

F ICT in Education and Digital Skills

Data on **numbers of computers at schools** per 100 pupils/students of respective school grades, as well as on school equipment with other ICTs in the Czech Republic come from data sources of the **Ministry of Education, Youth and Sports**. The Ministry collect these data at 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

Detailed data on the 15-year-old pupils in the Czech Republic access to 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 is 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 information technologies.

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

Definitions (sorted alphabetically)

- **Communication with instructors** 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).
- **Copying or moving files** between folders or between two computers (e.g. via USB flash drive) or between computers and other devices (e.g. from/to mobile phone via Bluetooth)
- **Editing photos** means using photo editing software e.g. Adobe Photoshop or GIMP. The software for editing allows to add effects, filters, overlays and use other tools.
- **Presentation software** e.g. Powerpoint or Prezi is used to create slides for presentation integrating text, pictures, tables or charts.
- **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.
- **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.

- **Spreadsheet** software e.g. MS Excel is used to organise and analyse data, such as sorting, filtering, using formulas or creating charts.
- **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 photos, videos or music** includes posting self-created content on the internet.
- **Using online learning material** includes using audio-visual materials, online learning software or electronic textbooks. Excludes downloading such material for offline use at a later point of time.
- **Word processing software** e.g. MS Word or OpenOffice Writer is used to create a document with text.

More information on these fields can be found at:

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

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Table F1 Computers in schools in Czechia; 2020

Number of devices per 100 students in a given school type

	Total	Desktop	Portable	Up to age of 2 years
Basic schools - first stage	26,1	14,6	11,5	10,0
Basic schools - second stage	33,6	19,8	13,8	13,1
Secondary schools	28,1	20,9	7,2	8,9

Figure F1 Computers in schools available to students(number of devices per 100 students in a given school type)

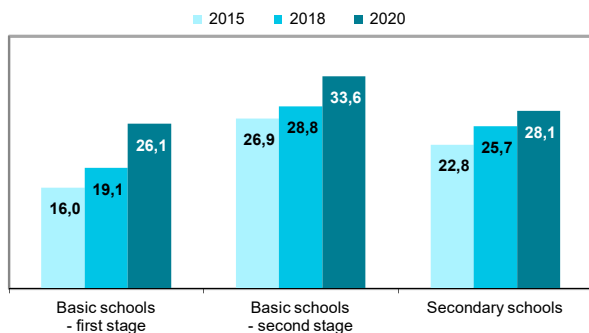
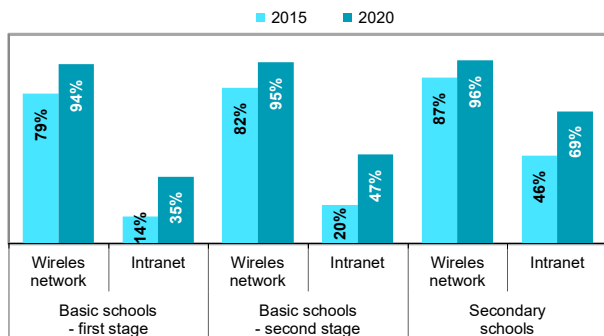


Table F2 Schools in Czechia with wireless network and school intranet

Percentage

	Wireless Network		Intranet	
	2015	2020	2015	2020
Basic schools - first stage	78,7	94,1	14,3	35,1
Basic schools - second stage	81,6	95,1	20,3	46,7
Secondary schools	87,0	96,2	46,1	69,5

Figure F2 Schools with wireless network and school Intranet



Source: Ministry of Education, Youth and Sports

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Table F3 Fifteen-year-old students in Czechia with access to different digital devices at home and at school

	Percentage			
	At home		At school	
	2015	2018	2015	2018
Mobile phone	93,1	99,1	.	.
Internet	98,7	98,9	90,4	94,8
Desktop computer	82,9	76,4	79,5	81,5
Laptop computer	87,5	88,8	28,6	27,9
Tablet	68,4	71,7	22,7	22,9
Printer	78,1	81,6	.	.

as a percentage of all 15 years old students

Figure F3 Average daily time spent on the internet by 15-year-old students; 2018

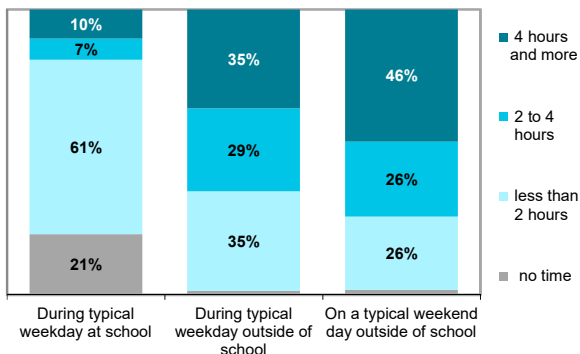
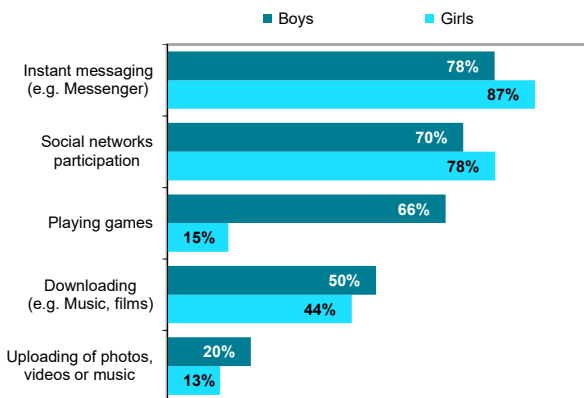


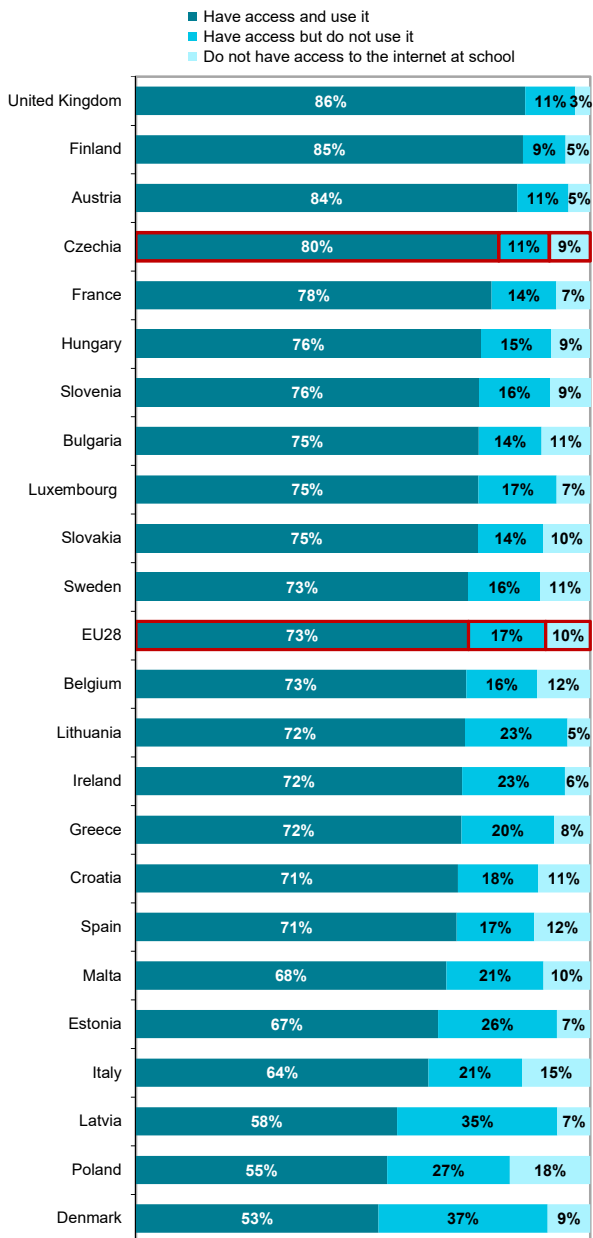
Figure F4 Fifteen-year-old students using the internet daily for selected entertainment activities; 2018



Source: OECD, survey PISA

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Figure F5 15-year-old students in EU countries and their access to the internet at school; 2018



Source: OECD, survey PISA

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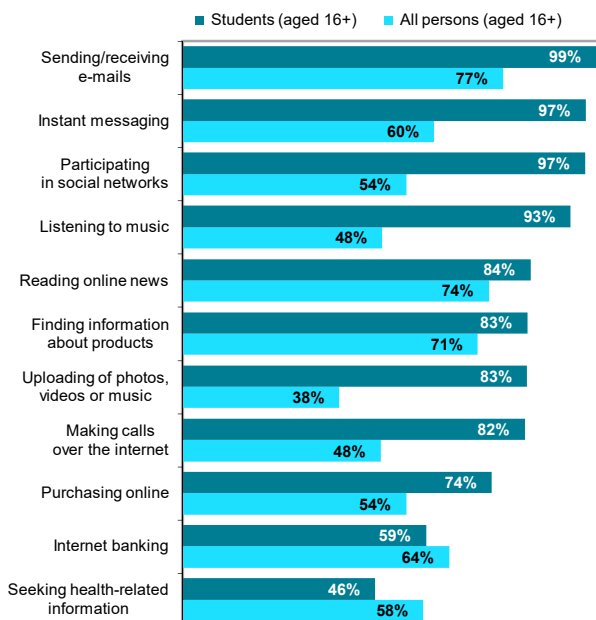
Tab. F4 Students aged 16+ in Czechia using the internet; 2020

	Percentage		
	Total	Men	Women
Using the internet, total	100,0	100,0	100,0
Using the internet several times a day	92,1	91,1	93,1
Using the internet on a mobile phone, total	98,5	100,0	97,0
of which via a mobile network (e. g. LTE)*	84,8	82,9	86,7
Using the internet for selected activities			
Sending/receiving e-mails	99,4	99,6	99,2
Instant messaging	96,8	97,4	96,2
Making calls over the internet	82,2	78,1	86,5
Participating in social networks	96,7	96,9	96,5
Reading online news	83,6	80,5	86,8
Listening to music	93,2	90,7	95,7
Uploading photos, videos or music	82,8	80,7	84,8
Internet banking	58,5	56,8	60,3
Purchasing online	74,3	74,8	73,8
Finding information about products	82,8	79,7	86,0
Seeking health-related information	46,3	33,3	59,6

* Mobile network stands here for the use of both prepaid and postpaid mostly tariff data and voice subscription from the mobile phone operators.

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

Figure F6 Students and persons aged 16+ using the internet for selected activities; 2020



Source: Czech Statistical Office, ICT use survey in households

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Figure F7 Students aged 16+ in Czechia and other EU countries using the internet for selected activities; 2020

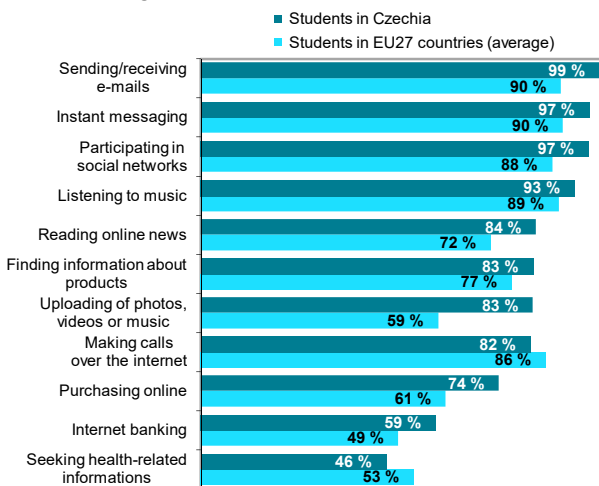
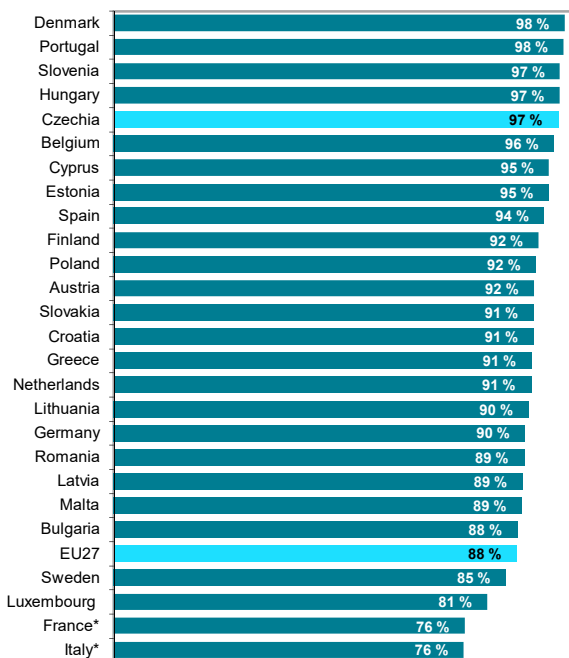


Figure F8 Students aged 16+ in EU countries using social networks; 2020



* data for 2019

Source: Eurostat

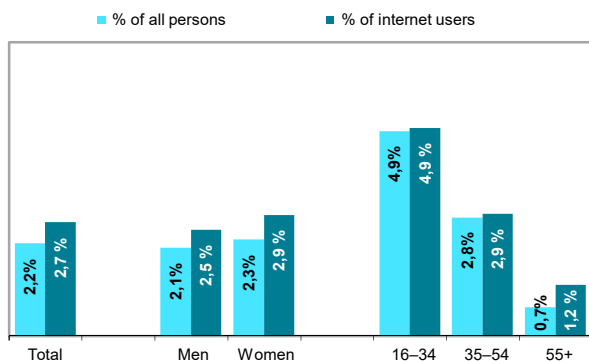
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Tab. F5 Persons in Czechia using the internet for selected learning activities; 2nd quarter 2020

	Percentage		
	Doing an online course	Using online learning materials	Communicating with instructors using educat. portals
Total (aged 16+ years)	8,4	12,6	9,9
Men	8,2	12,6	8,9
Women	8,6	12,6	10,7
Age group (years)			
16–34	31,6	49,8	54,5
35–54	9,2	13,1	7,8
55+	1,5	2,3	1,4
Education (aged 25–64)			
Primary	0,1	2,2	2,3
Secondary without A-level exam.	1,3	3,4	2,3
Secondary with A-level examination	7,7	11,2	5,9
Tertiary	19,4	24,8	15,8

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

Figure F9 Persons in Czechia who paid for online course or online learning material; 2020



Tab. F6 Students aged 16+ in Czechia using the internet for selected learning activities; 2nd quarter of the given year

	Percentage		
	2015	2019	2020
Doing an online course	5,2	15,7	40,6
Using online learning material	16,8	40,9	63,1
Communicating with instructors using educational portals	23,4	45,9	72,3

as a percentage of all students aged 16+

Source: Czech Statistical Office, ICT use survey in households

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Figure F10 Persons aged 16–74 years in EU countries who attended an online course; 2nd quarter 2020

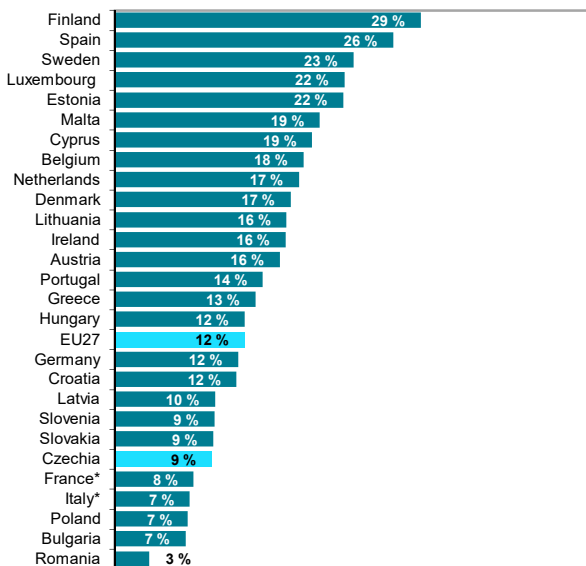
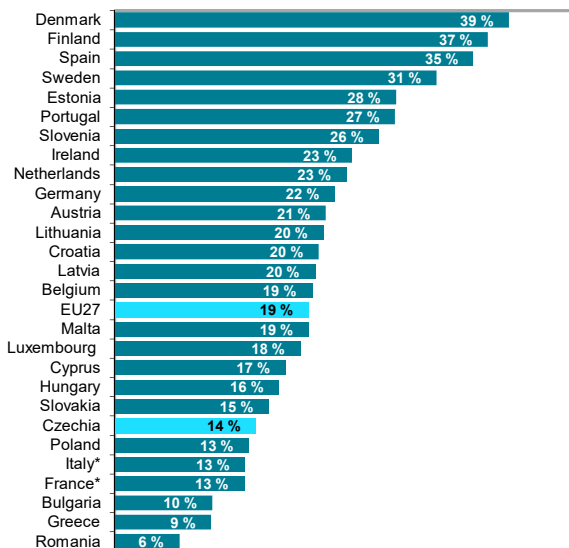


Figure F11 Persons aged 16–74 years in EU countries who used online learning materials; 2nd quarter 2020



* data for 2019

Source: Eurostat

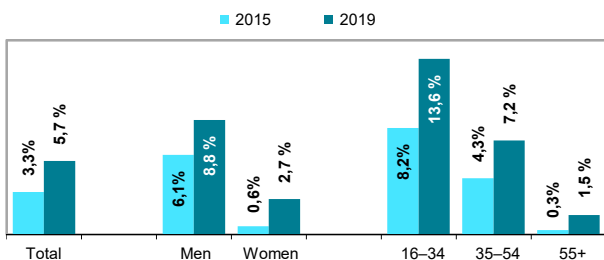
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Tab. F7 Persons in Czechia with selected IT skills; 2019

	Percentage		
	Copying files	Editing photos	Program-ming
Total (aged 16+ years)	51,2	31,9	5,7
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 (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 examination	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

Figure F12 Programming by gender and age



Tab. F8 Persons in Czechia using office software; 2019

	Percentage		
	Word processing software	Spreadsheet software (e.g. Excel)	Presentation software
Total (aged 16+ years)	53,7	44,9	18,0
Men	54,6	47,0	20,7
Women	52,8	42,9	15,5
Age group (years)			
16–24	88,0	81,6	56,5
25–34	72,3	61,1	27,1
35–44	67,1	57,6	19,6
45–54	60,5	50,9	16,2
55–64	45,5	35,4	9,6
65+	15,9	9,8	1,2
Education (aged 25–64)			
Primary	14,0	8,8	1,6
Secondary without A-level exam.	36,6	23,8	3,7
Secondary with A-level examination	75,6	64,8	18,9
Tertiary	90,9	85,0	44,8

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

Source: Czech Statistical Office, ICT use survey in households

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Figure F13 Persons aged 16–74 years in EU countries who do programming; 2019

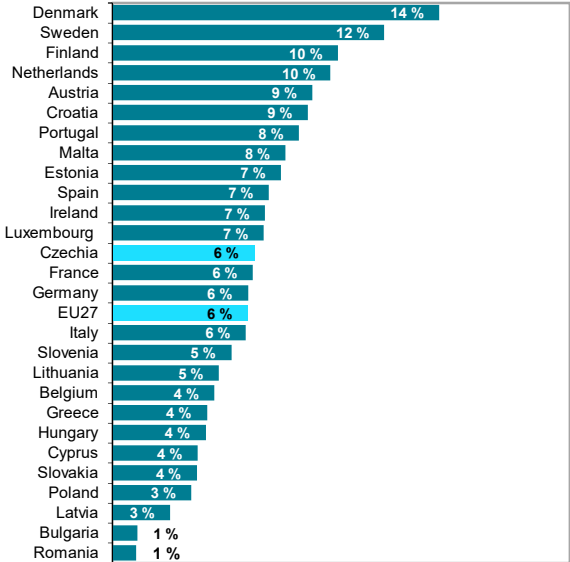
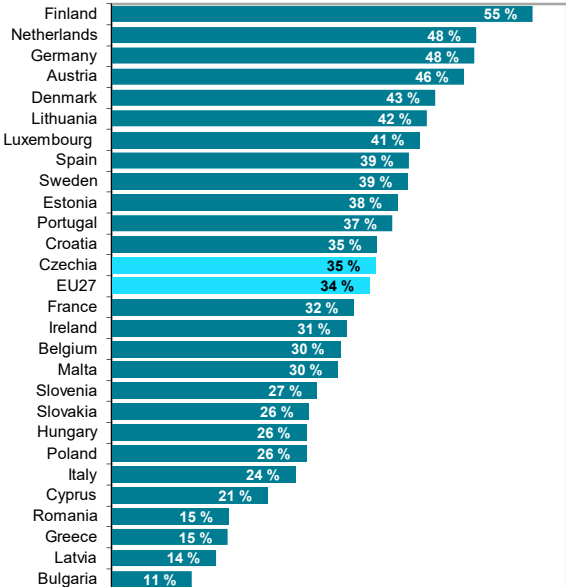


Figure F14 Persons aged 16–74 years in EU countries who used photo editing software; 2019



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Figure F15 Students aged 16+ in EU countries who attended an online course; 2nd quarter of a given year

