

## F Education and digital skills

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Data on **numbers of computers at schools** per 100 pupils/students or 1 teacher 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**.

1<sup>st</sup> stage of basic schools covers the first five years of formal education for children aged 6 to 11 years. 2<sup>nd</sup> stage of basic schools covers last four years of formal education for children from the ages of 12 to 15.

**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_technologies_in_schools)

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 **Programme for International Student Assessment (PISA) survey** conducted in **2022** collected also data on the amount of time 15-year-olds spend on selected activities on digital devices at school and outside of school. This survey is the most important OECD project on measuring learning outcomes currently underway in the world. More detailed information on PISA 2022 is available on the OECD website <http://www.oecd.org/pisa/> and also on the website of the Czech School Inspectorate (in Czech only): <https://www.csicr.cz/cz/Mezinarodni-setreni/PISA/O-setreni-PISA>.

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 3 months**.

For the purposes of this publication, the highest educational attainment is divided into **low** which includes lower secondary education and upper secondary education without A-level exam, **middle** which includes upper secondary education with A-level exam and higher vocational education, and **high** which includes tertiary (i.e. university) education.

### Definitions (sorted alphabetically)

- **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.
- **Index of digital skills**
  - The **overall level of digital skills** was measured using 5 sub-areas: communication, finding and sorting information, solving

problems on the internet, safe behaviour on the internet and creation of digital content.

- Persons with **at least basic overall digital skills** mean persons with basic digital skills together with persons with advanced digital skills.
- Persons with **basic overall digital skills** achieved basic level in all 5 sub-areas, however they did not achieve advanced skills in all of the subareas.
- Persons with **advanced level of overall digital skills** achieved advanced level in all of the 5 sub-areas.
- **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 (portal)** 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. Schools often provide **school parents portal** where they can see e.g. school results of their children online.
- **School Wireless Network** (school WiFi network) enables students and school staff to use 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.
- **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:**

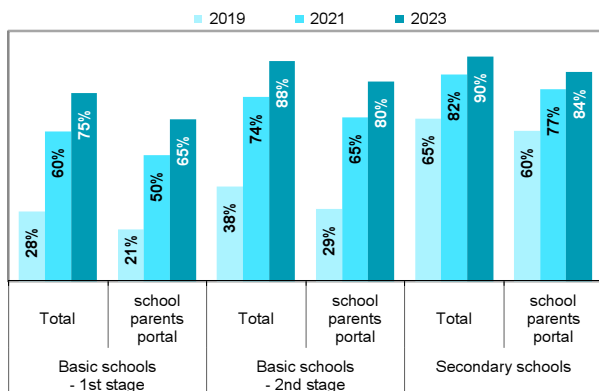
[https://www.czso.cz/csu/czso/vyuzivani\\_informacnich\\_techologii\\_studenty](https://www.czso.cz/csu/czso/vyuzivani_informacnich_techologii_studenty)  
(in the Czech language only)

## F ICT in Education and Digital Skills

**Table F1 Schools in Czechia with wireless network and school intranet (portal); 2023**

	Percentage		
	Basic schools - 1st stage	Basic schools - 2nd stage	Secondary schools
<b>School intranet (portal), total</b>	75,2	87,8	89,6
School parents portal	64,7	79,7	83,5
<b>School wireless network</b>	98,7	99,1	97,7

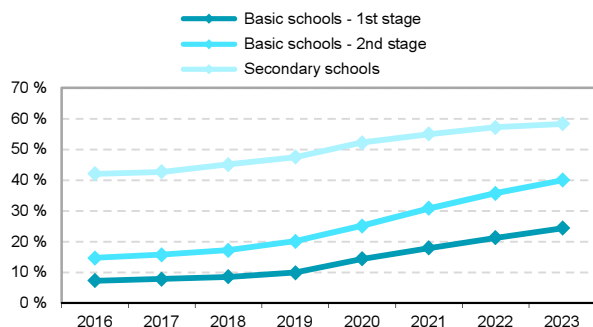
**Figure F1 Schools with school intranet (portal)**



**Table F2 Schools in Czechia permitting students to use their personally owned digital devices during classes**

	Percentage		
	2021	2022	2023
Basic schools - 1st stage	17,9	21,2	24,3
Basic schools - 2nd stage	30,8	35,7	40,0
Secondary schools	55,0	57,2	58,3

**Figure F2 Schools permitting students to use their personally owned digital devices during classes**



Source: Ministry of Education, Youth and Sports and CZSO own calculations

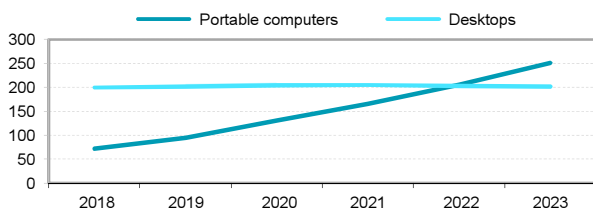
## F ICT in Education and Digital Skills

**Table F3 Computers available to students in schools in Czechia; 2023**

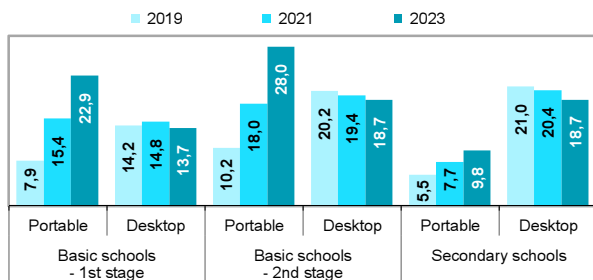
Number of devices per 100 students in a given school type

	Basic schools - 1st stage	Basic schools - 2nd stage	Secondary schools
<b>Computers, total</b>	<b>36,7</b>	<b>46,7</b>	<b>28,5</b>
Computers up to 2 years old	12,1	16,4	8,4
<b>Portable computers</b>	<b>22,9</b>	<b>28,0</b>	<b>9,8</b>
Portable computers up to 2 years old	9,9	12,9	4,2
<b>Desktops</b>	<b>13,7</b>	<b>18,7</b>	<b>18,7</b>
Desktops up to 2 years old	2,2	3,5	4,2

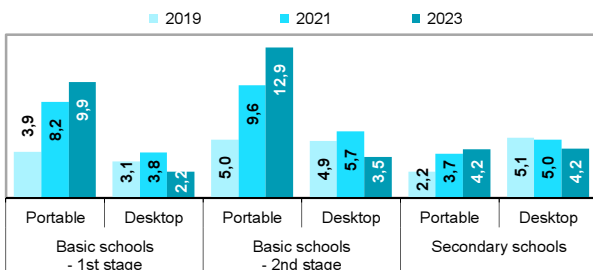
**Figure F3 Computers available to students in schools (thous.)**



**Figure F4 Type of computers available to students in schools (per 100 students in a given school type)**



**Figure F5 Computers up to age of two years available to students in schools (per 100 students in a given school type)**



Source: Ministry of Education, Youth and Sports and CZSO own calculations

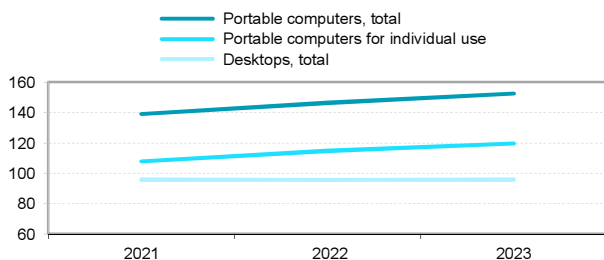
## F ICT in Education and Digital Skills

**Table F4 Computers available to teachers in Czechia; 2023**

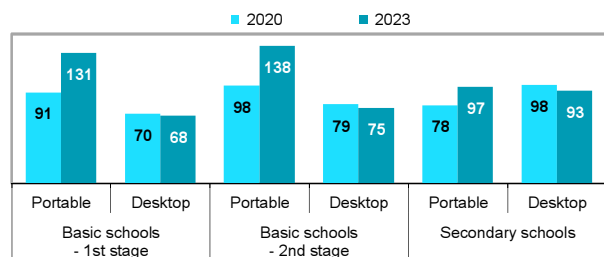
Number of devices per 1 teacher in a given school type

	Basic schools - 1st stage	Basic schools - 2nd stage	Secondary schools
<b>Computers, total</b>	<b>2,0</b>	<b>2,1</b>	<b>1,9</b>
Computers for individual use (not shared)	1,2	1,3	1,2
<b>Portable computers, total</b>	<b>1,3</b>	<b>1,4</b>	<b>1,0</b>
Portable computers for individual use (not shared)	1,0	1,1	0,8
<b>Desktops, total</b>	<b>0,7</b>	<b>0,8</b>	<b>0,9</b>
Desktops for individual use (not shared)	0,1	0,2	0,4

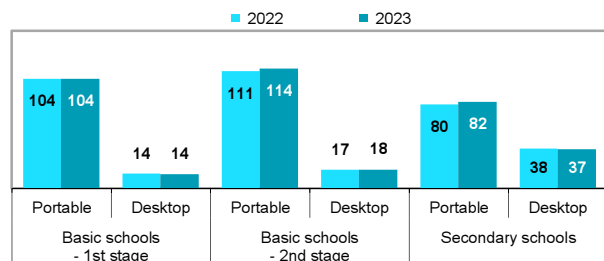
**Figure F6 Computers for teachers in schools (thousand)**



**Figure F7 Computers available to teachers in schools (per 100 teachers in a given school type)**



**Figure F8 Computers intended for individual use by teachers (per 100 teachers in a given school type)**



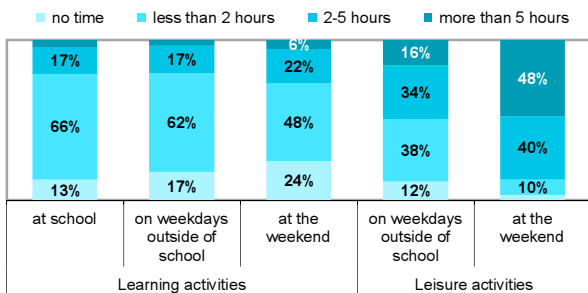
Source: Ministry of Education, Youth and Sports and CZSO own calculations

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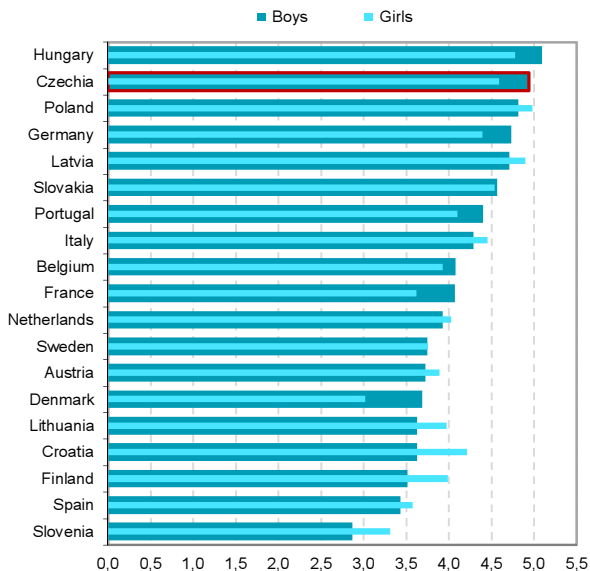
**Table F5 Time spent daily on digital devices by 15-year-olds in Czechia; 2022**

	average number of hours		
	Total	Girls	Boys
Learning activities at school	1,4	1,4	1,4
Learning activities on weekdays outside of school	1,3	1,4	1,3
Learning activities at the weekend	1,5	1,7	1,3
Leisure activities on weekdays outside of school	2,5	2,4	2,7
Leisure activities at the weekend	4,8	4,6	4,9

**Figure F9 Time spent daily on digital devices by 15-year-olds; 2022**



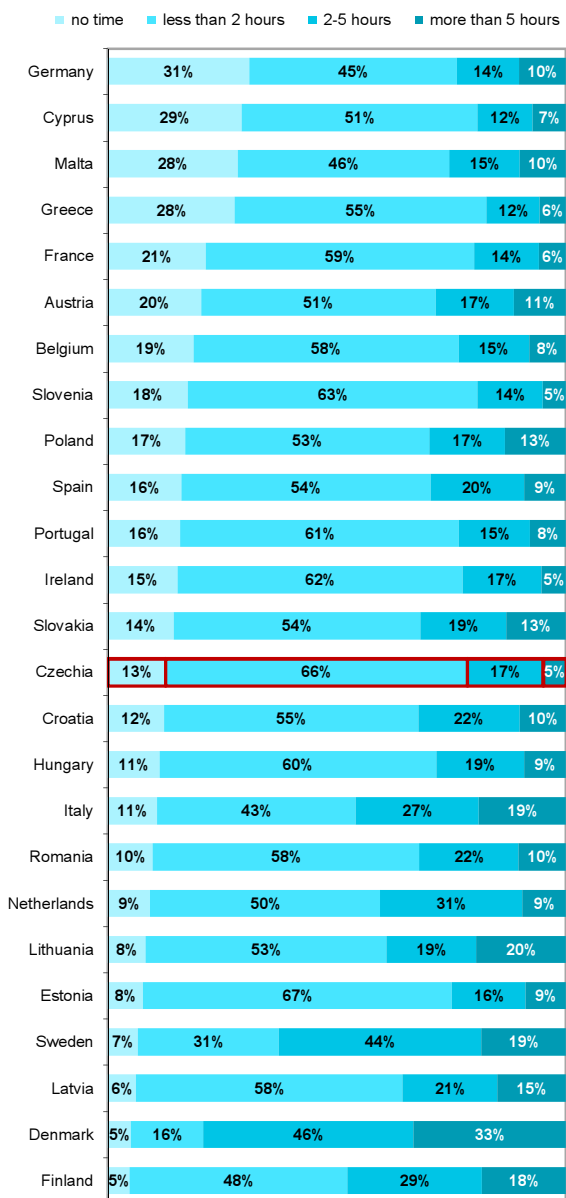
**Figure F10 Time spent daily on digital devices by 15-year-olds in selected EU countries during leisure activities at the weekend; 2022 (average number of hours)**



Source: OECD, PISA survey

## F ICT in Education and Digital Skills

**Figure F11 Time spent daily on digital devices by 15-year-olds in EU countries at school during learning activities; 2022 (average number of hours)**



Source: OECD, PISA survey

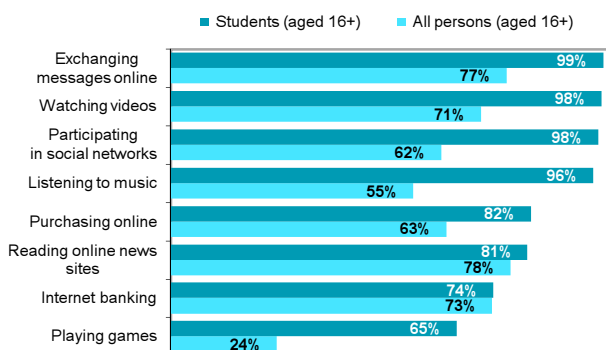
## F ICT in Education and Digital Skills

**Table F6 Students aged 16+ in Czechia using the internet; 2023**

	Percentage		
	Total	Men	Women
<b>Total</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>
Using the internet on a mobile phone	99,7	99,4	100,0
<b>For selected activities</b>			
Exchanging messages online	98,8	97,6	100,0
Participating in social networks	97,6	95,8	99,1
Reading online news sites	81,5	80,9	82,0
Listening to music	96,4	96,0	96,8
Listening to paid music	31,3	29,7	32,7
Watching videos	98,3	98,1	98,5
Watching paid videos	53,6	54,6	52,7
Purchasing online	82,3	78,3	85,9
Internet banking	73,6	73,0	74,1
Playing games	65,3	82,4	49,8
Playing paid games	21,7	36,6	8,2

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

**Figure F12 Students and persons aged 16+ using the internet for selected activities; 2023**



**Table F7 Students 16+ in Czechia using selected software; 2023**

	Percentage		
	Total	Men	Women
<b>Word processing software, total</b>	<b>95,9</b>	<b>92,6</b>	<b>98,9</b>
Use of advanced functions in word processing software (e.g. inserting pictures or charts)	78,2	73,7	82,2
<b>Spreadsheet software, total</b>	<b>77,4</b>	<b>75,1</b>	<b>79,4</b>
Use of advanced functions in spreadsheet software (e.g. filters, formulas)	47,7	46,6	48,6
Presentation software	67,9	60,5	74,6
Photo/ video editing software and apps	60,7	51,1	69,3
Programming	14,1	17,2	11,3

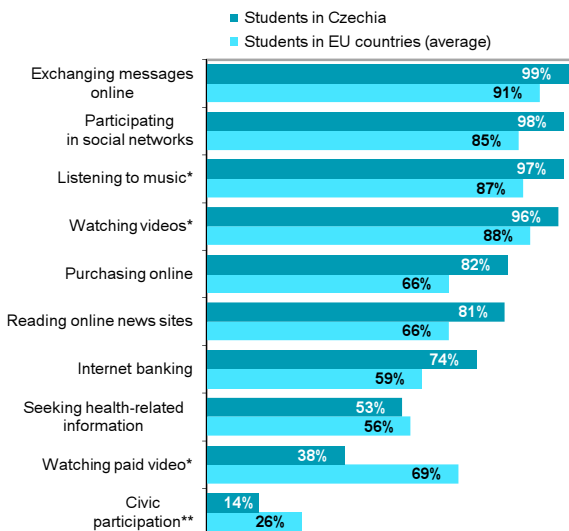
as a percentage of all students (men/women) aged 16+

Source: Czech Statistical Office, ICT use survey in households



## F ICT in Education and Digital Skills

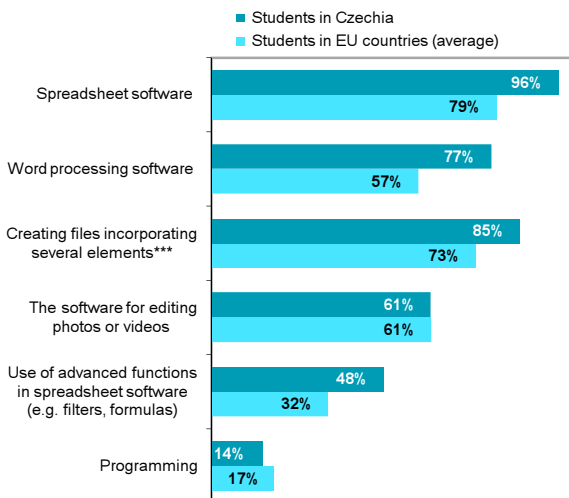
**Figure F13 Students aged 16+ in Czechia and EU countries using the internet for selected activities; 2023**



\* data for 2022

\*\* discussion with others and participation in the survey on civic and political issues

**Figure F14 Students aged 16+ in Czechia and EU countries using selected software; 2023**



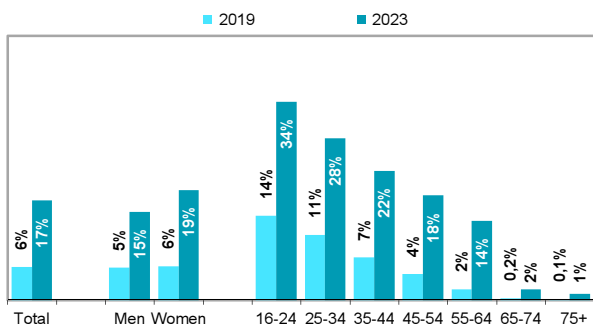
\*\*\* creating files (e.g. document, image, video) incorporating several elements, e.g. text, picture, table, chart, animation, sound

## F ICT in Education and Digital Skills

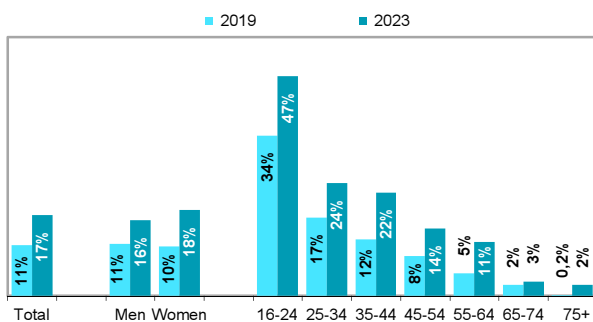
**Table F8 Persons in Czechia using the internet for selected learning activities; 2023**

	Percentage	
	Doing an online course	Using online learning materials
<b>Total (aged 16+)</b>	<b>16,9</b>	<b>17,2</b>
Men	15,0	16,0
Women	18,7	18,2
<b>Age group (years)</b>		
16–24	33,7	46,6
25–34	27,5	23,9
35–44	22,0	21,8
45–54	17,8	14,2
55–64	13,5	11,4
65–74	1,8	3,0
75+	1,1	2,3
<b>Education (aged 25–64)</b>		
Low	4,0	6,9
Middle	22,3	16,9
High	40,4	35,2

**Figure F15 Doing an online course by gender and age**



**Figure F16 Using online learning materials by gender and age**

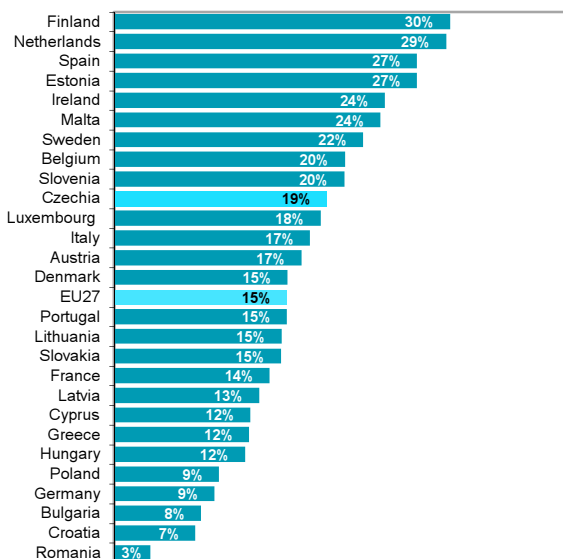


as a percentage of all persons in a given socio-demographic group

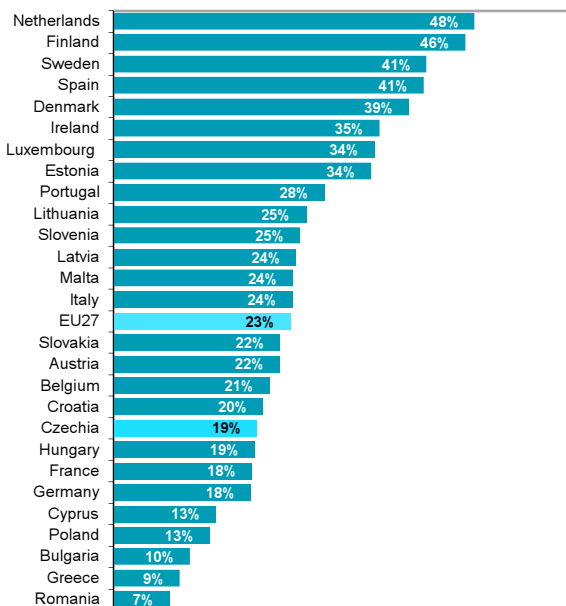
Source: Czech Statistical Office, ICT use survey in households

## F ICT in Education and Digital Skills

**Figure F17 Persons aged 16–74 years in EU countries doing an online course; 2023**



**Figure F18 Persons aged 16–74 years in EU countries using online learning materials; 2023**

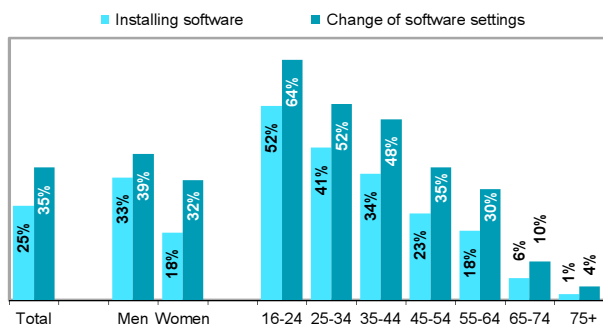


## F ICT in Education and Digital Skills

**Table F9 Selected digital skills of persons in Czechia; 2023**

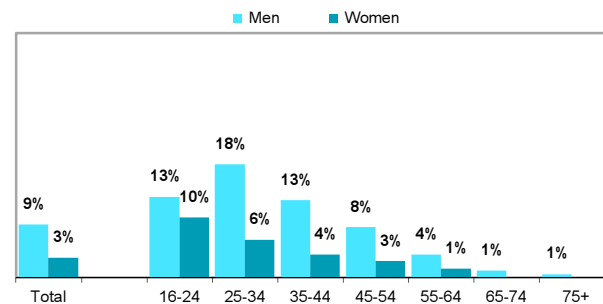
	Percentage		
	Copying files	Editing photos	Programming
<b>Total (aged 16+)</b>	<b>61,5</b>	<b>26,9</b>	<b>5,8</b>
Men	63,4	26,4	8,6
Women	59,6	27,5	3,2
<b>Age group (years)</b>			
16–24	94,8	57,5	11,4
25–34	82,9	44,7	12,3
35–44	79,3	35,5	8,1
45–54	70,6	23,7	5,2
55–64	57,9	16,1	2,5
65–74	23,1	8,0	0,5
75+	11,0	3,8	0,2
<b>Education (aged 25–64)</b>			
Low	48,8	16,2	1,5
Middle	80,6	29,7	6,4
High	95,8	50,1	16,0

**Figure F19 Installing software and change of software settings by gender and age; 2023**



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

**Figure F20 Programming by gender and age; 2023**

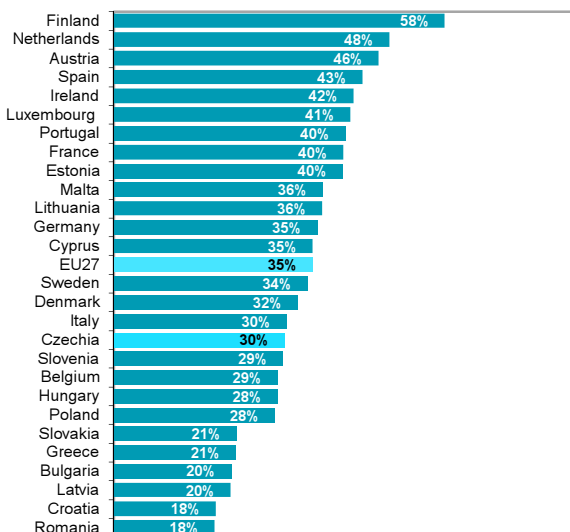


as a percentage of all men/women in a given age group

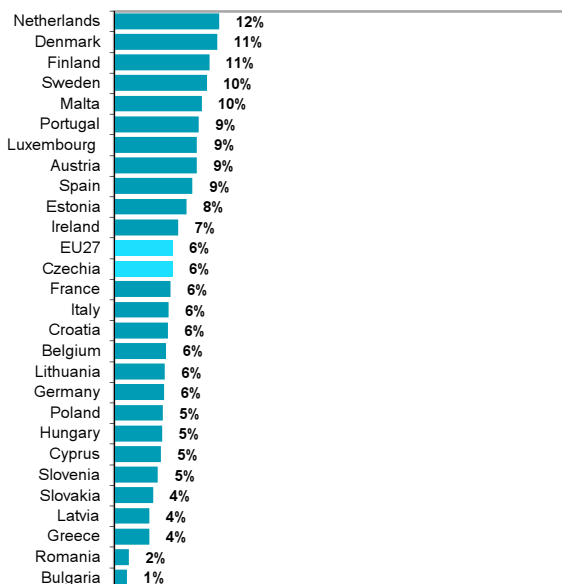
Source: Czech Statistical Office, ICT use survey in households

## F ICT in Education and Digital Skills

**Figure F21 Persons aged 16–74 years in EU countries who used photo or video editing software; 2023**



**Figure F22 Persons aged 16–74 years in EU countries who do programming; 2023**

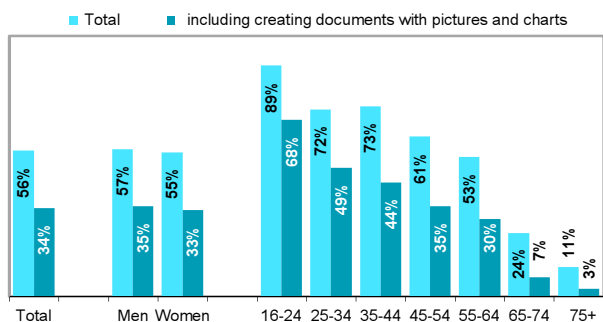


## F ICT in Education and Digital Skills

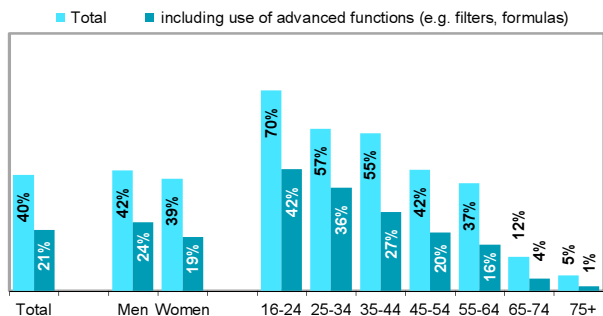
**Table F10 Persons in Czechia using office software; 2023**

	Percentage		
	Word processing software	Spreadsheet software	Presentation software
<b>Total (aged 16+)</b>	<b>55,9</b>	<b>40,5</b>	<b>20,2</b>
Men	56,5	41,9	21,0
Women	55,3	39,1	19,5
<b>Age group (years)</b>			
16–24	88,6	69,9	57,9
25–34	71,8	56,6	28,7
35–44	72,9	55,1	24,9
45–54	61,3	42,1	18,6
55–64	53,4	37,5	12,1
65–74	24,1	11,7	1,8
75+	11,1	5,4	1,1
<b>Education (aged 25–64)</b>			
Low	34,0	16,5	4,5
Middle	75,1	54,8	18,4
High	94,2	82,5	49,9

**Figure F23 Using word processing software; 2023**



**Figure F24 Using spreadsheet software; 2023**

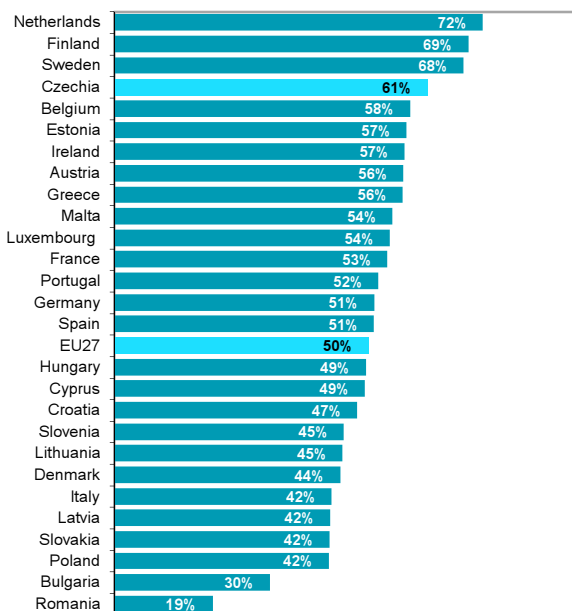


as a percentage of all persons in a given socio-demographic group

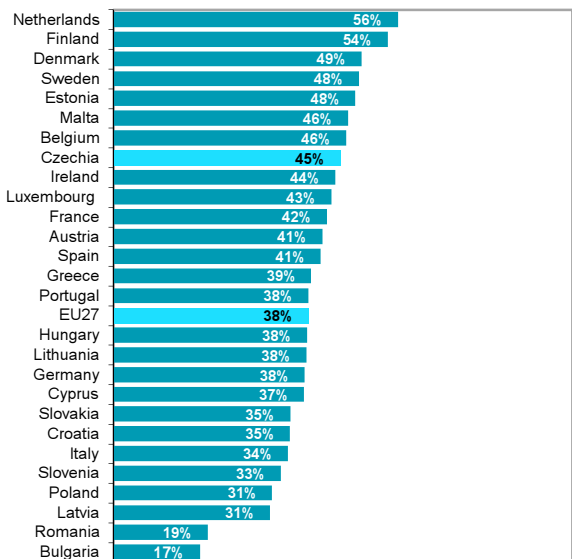
Source: Czech Statistical Office, ICT use survey in households

## F ICT in Education and Digital Skills

**Figure F25 Persons aged 16–74 years in EU countries who used word processing software; 2023**



**Figure F26 Persons aged 16–74 years in EU countries who used spreadsheet software; 2023**



Source: Eurostat

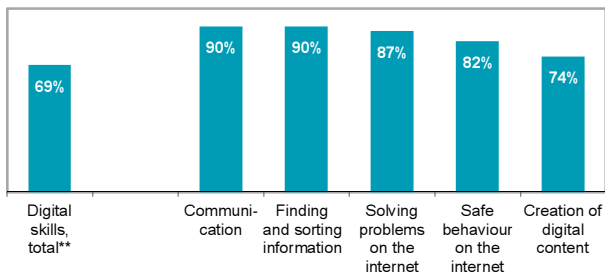
## F ICT in Education and Digital Skills

**Table F11 Level of digital skills\* of persons in Czechia; 2023**

	Percentage		
	Low	Basic	Advanced
<b>Total (aged 16–74 )</b>	<b>21,8</b>	<b>33,6</b>	<b>35,5</b>
Men	21,8	33,4	36,0
Women	21,8	33,8	35,0
<b>Age group (years)</b>			
16–24	7,1	37,4	55,3
25–34	12,6	31,8	53,7
35–44	16,5	37,0	45,9
45–54	24,8	39,8	32,4
55–64	29,7	34,3	24,7
65–74	36,4	20,3	5,3
<b>Education (aged 25–64)</b>			
Low	44,2	28,7	2,4
Middle	25,9	40,8	29,5
High	4,2	25,8	69,8

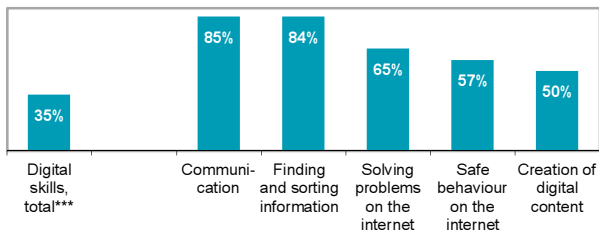
\* The overall level of digital skills was measured using 5 sub-areas: communication, finding and sorting information, solving problems on the internet, safe behaviour on the internet and creation of digital content.

**Figure F27 Persons aged 16–74 years with at least basic overall digital skills in given sub-areas; 2023**



\*\* Includes persons who have reached basic or advanced level in all the areas covered, but not advanced level in all areas.

**Figure F28 Persons aged 16–74 years with advanced level of digital skills in given sub-areas; 2023**



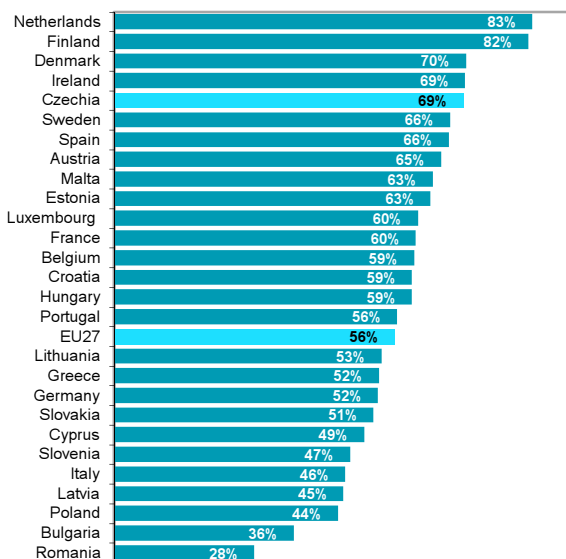
\*\*\* Includes persons who have reached an advanced level in all the areas covered.

Source: Czech Statistical Office, ICT use survey in households

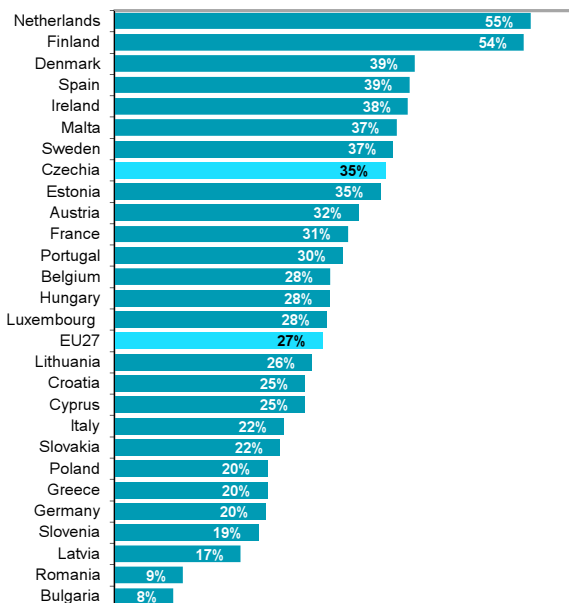


## F ICT in Education and Digital Skills

**Figure F29 Persons aged 16–74 years in EU countries with at least basic overall digital skills; 2023**

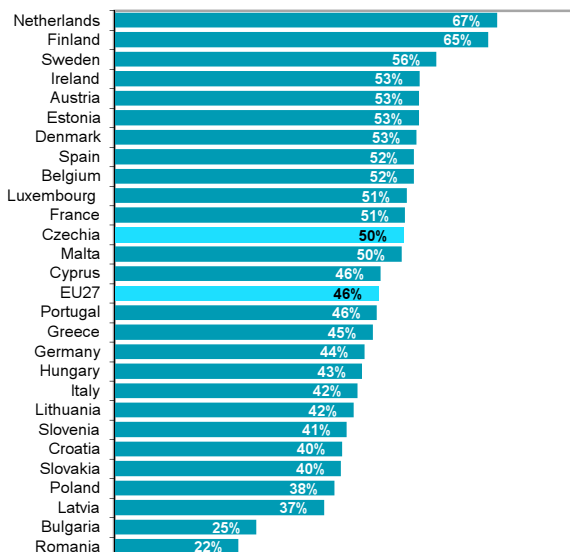


**Figure F30 Persons aged 16–74 years in EU countries with advanced level of digital skills; 2023**

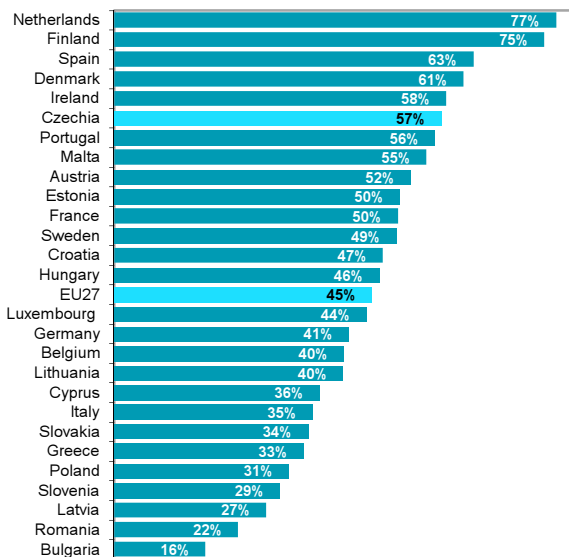


## F ICT in Education and Digital Skills

**Figure F31 Persons aged 16–74 years in EU countries with advanced level of digital skills in the area of digital content creation; 2023**



**Figure F32 Persons aged 16–74 years in EU countries with advanced level of digital skills in the area of safe behaviour on the Internet; 2023**



Source: Eurostat