

2. METHODOLOGY

2.1 Use of ICT by individuals

The data are based on the Sample Survey on ICT Usage in Households and by Individuals, which had been carried out within the LFSS since 2005 and since 2012 it has been performed within the Integrated Household Surveys (IHS).

The survey is carried out pursuant to the Regulation (EU) 2019/1700 of the European Parliament and of the Council of 10 October 2019 establishing a common framework for European statistics relating to persons and households. Thus it enables to provide data comparable with other EU Member States. The European Commission financially contributes to the survey implementation.

In 2022, the survey was carried out in the second quarter of the year. The questionnaire queries were responded by 6 779 individuals aged 16+ years. The questionnaire included 144 questions in total, of which 7 were for households and 137 for individuals.

The **reference period** for the data on persons is the last three months before the survey date (in the Czech Republic it was the 2nd quarter of the reference year). As for data on the Internet use in relation to public administration the reference period is the last 12 months prior to the survey date.

Educational attainment is published for the age group 25–64 years. Setting of some age groups aside shows the influence of education on information technologies usage better. For example, there is a big share of persons in the age group 16–24 years whose educational paths were not finished when the survey was carried out. Their educational attainment is thus conditioned rather by their age than their educational aspirations. Similarly, the educational attainment of persons aged 65+ years is mainly influenced by the time, in which these persons received the education. Among persons aged 65+ years, there is much higher share of persons with primary education than among younger ones.

The **Internet user** shall mean a person who used the Internet at least once in the last three months.

The **Internet user in the mobile phone** shall mean a person who connected to the Internet at least once by means of a mobile phone in the last three months, namely via Wi-Fi or mobile data.

Persons using **social networks on the Internet** are individuals who in the last three months logged into their user profile on such networks at least once and used available services such as, for example, browsing through posts of other users, communication with other users, and/or sharing of their own posts.

The **purchase over the Internet** means on-line ordering of goods or services on websites or via web applications during the surveyed 3 months. The goods ordered over the Internet could be paid over the Internet or as “cash on delivery” or at personal pickup. Purchases over the Internet are surveyed as purchases for private purposes – i.e. for personal use and the use by the family or friends. Purchases for an employer are excluded.

Data on respective Internet activities performed by persons are presented as a share in:

- a) the total male and female population surveyed in the given age group; and
- b) groups of men and women Internet users in the given age group (in the case of goods and services purchased on the Internet, this is the share of men or women who purchased on-line).

The data in respective graphs refer to the share in the total male and female population surveyed, unless stated otherwise.

International comparison

Data published by Eurostat for the Czech Republic individuals 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. On the other hand, the CZSO provides data for the whole population aged 16+ years.

For further information see (only in Czech): https://www.czso.cz/csu/czso/domacnosti_a_jednotlivci

2.2 University students of and graduates from ICT fields

Education at universities presented in this publication for Czechia belongs to the tertiary level of education and includes bachelor, follow-up master, master and doctoral study programmes. Master and follow-up master study programmes together are called here master programmes. Studies can be delivered in full-time, distance, or combined type of education.

Information and communication studies are defined based on the international standard of the ISCED-F 2013 classification, class 06 Information and Communication Technologies; they include fields of education defined in detail as follows:

- Computer use (0611);
- Database and network design and administration (0612);
- Software and applications development and analysis (0613);
- Information and communication technologies not elsewhere classified (0619);
- Inter-disciplinary programmes and qualifications involving ICT (0688).

Numbers of students and graduates are given as headcount, i.e. each student is included in a particular piece of data only once, including students who study in more study programmes concurrently. The total numbers of students and graduates thus do not have to be equal to the sums of students and graduates of respective types of study programmes.

The data were obtained from data sources of the Ministry of Education, Youth, and Sports, namely from the **Union Information from Students' Registers (the "SIMS")**. The source database of SIMS is continually completed and updated, including retrospective corrections. Data published in this Yearbook correspond to the state of processing as at 20 January 2023. Data on students of universities are always related to 31 December of the relevant year; data on graduates are related to the entire school year

Eurostat database was used for the **international comparisons**. Data about number of students of and graduates from ICT fields of education contain information for tertiary level of education, i.e. including, for example, higher vocational schools. For this reason, the data for the Czech Republic from Eurostat differ from the data published by the CZSO available in the SIMS database. The main reason is mainly a slightly different definition of levels of tertiary education.

For further information see (only in Czech):

<https://www.czso.cz/csu/czso/studenti-a-absolventi-ict-oboru-vysokoskolskeho-studia>

2.3 ICT specialists

The occupations of **ICT specialists** are subdivided into two major groups, namely to ICT managers, engineers and professionals (ICT professionals) and ICT technicians, installers and servicers (ICT technicians). Their classification is based on the Classification of Occupations (CZ-ISCO), the corresponding national classification in the Czech Republic based on the International Standard Classification of Occupations (ISCO-08) developed by the International Labour Organization (ILO). From 2011, ICT specialists are defined based on recommendations of Eurostat and of the International Labour Organization.

Data on ICT specialists in this publication are only available for the ICT specialists defined rather narrow, which includes the two sub-major groups of CZ-ISCO as follows: 25 Information and communications technology professionals (hereinafter only referred to as the ICT professionals) and 35 Information and communications technicians (hereinafter only referred to as the ICT technicians).

Numbers of ICT specialists

The data on **numbers of ICT specialists** are obtained from the Labour Force Sample Survey (LFSS). In order to ensure higher reliability and to eliminate considerable year-on-year fluctuations of values for this group of employees, data are provided as three-year moving averages (i.e., for example, the value for 2020 is calculated as an average from the values for 2019, 2020, and 2021).

Data for international comparisons of numbers of ICT specialists in individual Member States of the European Union come from data sources of Eurostat. When comparing the figures of Eurostat with figures from the LFSS, it is necessary to keep in mind the different approaches in terms of the way ISCO codes are aggregated into respective categories. For example, the Eurostat approach slightly differs from the definitions of ICT professionals and technicians stated above. Eurostat also includes people working in positions with the following ISCO codes among ICT specialists: 2166 – graphic and multimedia designers, 2356 – information technology trainers, 7421 – electronics mechanics and servicers. However, in this detailed breakdown, relevant data are not available for most countries. Moreover, data from Eurostat are given for the relevant year and not as three-year moving averages as it is in the case of data for Czechia from the Labour Force Sample Survey (LFSS).

Wages of ICT specialists

Data on wages (average gross monthly wage) of the ICT specialists come from the Structure of Earnings Survey (SES) which is generated by merging of databases of the sample survey of the Information System on Average Earnings (ISPV) which covers the wage sphere, and from the database of the Salary Information System which covers the salary sphere.

For further information see: <https://www.czso.cz/csu/czso/ict-odbornici> (only in Czech)

3 NOTES A INTERNET LINKS

Internet links

Average earnings information system:

<https://www.ispv.cz/en/homepage.aspx>.

Czech classification of Education 2013- CZ-ISCED-F 2013 (only in Czech):

<https://www.czso.cz/csu/czso/klasifikace-oboru-vzdelani-cz-isced-f-2013>

CZ-ISCO occupations classification (only in Czech):

<http://www.cz-isco.cz/>

Union Information from Students' Registers - SIMS (only in Czech):

<https://sims.msmt.cz/>

Structure of Earnings Survey (SES):

<https://www.czso.cz/csu/czso/structure-of-earnings-survey-2021> .

Czech Labour force survey:

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

Eurostat database for digital economy and society:

https://bit.ly/Comprehensive_database

Notes

- 0 = Figure less than half the unit used
- - = No cases registered
- . = Data unavailable or unreliable (also in tables with international data)
- Calculations in the tables are based on non-rounded figures (including totals).