

A ICT specialists

ICT specialists are **defined** as persons who have the ability to develop, operate and maintain ICT systems and for whom ICTs constitute the main part of their job. The occupations of ICT specialists are subdivided into **two major groups** and from 2011 are **assigned** to the groups, and subgroups of the **Classification of Occupations (CZ-ISCO)** as follows:

ICT managers, engineers and professionals

- 1330 Information and communications technology service managers;
- 2152 Electronics engineers;
- 2153 Telecommunications engineers;
- 2434 Information and communications technology sales professionals;
- Note: The 1330, 2152, 2153 and 2434 subgroups are merged into one category called **ICT managers and engineers**.*
- 25 Information and communications technology professionals**
 - 251 Software and applications developers and analysts;
 - 252 Database and network professionals.

ICT technicians, installers and servicers

- 3114 Electronics engineering technicians;
- 35 Information and communications technicians**
 - 351 ICT operations and user support technicians;
 - 352 Telecommunications and broadcasting technicians;
- 742 Electronics and telecommunications (ICT) installers and repairers.

*Note: Some data for the ICT specialists, such as wages, are available only for the ICT specialists defined **rather narrow**, which includes only two sub-major groups of CZ-ISCO: **25 ICT professionals** and **35 ICT technicians**.*

Detail description of CZ-ISCO occupations is available here (only in Czech): https://www.czso.cz/csu/czso/klasifikace_zamestnani_-cz_isco-

Numbers of ICT specialists

The data on the numbers of ICT specialists are taken from the **Labour Force Survey (LFS)**. *Note: In order to ensure higher reliability and to eliminate considerable year-on-year fluctuations of values for this group of employees, data is here provided as **three-year moving averages** (i.e., for example, the value for 2018 is calculated as an average from the values for 2017, 2018, and 2019).*

For further information on the **Czech LFS** see:

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

The **Eurostat LFS Database** was used for the **international comparison**. *Note: Data for the Czech Republic from Eurostat **differ slightly** from the data published by the Czech Statistical Office. For instance, data from Eurostat are given for the relevant year and not as three-year moving averages.*

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

For further information on the **Czech SES** see:

<https://www.czso.cz/csu/czso/structure-of-earnings-survey-2019>

Data about ICT specialists is available by **several breakdowns**: by occupation and industry or by individual characteristics of ICT specialists such as gender, citizenship, age or highest education attainment.

For further information on **ICT specialists** see (only in Czech):

<https://www.czso.cz/csu/czso/ict-odbornici>

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Table A1 ICT specialists in Czechia

	Thousand persons*		
	2016	2017	2018
Total	181,8	192,5	200,5
Men	164,4	174,6	181,9
Woman	17,4	18,0	18,7
Occupation			
ICT managers, engineers and professionals	87,8	92,7	99,3
ICT technicians, installers and servicers	94,0	99,9	101,2
Age group			
Under 25 years	9,4	10,1	10,5
25–34 years	63,4	65,2	65,0
35–44 years	59,7	65,0	71,5
45–54 years	32,3	33,3	33,2
55 + years	17,0	18,9	20,3
Highest level of education attainment			
Tertiary	102,6	107,3	109,6
Secondary with A-level examination	69,4	74,4	79,8
Other (lower)	9,8	10,8	11,1

Figure A1 ICT specialists*

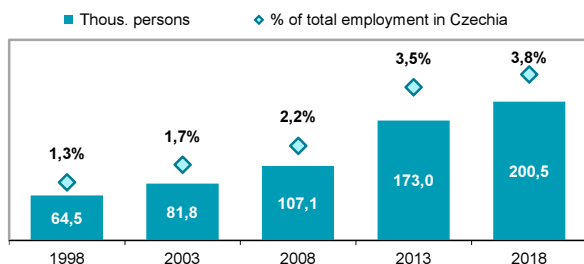
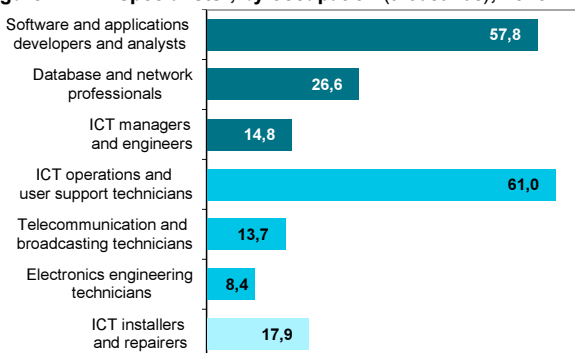


Figure A2 ICT specialists*, by occupation (thousands); 2018



* Three-year moving averages, see the methodological notes.

Source: CZSO, Labour Force Survey

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Figure A3 ICT specialists in EU countries; 2019
(% of total employment)

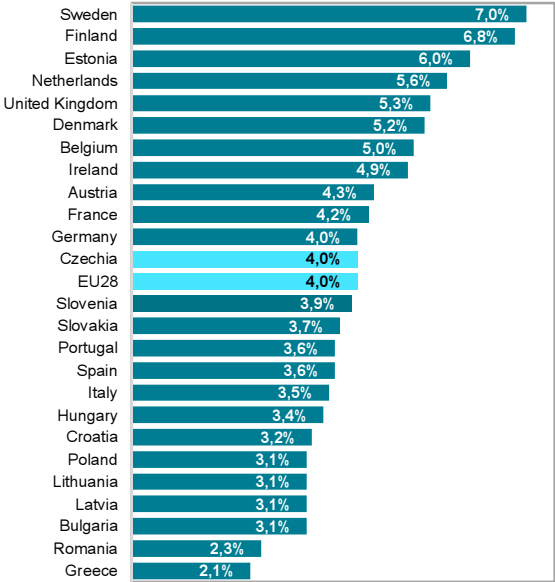
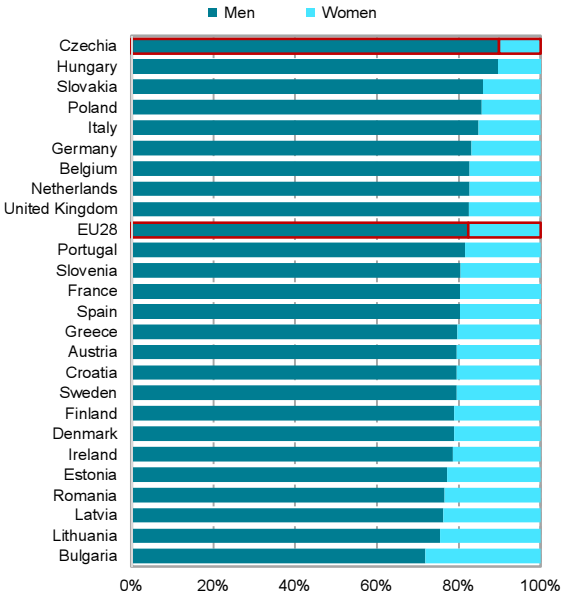


Figure A4 ICT specialists, by gender; 2019



Source: CZSO calculation based on the Eurostat LFS Database

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Table A2 ICT managers, engineers and professionals in Czechia

	Thousand persons*		
	2016	2017	2018
Total	87,8	92,7	99,3
Men	78,8	83,3	89,2
Women	9,0	9,4	10,1
Occupation			
ICT professionals, total	70,2	76,0	84,5
Software and app. developers and analysts	46,4	50,6	57,8
Database and network professionals	23,5	25,2	26,6
ICT managers and engineers	17,6	16,7	14,8
Age group			
Under 25 years	3,1	3,2	2,8
25–34 years	31,5	32,3	33,6
35–44 years	30,6	34,0	37,8
45–54 years	15,2	14,9	15,7
55 + years	7,5	8,3	9,4
Highest level of education attainment			
Master's and Doctoral	62,4	65,8	68,0
Bachelor's and Higher professional	12,3	12,8	14,5
Other (lower)	11,9	13,1	16,4

Figure A5 ICT professionals*



Figure A6 ICT professionals*, by gender

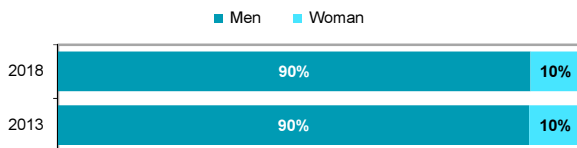
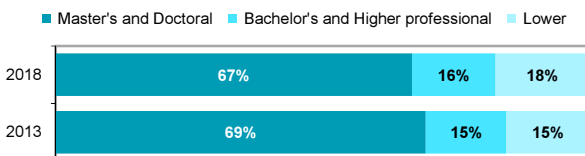


Figure A7 ICT professionals*, by level of education



* Three-year moving averages, see the methodological notes.

Source: CZSO, Labour Force Survey

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Figure A8 ICT professionals in EU countries; 2019
(% of total employment)

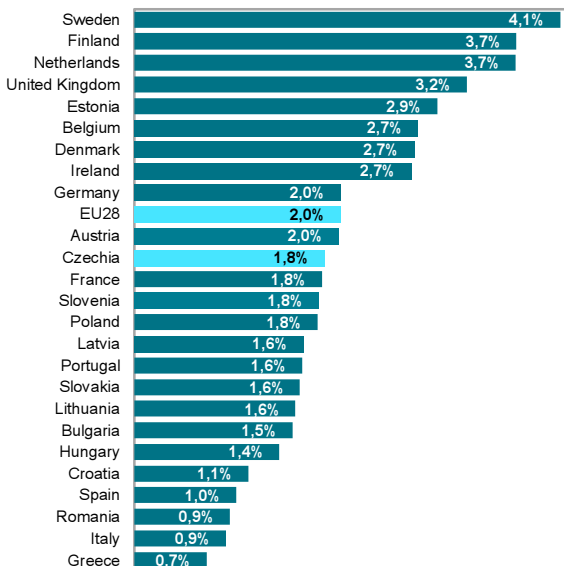
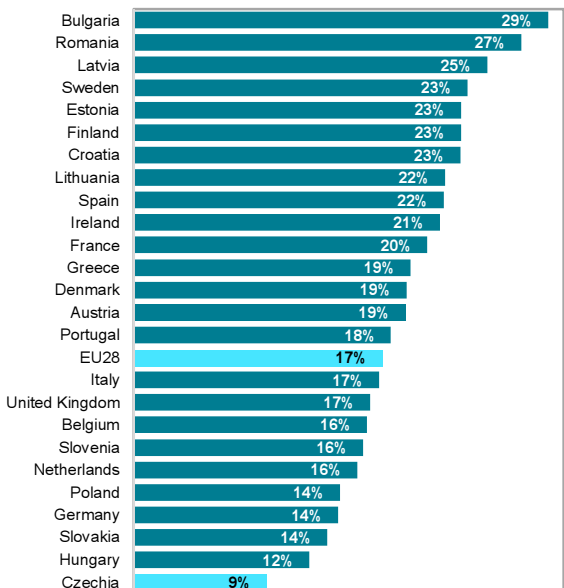


Figure A9 Share of women among ICT professionals; 2019



Source: CZSO calculation based on Eurostat LFS Database

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Table A3 ICT technicians, installers and servicers in Czechia

Thousand persons*

	2016	2017	2018
Total	94,0	99,9	101,2
Men	85,6	91,3	92,7
Woman	8,4	8,6	8,5
Occupation			
ICT technicians, total	65,7	71,4	74,8
ICT operations and user support technicians	52,2	57,3	61,0
Telecomm. and broadcasting technicians	13,6	14,0	13,7
ICT installers and servicers	28,2	28,5	26,3
Age group			
Under 25 years	6,3	7,0	7,7
25–34 years	31,9	32,9	31,4
35–44 years	29,1	31,0	33,7
45–54 years	17,1	18,4	17,5
55 + years	9,5	10,6	10,9
Highest level of education attainment			
Tertiary	27,8	28,7	27,1
Secondary with A-level examination	57,5	61,3	63,4
Other (lower)	8,7	9,8	10,7

Figure A10 ICT technicians*

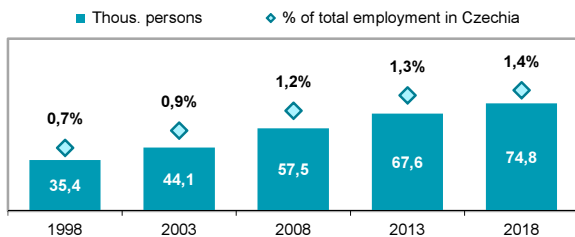


Figure A11 ICT technicians*, by gender

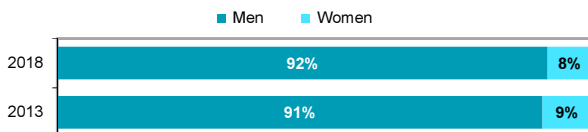
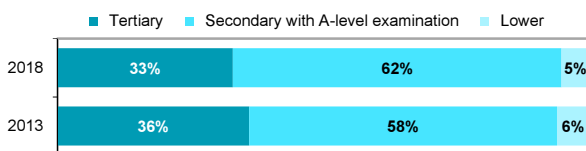


Figure A12 ICT technicians*, by level of education



* Three-year moving averages, see the methodological notes.

Source: CZSO, Labour Force Survey

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Figure A13 ICT technicians in EU countries; 2019
(% of total employment)

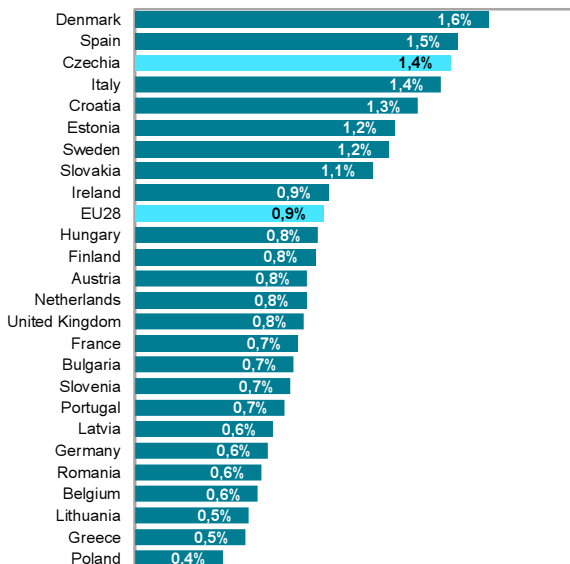
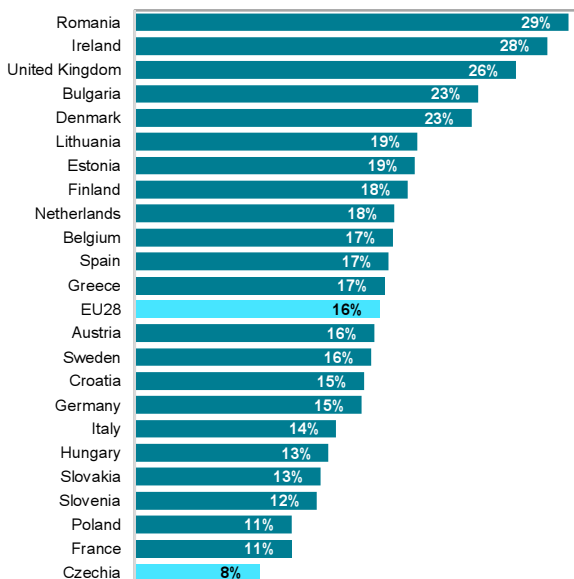


Figure A14 Share of women among ICT technicians; 2019



Source: CZSO calculation based on Eurostat LFS Database

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Table A4 Wages of ICT professionals in Czechia

Average gross monthly wage in CZK

	2017	2018	2019
Total	56 747	61 026	65 787
Men	58 025	62 460	67 439
Women	47 765	51 550	55 512
Citizenship			
Czech citizens	54 910	59 103	63 439
Foreigners	70 550	73 574	79 941
Sphere of activity (remuneration)			
Business (wage) sphere	57 810	62 073	66 964
Government (salary) sphere	38 876	42 060	44 351
Age group			
Under 25 years	33 034	34 403	38 149
25–34 years	51 487	55 064	59 311
35–44 years	65 206	69 650	74 702
45–54 years	59 965	65 425	71 122
55 + years	51 652	57 134	58 588
Highest level of education attainment			
Master's and Doctoral	62 809	67 578	72 620
Bachelor's and Higher professional	51 906	56 425	62 025
Secondary with A-level examination	50 723	54 396	58 258

Figure A15 Wages of ICT professionals

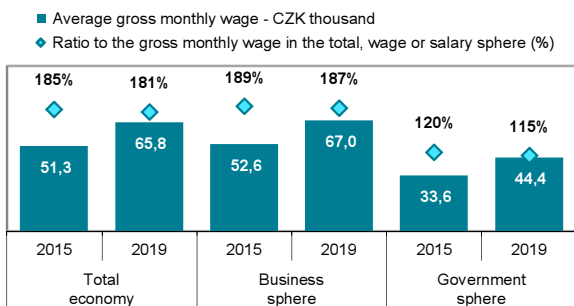
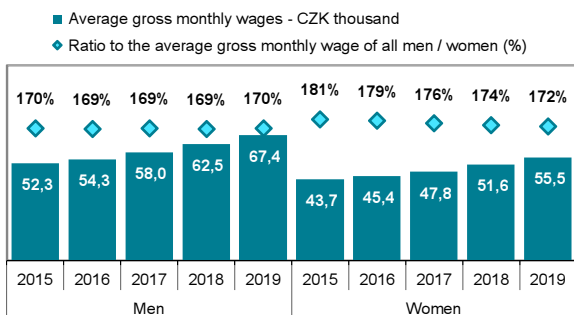


Figure A16 Wages of ICT professionals, by gender



Source: CZSO, Structural Earnings Statistics

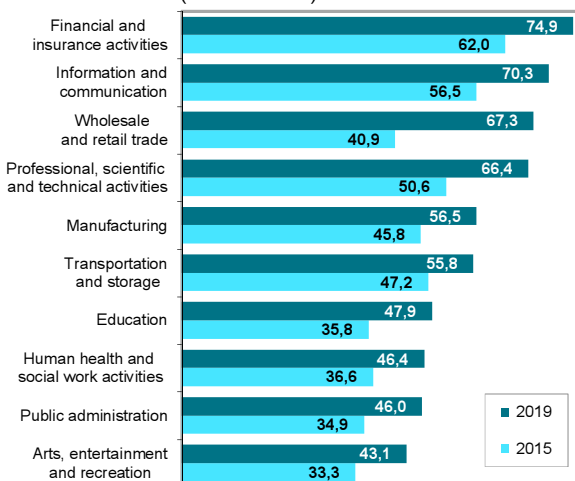
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Table A5 Wages of ICT professionals in Czechia according to their occupation and industry

Average gross monthly wage in CZK

	2017	2018	2019
Total	56 747	61 026	65 787
Occupation			
Software and app. developers & analysts	59 139	63 530	69 035
Systems analysts	61 883	66 790	72 136
Software developers	61 157	64 173	70 788
Web and multimedia developers			61 266
Applications programmers	54 343	58 386	64 315
Other SW & App. developers and analysts	58 207	63 466	64 788
Database and network professionals	50 884	54 364	57 610
Database designers/admin.	52 646	54 355	64 852
Systems administrators	49 375	52 777	55 160
Computer network professionals	55 742	59 161	62 793
Data security specialists	58 267	66 488	71 428
Industry (CZ-NACE Section)			
Manufacturing (C)	50 159	53 864	56 459
Wholesale and retail trade (G)	48 326	53 925	67 329
Transporting and storage (H)	50 153	52 998	55 837
Information and communication (J)	61 457	65 749	70 290
Financial and insurance activities (K)	65 182	69 909	74 932
Professional, scientific and techn. act. (M)	55 730	60 775	66 387
Public administration (O)	40 278	43 379	46 037
Education (P)	39 543	44 395	47 924
Human health and social work act. (Q)	40 663	43 799	46 445
Arts, entertainment and recreation (R)	39 068	43 540	43 074

Figure A17 Average gross monthly wage of ICT professionals in selected industries (CZK thousand)



Source: CZSO, Structural Earnings Statistics

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Table A6 Wages of ICT technicians in Czechia

Average gross monthly wage in CZK

	2017	2018	2019
Total	39 612	42 016	45 219
Men	40 307	42 616	45 644
Women	35 084	38 269	42 068
Citizenship			
Czech citizens	38 657	41 024	44 170
Foreigners	54 263	55 168	56 840
Sphere of activity (remuneration)			
Business (wage) sphere	40 387	42 726	45 999
Government (salary) sphere	31 200	34 228	36 802
Age group			
Under 25 years	27 143	28 806	31 664
25–34 years	36 329	38 800	42 302
35–44 years	43 666	45 408	49 204
45–54 years	41 235	45 011	49 829
55 + years	39 161	43 452	42 926
Highest level of education attainment			
Master's and Doctoral	48 961	52 020	55 485
Bachelor's and Higher professional	41 245	44 403	45 944
Secondary with A-level examination	36 098	38 449	41 710
Other (lower)	30 926	31 753	36 371

Figure A18 Wages of ICT technicians

- Average gross monthly wage - CZK thousand
- ◆ Ratio to the gross monthly wage in the total, wage or salary sphere (%)

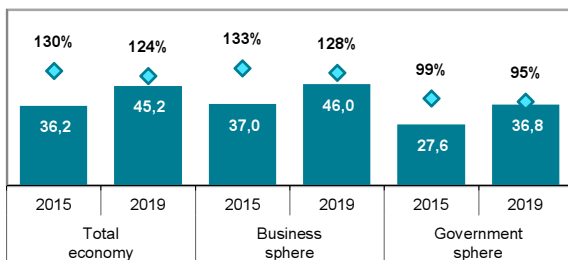
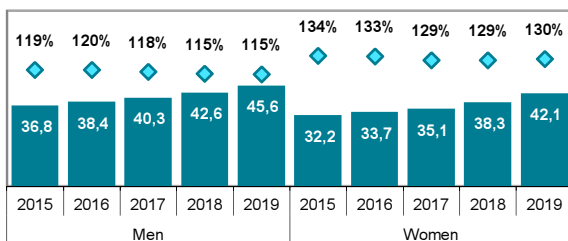


Figure A19 Wages of ICT technicians, by gender

- Average gross monthly wage - CZK thousand
- ◆ Ratio to the average gross monthly wage of all men / women (%)

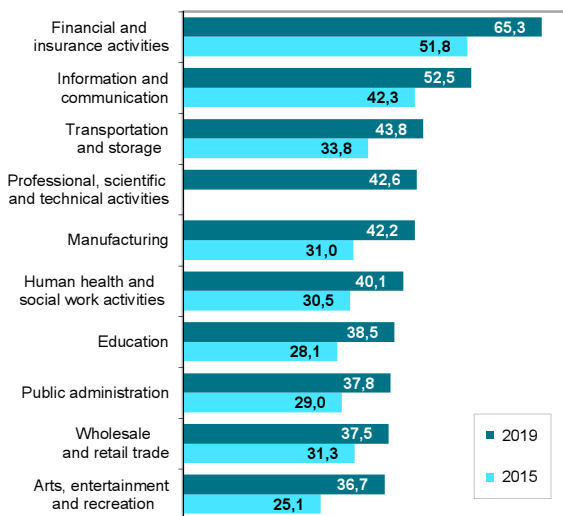


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Table A7 Wages of ICT technicians in Czechia according to their occupation and industry

	Average gross monthly wage in CZK		
	2017	2018	2019
Total	39 612	42 016	45 219
Occupation			
ICT operations and user support techn.	40 243	42 789	46 134
ICT operations technicians	38 349	40 751	45 950
ICT user support technicians	43 911	46 576	49 438
Computer network and systems technicians	40 562	43 127	43 219
Web technicians			40 840
Telecomm. and broadcasting technicians	36 118	37 922	39 641
Broadcasting and audiovisual technicians	32 511	35 590	36 333
Telecommunications engineering techn.		38 940	40 599
Industry (CZ-NACE Sections)			
Manufacturing (C)	34 427	37 622	42 193
Wholesale and retail trade (G)	34 793	35 874	37 470
Transporting and storage (H)	39 634	43 149	43 789
Information and communication (J)	46 178	49 192	52 488
Financial and insurance activities (K)	57 140	59 403	65 315
Professional, scientific and techn. act. (M)		38 147	42 631
Public administration (O)	32 361	35 140	37 846
Education (P)	31 235	34 438	38 518
Human health and social work act. (Q)	34 215	38 154	40 140
Arts, entertainment and recreation (R)	30 310	33 779	36 718

Figure A20 Average gross monthly wage of ICT technicians in selected industries (CZK thousand)



Source: CZSO, Structural Earnings Statistics

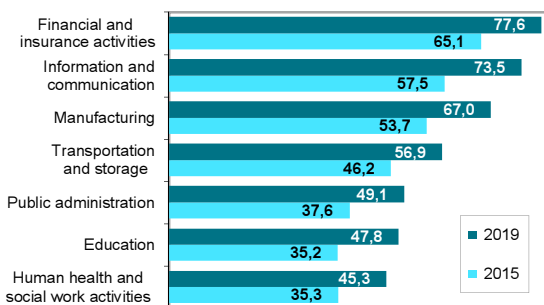
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Table A8 Wages of Software and applications developers and analysts in Czechia

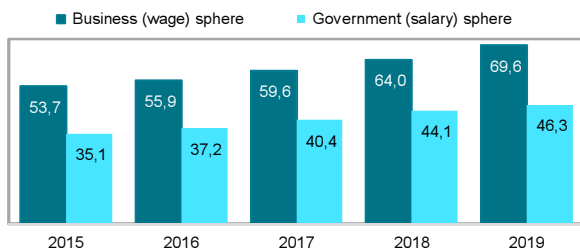
Average gross monthly wages in CZK

	2017	2018	2019
Total	59 139	63 530	69 035
Men	60 429	64 961	70 785
Women	49 971	53 840	58 197
Sphere of activity (remuneration)			
Business (wage) sphere	59 643	63 994	69 577
Government (salary) sphere	40 440	44 068	46 300
Age group			
Under 25 years	33 241	34 834	39 235
25–34 years	53 341	57 078	61 441
35–44 years	69 853	73 966	80 165
45–54 years	62 380	67 764	74 758
55 + years	53 017	59 379	61 346
Highest level of education attainment			
Master's and Doctoral	64 665	69 316	75 268
Bachelor's and Higher professional	53 967	58 580	64 237
Secondary with A-level examination	52 361	56 591	60 990

Figure A21 Wages of software & applications developers and analysts in selected industries (CZK thousand)



Graf A22 Wages of software & applications developers and analysts, by sphere of activity (CZK thousand)



Source: CZSO, Structural Earnings Statistics