

18. INFORMATION SOCIETY

The term of **information and communication technologies** (hereinafter as the ICT) shall generally mean technologies as mobile phones, computers, and the Internet and systems, activities, and processes related to them, which contribute to the display, processing, storage, and transmission of information and data in an electronic form.

Data on **fixed broadband Internet infrastructure** are based on data sources of the Czech Telecommunication Office. They are as at 31 December of the year measured.

The **broadband Internet access** is an access to the Internet with nominal speed ≥ 256 kb/s towards the subscriber (download). The service subscriber can be both a natural and a legal person that has a contract concluded with a service provider. The number of subscribers to this service is measured on the basis of the number of access points where subscribers are provided with the service for one of the below mentioned technologies employed for the Internet access. In majority of cases, the number corresponds to the number of agreements concluded for the services providing in the retail segment.

The broadband Internet access by means of a **digital subscriber line (DSL)** technology enables broadband connectivity by means of a metallic line (telephone line). At present, the most frequently used types of this connection are an asymmetric digital subscriber line (ADSL) and a very high bit rate digital subscriber line (VDSL) including fiber to the cabinet (FTT Cab), which feature an asymmetric connection when the speed of data transmission to the user (downloaded) is higher than that of data sent from the user towards the Internet (uploaded).

The broadband Internet access by means of a **cable television network (CATV)** is expressed as the number of **cable modems** by means of which subscribers are provided with broadband Internet access.

The broadband Internet access by means of **optical fibre** (fiber to the x - **FTTx**) includes optical connections of the type of fibre to the home (FTTH), when the optical fibre takes the optical connectivity to the dwelling (flat), and fibre to the building (FTTB), when the optical fibre takes the optical connectivity to the building only and indoor the connection is distributed by other means (e.g. by a radio network or over a fixed local area network).

Fixed wireless access (**FWA**) is a designation for a fixed wireless access by means of a radio connection. It has a permanent and fixed placing of the end point device, which is characteristic for it. This type of connection is sometimes also called wireless local loop (**WLL**).

Data on **information and communication technologies in households and their utilisation by individuals** are based on the Sample Survey on the ICT Utilisation 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 using the computer assisted personal interviewing (CAPI) method on the sample of about 10 000 individuals (persons) aged 16+ years. In line with the LFSS and IHS methodologies, the results were imputed to the whole population of the Czech Republic. Concerning data on households, the current situation (existing status) in the reference period (the 2nd quarter of the reference year) is surveyed; data on individuals (persons) are for the last three months of the survey period, except for indicators on purchasing on the Internet and on sending of forms to public authorities, which are surveyed for the reference period of 12 months before the interviewing. Data, which are broken down by Region, are published as three-year moving averages in order to have more representative data sets.

Educational attainment is published for the categories as follows: primary education; secondary education without A-level examination together with secondary education with A-level examination and together with short-cycle tertiary education; and higher education (a Bachelor's, Master's, or Doctoral degree).

Households with a computer/Internet access include all households, which at the time of the survey stated, that at least one of the household members had an access to a personal computer/Internet at home.

Households having a WiFi router are households, which in the time of the survey stated that they distribute the internet signal across the household by means of a WiFi router. A WiFi router is a device enabling persons in the given household to get connected to the Internet from multiple devices concurrently and also from any location, which is within the WiFi network range.

Individuals using the information and communication technologies are such individuals (persons) who have used a computer, or the Internet at least once in the last three months anywhere (e.g. at home, at work, at school) and for any purposes (private ones or work ones).

Individuals using a mobile phone to access the Internet are individuals (persons) who stated that they used a mobile phone to access the Internet at least once during the last three months. It does not matter whether the phone was a private one or an employer's one as well as it does not matter what type of connection was used to access the Internet (mobile networks, WiFi).

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

Individuals purchasing on the Internet are individuals (persons) who in the last twelve months purchased or ordered any goods or services on a website. A purchase shall mean a purchase for private purposes. This does not include a

purchase for the employer, a school, or other organisations. Goods or services ordered may not be paid over the Internet, they could be paid in cash on delivery or upon collection in person.

*The data on the **numbers of ICT specialists** are taken from the Labour Force Sample Survey. In order to ensure higher reliability and to eliminate considerable year-on-year fluctuations of values for this group of employees, data in the table are provided as three-year moving averages (e.g. the value for 2018 is calculated as an average of values for the years 2017, 2018, and 2019). (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 breakdown 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 Organisation (ILO). From 2011, ICT specialists are defined and assigned to the major groups, groups, and subgroups of the CZ-ISCO based on recommendations of Eurostat and the International Labour Organization.*

*Data on **wages of the ICT specialists** come from the structural employee wage statistics, which is generated by merging of databases of the sample survey of the Information System on Average Earnings of the Ministry of Labour and Social Affairs, which covers the wage sphere, and from the database of the administrative data source of the Salary Information System of the Ministry of Finance, which exhaustively covers the salary sphere. Data on wages of ICT specialists in this publication are available only for the ICT specialists defined rather narrowly, which includes two sub-major groups of the CZ-ISCO: 25 Information and communications technology professionals (hereinafter as the ICT professionals) and 35 Information and communications technicians (hereinafter as the ICT technicians).*

*Data on (university) **students of and graduates from ICT fields of education** were obtained from data sources of the Ministry of Education, Youth, and Sports, namely from the Union Information from Students' Registers (the "SIMS" database). Data are continually added to the source SIMS database and the database is continually updated, including retrospective corrections. Data published in this Yearbook correspond to the state of processing as at 20 January 2020. Data on university students are always as at 31 December of the relevant year; data on graduates are for the whole school year. Information and communication studies are defined based on the international standard of the ISCED-F 2013 classification, class 06 Information and Communication Technologies. 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.*

*Data on **ICT equipment in schools** come from data sources of the Ministry of Education, Youth, and Sports, which collects data on available IT infrastructure in basic, secondary, and higher professional schools. Data are as at September of a given year.*

*Data on **equipment penetration and usage of information technologies in health** in the Czech Republic, namely in independent surgeries of physicians, come from a survey of the Institute of Health Information and Statistics of the CR.*

***Electronic medical prescription** makes it possible for physicians (medical practitioners) to issue a medical prescription on their computer. The Central repository of electronic prescriptions will then assign an identification code to the prescription and then the physician will tell the code to the patient. Based on the code, a pharmacist will then obtain the electronic prescription from the central repository.*

***Drug interaction alerts** serve to a physician to find out whether a certain patient is not prescribed drugs that interact with each other.*

***Laboratory tests ordering and receiving of the results** means that a physician sends an electronic order for a laboratory test from his/her computer in the surgery and afterwards he/she receives the test results in the form of a secure protocol.*