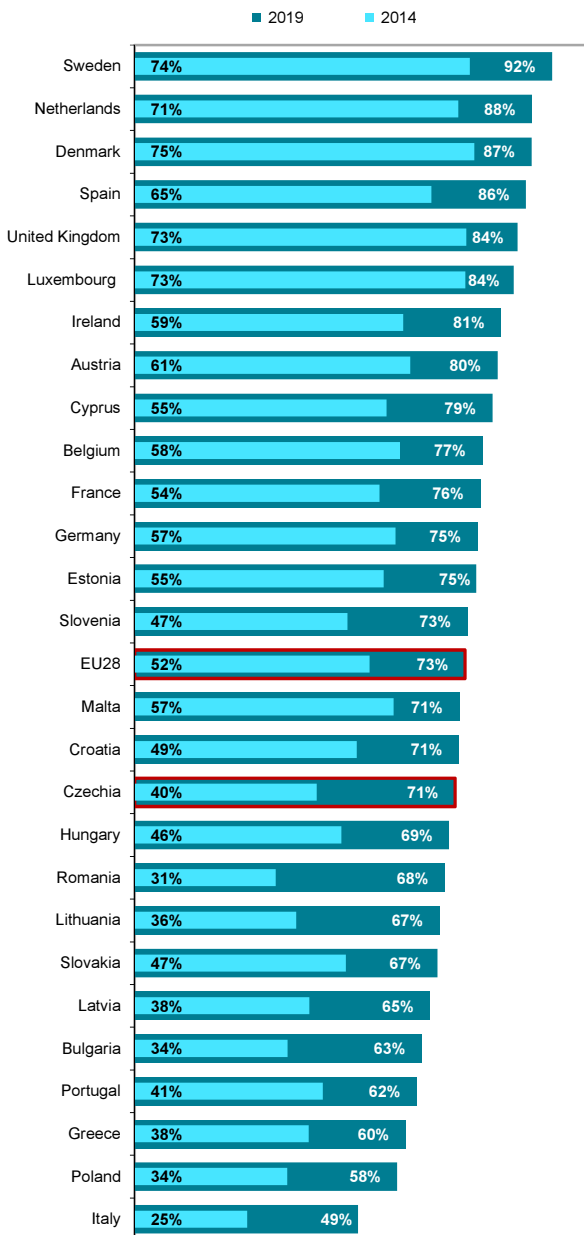
Figure C7 Usage of the internet on mobile phones by sex and age; 2019



Source: Czech Statistical Office, ICT use survey in households

C Persons and ICT

Figure C8 Persons in EU countries aged 16–74 years using the internet on mobile phones



Source: Eurostat

C Persons and ICT

Tab. C4 Persons in Czechia using mobile data or Wi-Fi to access the internet on mobile phones; 2019

%

| | Mobile data | Wi-Fi | Wi-Fi only |
|--|-------------|-------------|-------------|
| Total (aged 16+ years) | 53,2 | 62,3 | 11,3 |
| Total (aged 16–74) | 58,3 | 68,2 | 12,3 |
| Sex (aged 16+ years) | | | |
| Men | 56,1 | 64,9 | 10,7 |
| Women | 50,5 | 59,9 | 11,8 |
| Age group (years) | | | |
| 16–24 | 84,0 | 95,1 | 12,8 |
| 25–34 | 82,7 | 89,9 | 10,0 |
| 35–44 | 72,1 | 84,6 | 15,0 |
| 45–54 | 59,1 | 71,6 | 14,9 |
| 55–64 | 39,1 | 50,1 | 13,5 |
| 65+ | 9,5 | 12,5 | 4,4 |
| Education attainment (aged 25–64) | | | |
| Primary | 38,8 | 43,2 | 11,1 |
| Secondary without A-level examination | 49,5 | 62,1 | 15,5 |
| Secondary with A-level examination | 70,2 | 81,6 | 13,5 |
| Tertiary | 82,9 | 92,1 | 10,8 |

as a percentage of all persons in a given socio-demographic group

Figure C9 Persons aged 16+ using mobile data to access the internet on mobile phones

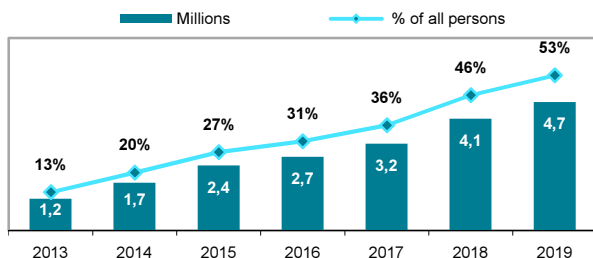
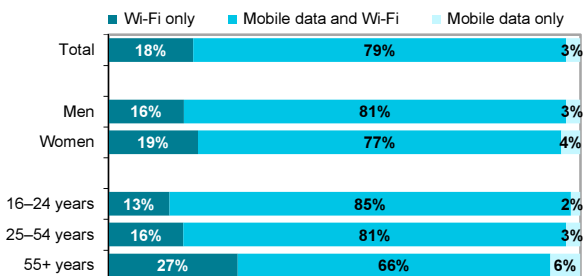


Figure C10 Usage of the internet on mobile phones by type of connection; 2019



as a percentage of persons who use the internet on mobile phones

Source: Czech Statistical Office, ICT use survey in households

Figure C11 Persons in EU countries aged 16–29 years using the internet on mobile phones; 2019

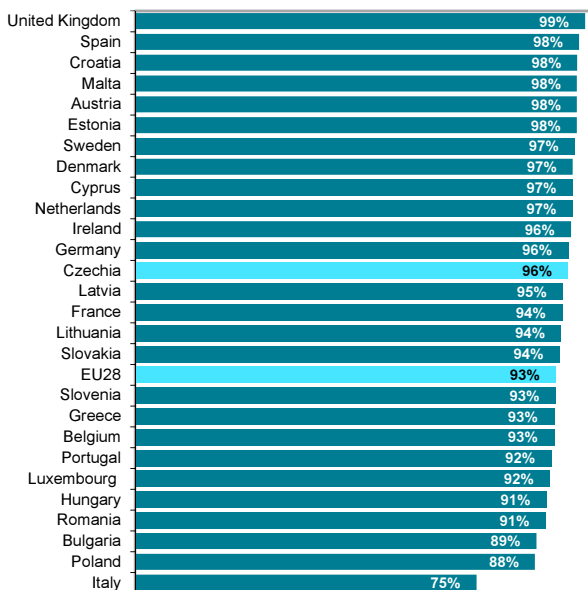
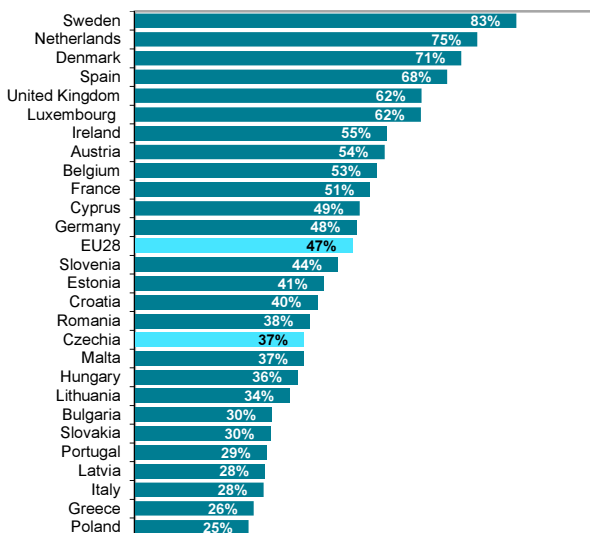


Figure C12 Persons in EU countries aged 55–74 years using the internet on mobile phones; 2019



Source: Eurostat

C Persons and ICT

Tab. C5 Persons in Czechia using social networks

%

| | 2015 | 2018 | 2019 |
|--|-------------|-------------|-------------|
| Total (aged 16+ years) | 37,4 | 51,0 | 54,0 |
| Total (aged 16–74) | 40,7 | 55,6 | 58,9 |
| Sex (aged 16+ years) | | | |
| Men | 37,6 | 49,4 | 53,1 |
| Women | 37,3 | 52,6 | 54,8 |
| Age group (years) | | | |
| 16–24 | 88,7 | 97,0 | 96,2 |
| 25–34 | 72,3 | 89,8 | 89,9 |
| 35–44 | 46,9 | 69,3 | 73,5 |
| 45–54 | 23,9 | 45,5 | 55,9 |
| 55–64 | 10,1 | 27,2 | 31,3 |
| 65+ | 3,3 | 7,8 | 9,0 |
| Education attainment (aged 25–64) | | | |
| Primary | 15,8 | 40,6 | 44,3 |
| Secondary without A-level examination | 30,2 | 48,2 | 54,3 |
| Secondary with A-level examination | 43,9 | 63,5 | 68,0 |
| Tertiary | 55,3 | 74,3 | 75,3 |

as a percentage of all persons in a given socio-demographic group

Figure C13 Persons aged 16+ using social networks

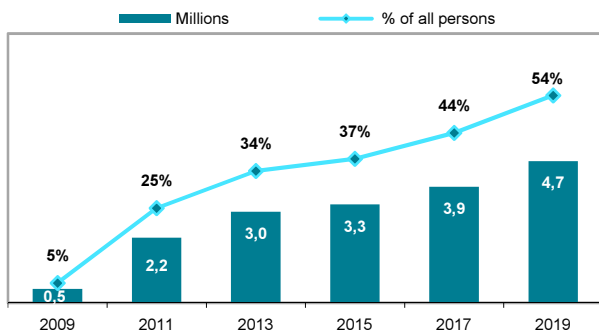
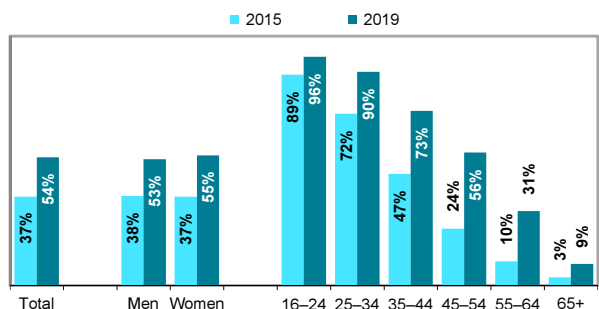


Figure C14 Usage of social networks by sex and age



Source: Czech Statistical Office, ICT use survey in households

C Persons and ICT

Figure C15 Persons in EU countries aged 16–74 years using social networks; 2019

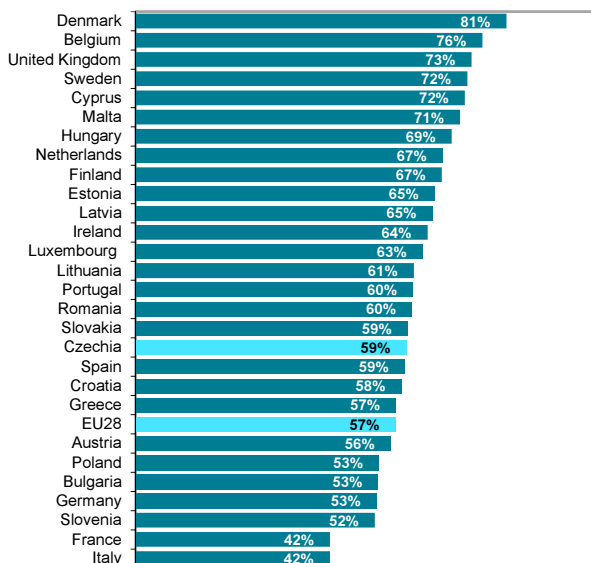
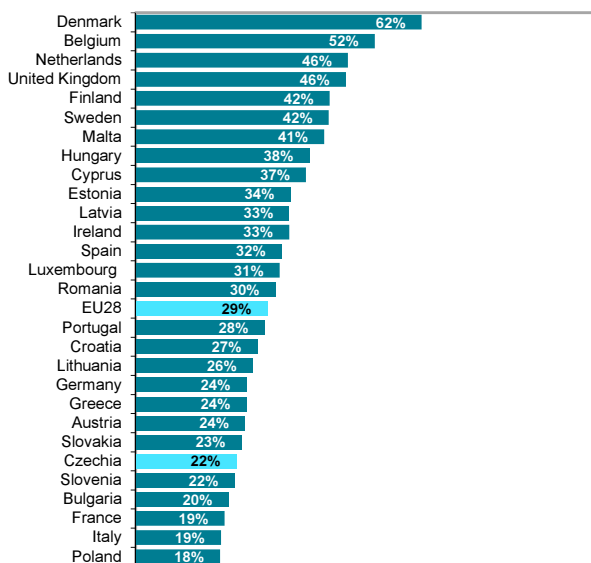


Figure C16 Persons in EU countries aged 55–74 years using social networks; 2019



Source: Eurostat

C Persons and ICT

Tab. C6 Persons in Czechia using the internet for selected activities related to travelling; 2019

%

| | Looking for info about travelling | Purchasing accommodation | Purchasing travel tickets |
|--|-----------------------------------|--------------------------|---------------------------|
| Total (aged 16+ years) | 52,0 | 25,0 | 20,2 |
| Total (aged 16–74) | 56,6 | 27,3 | 22,1 |
| Sex (aged 16+ years) | | | |
| Men | 51,6 | 26,1 | 20,9 |
| Women | 52,4 | 24,1 | 19,5 |
| Age group (years) | | | |
| 16–24 | 65,3 | 23,3 | 42,6 |
| 25–34 | 73,2 | 40,7 | 34,0 |
| 35–44 | 67,7 | 36,0 | 24,9 |
| 45–54 | 59,3 | 31,4 | 21,1 |
| 55–64 | 45,7 | 18,8 | 10,7 |
| 65+ | 18,0 | 5,6 | 2,9 |
| Education attainment (aged 25–64) | | | |
| Primary | 27,3 | 6,4 | 6,0 |
| Secondary without A-level examination | 44,3 | 17,9 | 11,5 |
| Secondary with A-level examination | 71,8 | 36,7 | 25,1 |
| Tertiary | 82,3 | 53,5 | 41,8 |

as a percentage of all persons in a given socio-demographic group

Figure C17 Purchasing accommodation over the internet by sex and age; 2019

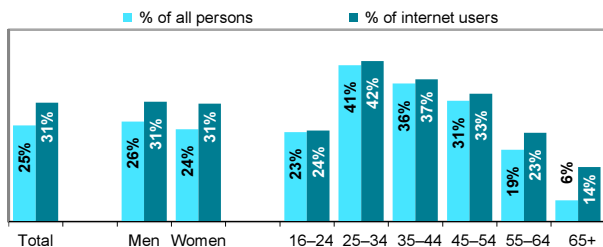
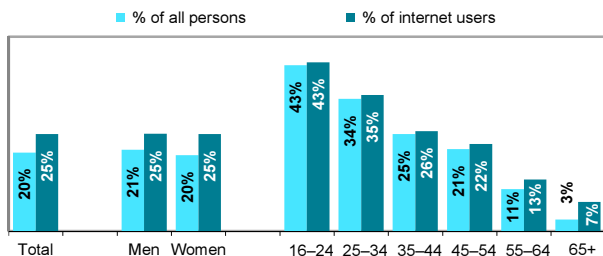


Figure C18 Purchasing travel tickets over the internet by sex and age; 2019



Source: Czech Statistical Office, ICT use survey in households

C Persons and ICT

Figure C19 Persons in EU countries aged 16–74 years purchasing travel tickets over the internet; 2019

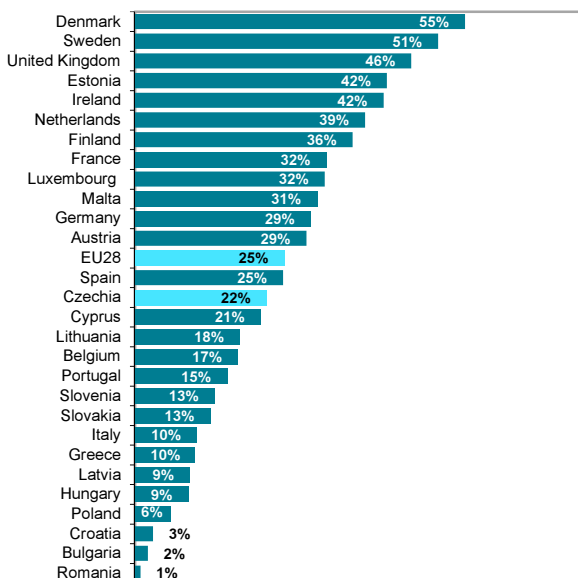
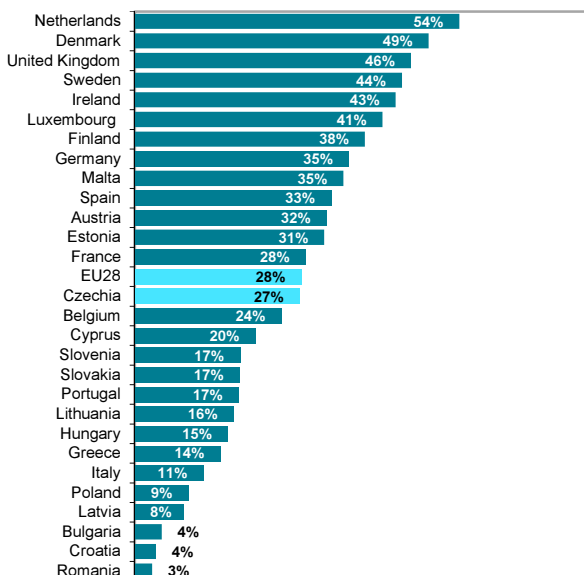


Figure C20 Persons in EU countries aged 16–74 years purchasing accommodation over the internet; 2019



Source: Eurostat

C Persons and ICT

Tab. C7 Persons in Czechia using the internet for selected entertainment activities; 2019

%

| | Watching videos | Listening to music | Playing games (year 2018) |
|--|-----------------|--------------------|---------------------------|
| Total (aged 16+ years) | 50,5 | 46,3 | 23,2 |
| Total (aged 16–74) | 55,0 | 50,5 | 25,2 |
| Sex (aged 16+ years) | | | |
| Men | 53,8 | 49,2 | 30,5 |
| Women | 47,5 | 43,6 | 16,2 |
| Age group (years) | | | |
| 16–24 | 83,6 | 90,6 | 68,3 |
| 25–34 | 75,9 | 78,3 | 41,2 |
| 35–44 | 65,7 | 63,1 | 26,8 |
| 45–54 | 52,8 | 42,0 | 14,1 |
| 55–64 | 37,5 | 25,2 | 9,2 |
| 65+ | 13,7 | 9,0 | 3,4 |
| Education attainment (aged 25–64) | | | |
| Primary | 33,0 | 33,7 | 21,6 |
| Secondary without A-level examination | 50,4 | 41,3 | 23,5 |
| Secondary with A-level examination | 62,0 | 58,5 | 25,2 |
| Tertiary | 72,4 | 66,8 | 19,4 |

as a percentage of all persons in a given socio-demographic group

Figure C21 Watching videos on the internet by sex and age; 2019

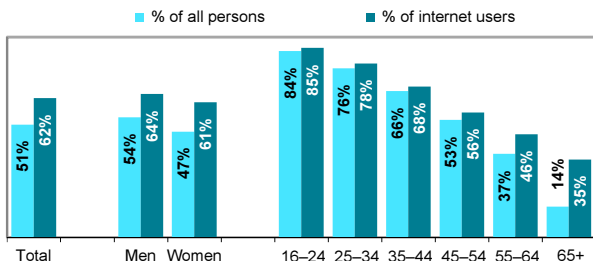
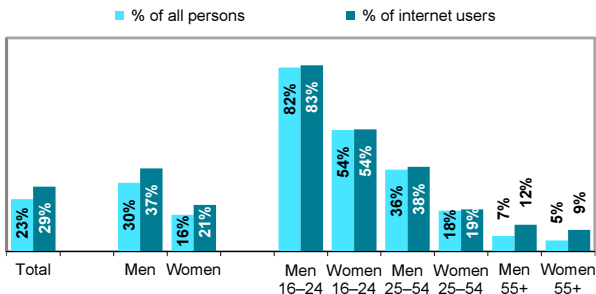


Figure C22 Playing games on the internet by sex and age; 2018



Source: Czech Statistical Office, ICT use survey in households

C Persons and ICT

Figure C23 Persons in EU countries aged 16–74 years listening to music on the internet; 2019

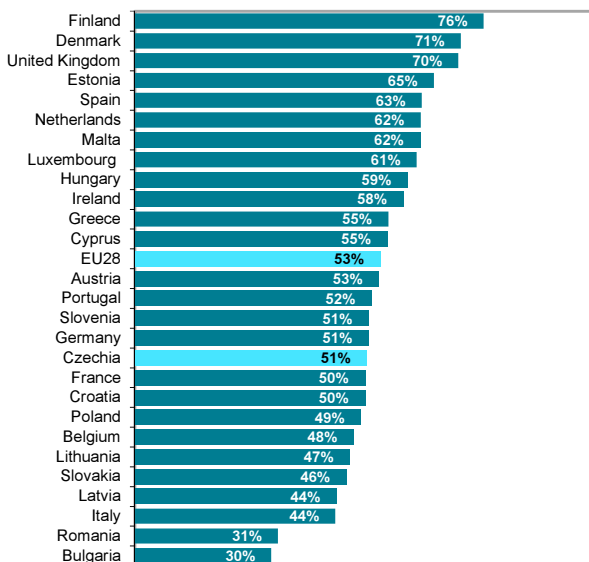
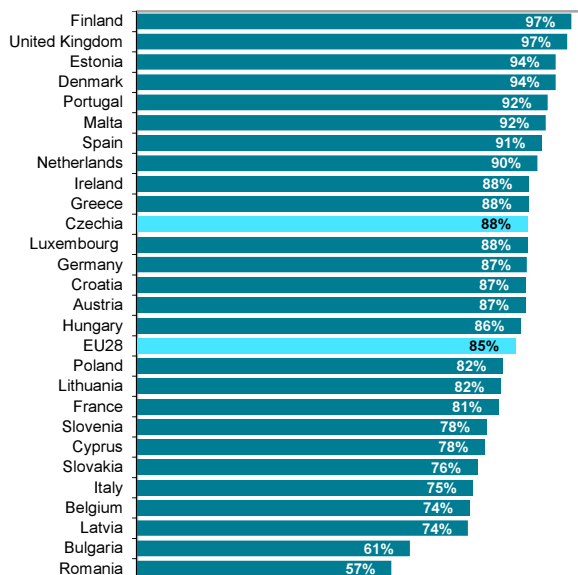


Figure C24 Persons in EU countries aged 16–29 years listening to music on the internet; 2019



Source: Eurostat

C Persons and ICT

Tab. C8 Persons in Czechia using internet banking

%

| | 2015 | 2018 | 2019 |
|--|-------------|-------------|-------------|
| Total (aged 16+ years) | 44,9 | 57,6 | 62,5 |
| Total (aged 16–74) | 48,5 | 62,4 | 68,0 |
| Sex (aged 16+ years) | | | |
| Men | 47,0 | 59,2 | 63,8 |
| Women | 43,0 | 56,0 | 61,4 |
| Age group (years) | | | |
| 16–24 | 36,1 | 54,7 | 63,5 |
| 25–34 | 68,4 | 84,4 | 87,9 |
| 35–44 | 68,5 | 81,7 | 81,7 |
| 45–54 | 54,8 | 72,1 | 78,5 |
| 55–64 | 33,4 | 46,7 | 58,7 |
| 65+ | 10,2 | 16,0 | 20,1 |
| Education attainment (aged 25–64) | | | |
| Primary | 22,0 | 32,0 | 33,1 |
| Secondary without A-level examination | 51,4 | 58,0 | 63,7 |
| Secondary with A-level examination | 75,5 | 82,0 | 87,2 |
| Tertiary | 88,6 | 90,2 | 93,5 |

as a percentage of all persons in a given socio-demographic group

Figure C25 Persons aged 16+ using internet banking

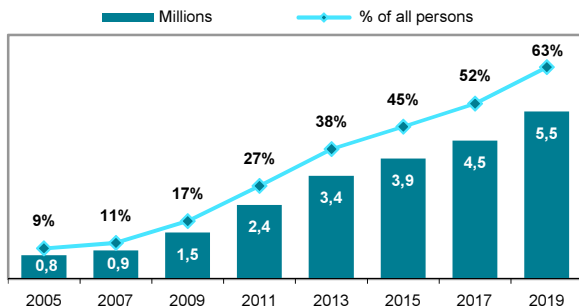
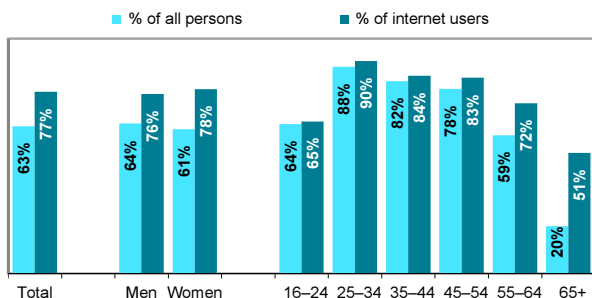


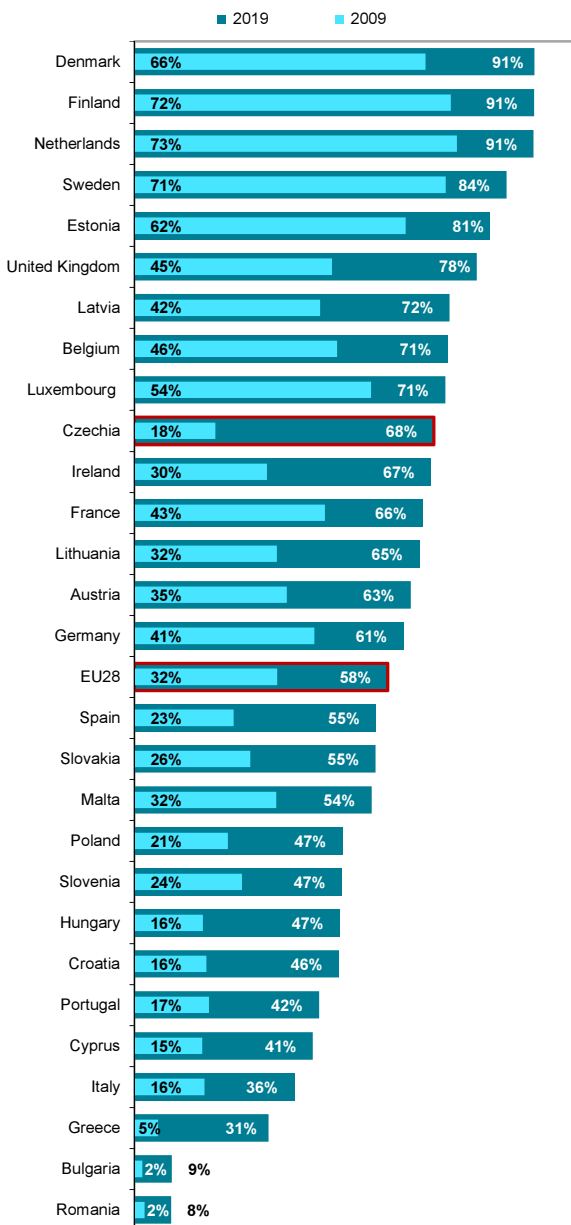
Figure C26 Usage of internet banking by sex and age; 2019



Source: Czech Statistical Office, ICT use survey in households

C Persons and ICT

Figure C27 Persons in EU countries aged 16–74 years using internet banking



Source: Eurostat

C Persons and ICT

Tab. C9 Persons in Czechia, who experienced selected security incidents; 2019

%

| | Receiving fraudulent messages | Hacking of e-mail or social media account | Redirection to fake websites |
|--|-------------------------------|---|------------------------------|
| Total (aged 16+ years) | 15,7 | 4,5 | 3,3 |
| Total (aged 16–74) | 17,0 | 4,8 | 3,6 |
| Sex (aged 16+ years) | | | |
| Men | 16,7 | 4,6 | 4,1 |
| Women | 14,8 | 4,4 | 2,6 |
| Age group (years) | | | |
| 16–24 | 17,1 | 6,2 | 6,1 |
| 25–34 | 22,5 | 5,8 | 5,9 |
| 35–44 | 21,6 | 5,6 | 3,5 |
| 45–54 | 16,9 | 5,3 | 3,8 |
| 55–64 | 14,2 | 3,8 | 2,1 |
| 65+ | 5,8 | 1,8 | 0,7 |
| Education attainment (aged 25–64) | | | |
| Primary | 7,6 | 2,0 | 3,4 |
| Secondary without A-level exam. | 12,9 | 3,0 | 1,7 |
| Secondary with A-level examination | 22,6 | 6,2 | 4,8 |
| Tertiary | 25,5 | 7,5 | 5,7 |

as a percentage of all persons in a given socio-demographic group

Figure C28 Experience with at least one security incident on the internet by sex and age; 2019

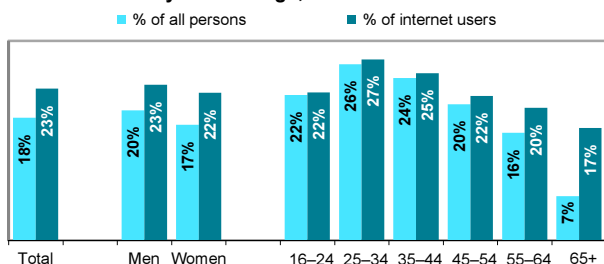
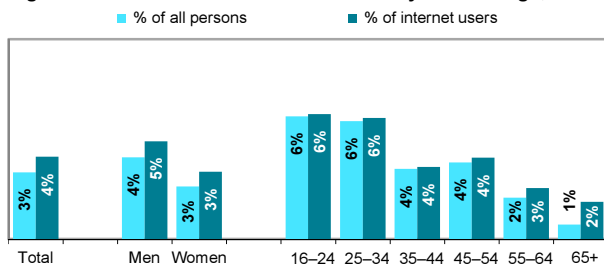


Figure C29 Redirection to fake websites by sex and age; 2019



Source: Czech Statistical Office, ICT use survey in households

C Persons and ICT

Figure C30 Persons in EU countries aged 16–74 years, who received fraudulent messages; 2019

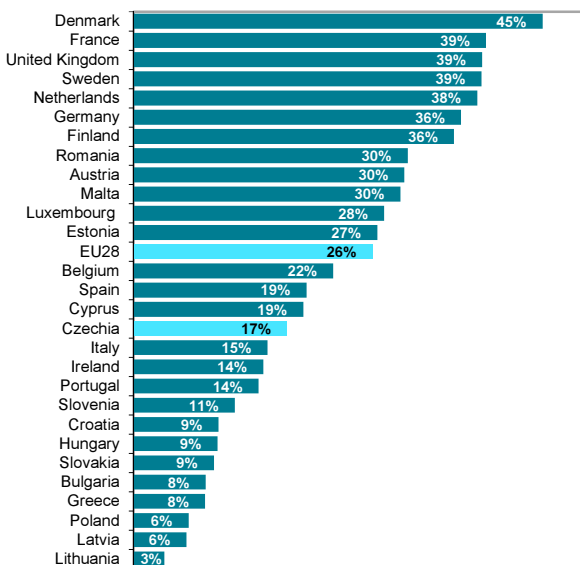
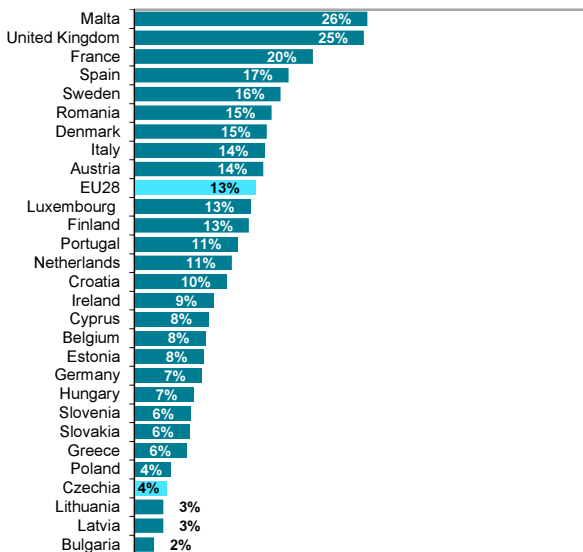


Figure C31 Persons in EU countries aged 16–74 years, who were redirected to fake websites; 2019



Source: Eurostat

C Persons and ICT

Tab. C10 Persons in Czechia purchasing over the internet

%

| | 2015 | 2018 | 2019 |
|--|-------------|-------------|-------------|
| Total (aged 16+ years) | 41,9 | 53,9 | 58,8 |
| Total (aged 16–74) | 45,3 | 58,6 | 64,0 |
| Sex (aged 16+ years) | | | |
| Men | 42,6 | 53,6 | 59,2 |
| Women | 41,2 | 54,2 | 58,5 |
| Age group (years) | | | |
| 16–24 | 60,6 | 71,0 | 81,4 |
| 25–34 | 66,9 | 81,3 | 86,5 |
| 35–44 | 59,2 | 71,4 | 76,9 |
| 45–54 | 41,2 | 63,8 | 69,8 |
| 55–64 | 25,7 | 41,2 | 45,4 |
| 65+ | 8,0 | 13,5 | 16,4 |
| Education attainment (aged 25–64) | | | |
| Primary | 21,8 | 32,0 | 33,4 |
| Secondary without A-level examination | 46,0 | 50,5 | 54,6 |
| Secondary with A-level examination | 71,5 | 73,9 | 79,8 |
| Tertiary | 84,6 | 84,0 | 88,9 |

as a percentage of all persons in a given socio-demographic group

Figure C32 Persons aged 16+ purchasing over the internet

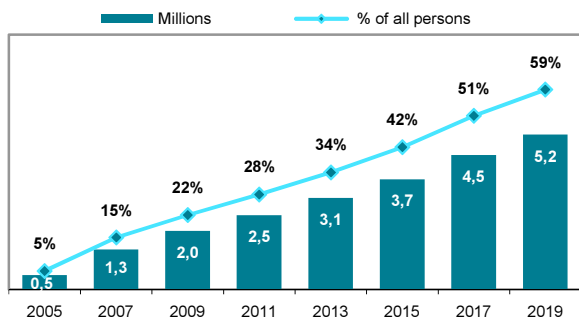
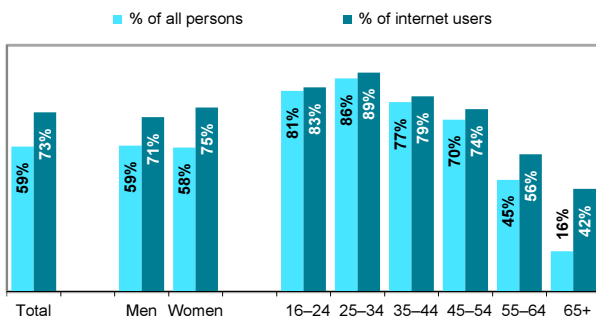


Figure C33 Purchasing over the internet by sex and age; 2019



Source: Czech Statistical Office, ICT use survey in households

C Persons and ICT

Figure C34 Persons in EU countries aged 16–74 years purchasing over the internet; 2019

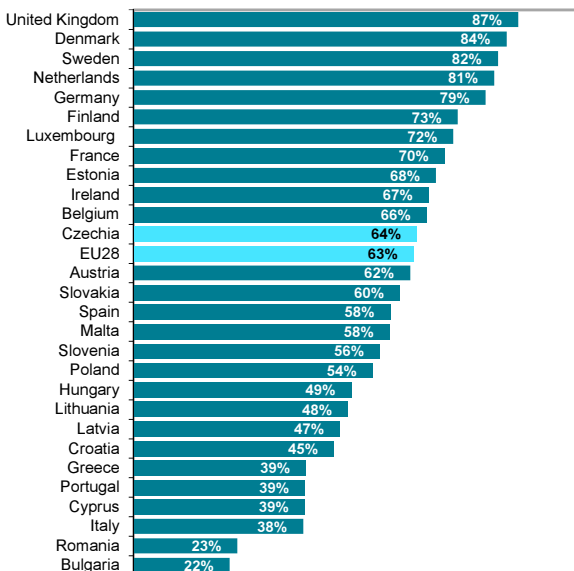
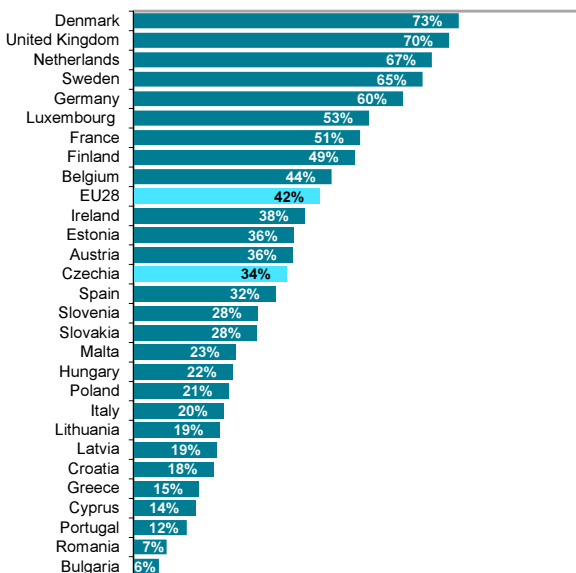


Figure C35 Persons in EU countries aged 55–74 years purchasing over the internet; 2019



Source: Eurostat

C Persons and ICT

Tab. C11 Persons in Czechia purchasing over the internet by country of origin of the seller; 2019

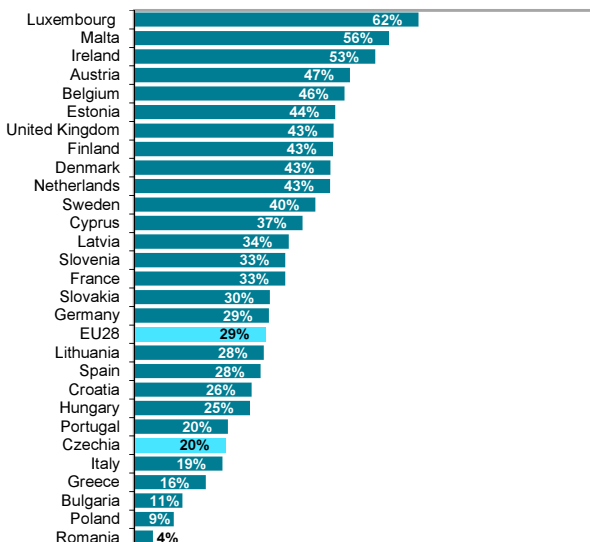
%

| | National sellers | Foreign sellers | |
|--|------------------|-------------------------|--------------------------|
| | | from other EU countries | from countries out of EU |
| Total (aged 16+ years) | 53,4 | 11,9 | 11,1 |
| Total (aged 16–74) | 58,1 | 13,0 | 12,2 |
| Sex (aged 16+ years) | | | |
| Men | 53,8 | 12,2 | 10,8 |
| Women | 53,0 | 11,6 | 11,4 |
| Age group (years) | | | |
| 16–24 | 70,6 | 17,2 | 22,1 |
| 25–34 | 78,5 | 20,4 | 23,5 |
| 35–44 | 70,7 | 17,6 | 14,0 |
| 45–54 | 63,4 | 12,7 | 9,8 |
| 55–64 | 42,1 | 6,2 | 4,5 |
| 65+ | 14,7 | 2,2 | 0,9 |
| Education attainment (aged 25–64) | | | |
| Primary | 28,1 | 2,8 | 5,2 |
| Secondary without A-level examination | 48,8 | 7,8 | 9,0 |
| Secondary with A-level examination | 73,9 | 15,2 | 15,3 |
| Tertiary | 82,1 | 27,1 | 17,8 |

as a percentage of all persons in a given socio-demographic group

Source: Czech Statistical Office, ICT use survey in households

Figure C36 Persons in EU countries aged 16–74 years purchasing over the internet from countries out of EU; 2019



Source: Eurostat

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).

D Enterprises and ICT

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

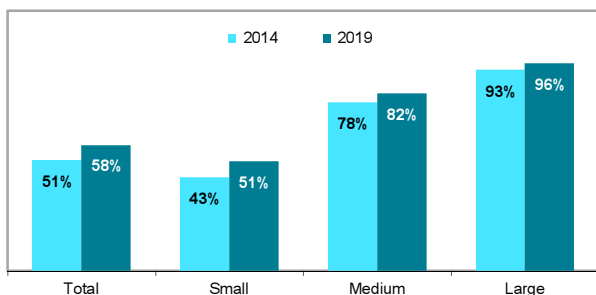
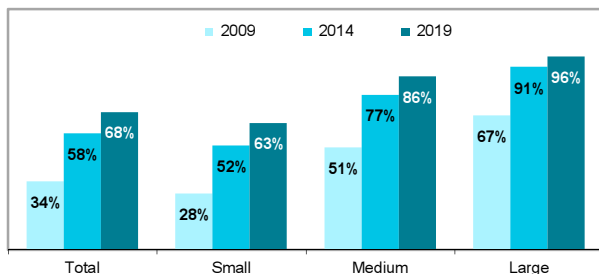


Figure D2 Enterprises with wireless Local Area Network



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

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

D Enterprises and ICT

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

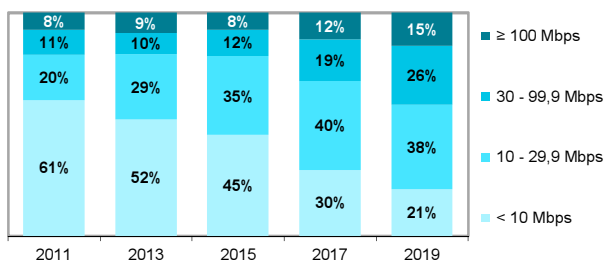
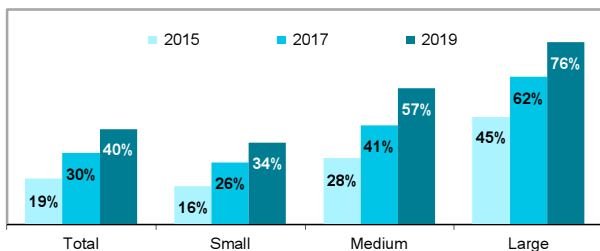


Figure D4 Enterprises with at least 30 Mbps connection speed*



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

D Enterprises and ICT

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

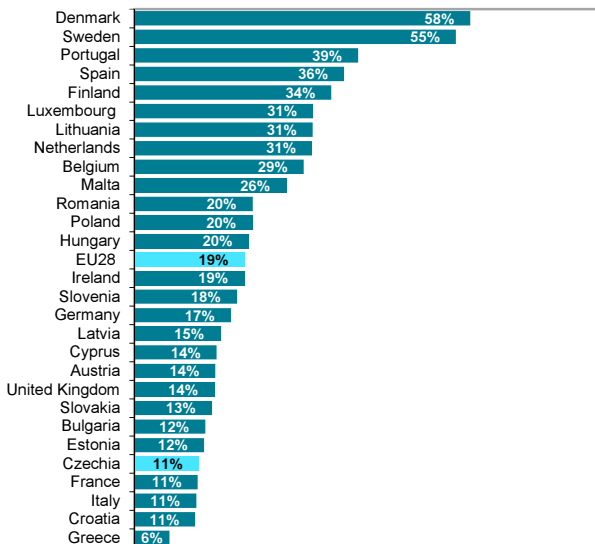
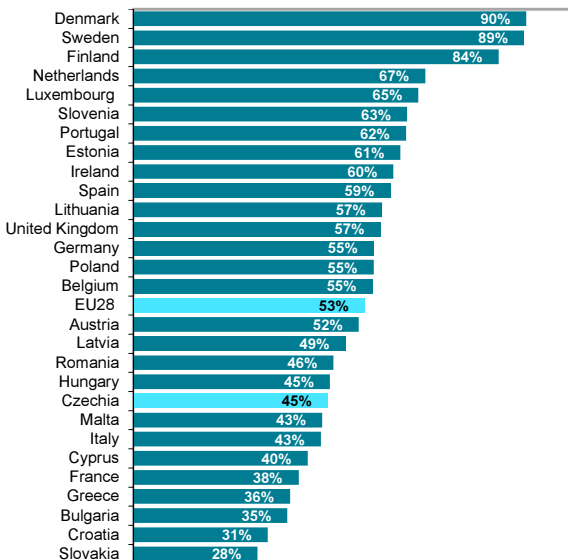


Figure D6 Large enterprises in EU countries with internet connection speed at least 100 Mbps; 2019
(as a % of large enterprises)



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

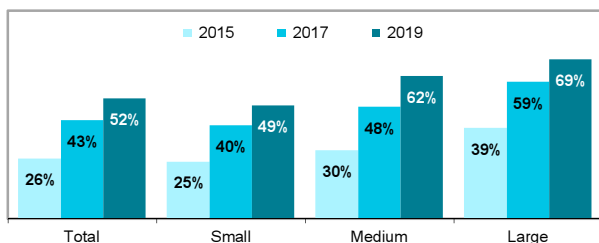
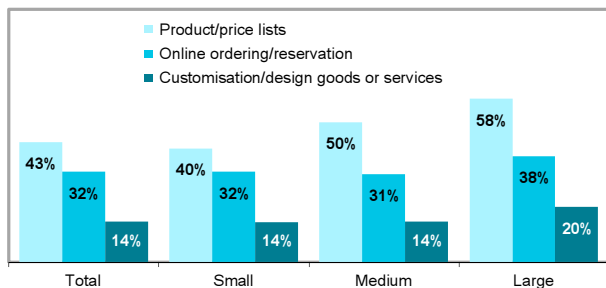


Figure D8 Enterprises with selected websites facilities; 2019

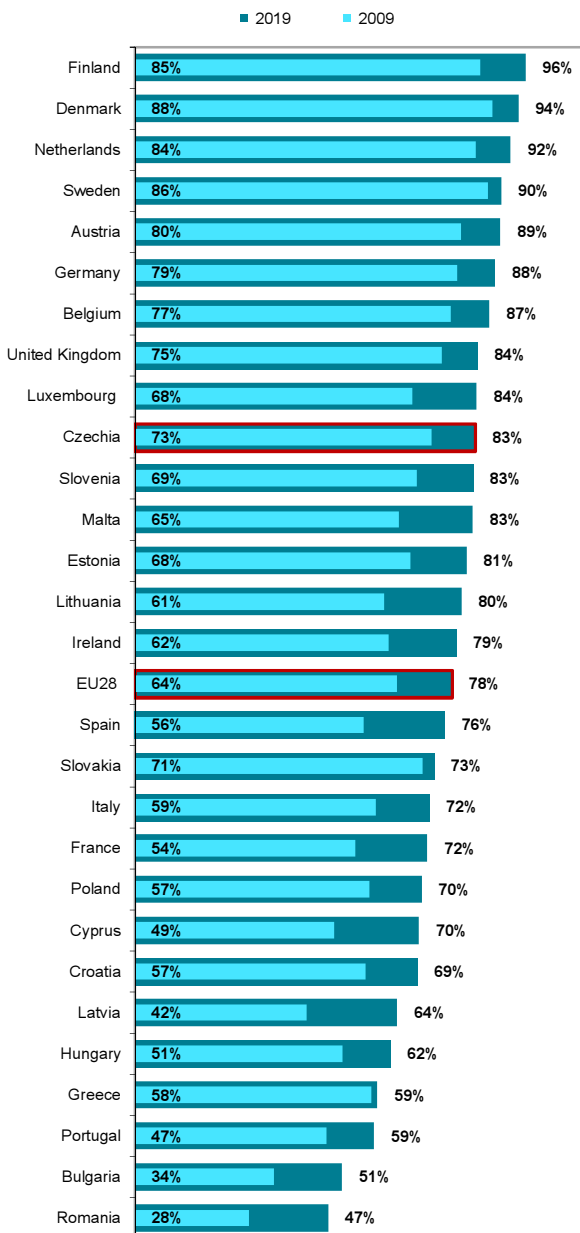


as a percentage of all enterprises with 10+ employees in a given group

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

D Enterprises and ICT

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



Source: Eurostat

D Enterprises and ICT

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

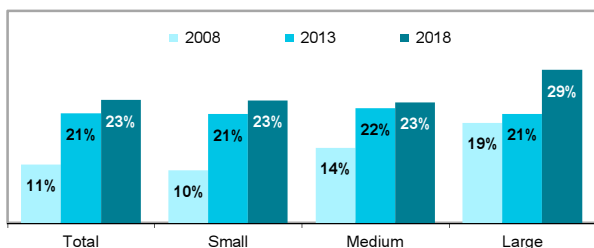
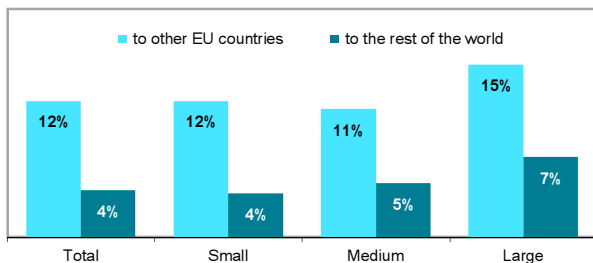


Figure D11 Enterprises selling via websites to abroad; 2018



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

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

D Enterprises and ICT

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

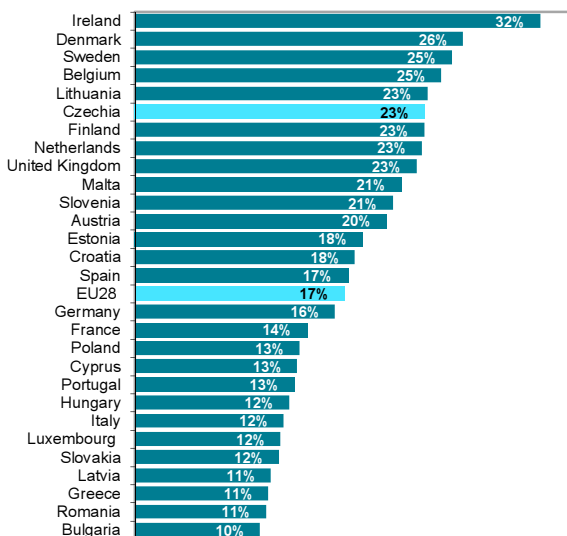
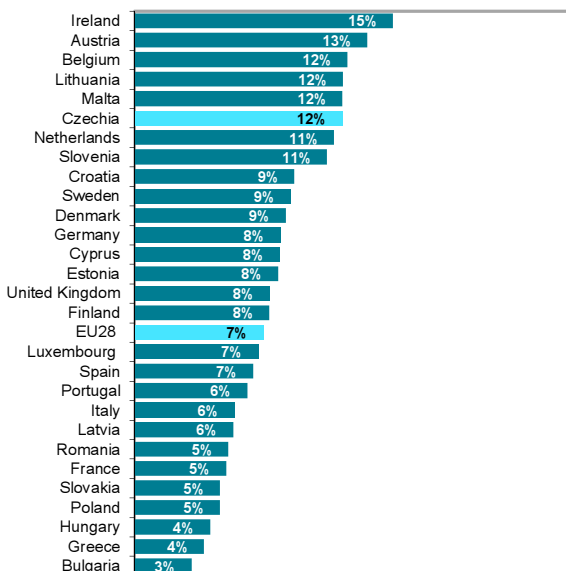


Figure D13 Enterprises with 10+ employees in EU countries selling via websites to abroad; 2018
(as a % of all enterprises)



Source: Eurostat

D Enterprises and ICT

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

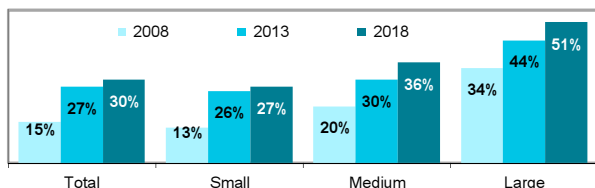
%

| | 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

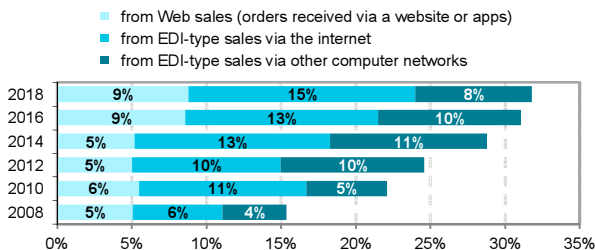
* EDI = Electronic data interchange

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

D Enterprises and ICT

Figure D16 Total turnover resulting from enterprises' electronic sales in EU countries; 2018
(as a % of total enterprises' (10+ employees) turnover)

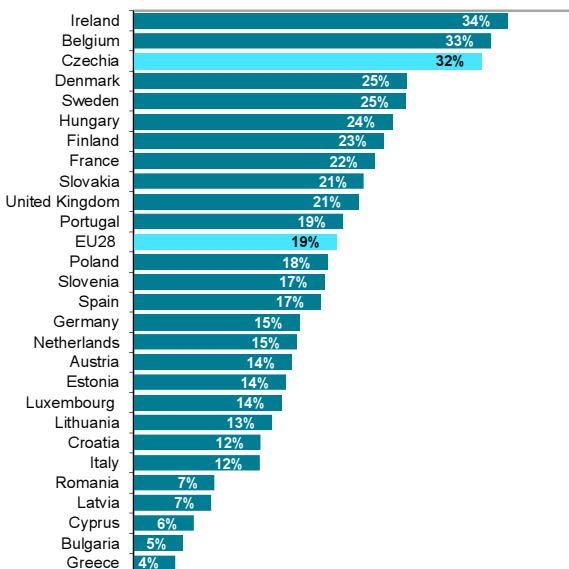
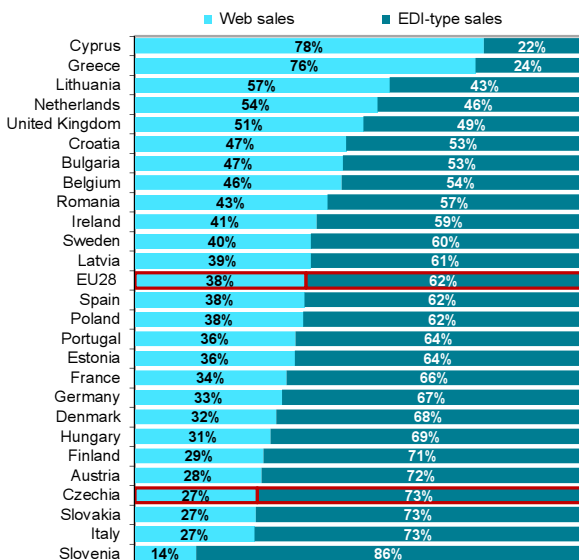


Figure D17 Turnover structure resulting from enterprises' electronic sales in EU countries by type of sales; 2018



Source: Eurostat

D Enterprises and ICT

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

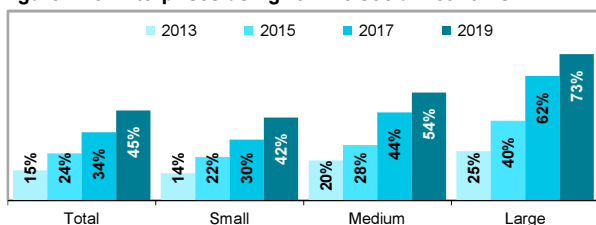
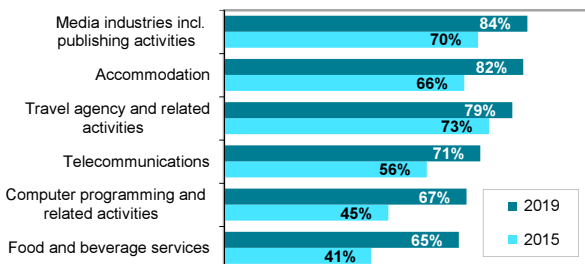


Figure D19 Top 5 industries with the highest share of enterprises using* online social networks



* having a user profile on online social networks such as Facebook or LinkedIn as a percentage of all enterprises with 10+ employees in a given group

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

D Enterprises and ICT

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

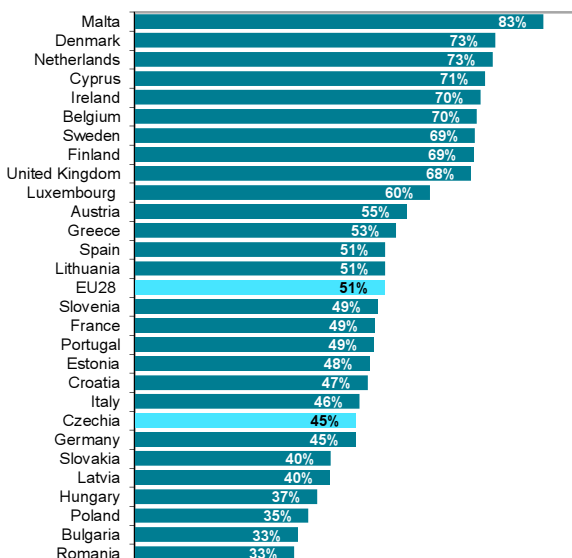
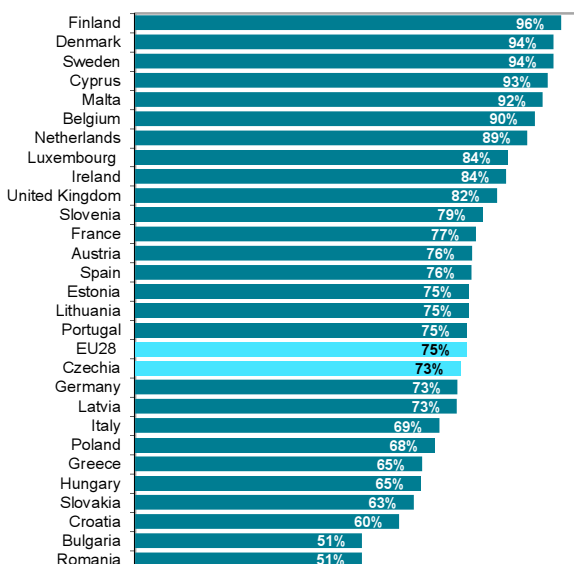


Figure D21 Large enterprises in EU countries using* online social networks; 2019 (as a % of large enterprises)



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

Source: Eurostat

D Enterprises and ICT

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

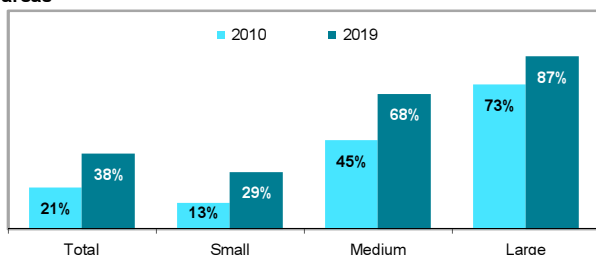
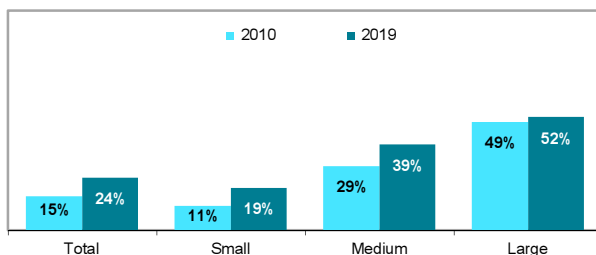


Figure D23 Enterprises using a CRM software to manage information on customers to various business functions



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

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

D Enterprises and ICT

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

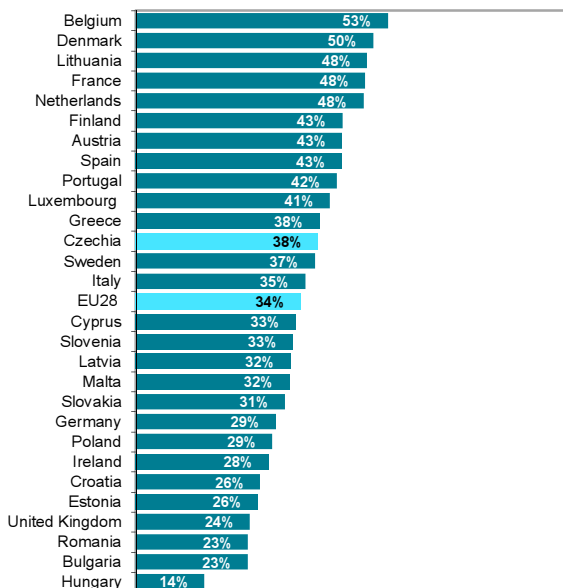
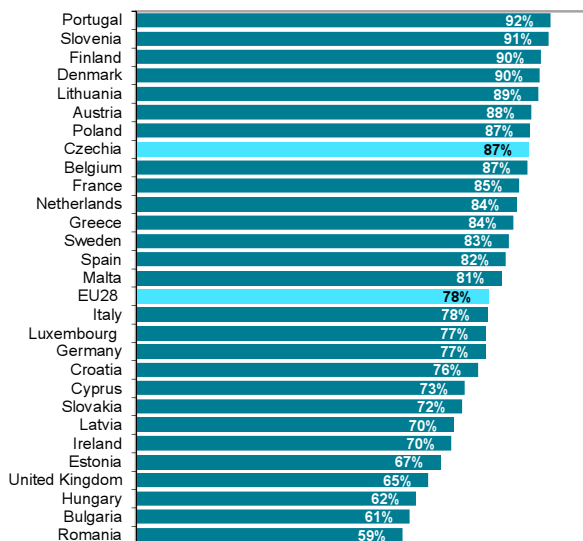


Figure D25 Large enterprises in EU countries using an ERP software/information system; 2019 (as a % of large enterprises)



Source: Eurostat

D Enterprises and ICT

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 activities | 92,6 | 77,7 | 63,6 |
| Telecommunications | 91,0 | 84,8 | 64,5 |
| Computer programming and related activities | 95,1 | 87,9 | 78,7 |
| Real estate activities | 84,1 | 49,5 | 40,2 |
| Professional, scientific and technical activities | 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

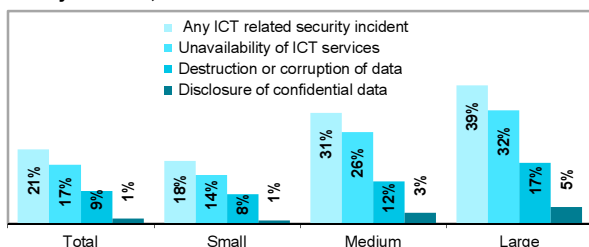
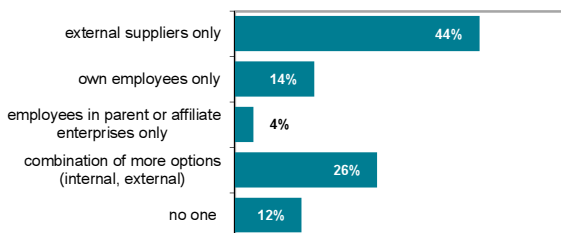


Figure D27 Who carries out the ICT security related activities in enterprises; 2019

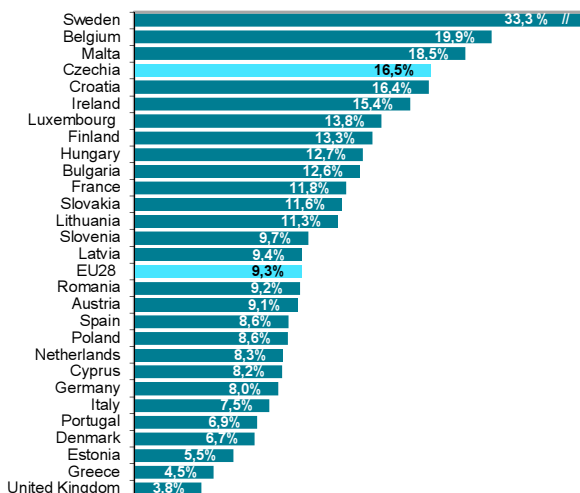


as a percentage of all enterprises with 10+ employees in a given group

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

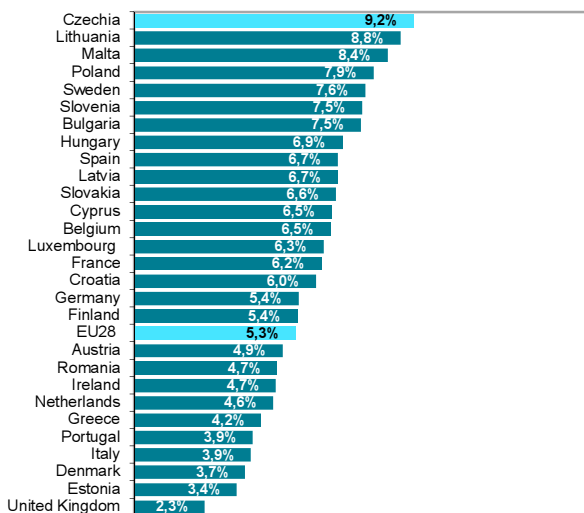
D Enterprises and ICT

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



* 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)



* 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 activities | 95,0 | 79,5 | 98,6 |
| Real estate activities | 87,0 | 88,4 | 79,8 |
| Professional, scientific and technical activities | 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

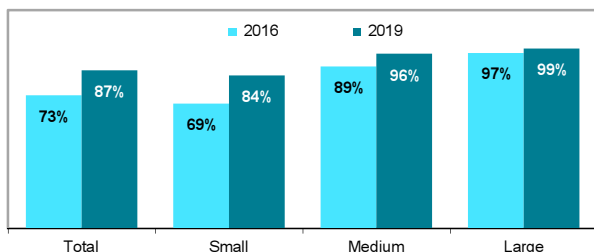
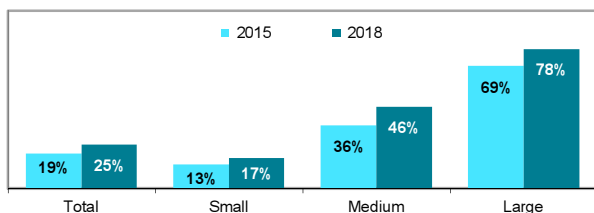


Figure D31 Enterprises providing training for employees to develop their ICT related skills

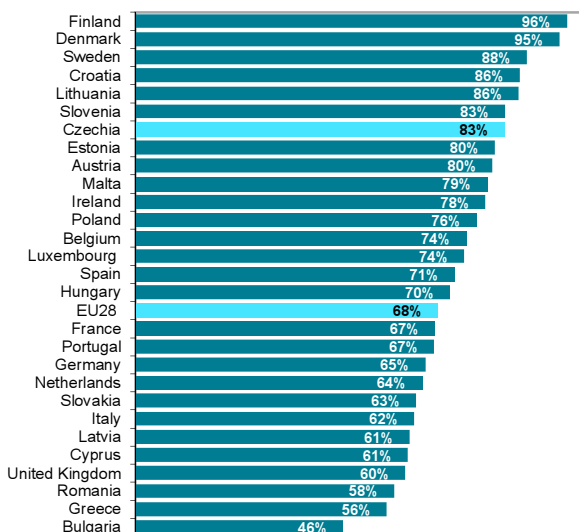


as a percentage of all enterprises with 10+ employees in a given group

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

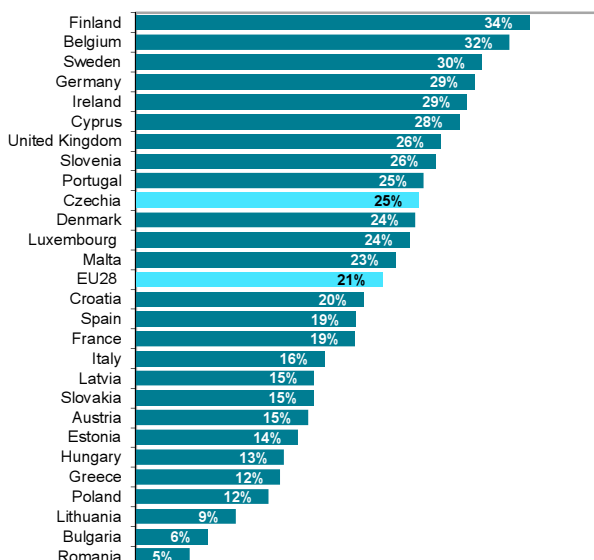
D Enterprises and ICT

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



* 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)



Source: Eurostat

D Enterprises and ICT

**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

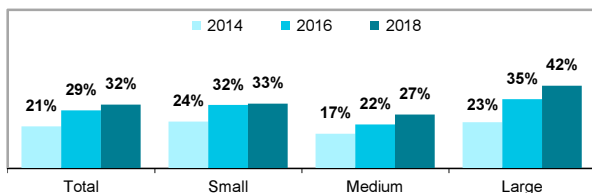
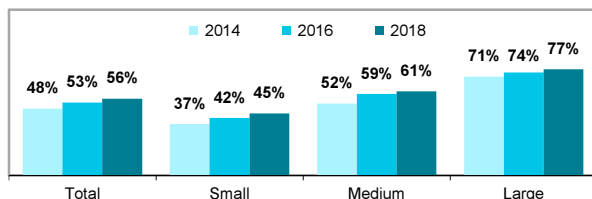


Figure D35 Enterprises* providing training for ICT specialists to develop their ICT related skills



* 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

D Enterprises and ICT

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

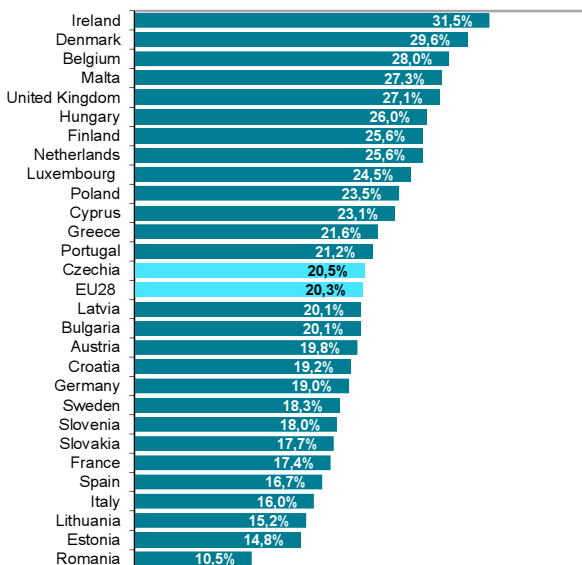
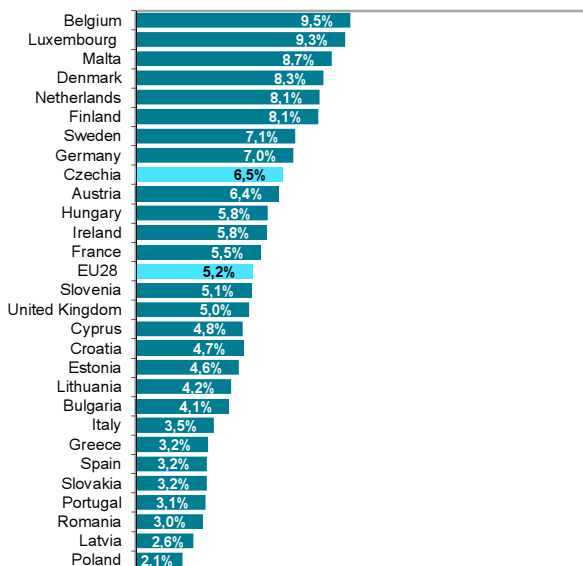


Figure D37 Enterprises with 10+ employees in EU countries having vacancies for ICT specialists that were difficult to fill; 2018 (as a % of all enterprises)



Source: Eurostat

D Enterprises and ICT

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

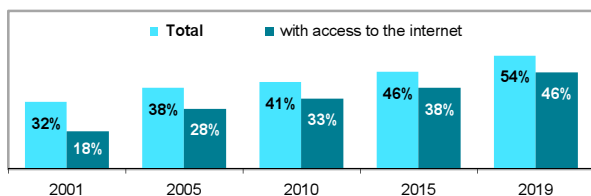
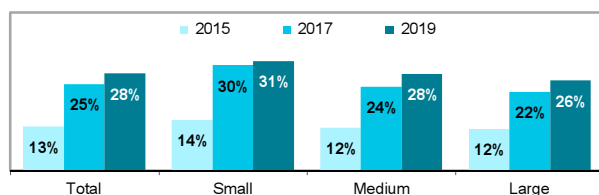


Figure D39 Employees using portable devices provided by the enterprise, that allows internet connection via mobile telephone networks at work



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

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

D Enterprises and ICT

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)

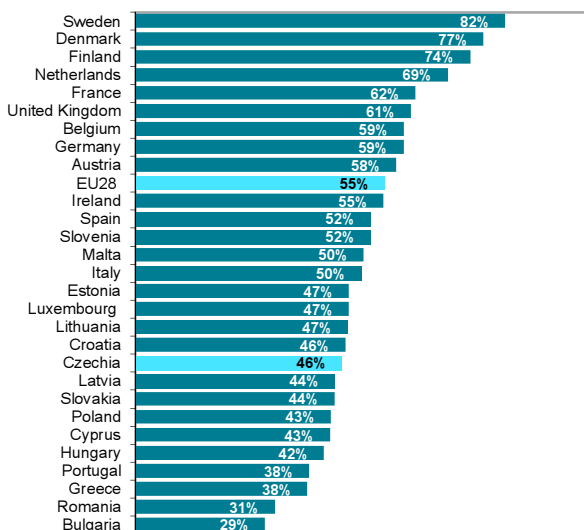
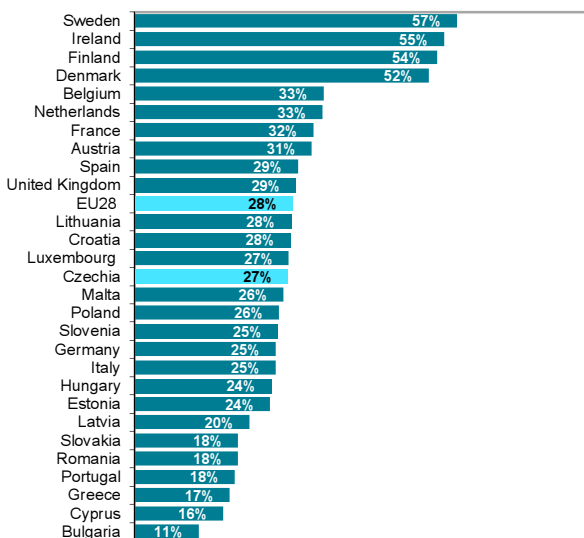


Figure D41 Employees in enterprises with 10+ employees in EU countries using portable devices provided by the enterprise, that allows internet connection via mobile telephone networks at work; 2019 (as a % of all employees)



Source: Eurostat

D Enterprises and ICT

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

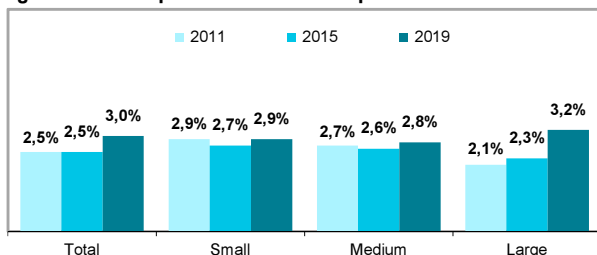
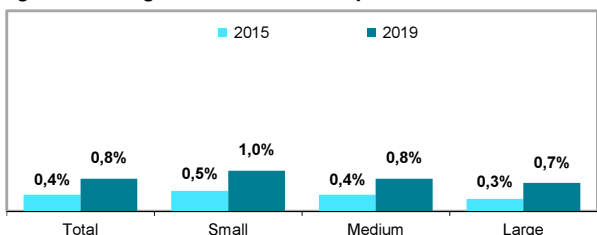


Figure D43 Programmers* in all enterprises



* programmers developing software, applications and information systems designed for the company's internal needs

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

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

The Czech Statistical Office gathers data on number of contact points of the **Czech POINT** and their use (as the number of the system outputs), including the interfaces of **CzechPOINT@office** and **CzechPOINT@home**. The CZSO also gathers data on new established data boxes and on number of performed transactions by data boxes. Listed data come from the **Ministry of the Interior**.

The CZSO also gathers data on the number of **tax forms submitted electronically**. Submissions can be done via **web application EPO** (electronic tax forms, e-Tax) or through data boxes. Listed data come from open data of the **Financial Administration of the Czech Republic**.

Data on number of electronically submitted documents (available for selected services), so called e-Submission, to the **Czech Social Security Administration (CSSA)** are taken from open data of the CSSA.

A source of information on the internet use for communication with public administration is annual statistical survey named **Sample Survey on Use of ICT in Households and by Individuals** carried out by the CZSO. Detailed information on this survey is provided in Chapter C.

Inter alia, the survey collects data on internet use by **persons** when dealing with public administration over the internet. Data on following activities are collected: searching for information on public administration websites, downloading forms, and filling and submitting forms online. The **reference period** for these data is the last **12 months** prior the survey interviews, which take place every year in the second quarter of the year.

Definitions

- **Czech POINT** is a system of an assisted platform of public administration where citizens can deal with, dispose off, or settle as many as possible matters related to public administration at a single point.
- **CzechPOINT@office** is a non-public interface of the Czech POINT system. It contains agendas performed by offices, authorities and bodies of public power in order to carry out their scope of authority.
- **CzechPOINT@home** is an interface of the Czech POINT system dedicated to citizens and enabling the data box holders a remote access (from a computer or mobile phone) to selected copies of documents without the need to pay a visit to a contact point of the Czech POINT system.
- A **data box** shall serve for secure electronic delivery of documents in between public administration bodies and a legal or natural person.
- An **electronic submission** (e-Submission) is a form of a submission delivered in the classic way, yet performed over the internet. Therefore, legal and/or natural persons are not obliged to pay visits to public administration authorities or offices in person anymore.
- A **downloadable form** shall mean a downloadable form, or a form to be downloaded, on a website, most often in doc and/or pdf formats, which citizens or businesses can download from an authority website, can fill in by hand or in computer, put their handwritten signature on, and deliver to the authority and/or office.
- **Public administration** shall mean authorities, offices, and other selected institutions of public administration (educational institutions, health care establishments, and libraries, first of all).
- **On-line filling and submitting forms** shall mean citizens fill in a form right on the web page while if the citizen has filled in the form in a correct way is computer checked. Subsequently, the forms filled this way are electronically submitted right from the webpage.

The data may be **internationally compared** solely in the case of the data on individuals using the internet for communication with public administration. Data for this comparison originate from the **Eurostat** database.

More information on this theme can be found at:

https://www.czso.cz/csu/czso/verejna_sprava (in the Czech language only).

E Government and ICT

Tab. E1 Czech POINT - number of public contact points

| | Number | | |
|------------------------------------|--------------|--------------|--------------|
| | 2010 | 2015 | 2019 |
| Total | 6 911 | 7 423 | 7 934 |
| at the municipal authority offices | 5 571 | 5 926 | 6 398 |
| at post offices | 943 | 979 | 951 |
| at notary offices | 308 | 387 | 439 |
| at others places | 89 | 131 | 146 |

Tab. E2 Number of outputs issued 'at the desk' of the Czech POINT

| | Thousands | | |
|--|--------------|--------------|--------------|
| | 2010 | 2015 | 2019 |
| Total | 1 880 | 2 139 | 2 046 |
| Verified copies (extracts), total | 1 708 | 1 584 | 1 251 |
| from the Criminal Register | 790 | 829 | 786 |
| from the Land Register | 442 | 352 | 213 |
| from the Commercial Register | 327 | 241 | 125 |
| from the Driver Register | 85 | 91 | 75 |
| from the Trade Register | 55 | 62 | 40 |
| other verified extracts | 8 | 9 | 12 |
| Authorized conversion of documents, total | 91 | 441 | 620 |
| from electronic to paper form | 83 | 302 | 239 |
| from paper to electronic form | 8 | 139 | 381 |
| Other issued documents, total | 81 | 114 | 174 |
| Requests on the registration of data box | 12 | 35 | 60 |

Figure E1 Number of verified copies issued 'at the desk' of the Czech POINT for selected services (thousands)

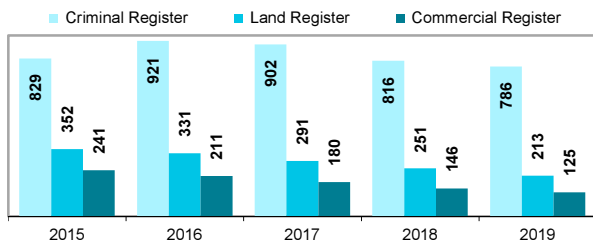
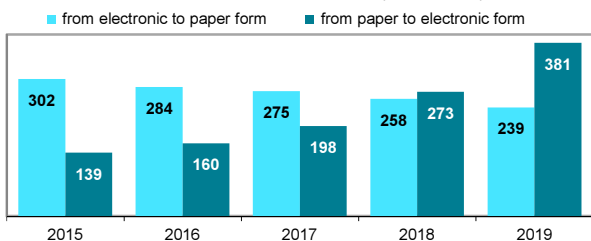


Figure E2 Number of authorized conversions of documents issued 'at the desk' of the Czech POINT (thousands)



Source: CZSO calculations based on Ministry of the Interior data
(www.czechpoint.cz)

E Government and ICT

Tab. E3 Number of issued documents from the CzechPOINT@office* interface

| | Thousands | | |
|---|--------------|--------------|--------------|
| | 2015 | 2018 | 2019 |
| Total | 7 795 | 6 245 | 6 094 |
| Verified copies/extracts ex officio, total | 952 | 1 169 | 1 181 |
| from the Register of Vital Records (e.g. certificates of birth, marriage or death) | 420 | 438 | 437 |
| from the Register of Residents/Citizens (e.g. certificates of permanent residence) | 424 | 440 | 430 |
| Others | 108 | 291 | 314 |
| Verified extratcs from Basic registers, total | 289 | 282 | 226 |
| from the Register of Persons | 17 | 15 | 13 |
| Authorized conversion of documents, total | 6 554 | 4 795 | 4 687 |
| from electronic to paper form | 892 | 622 | 612 |
| from paper to electronic form | 5 662 | 4 173 | 4 074 |

* CzechPOINT@office - a non-public internet application designated for civil servants of public administration who must access the registers by law or perform the conversion of documents by virtue of office.

Figure E3 Verified copies/extracts issued from the CzechPOINT@office interface for selected services (thousands)

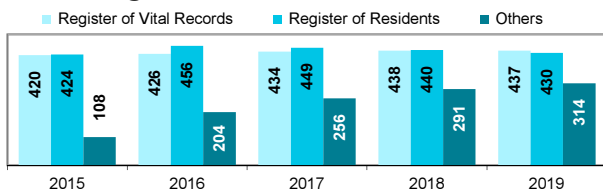
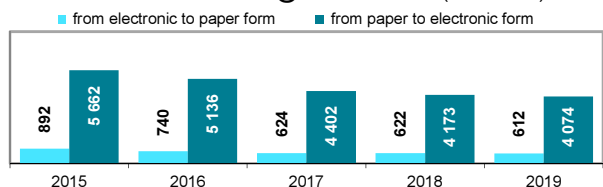


Figure E4 Number of authorized conversions of documents issued from the CzechPOINT@office interface (thousands)



Tab. E4 Number of verified copies of extracts from the CzechPOINT@home* interface

| | Number | | |
|-----------------------------------|--------------|---------------|---------------|
| | 2015 | 2018 | 2019 |
| Total | 6 019 | 19 909 | 29 182 |
| from the Driver Register | 3 711 | 8 912 | 14 027 |
| from the Criminal Register | | 6 683 | 8 920 |
| from the Trade Licensing Register | 683 | 1 141 | 1 713 |
| from the Commercial Register | 930 | 1 204 | 1 593 |
| from the Insolvency Register | 234 | 414 | 640 |
| Other verified extracts | 461 | 1 555 | 2 289 |

* CzechPOINT@home functioning as a contact point with a remote access (not only) from home for the holders of Data Boxes.

Source: Ministry of the Interior - www.czechpoint.cz

E Government and ICT

Tab. E5 Newly activated Data Boxes in Czechia

| | Thousands | | |
|----------------------------|-------------|-------------|-------------|
| | 2015 | 2018 | 2019 |
| Total | 65,4 | 79,8 | 93,7 |
| Established by law | 28,5 | 32,9 | 31,2 |
| Established upon request | 36,8 | 46,9 | 62,5 |
| By type of entity | | | |
| Public authority | 0,1 | 0,1 | 0,1 |
| Enterprise | 30,4 | 34,7 | 33,7 |
| Self-employed person | 17,7 | 17,5 | 21,3 |
| Citizen (non-entrepreneur) | 17,2 | 27,6 | 38,7 |

Figure E5 Number of newly activated Data Boxes (thousands)

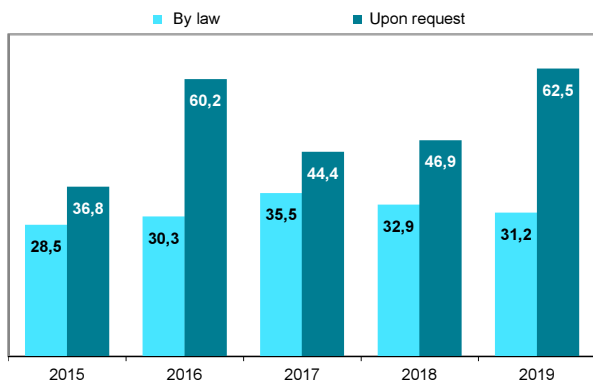
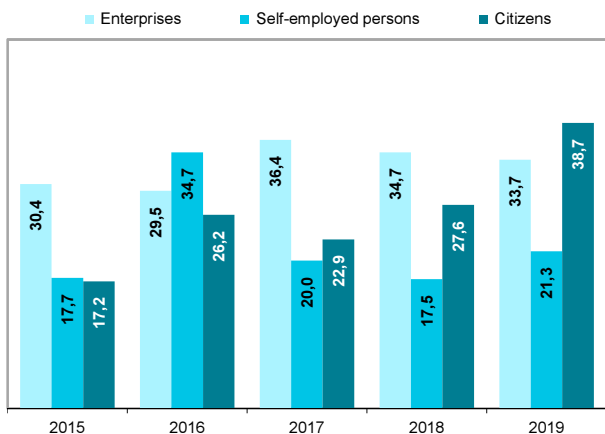


Figure E6 Number of newly activated Data Boxes by type of entity (thousands)



Source: Ministry of the Interior

E Government and ICT

Tab. E6 Number of e-transactions made via Data Boxes in Czechia

| | Thousands | | |
|----------------------------|---------------|---------------|---------------|
| | 2015 | 2018 | 2019 |
| Total | 84 480 | 97 325 | 99 631 |
| By type of entity | | | |
| Public authority | 62 664 | 67 878 | 69 209 |
| Enterprise | 18 511 | 24 323 | 24 959 |
| Self-employed person | 2 994 | 4 494 | 4 739 |
| Citizen (non-entrepreneur) | 311 | 630 | 724 |

Figure E7 Number of e-transactions made via Data Boxes in Czechia (millions)

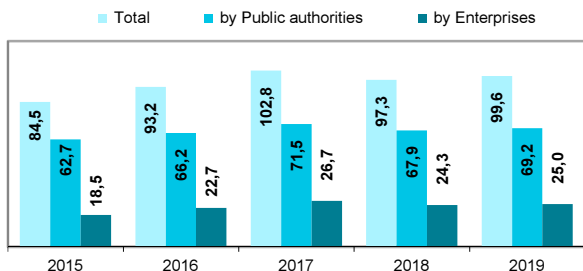


Figure E8 Number of e-transactions made via Data Boxes by type of entities that conducted these transactions (millions and %)

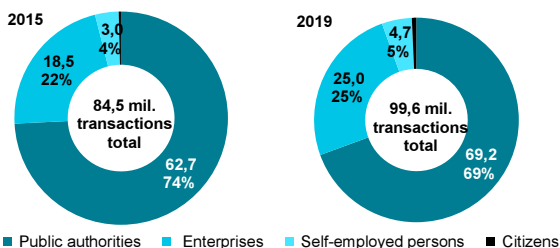
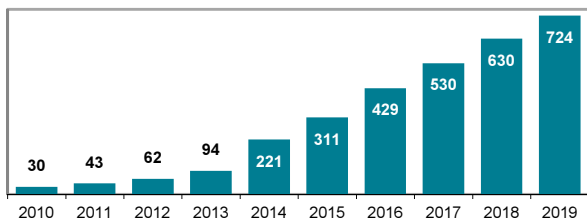


Figure E9 Number of e-transactions made via Data Boxes by citizens (thousands)



Source: Ministry of the Interior

E Government and ICT

Tab. E7 Electronic Tax Returns sent to the Czech Financial Administration via EPO application*

| | Thousands | | |
|----------------------------------|-----------|---------|---------|
| | 2015 | 2018 | 2019 |
| Value Added Tax declaration | 1 644,6 | 2 370,6 | 2 452,8 |
| Personal Income Tax declaration | 146,8 | 296,2 | 314,5 |
| Corporate Income Tax declaration | 154,7 | 220,5 | 224,8 |
| Road Tax declaration | 147,4 | 220,3 | 224,8 |
| Real Estate Tax declaration | 24,8 | 38,4 | 37,2 |

* EPO is the client-oriented web application of the Financial Administration of the Czech Republic which allows electronic submissions of tax returns.

Figure E10 Personal Income Tax forms sent electronically to the Czech Financial Administration via EPO application (thousands)

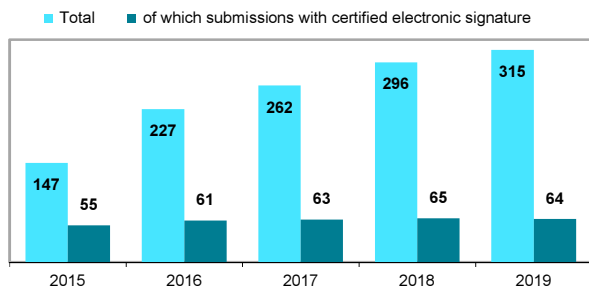
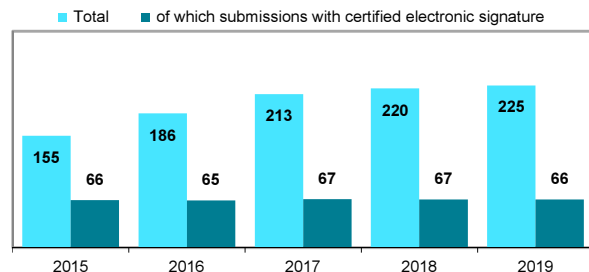


Figure E11 Corporate Income Tax forms sent electronically to the Czech Financial Administration via EPO application (thousands)



Tab. E8 Selected tax forms sent electronically to the Czech Financial Administration via Data Boxes

| | Thousands | | |
|----------------------------------|-----------|---------|---------|
| | 2015 | 2018 | 2019 |
| Value Added Tax declaration | 1 665,7 | 2 124,8 | 2 271,2 |
| Personal Income Tax declaration | 131,6 | 185,8 | 201,3 |
| Corporate Income Tax declaration | 265,4 | 279,4 | 288,6 |
| Road Tax declaration | 150,0 | 168,3 | 175,2 |
| Real Estate Tax declaration | 19,4 | 20,8 | 19,9 |

Source: Czech Financial Administration

Tab. E9 Selected forms sent electronically to the Czech Social Security Administration via e-Submission* application

| | Thousands | | |
|---|-----------|---------|---------|
| | 2015 | 2018 | 2019 |
| Record for Pension Insurance | 5 148,5 | 5 853,5 | 5 910,7 |
| Announcement of the commencement of employment | 2 560,0 | 2 920,3 | 2 792,1 |
| Overview of insurance contribution amount | 2 040,7 | 2 587,6 | 2 674,4 |
| Survey of income and expenses of the self-employed person | 44,7 | 105,9 | 136,6 |

* e-Submission is a service (web application) which allows electronic submission of selected forms for the Czech Social Security Administration.

Figure E12 Records for Pension Insurance sent electronically to the Czech Social Security Administration via e-Submission application

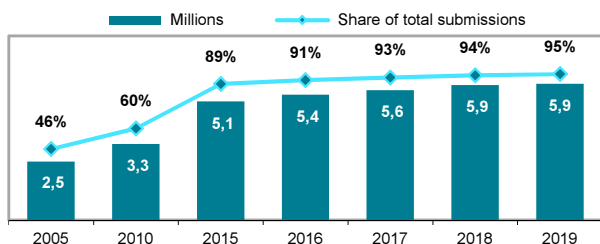


Figure E13 Announcements of the commencement of employment sent electronically to the Czech Social Security Administration via e-Submission application

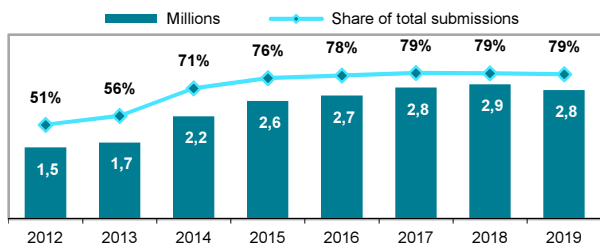
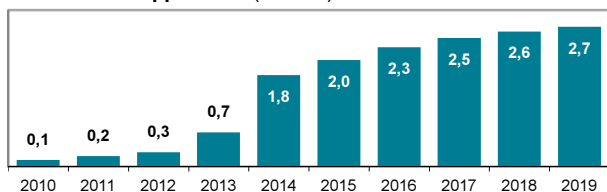


Figure E14 Overviews of insurance contribution amount sent electronically to the Czech Social Security Administration via e-Submission application (millions)



Source: Czech Social Security Administration

E Government and ICT

Tab. E10 Persons in Czechia using the internet for interaction with government authorities or public institutions; 2019

%

| | Total | of which | |
|--|-------------|------------------------------------|---|
| | | obtaining information from website | download- ing or filling web forms |
| Total (aged 16+ years) | 49,6 | 47,5 | 29,8 |
| Total (aged 16–74) | 53,8 | 51,5 | 32,5 |
| Sex (aged 16+ years) | | | |
| Men | 47,8 | 45,5 | 28,6 |
| Women | 51,4 | 49,4 | 30,9 |
| Age group (years) | | | |
| 16–24 | 69,2 | 65,0 | 45,0 |
| 25–34 | 66,4 | 63,1 | 44,5 |
| 35–44 | 63,6 | 61,1 | 40,8 |
| 45–54 | 56,3 | 54,5 | 33,7 |
| 55–64 | 42,3 | 40,5 | 22,5 |
| 65+ | 18,4 | 18,0 | 6,2 |
| Education attainment (aged 25–64) | | | |
| Primary | 25,9 | 24,5 | 8,1 |
| Secondary without A-level examination | 38,0 | 35,7 | 18,8 |
| Secondary with A-level examination | 67,5 | 64,5 | 41,5 |
| Tertiary | 80,5 | 78,8 | 60,4 |

as a percentage of all persons in a given socio-demographic group

Figure E15 Usage of the internet for interaction with government authorities/public institutions by sex and age; 2019

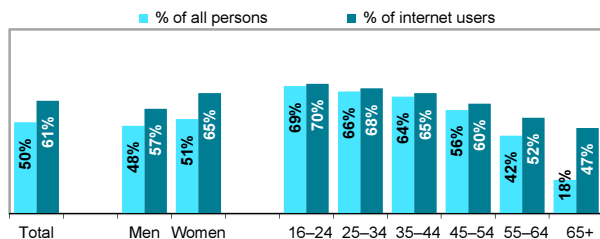
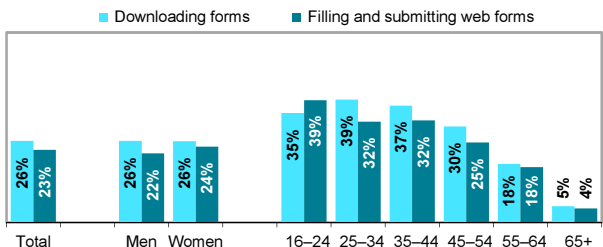


Figure E16 Downloading/filling forms on websites of government authorities/public institutions by sex and age; 2019



as a percentage of all persons in a given socio-demographic group

Source: Czech Statistical Office, ICT use survey in households

E Government and ICT

Figure E17 Persons in EU countries aged 16–74 years using the internet for interaction with government authorities or public institutions; 2019

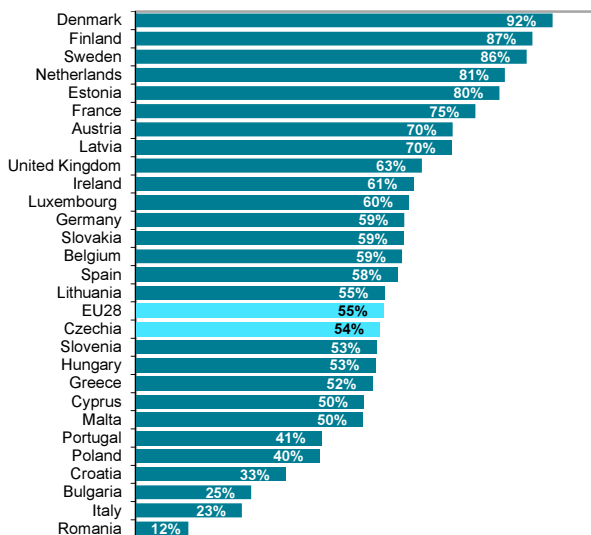
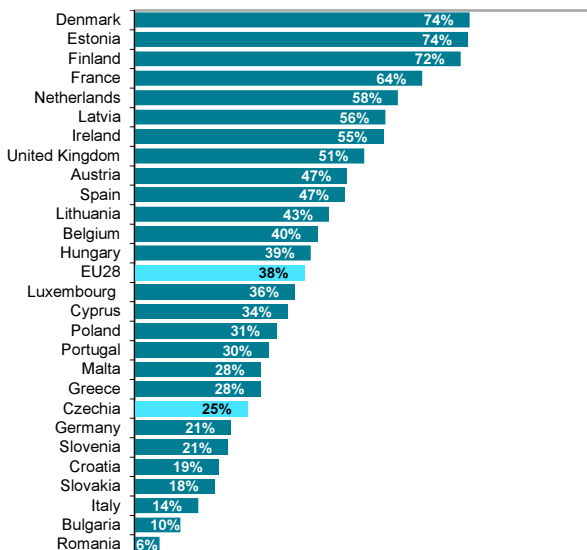


Figure E18 Persons in EU countries aged 16–74 years who filled/submitted web forms on websites of government authorities or public institutions; 2019



Source: Eurostat

E Government and ICT

Tab. E11 Persons in Czechia conducting selected activities on websites of government authorities; 2019

| | % | | |
|--|-----------------------|------------------------|--|
| | Obtaining information | Download- ing forms | Filling and submitting web forms |
| Total (aged 16+ years) | 36,6 | 20,4 | 15,0 |
| Total (aged 16–74) | 39,7 | 22,2 | 16,4 |
| Sex (aged 16+ years) | | | |
| Men | 36,4 | 21,3 | 15,8 |
| Women | 36,9 | 19,5 | 14,2 |
| Age group (years) | | | |
| 16–24 | 26,2 | 12,0 | 9,7 |
| 25–34 | 50,8 | 32,2 | 21,5 |
| 35–44 | 51,2 | 30,5 | 24,2 |
| 45–54 | 46,1 | 27,3 | 19,8 |
| 55–64 | 34,1 | 17,4 | 13,3 |
| 65+ | 14,2 | 4,3 | 2,9 |
| Education attainment (aged 25–64) | | | |
| Primary | 18,4 | 5,8 | 4,9 |
| Secondary without A-level examination | 29,2 | 14,2 | 10,3 |
| Secondary with A-level examination | 54,1 | 31,3 | 22,7 |
| Tertiary | 66,2 | 46,6 | 34,9 |

as a percentage of all persons in a given socio-demographic group

Figure E19 Persons obtaining information on websites of government authorities by sex and age; 2019

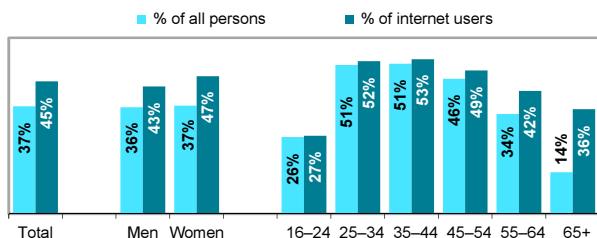
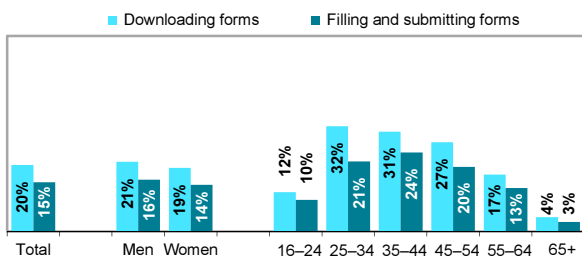


Figure E20 Persons downloading/filling forms on websites of government authorities by sex and age; 2019



as a percentage of all persons in a given socio-demographic group

Source: Czech Statistical Office, ICT use survey in households

F Education and digital skills

F.1 ICT in schools

Data on **numbers of computers at schools** per 100 students of respective school grades, as well as on school equipment with other ICTs in Czechia come from data sources of the **Ministry of Education, Youth and Sports**. The Ministry collects these data at all nursery, primary, secondary, and higher professional schools within the annual questionnaire called Report of Schools Headquarters (R 13-01). The data are as at **30 September of the reference year**.

More information on these fields can be found at:

[https://www.czso.cz/csu/czso/information technologies in schools](https://www.czso.cz/csu/czso/information%20technologies%20in%20schools)

F.2 ICT use by pupils and students

Detailed data on the 15-year-old students in Czechia accessing selected ICTs at home and at school were processed based on the results of the **Programme for International Student Assessment (PISA 2018)**, survey conducted by OECD.

The survey is the most important project of the OECD in education measurement, which has been currently carried out in the world. Detailed information on the PISA 2018 can be found at: <http://www.oecd.org/pisa/>.

The independent annual statistical survey called **Sample Survey on the ICT Use in Households and by Individuals** (for details see Chapter C) has been a valuable source of information on how **students aged 16+ years** use the internet.

The **Sample Survey on the ICT Use in Households and by Individuals** is also a source of data on learning activities over the internet. Within the survey, respondents were asked if they passed an online course, or communicated with instructors or students using educational websites/portals, in the last 3 months.

The reference period for **purchases over the internet** by students is the last 3 months prior to the survey interview, same as for the other online activities in this chapter. As a result the data for online purchase in this chapter differ from data in chapter C, where the reference period is 12 months prior the survey.

The indicators on **computer (digital) skills** of people in Czechia are also based on results from the above-mentioned **Sample Survey on the ICT Use in Households and by Individuals**. Within the survey, respondents were asked if they used selected digital skills **in the last 12 months**

International data and comparisons of certain indicators are taken from the Eurostat database for digital economy and society, data of which are updated every year in December. Detailed information can be found at: <https://ec.europa.eu/eurostat/web/digital-economy-and-society/overview>.

Definitions

- **Communication with instructors or students** means that students/pupils/participants of the training event can share their experiences and knowledge or consult with the instructor/teacher or other students through special educational websites or portals (e.g. Moodle).
- **Programming** shall include the use of programming languages as Java, C, Python, Pascal, for instance, writing of scripts in PHP or JavaScript, for instance, writing of source codes, formatting and generating of tools, binary tools for compatibility analyses, tools for code checking, generators of documentation, generators of interfaces, etc. It also includes using developer functions in spreadsheets and writing codes in analytical programs.
- **School Intranet** uses most of the same technology as the internet but it is restricted only to a limited group of users within an organization,

typically to students and staff of given school. The access by outsiders is excluded.

- **School Wireless Network** (school WiFi network) enables students and school staff using portable devices in a school to connect to the school computer network. An example is international roaming service Eduroam.
- The **participation in an online course** shall include a participation in course attended over the internet. Students communicate with lecturers over the internet, study materials are also sent online. Online courses may include language courses, personal development courses, computer courses and more. It also includes courses made through the applications such as Duolingo.
- **Uploading self-created content** shall include posting own contents like text, photos, music, videos, software, etc. on the internet.

More information on these fields can be found at:

https://www.czso.cz/csu/czso/vyuzivani_informacnich_techologii_studenty

(in the Czech language only)

F Education and digital skills

Tab. F1 Computers in schools available to pupils/students in Czechia; 2019

| | Number of devices per 100 pupils/students | | | |
|------------------------------|---|--------------------------------|-------------------------|----------|
| | Total | Age of the device ≤ 2 years | by type of the computer | |
| | | | desktop | portable |
| Basic schools - first stage | 22,1 | 7,0 | 14,2 | 7,9 |
| Basic schools - second stage | 30,5 | 9,8 | 20,2 | 10,2 |
| Secondary schools | 26,6 | 7,4 | 21,0 | 5,5 |

Tab. F2 Schools in Czechia with Wireless Network and School Intranet

| | School Wireless Network | | School Intranet | |
|------------------------------|-------------------------|------|-----------------|------|
| | 2015 | 2019 | 2015 | 2019 |
| Basic schools - first stage | 78,7 | 89,4 | 14,3 | 27,8 |
| Basic schools - second stage | 81,6 | 90,5 | 20,3 | 37,9 |
| Secondary schools | 87,0 | 93,2 | 46,1 | 65,0 |

as a percentage of all schools of a given stage

Figure F1 Computers in schools available to pupils/students (per 100 pupils/students)

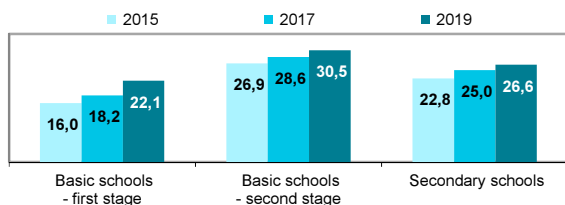


Figure F2 Computers in schools by type of the device; 2019

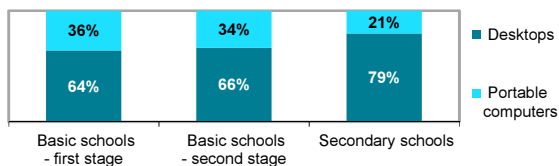
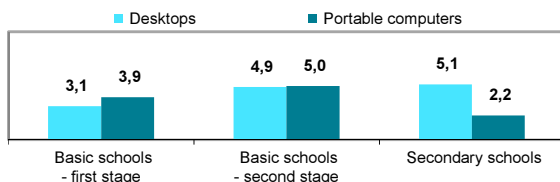


Figure F3 Desktops and portable computers up to age of 2 years available to pupils/students; 2019 (number of devices per 100 pupils/students)



Source: Ministry of Education, Youth and Sports

F Education and digital skills

Tab. F3 15-year-old students in Czechia with access to different ICT devices at home and at school; 2018

%

| | at home | | at school | |
|----------------------------|---------|------|-----------|------|
| | 2015 | 2018 | 2015 | 2018 |
| Internet | 98,7 | 98,9 | 90,4 | 94,8 |
| Mobile phone, total | 93,1 | 99,1 | . | . |
| of which Smartphone | . | 98,0 | . | . |
| Portable computer (laptop) | 87,5 | 88,8 | 28,6 | 27,9 |
| Desktop computer | 82,9 | 76,4 | 79,5 | 81,5 |
| Tablet | 68,4 | 71,7 | 22,7 | 22,9 |
| E-book reader | 26,2 | 26,4 | 12,9 | 14,3 |
| Printer | 78,1 | 81,6 | . | . |

as a percentage of all 15 years old students

Figure F4 Average daily time spent using the internet by 15-year-old students; 2018

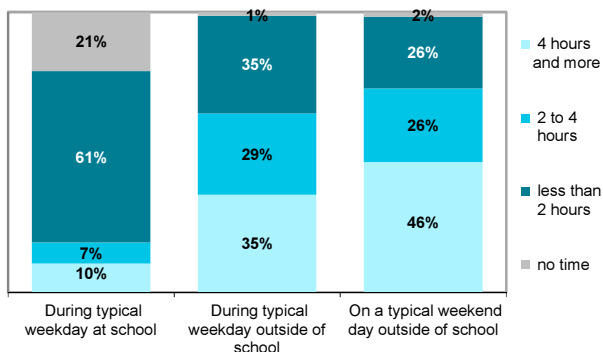
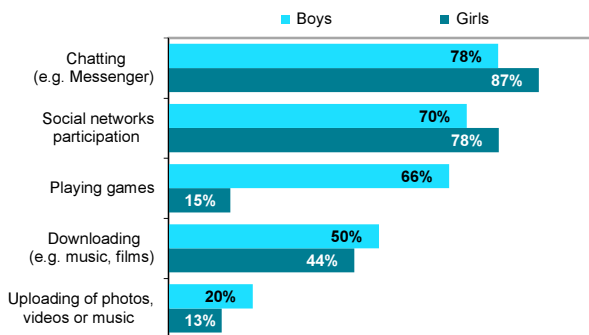


Figure F5 15-year-old students using the internet for entertainment*; 2018

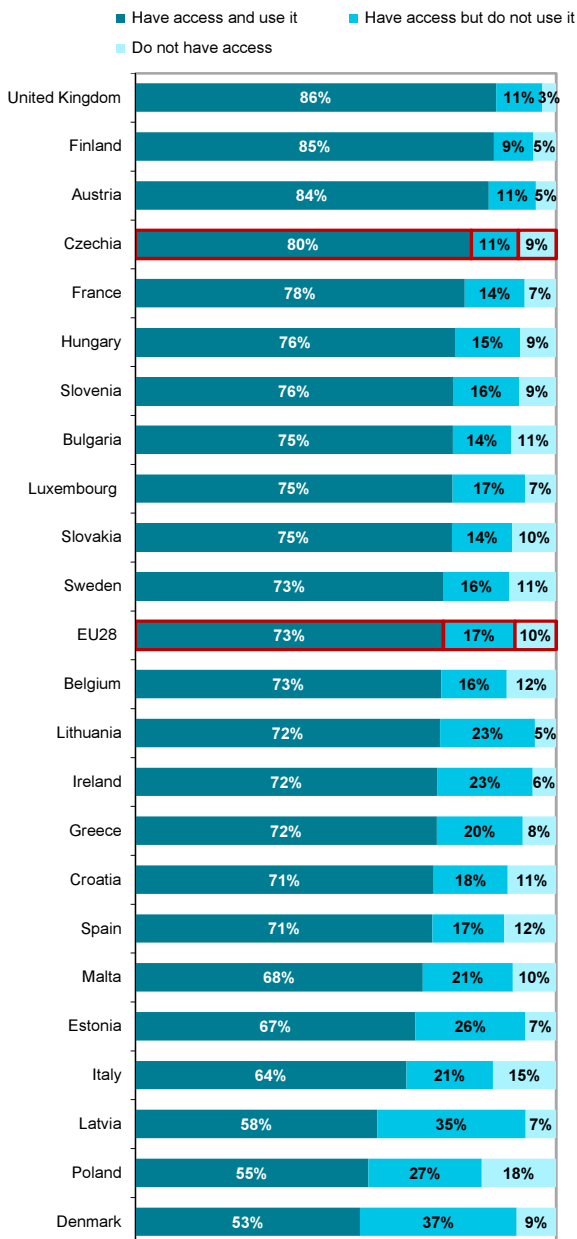


* Every day or almost every day

Source: OECD, survey PISA

F Education and digital skills

Figure F6 15-year-old students in EU countries with the internet access at school; 2018



Source: OECD, survey PISA

F Education and digital skills

Tab. F4 Students in Czechia aged 16+ using the internet; 2019

%

| | Total | Men | Women |
|---|-------------|-------------|-------------|
| Using the internet, total | 98,9 | 99,5 | 98,1 |
| Using the internet several times a day | 92,4 | 92,1 | 92,8 |
| Using the internet on a mobile phone | 98,1 | 99,0 | 96,9 |
| Mobile data usage | 84,5 | 82,8 | 86,5 |
| Using the internet for selected activities* | | | |
| Participating in social networks | 97,9 | 97,9 | 97,9 |
| Listening to music | 91,9 | 94,1 | 89,4 |
| Reading online news | 88,9 | 90,7 | 86,7 |
| Uploading of photos, videos or music | 87,8 | 85,2 | 90,9 |
| Watching videos, movies or TV programmes | 85,3 | 87,1 | 83,3 |
| Playing games (data for 2018) | 70,7 | 84,9 | 57,4 |
| Looking for travel-related information | 68,8 | 66,9 | 71,1 |
| Internet banking | 58,9 | 54,9 | 63,6 |
| Purchasing over the internet | 59,2 | 58,2 | 60,3 |
| Communication with an instructor or other students via specialised learning portals | 45,9 | 45,4 | 46,4 |
| Attending an online course | 15,7 | 16,5 | 14,8 |

as a percentage of all students (men/women) aged 16+ in a given group

* Include using the internet for selected activities at least once in the last 3 months

Figure F7 Students and persons aged 16+ using the internet for selected activities; 2019

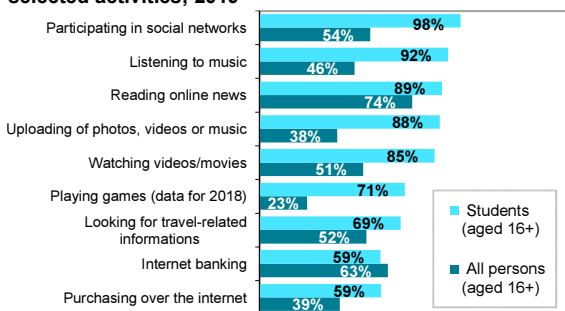
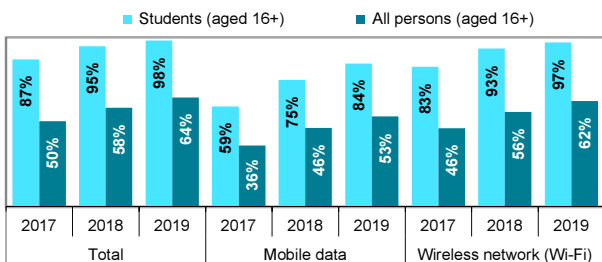


Figure F8 Students and persons aged 16+ using the internet on mobile phone by type of network



Source: Czech Statistical Office, ICT use survey in households

F Education and digital skills

Figure F9 Students in EU countries aged 16+, using the internet on a mobile phone; 2019

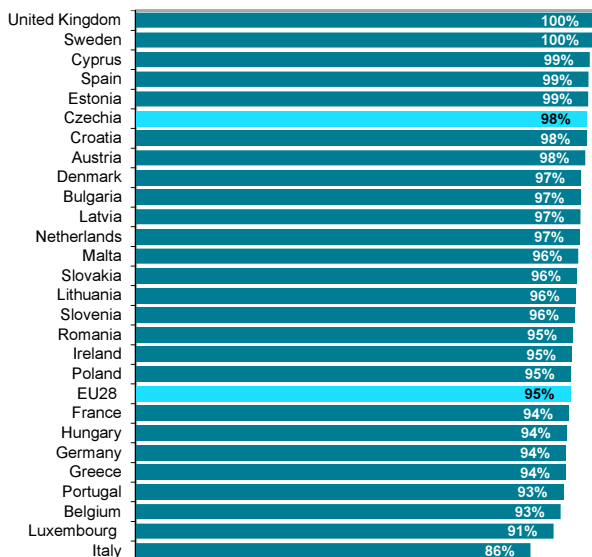
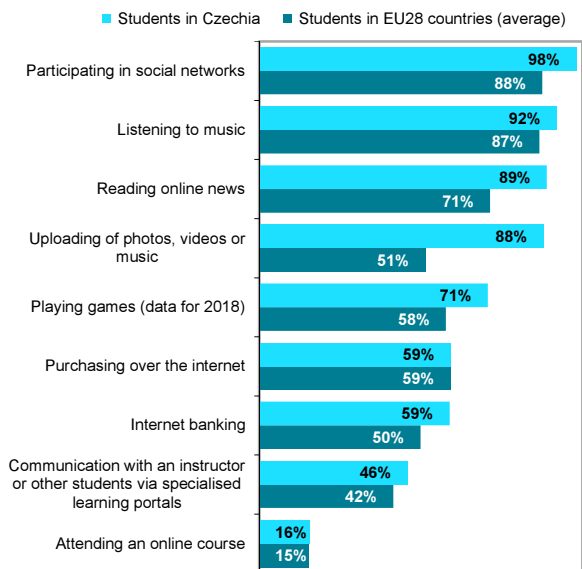


Figure F10 Students in Czechia and other EU countries aged 16+, using the internet for selected activities; 2019



Source: Eurostat

F Education and digital skills

Tab. F5 Persons in Czechia who declared that they used office software in the last 12 months; 2019

| | Word processing software (e.g. MS Word) | Spreadsheet software (e.g. MS Excel) | Presentation software |
|--|--|---|-----------------------|
| Total (aged 16+ years) | 53,7 | 44,9 | 18,0 |
| Total (aged 16–74) | 58,3 | 48,9 | 19,8 |
| Sex (aged 16+ years) | | | |
| Men | 54,6 | 47,0 | 20,7 |
| Women | 52,8 | 42,9 | 15,5 |
| Age group (years) | | | |
| 16–34 | 78,4 | 69,0 | 38,4 |
| 35–54 | 64,0 | 54,4 | 18,0 |
| 55+ | 27,3 | 19,7 | 4,5 |
| Education attainment (aged 25–64) | | | |
| Primary | 10,2 | 6,4 | 1,2 |
| Secondary without A-level exam. | 31,0 | 19,9 | 3,1 |
| Secondary with A-level exam. | 68,7 | 57,5 | 16,3 |
| Tertiary | 87,7 | 81,1 | 40,9 |

%

as a percentage of all persons in a given socio-demographic group

Figure F11 Usage of the word processing software by sex and age; 2019

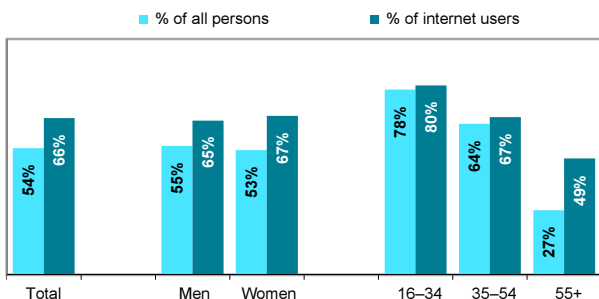
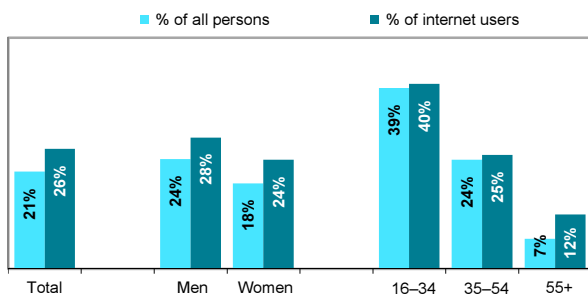


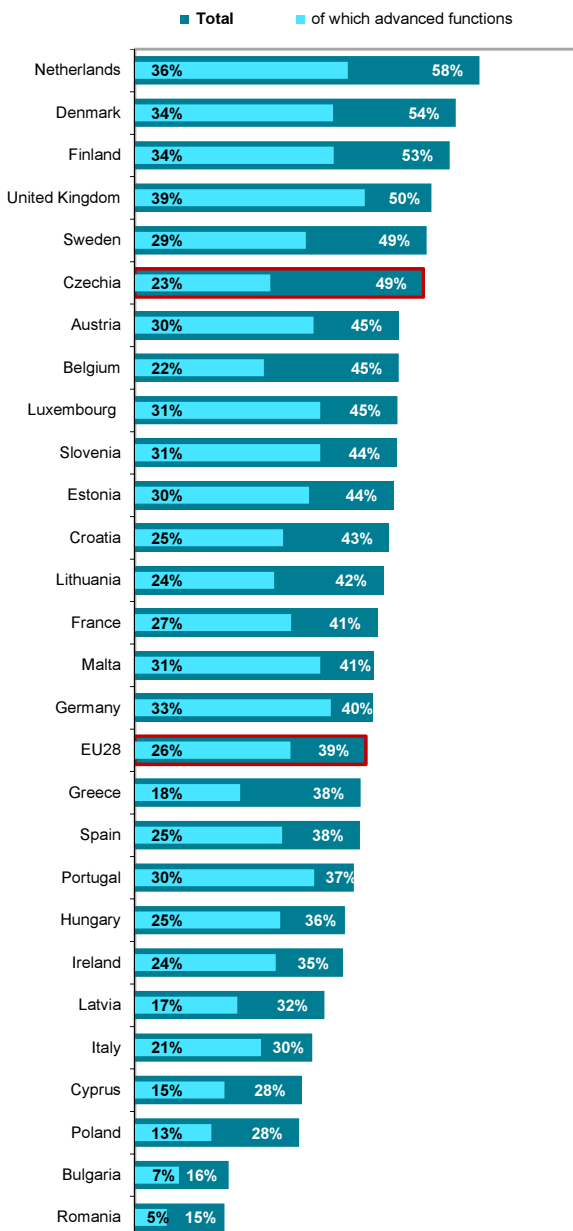
Figure F12 Usage of advanced function of spreadsheet software by sex and age; 2019



Source: Czech Statistical Office, ICT use survey in households

F Education and digital skills

Figure F13 Persons in EU countries aged 16–74 years using spreadsheet software; 2019



Source: Eurostat

F Education and digital skills

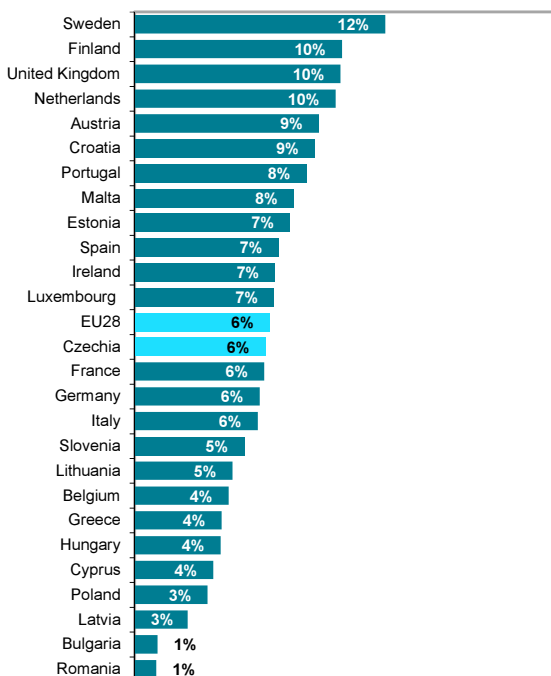
Tab. F6 Persons in Czechia with selected computer skills; 2019

| | Copying files | Editing photos | Program- ing |
|--|---------------|----------------|-----------------|
| Total (aged 16+ years) | 51,2 | 31,9 | 5,7 |
| Total (aged 16–74) | 55,9 | 34,8 | 6,2 |
| Sex (aged 16+ years) | | | |
| Men | 56,0 | 33,9 | 8,8 |
| Women | 46,8 | 29,9 | 2,7 |
| Age group (years) | | | |
| 16–34 | 86,1 | 69,3 | 13,6 |
| 35–54 | 65,7 | 40,5 | 7,2 |
| 55+ | 22,6 | 10,4 | 1,5 |
| Education attainment (aged 25–64) | | | |
| Primary | 11,5 | 11,2 | 0,5 |
| Secondary without A-level exam. | 31,3 | 16,6 | 1,1 |
| Secondary with A-level exam. | 63,3 | 35,5 | 5,7 |
| Tertiary | 84,3 | 53,7 | 13,9 |

as a percentage of all persons in a given socio-demographic group

Source: Czech Statistical Office, ICT use survey in households

Figure F14 Persons in EU countries aged 16–74 years, who programming; 2019



Source: Eurostat

G Health and ICT

Data on e-Health services are processed from the results of the comprehensive annual survey on information on health care services providers E (MZ) 1-01 performed by the **Institute of Health Information and Statistics of the Czech Republic (IHIS CR)**. This survey includes basic questions on the ICT equipment of practices (offices/ surgeries) of **independent physicians**. In addition, data on **online services** offered via websites of independent physicians and **keeping health records (documentation) in the electronic form** are taken from this survey.

Since the reference year 2016, the survey includes also detailed questions on available functionalities and used records of **electronic information healthcare systems** deployed in offices of independent physicians.

Reference period: the data are as at 31 November of the reference year for ICT equipment of practices and 3 months prior to the survey for seeking health-related information by individuals.

Available breakdowns: Data on the ICT use by independent physicians are available by the type of practice – general practitioner for adults, general practitioner for children, dentist, gynecologist, and specialist.

The independent annual statistical survey called **Sample Survey on the ICT Use in Households and by Individuals** (for details see Chapter C) has been a valuable source of information how many individuals use the internet for seeking health-related information in the last 3 months. The survey results are internationally comparable as a percentage of all individuals aged 16 to 74 years.

International data and comparisons of certain indicators are taken from the Eurostat database for digital economy and society, data of which are updated every year in December. Detailed information can be found at: <https://ec.europa.eu/eurostat/web/digital-economy-and-society/overview>.

Definitions

- A **specialist physician** shall mean a doctor who has completed advanced education and training in a specific field of medicine to become an allergist, a dermatologist, an ophthalmologist, a urologist, etc. This category excludes gynecologists and dentists.
- **Electronic health records** shall mean the documentation (medical patient data), which is made, processed, filed, stored, and transmitted in a digital form.
- **Independent physicians** include all independent practices who are not part of another medical facility, e.g. hospital.
- **Lists of patients** by diagnosis, laboratory results or for an appointment for examinations shall mean a list of electronic records of all patients of the health establishment by a given criterion entered.
- **On-line appointments to the physician** shall mean that the patients may make appointments for examination and/or medical intervention by means of an on-line editable form, which is transmitted directly from the website of the surgery. These do not include making appointments simply by email.
- **On-line consultancies** shall mean the option to send health related queries via a website of the physician's surgery.
- **Online prescribing** allows a physician to use digital prescription software to electronically transmit a prescription to the patient. Patient receives an electronic identification code which then produces to the pharmacist.
- **Seeking health-related information** includes searching for information about injuries, diseases, nutrition, improving health, etc.
- **The notice on drug interaction** shall mean that the system issues a notice to the physician if the patient has been prescribed medicines, which have mutual effects.
- **The on-line application for prescription** shall mean that the patient receives the electronic prescription through an email or an SMS code, which the patient then produces to the pharmacist.

For more information see:

[https://www.czso.cz/csu/czso/information technologies in the czech health sector](https://www.czso.cz/csu/czso/information_technologies_in_the_czech_health_sector)

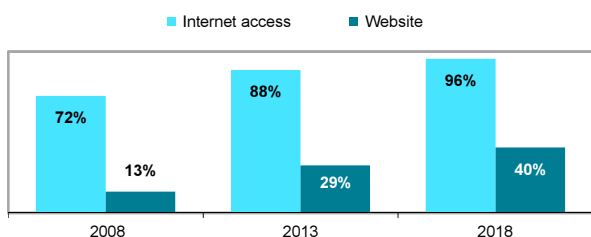
Tab. G1 Physicians in Czechia with selected ICTs in their medical offices; 2018

| | Computer | Internet | Website |
|---|-------------|-------------|-------------|
| Total | 96,8 | 95,5 | 40,4 |
| General practitioners (GP) for adults | 97,8 | 96,9 | 41,4 |
| General practitioners (GP) for children | 98,2 | 98,0 | 57,4 |
| Dentists | 96,9 | 95,1 | 26,1 |
| Gynecologists | 98,3 | 97,3 | 58,4 |
| Specialists | 95,4 | 94,0 | 43,0 |

%

as a percentage of all independent physicians of a given practice

Figure G1 Physicians with the internet access in their medical office and with their own website



as a percentage of all physicians

Figure G2 Physicians with the internet access in their medical office by type of practice

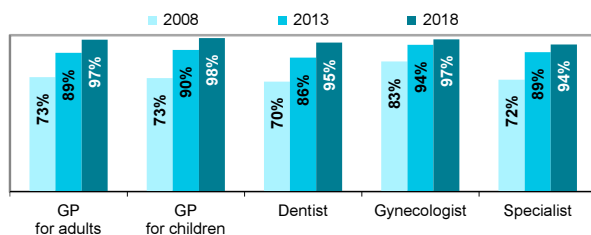
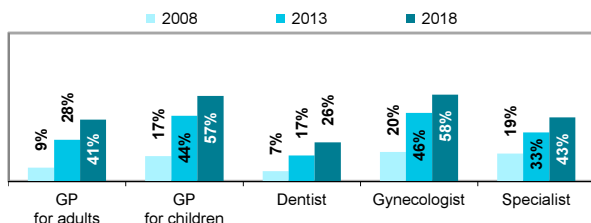


Figure G3 Physicians with their own website by type of practice



as a percentage of all physicians of a given practice

Source: CZSO calculations based on Institute of Health Information and Statistics

Tab. G2 Online services offered by physicians on their own websites in Czechia; 2018

%

| | Online appointment | Online consultation | Online prescription |
|---|--------------------|---------------------|---------------------|
| Total | 14,8 | 12,9 | 24,4 |
| General practitioners (GP) for adults | 21,9 | 14,1 | 38,3 |
| General practitioners (GP) for children | 23,1 | 24,5 | 41,2 |
| Dentists | 6,2 | 4,7 | 6,5 |
| Gynecologists | 27,2 | 26,9 | 46,3 |
| Specialists | 12,4 | 12,7 | 21,1 |

as a percentage of all physicians of a given practice

Figure G4 Physicians with a website application for making online appointment by type of practice

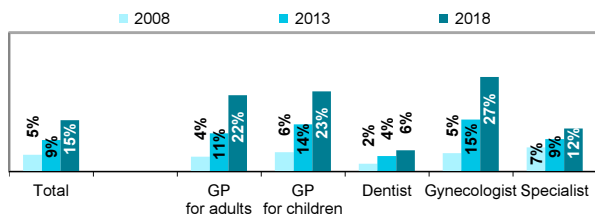


Figure G5 Physicians with a website application for making online consultation by type of practice

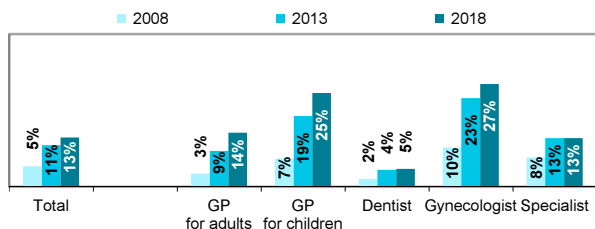
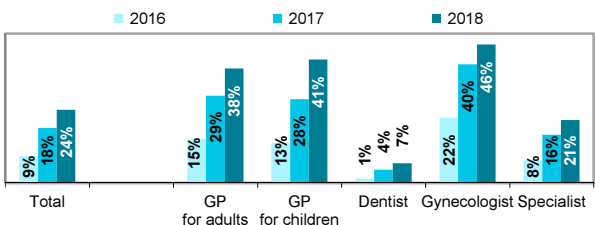


Figure G6 Physicians with a website application for making online prescription by type of practice



as a percentage of all physicians of a given practice

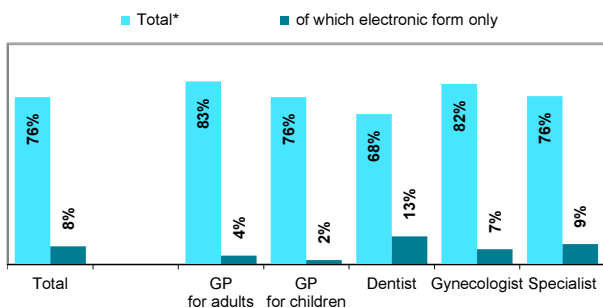
Source: CZSO calculations based on Institute of Health Information and Statistics

Tab. G3 Physicians in Czechia keeping health records electronically; 2018

| | Total* | of which only electronically |
|---|-------------|------------------------------|
| Total | 75,8 | 8,2 |
| General practitioners (GP) for adults | 82,8 | 4,0 |
| General practitioners (GP) for children | 75,8 | 2,0 |
| Dentists | 68,1 | 12,7 |
| Gynecologists | 81,8 | 6,9 |
| Specialists | 76,2 | 9,3 |

as a percentage of all physicians of a given practice

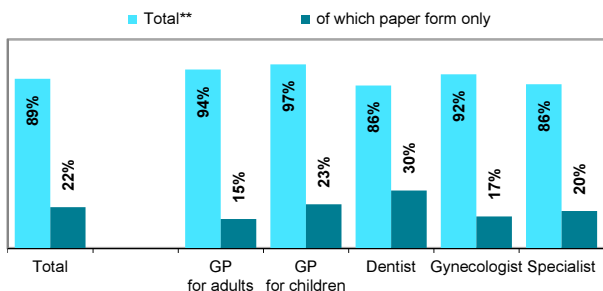
Figure G7 Physicians keeping health records electronically; 2018



as a percentage of all physicians of a given practice

* Includes physicians keeping at least part of health records (medical patient data) in electronic form on their computers or the internet.

Figure G8 Physicians keeping health records in paper form; 2018



as a percentage of all physicians of a given practice

** Includes physicians keeping at least part of health records (medical patient data) in paper form.

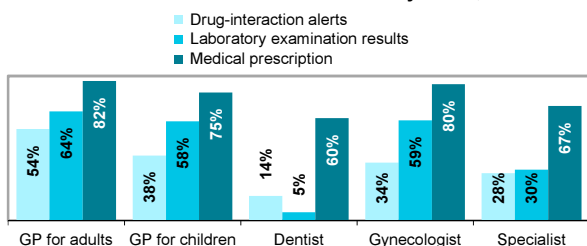
Source: CZSO calculations based on Institute of Health Information and Statistics

Tab. G4 Physicians in Czechia using selected functions of their electronic information healthcare systems; 2018

| | | | % |
|---|----------------------|-------------------------|---------------------------------|
| | Medical prescription | Drug-interaction alerts | Laboratory examinations results |
| Total | 70,2 | 31,3 | 35,2 |
| General practitioners (GP) for adults | 82,0 | 53,7 | 64,1 |
| General practitioners (GP) for children | 75,2 | 38,1 | 58,3 |
| Dentists | 60,1 | 14,4 | 4,8 |
| Gynecologists | 80,1 | 33,9 | 58,8 |
| Specialists | 67,2 | 27,7 | 29,8 |

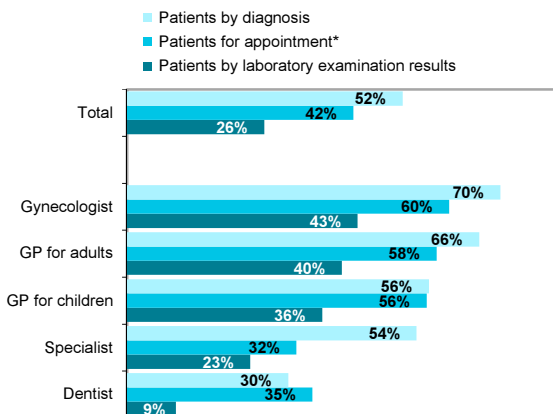
as a percentage of all independent physicians of a given practice

Figure G9 Physicians using selected functions of their electronic information healthcare systems; 2018



as a percentage of all independent physicians of a given practice

Figure G10 Physicians with electronic health system enabling to generate selected patient records; 2018



* list of patients for general medical examination, tests etc.

as a percentage of all independent physicians of a given practice

Source: CZSO calculations based on Institute of Health Information and Statistics

Tab. G5 Persons in Czechia using the internet for seeking health-related information

| | % | | |
|--|-------------|-------------|-------------|
| | 2015 | 2018 | 2019 |
| Total (aged 16+ years) | 37,3 | 51,6 | 52,6 |
| Total (aged 16–74) | 39,9 | 55,1 | 56,5 |
| Sex (aged 16+ years) | | | |
| Men | 26,4 | 39,2 | 41,8 |
| Women | 47,9 | 63,4 | 62,7 |
| Age group (years) | | | |
| 16–24 | 22,9 | 47,2 | 43,2 |
| 25–34 | 45,7 | 63,6 | 64,3 |
| 35–44 | 48,1 | 62,8 | 63,2 |
| 45–54 | 47,5 | 62,7 | 63,8 |
| 55–64 | 40,9 | 52,3 | 56,9 |
| 65+ | 18,1 | 26,9 | 29,2 |
| Education attainment (aged 25–64) | | | |
| Primary | 20,0 | 34,8 | 38,6 |
| Secondary without A-level examination | 34,8 | 49,9 | 51,0 |
| Secondary with A-level examination | 54,8 | 67,3 | 68,3 |
| Tertiary | 59,2 | 74,5 | 75,7 |

as a percentage of all persons in a given socio-demographic group

Figure G11 Persons aged 16+ using the internet for seeking health-related information by sex

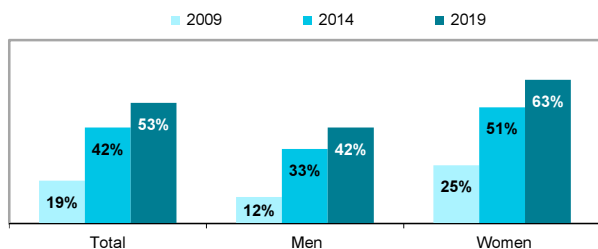
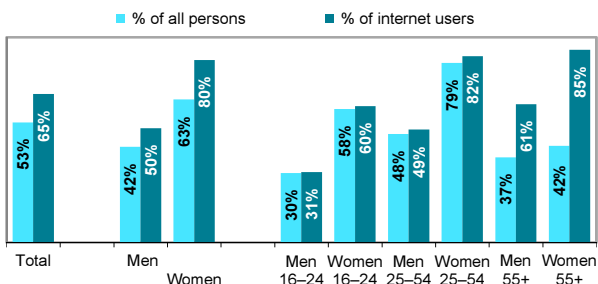
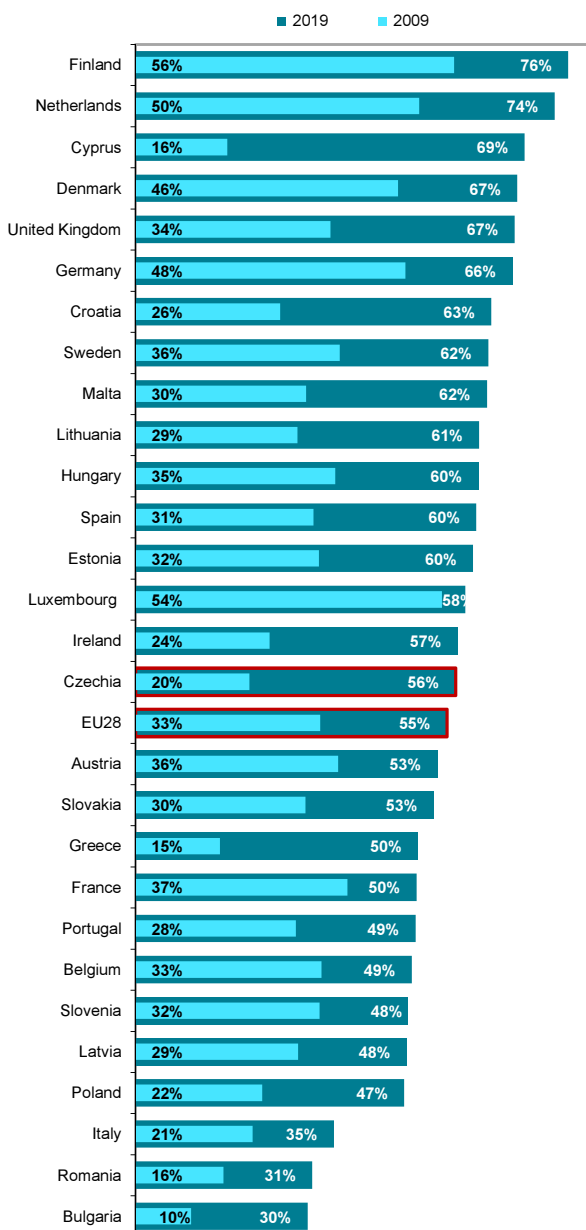


Figure G12 Persons aged 16+ using the internet for seeking health-related information by sex and age; 2019



Source: Czech Statistical Office, ICT use survey in households

Figure G13 Persons in EU countries aged 16–74 years using the internet for seeking health-related information



Source: Eurostat

Figure G14 Men in EU countries aged 16–74 years using the internet for seeking health-related information; 2019

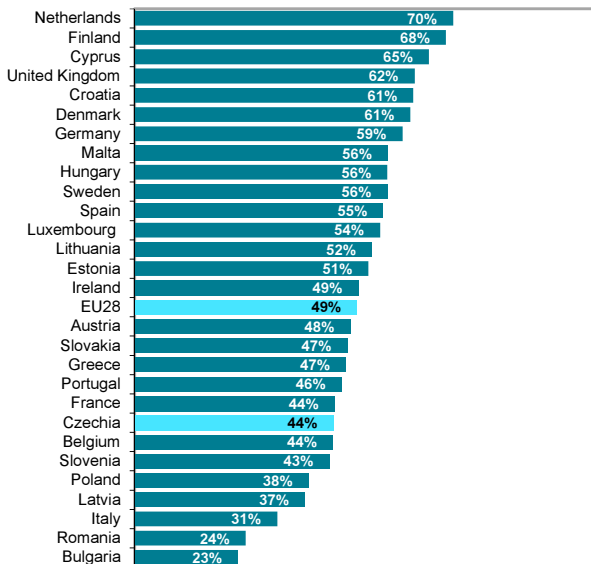
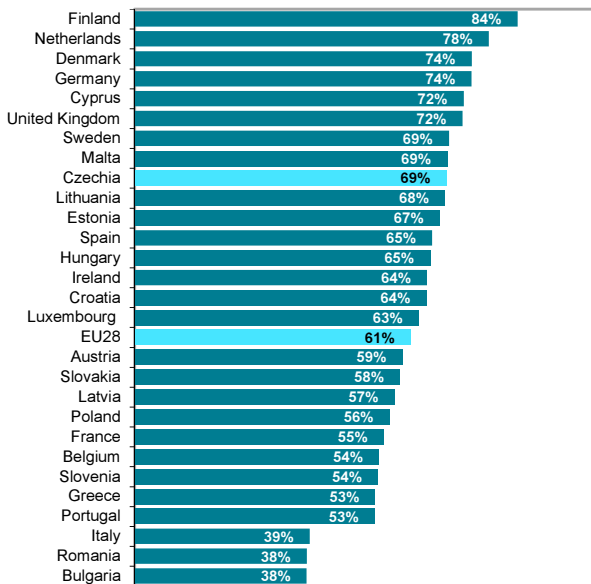


Figure G15 Women in EU countries aged 16–74 years using the internet for seeking health-related information; 2019



Source: Eurostat