

A ICT specialists

ICT professionals and technicians (hereafter ICT specialists) are all persons employed in the national economy, whose principal activity comes within the following two major groups of the International Standard Classification of Occupations (ISCO-08):

- **ICT professionals (25)**
 - Software and applications developers and analysts (251)
 - Database and network professionals (252)
- **ICT technicians (35)**
 - Information and communications technology operations and user support technicians (351)
 - Telecommunications and broadcasting technicians (352)

ICT professionals conduct research, plan, design, write, test, provide advice and improve information technology systems, hardware, software and related concepts for specific applications; and design, develop, control, maintain and support databases and other information systems to ensure optimal performance and data integrity and security.

ICT technicians provide support for the day-to-day running of computer systems, communications systems and networks. Tasks performed by workers in this group usually include: providing assistance to information and communications systems users; installing new programs and equipment; establishing, operating and maintaining network and other data communications systems; installing, monitoring and supporting Internet and Intranet websites or web server hardware or software; modifying web pages; and performing web server backup and recovery operations.

Data for the ICT professionals and technicians are available by gender, age, economic activity (NACE), level and field of education (ISCED) and other socio-demographic and economic characteristics.

Data on the **numbers and structure** of ICT specialists come from the **Labour Force Survey (LFS)** of the Czech Statistical Office (CZSO). Further information on the Czech LFSS can be found at: <http://www.czso.cz/csu/2012edicniplan.nsf/engp/3104-12>

The **Eurostat Labour Force Survey Database** was used as a data source for the international comparison. For more information see: http://epp.eurostat.ec.europa.eu/portal/page/portal/employment_unemployment_lfs/data/database

Data on **average monthly gross wages** of ICT specialists come from the **Structural Earnings Statistics (SES)**. Further information on the SES can be found at: <http://www.czso.cz/csu/2012edicniplan.nsf/engp/3110-12>

Data on the **university students and graduates of Computing** come from data sources of the **Ministry of Education, Youth and Sports of the CR**. The table contains the total number of university students and graduates at ISCED97 levels 5A and 6 in the field of *Computing* (ISCED97 group 48).

Data on students of universities are always related to 31 December of the relevant year; data on graduates apply to the entire school year.

International comparison of *Computing* students refers to the total tertiary level of education (ISCED97 levels 5 and 6). The **Eurostat Education and Training Database** was used. For more information see: <http://epp.eurostat.ec.europa.eu/portal/page/portal/education/data/database>

Further information on ICT specialists can be found at: http://www.czso.cz/csu/redakce.nsf/i/lidske_zdroje_pro_informacni_techologie

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Table A1 ICT specialists in the Czech Republic

	thous. persons (HC)		
	2009	2010	2011
Total	114,2	121,6	126,6
Gender			
Males	101,8	108,7	115,2
Females	12,4	12,9	11,4
Age group			
15-24 years	9,7	10,3	9,8
25-34 years	52,9	54,5	52,2
35-44 years	28,6	32,0	36,3
45-54 years	14,4	17,2	20,2
55+ years	8,7	7,5	8,0
Level of education			
Tertiary	55,0	60,5	73,4
Upper secondary	50,7	53,6	47,1
Other	8,5	7,6	6,1
Field of education			
Basic programmes	6,8	5,8	6,2
Social and behavioral sciences	7,9	8,6	7,1
Computing	18,7	18,7	28,1
Engineering and engineering trades	50,8	55,7	56,0
Other	30,1	32,7	29,2

Figure A1 ICT specialists

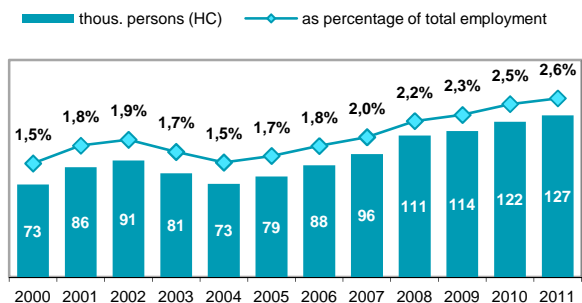
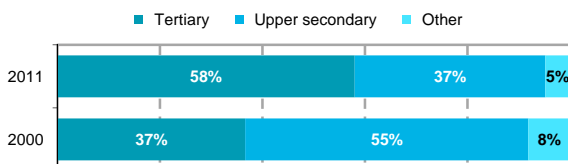


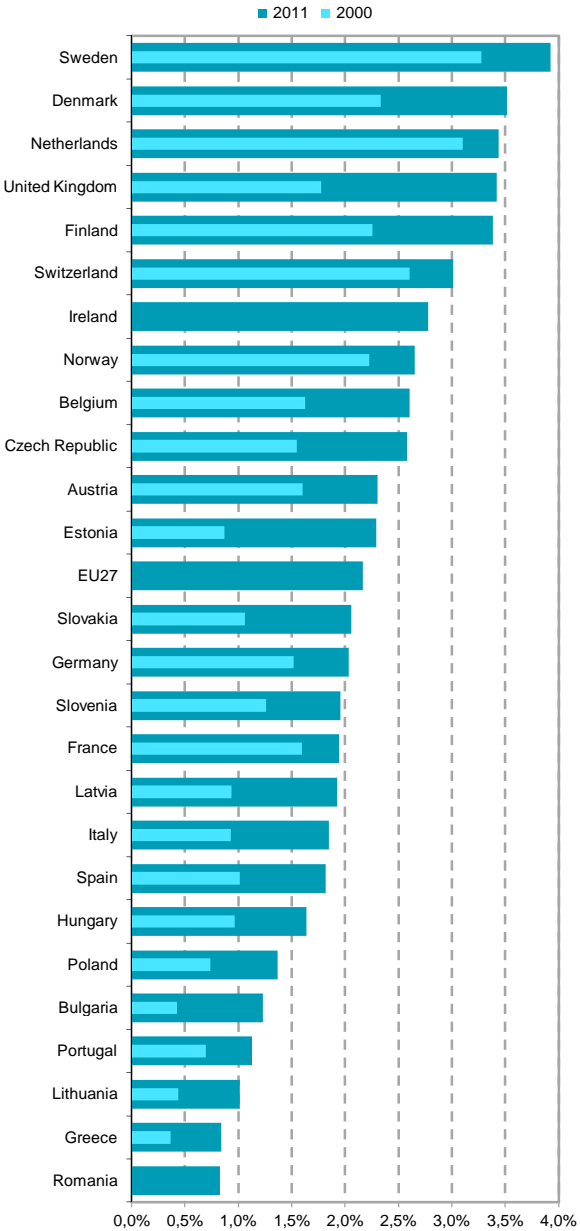
Figure A2 ICT specialists by level of education



Source: CZSO, Labour Force Survey

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Figure A3 ICT specialists
(as a percentage of total national employment)



Source: Eurostat, European Labour Force Survey

A ICT specialists

Table A2 ICT specialists in the CR by occupation, 2011

thous. persons (HC)

	Total	ICT professionals	ICT technicians
Total	126,6	56,3	70,3
Gender			
Males	115,2	50,9	64,3
Females	11,4	5,4	6,0
Age group			
15-24 years	9,8	3,1	6,7
25-34 years	52,2	24,3	27,9
35-44 years	36,3	15,9	20,5
45-54 years	20,2	10,2	10,0
55+ years	8,0	2,8	4,7
Level of education			
Tertiary	73,4	48,0	25,4
Upper secondary	47,1	7,8	39,3
Other	6,1		
Field of education			
Basic programmes	6,2	2,8	3,4
Social and behavioral sciences	7,1	3,3	3,8
Computing	28,1	15,8	12,2
Engineering and engineering trades	56,0	21,4	34,6
Other	29,2	12,9	16,3

Figure A4 ICT specialists by occupation (thous. persons), 2011

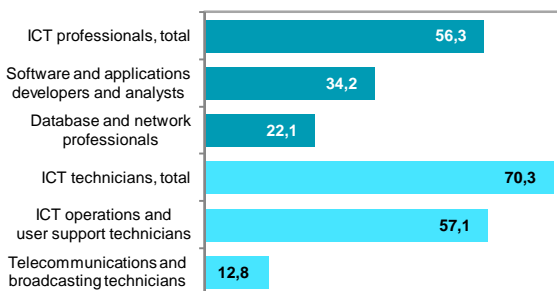
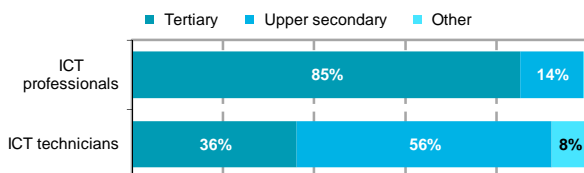


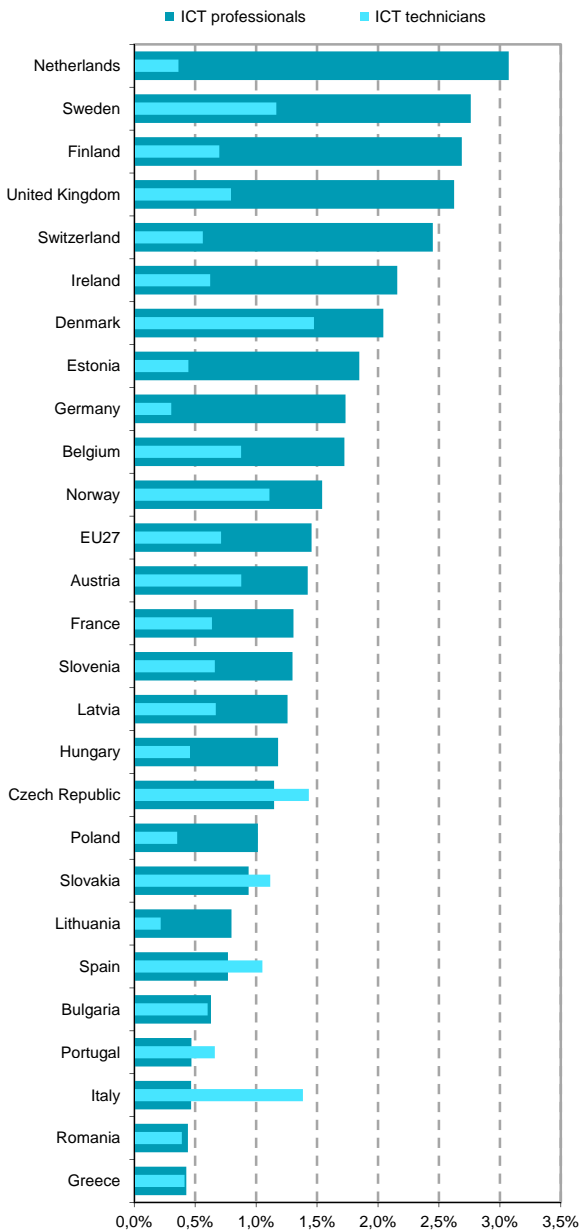
Figure A5 ICT specialists by level of education and occupation, 2011



Source: CZSO, Labour Force Survey

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**Figure A6 ICT specialists by occupation, 2011
(as a percentage of total national employment)**



Source: Eurostat, European Labour Force Survey

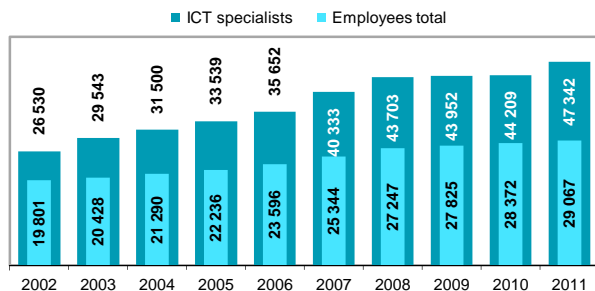
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Table A3 Average monthly gross wage of ICT specialists

CZK

	2009	2010	2011
Total	43 952	44 209	47 342
Gender			
Males	45 590	45 934	48 977
Females	35 583	35 478	38 517
Age group			
20-24 years	25 950	25 132	27 406
25-29 years	36 126	34 960	37 601
30-34 years	47 800	46 739	49 260
35-39 years	51 992	52 204	55 191
40-44 years	50 031	51 381	54 586
45-49 years	47 111	48 209	50 102
50-54 years	44 269	45 161	47 376
55-59 years	41 308	42 076	44 385
60-64 years	44 182	44 206	45 424
Level of education			
Master and doctoral	53 784	53 800	57 592
Higher professional and bachelor	38 799	39 404	42 212
Upper secondary	36 907	37 221	40 014
other	26 056	27 576	32 353
Size class of enterprises			
10-49 employees	36 628	40 453	40 890
50-249 employees	42 013	40 829	47 840
250-999 employees	47 816	48 833	51 177
1 000-4 999 employees	40 974	40 547	45 615
5 000+ employees	44 202	45 791	43 841
Sector			
Business sector	45 443	45 654	49 011
Government sector	27 905	27 976	27 854

Figure A7 Average monthly gross wage of ICT specialists (CZK)



*Average monthly gross wage presented in this publication is different from average monthly gross wage in other documents. In this publication are presented data about the sample of the survey (not grossed up results) cover c. 1,7 mil. engaged persons.

Source: CZSO, Structural Earnings Statistics

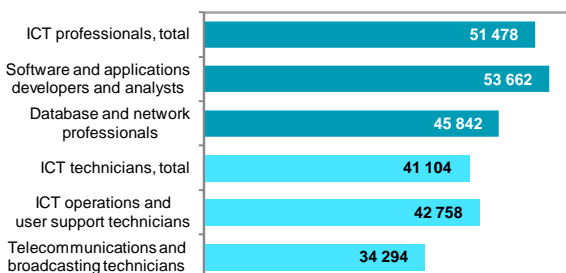
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Table A4 Average monthly gross wage of ICT specialists by occupation, 2011

CZK

	Total	ICT professionals	ICT technicians
Total	47 342	51 478	41 104
Gender			
Males	48 977	52 865	42 973
Females	38 517	43 515	31 877
Age group			
20-24 years	27 406	29 975	24 839
25-29 years	37 601	39 483	33 877
30-34 years	49 260	52 517	42 884
35-39 years	55 191	60 772	46 895
40-44 years	54 586	60 760	46 512
45-49 years	50 102	55 915	42 977
50-54 years	47 376	53 473	40 384
55-59 years	44 385	49 772	38 972
60-64 years	45 424	50 051	40 670
Level of education			
Master and doctoral	57 592	58 390	55 197
Higher professional and bachelor	42 212	44 129	37 364
Upper secondary	40 014	44 211	36 163
other	32 353	38 119	31 248
Size class of enterprises			
10-49 employees	40 890	46 526	33 889
50-249 employees	47 840	52 143	40 202
250-999 employees	51 177	57 646	40 675
1 000-4 999 employees	45 615	47 307	42 807
5 000+ employees	43 841	46 894	40 771
Sector			
Business sector	49 011	53 096	42 723
Government sector	27 854	30 441	24 762

Figure A8 Average monthly gross wage of ICT specialists by occupation, 2011 (CZK)



Source: CZSO, Structural Earnings Statistics

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Table A5 University students of Computing in the CR

	2009	2010	2011
	number		
Total	21 508	22 497	22 693
Gender			
Males	18 846	19 668	19 628
Females	2 662	2 829	3 065
Educational programme			
Bachelor and master programmes	20 436	21 189	21 398
Bachelor programmes	15 961	16 017	15 967
Master programmes	4 492	5 183	5 441
Doctoral programmes	1 072	1 309	1 299
Field of education			
Computer sciences	14 068	15 047	15 209
Computers usage	6 860	7 124	7 162
Nationality			
Czech Republic	18 564	19 235	19 298
Foreign	2 944	3 262	3 395

Figure A9 University students of Computing

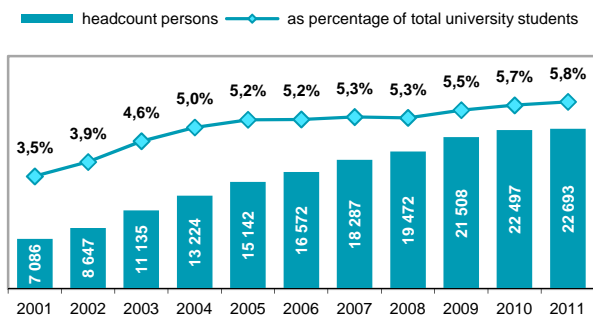
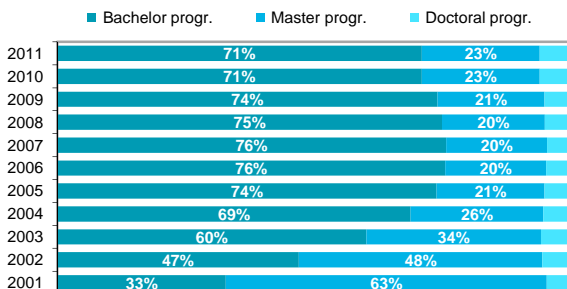


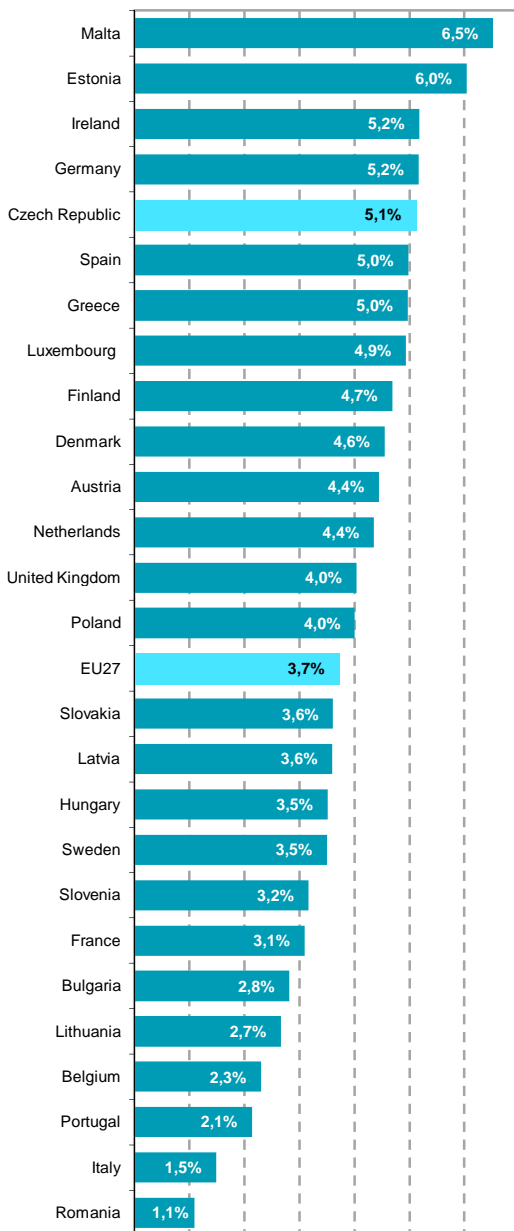
Figure A10 University students of Computing by educational programmes



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

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Figure A11 Students of Computing in tertiary education, 2011
(as a percentage of total students in tertiary education)



Source: Eurostat

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Table A6: University graduates of Computing in the CR

	2009	2010	2011
Total	3 735	3 808	3 961
Gender			
Males	3 240	3 332	3 478
Females	495	476	483
Educational programme			
Bachelor and master programmes	3 655	3 731	3 879
Bachelor programmes	2 480	2 526	2 549
Master programmes	1 177	1 205	1 330
Doctoral programmes	80	77	82
Field of education			
Computer sciences	2 307	2 357	2 463
Computers usage	1 431	1 451	1 494
Nationality			
Czech Republic	3 284	3 279	3 385
Foreign	451	529	576

Figure A12 University graduates of Computing

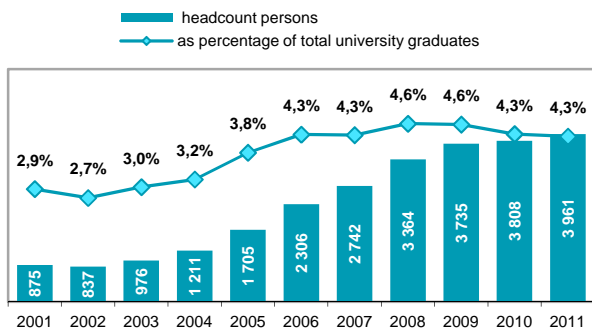
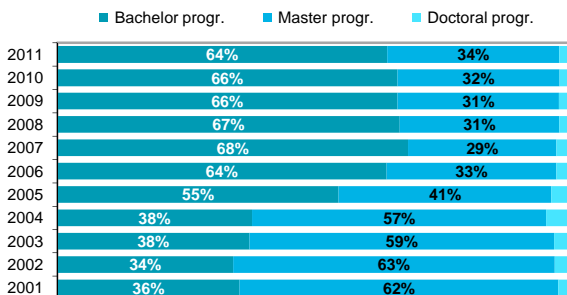


Figure A13 University graduates of Computing by educational programmes



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