Informační ekonomika v číslech - 2013

Český statistický úřad
2013

CZECH STATISTICAL OFFICE

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INFORMATION ECONOMY

IN FIGURES

2013

CZECH REPUBLIC AND WORLD

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Content

Introduction

The role of **information and communication technologies (ICT)** has received considerable attention in the last decade or so due to their exceptional role in enhancement of economic growth and social change. Even though the production and the expansion of ICT varies significantly among countries, a general agreement prevails that it is necessary to collect reliable and comprehensive ICT indicators in order to assess the impact of these technologies on growth, productivity or innovation.

The aim of **ICT statistics** is, on one hand, to provide data on the production of advanced ICTs, including data on investments, external trade or qualified human resources in this field **(information economy)** and, on the other hand, to track data on the penetration and usage of these technologies in particular sectors of society such as households, enterprise sector or public administration **(information society).**

This brochure, its **sixth edition**, was compiled in order to provide again a comprehensive overview of statistical indicators about the developments of the information economy in the Czech Republic and where possible also in other, mainly EU, countries.

The brochure consists of the following **five chapters**:

- Chapter A: **'ICT specialists'** provides population estimates both ICT professionals and ICT technicians together with their monthly gross wages. Data on the **university students and** graduates in ICT field of education (*Computing)* is also included here.
- Chapter B: **'ICT expenditure and investment'** includes information about type of expenditures (intermediate consumption, final consumption and investment) in ICT equipment and services with emphasis on ICT investment.
- Chapter C: **'ICT and science'** provides data on R&D expenditures in ICT equipment and software together with data about ICT related patents granted in the Czech Republic.
- Chapter D: **'ICT international trade'** includes detail data about exports and imports both in the ICT goods and ICT services.
- Chapter E: **'ICT sector'** consists of main economic indicators for industries that are primarily engaged in the production of ICT goods and services.

Data given in this brochure were acquired, in most cases, from regular statistical surveys or databases of the Czech Statistical Office. International comparisons were compiled by the Czech Statistical Office based on freely available Eurostat, OECD or UN data sources.

Whenever possible, the data used in this brochure are based on the standards included in **The OECD Guide to Measuring the Information Society** (Paris, 2011). This publication summarizes the statistical standards and definitions developed by the OECD Working Party on Indicators for the Information Society.

For further information, please visit our website titled **Information Society:** http://www.czso.cz/eng/redakce.nsf/i/information_society

If you need any further information, do not hesitate to contact us directly. Your suggestions will be incentives for future releases.

In Prague, April 2014

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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 groups of the International Standard Classification of Occupations (ISCO-08):

- **ICT professionals**
  - Information and communications technology professionals (25)
  - *ICT service managers (133)*
  - *ICT sales professionals (2434)*
- **ICT technicians**
  - Information and communications technicians (35)
  - *ICT installers and servicers*

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 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/2013edicniplan.nsf/engp/3104-13

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/2013edicniplan.nsf/engp/3109-13

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

Data on the **university students and graduates of *Computing*** come from data sources of the **Ministry of Education 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 are always related to 31 December of the relevant year; data on graduates apply to the entire school year. Data for students and graduates of Computing are available by gender, age and nationality.

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_technologie

A ICT specialists

Table A1 ICT specialists in the Czech Republic

Thousand persons (HC)

	2010	2011	2012
Total	**121,6**	**126,6**	**132,0**
Gender			
Males	108,7	115,2	119,1
Females	12,9	11,4	13,0
Age group			
15-24 years	10,3	9,8	9,6
25-34 years	54,5	52,2	52,7
35-44 years	32,0	36,3	37,6
45-54 years	17,2	20,2	23,1
55+ years	7,5	8,0	9,1
Level of education			
Tertiary	60,5	73,4	74,3
Upper secondary	53,6	47,1	50,4
Other	7,6	6,1	7,4

Figure A1 ICT specialists

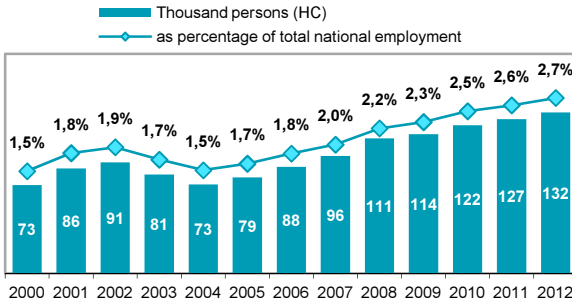


Figure A2 ICT specialists by level of education

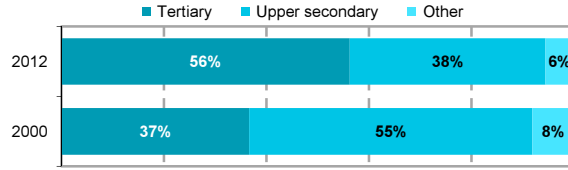
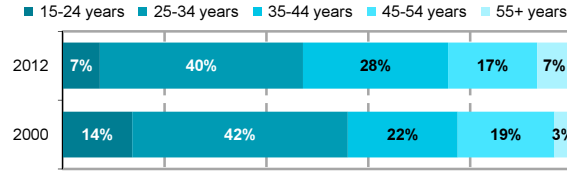


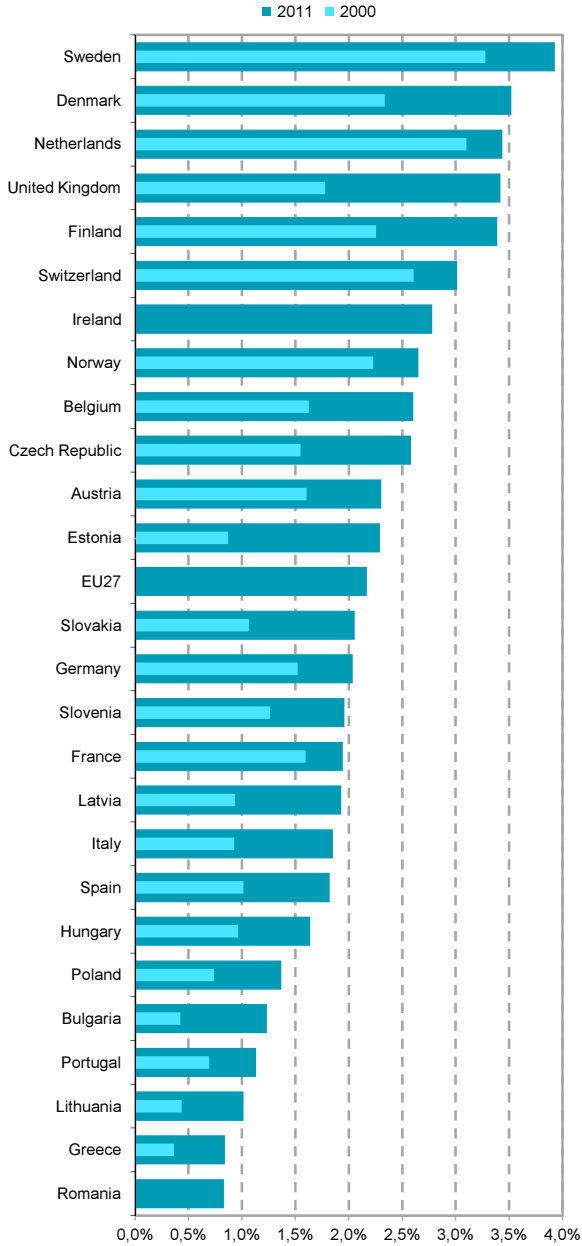
Figure A3 ICT specialists by age groups



Source: CZSO, Labour Force Survey

A ICT specialists

Figure A4 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, 2012

Thousand persons (HC)

	Total	ICT professionals	ICT technicians
Total	**132,0**	**62,6**	**69,4**
Gender			
Males	119,1	57,2	61,9
Females	13,0	5,4	7,5
Age group			
15-24 years	9,6	3,0	6,6
25-34 years	52,7	26,6	26,1
35-44 years	37,6	16,2	21,5
45-54 years	23,1	12,7	10,3
55+ years	9,1	4,2	4,9
Level of education			
Tertiary	74,3	52,8	21,5
Upper secondary	50,4	9,3	41,1
Other	7,4	.	.

Figure A5 ICT specialists by occupation (thous. persons), 2012

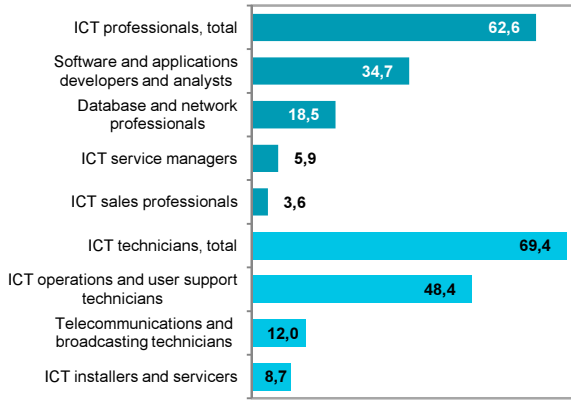
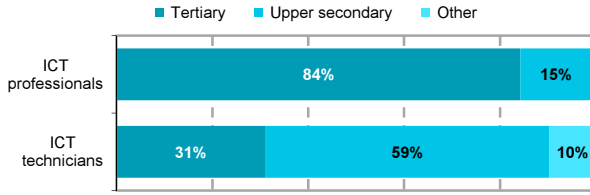
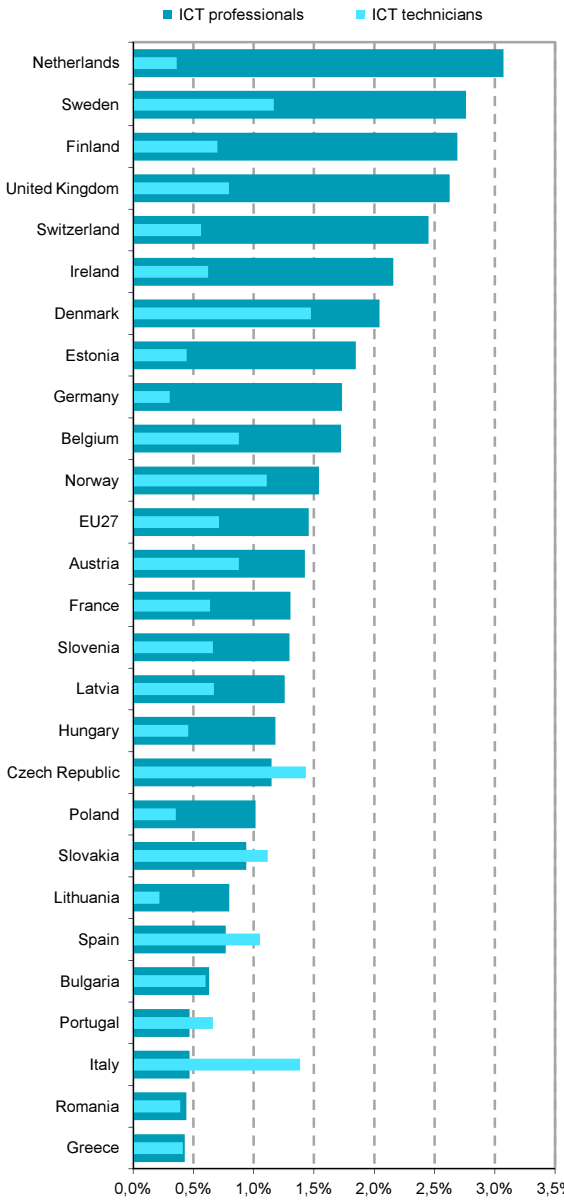


Figure A6 ICT specialists by occupation and level of education, 2012



Source: CZSO, Labour Force Survey

Figure A7 ICT specialists by occupation, 2012
(as a percentage of total national employment)



Source: Eurostat, European Labour Force Survey

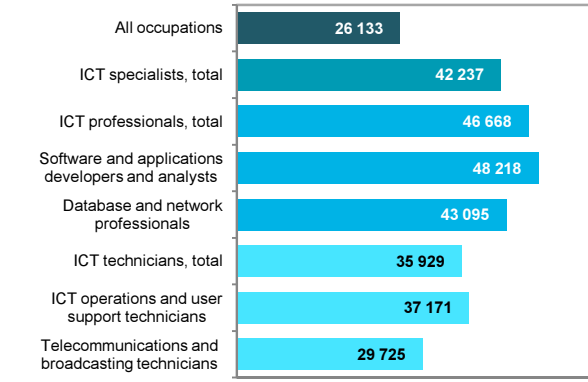
A ICT specialists

Table A3 Average monthly gross wage of ICT specialists in the Czech Republic

CZK

	2011	2012
Total	**41 231**	**42 237**
Gender		
Males	42 060	42 930
Females	35 747	37 283
Age group		
20-24 years	26 794	26 365
25-29 years	35 088	35 442
30-34 years	43 797	44 171
35-39 years	47 011	48 233
40-44 years	43 635	45 455
45-49 years	43 648	45 116
50-54 years	39 509	40 245
55-59 years	40 611	40 624
60-64 years	39 942	41 500
Level of education		
Master and doctoral	49 181	49 987
Higher professional and bachelo	39 017	40 254
Upper secondary	35 395	36 514
Size class of enterprises		
10-49 employees	39 653	40 551
50-249 employees	43 538	44 288
250-999 employees	48 795	49 829
1 000-4 999 employees	43 996	44 824
5 000+ employees	40 672	42 577
Sector		
Business enterprise sector	42 600	43 636
Public sector	27 033	27 536

Figure A8 Average monthly gross wage of ICT specialists by occupation, 2012 (CZK)



Source: CZSO, Structural Earnings Statistics

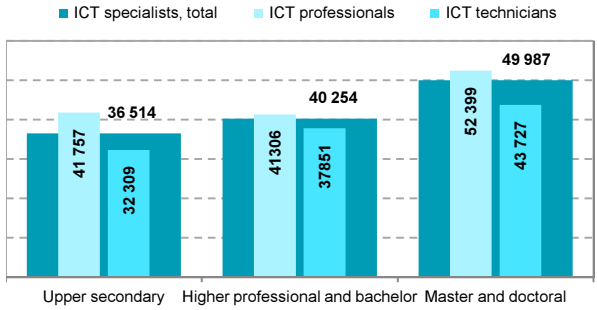
A ICT specialists

Table A4 Average monthly gross wage of ICT specialists in the Czech Republic by occupation, 2012

CZK

	Total	ICT professionals	ICT technicians
Total	**42 237**	**46 668**	**35 929**
Gender			
Males	42 930	47 360	36 678
Females	37 283	41 862	30 355
Age group			
20-24 years	26 365	27 831	23 952
25-29 years	35 442	37 606	31 650
30-34 years	44 171	49 554	36 180
35-39 years	48 233	54 211	39 784
40-44 years	45 455	51 060	37 953
45-49 years	45 116	49 711	39 034
50-54 years	40 245	46 254	33 560
55-59 years	40 624	45 744	35 036
60-64 years	41 500	44 506	38 467
Level of education			
Master and doctoral	49 987	52 399	43 727
Higher professional and bachelor	40 254	41 306	37 851
Upper secondary	36 514	41 757	32 309
Size class of enterprises			
10-49 employees	40 551	42 492	38 035
50-249 employees	44 288	48 693	36 754
250-999 employees	49 829	56 479	40 264
1 000-4 999 employees	44 824	47 106	40 518
5 000+ employees	42 577	44 283	40 548
Sector			
Business enterprise sector	43 636	48 111	37 145
Public sector	27 536	30 039	24 601

Figure A9 Average monthly gross wage of ICT specialists by occupation and level of education, 2012 (CZK)



Source: CZSO, Structural Earnings Statistics

Table A5 University students of Computing in the CR

number

	2010	2011	2012
Total	**22 158**	**22 321**	**22 198**
Gender			
Males	19 320	19 262	18 913
Females	2 838	3 059	3 285
Educational programme			
Bachelor and master programmes	21 007	21 223	21 119
Bachelor programmes	15 833	15 793	15 643
Master programmes	5 185	5 439	5 491
Doctoral programmes	1 151	1 102	1 081
Field of education			
Computer sciences	14 176	14 390	14 574
Computers usage	7 661	7 622	7 525
Nationality			
Czech Republic	18 906	18 937	18 611
Foreign	3 252	3 384	3 587

Figure A10 University students of Computing

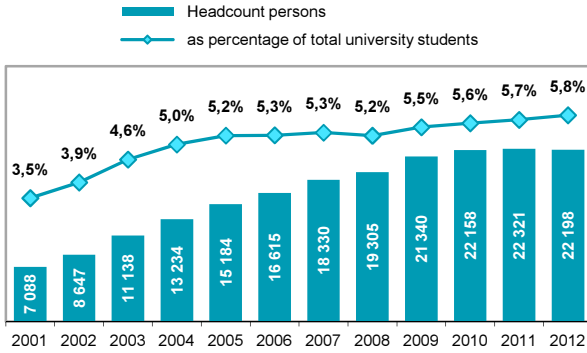
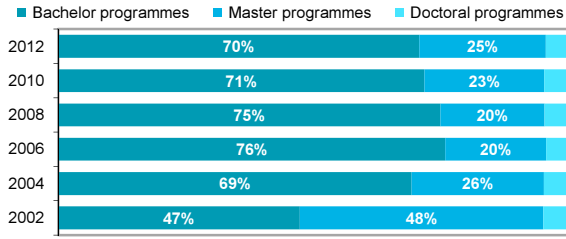
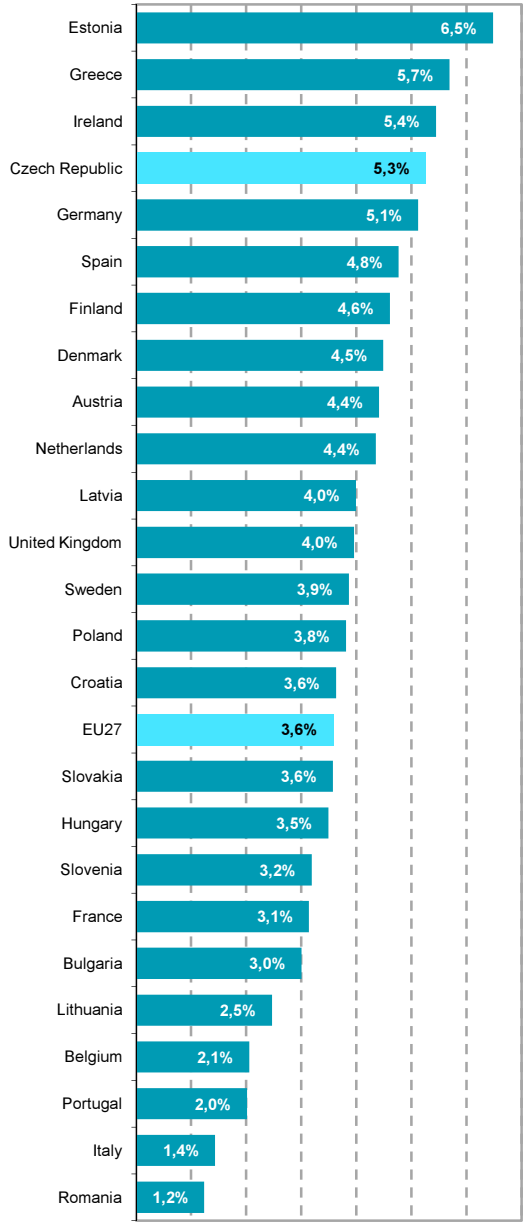


Figure A11 University students of Computing by level of educational programmes



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

Figure A12 Tertiary students of Computing (as a percentage of all tertiary students)



Source: Eurostat

Table A6: University graduates of Computing in the CR

number

	2010	2011	2012
Total	**3 787**	**3 928**	**4 225**
Gender			
Males	3 310	3 443	3 708
Females	477	485	517
Educational programme			
Bachelor and master programmes	3 708	3 855	4 142
Bachelor programmes	2 503	2 529	2 543
Master programmes	1 205	1 326	1 599
Doctoral programmes	79	73	83
Field of education			
Computer sciences	2 253	2 316	2 598
Computers usage	1 534	1 612	1 627
Nationality			
Czech Republic	3 259	3 352	3 646
Foreign	528	576	579

Figure A13 University graduates of Computing

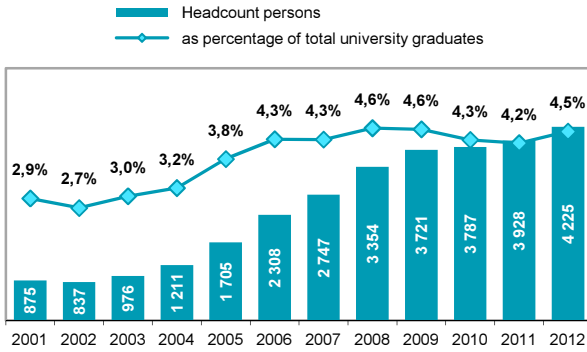
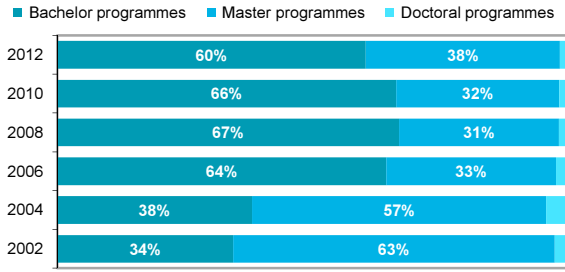


Figure A14 University graduates of Computing by educational programmes



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

B ICT expenditure and investment

The Statistical Classification of Products by Activity in the European Economic Community, 2008 version (CPA 2008) is used to identify appropriate products for measuring ICT related expenditures including investments. ICT products can be classified into two main categories based on the following CPA 2008 divisions and groups:

- **ICT equipment:**
  - Computers and peripheral (IT) equipment (262)
  - Communication equipment (263)
- **ICT services:**
  - Telecommunications services (61)
  - Computer programming, consultancy and related (IT) services (62)

Since expenditure data, except for investment, is available only at 2-digit level of CPA classification, category 'ICT equipment' includes the entire CPA section 26 (Computer, electronic and optical devices).

ICT expenditure by type of **supply** includes domestic production (P.1 minus export P.6), imports (P.7) and others (trade and transport margins, taxes and subsidies on products).

ICT expenditure by type of **use** includes intermediate consumption (P.2), final consumption (P.3), gross fixed capital formation (investment P.51) and changes in inventories (P.52).

Intermediate consumption (P.2) consists of the value of the goods and services consumed as inputs by a process of production, excluding fixed assets. The goods and services may be either transformed or used up by the production process. Intermediate consumption excludes items treated as gross capital formation (investment). *Households do not make intermediate consumption but only final consumption expenditures.*

Final consumption expenditure (P3) consists of expenditure on goods or services that are used for the direct satisfaction of individual needs or wants or the collective needs of members of the community **(mainly households)**. *Corporations do not make final consumption expenditures. Households' consumption expenditures on IT services (software) are included under ICT equipment.*

ICT investment refers here to the Gross fixed capital formation (GFCF) and covers the acquisition of ICT equipment and software used in production for more than one year. ICT investment has three components: **IT equipment** (computers and related hardware: CPA 262); **communication equipment** (CPA 263) and **software** (CPA 582, 62). *Households do not make investment but only final consumption expenditures. None expenditures for Telecommunications services (CPA 61) is considered as investment.*

Computer software consists of costume made (original) or pre-packed computer programs, program descriptions and supporting materials for both systems and applications software including own-account produced software. For more information see **SNA2008 methodology:**
https://unstats.un.org/unsd/nationalaccount/sna2008.asp

The data come from the **Annual National Accounts Statistics** of the Czech Statistical Office. For more information see:
http://apl.czso.cz/pll/rocenka/rocenka.indexnu_en

The 2012 data are preliminary.

The **OECD Science, Technology and Industry Scoreboard 2013** was used as a data source for the **international comparison.**

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

B ICT expenditure and investment

Table B1 Total ICT expenditure in the Czech Republic

CZK million

	2010	2011	2012
Total	**686 594**	**678 891**	**658 901**
ICT equipment	412 202	397 969	381 066
Telecommunication services	142 421	132 799	126 919
IT services	131 971	148 123	150 916
Type of resources (supply side)			
Domestic output	251 388	263 337	236 508
Imports	360 373	344 309	352 782
Others (trade margins, taxes, subsidies)	74 833	71 245	69 611
Type of expenditures (user side)			
Investments (GFCF)	103 550	105 405	103 375
Changes in inventories	2 776	1 780	-876
Final consumption	96 762	91 476	89 563
Intermediate consumption	483 359	480 360	467 225

Figure B1 Total ICT expenditure (CZK billion)

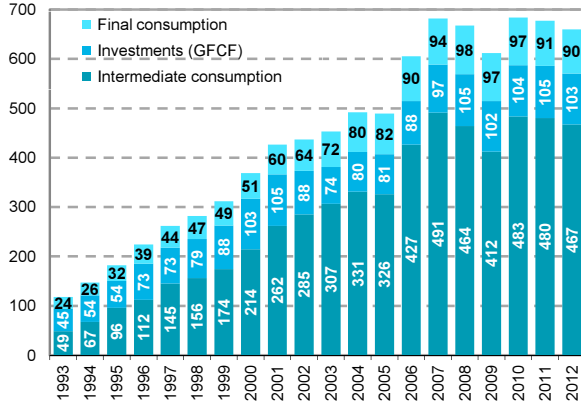
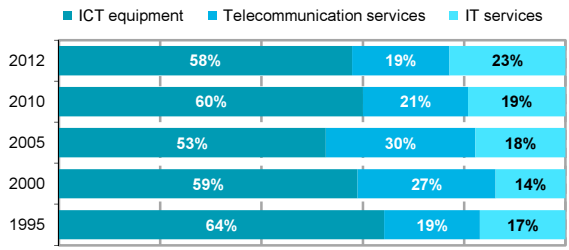


Figure B2 ICT expenditure by groups of products



Source: CZSO, Annual National Accounts Statistics - Supply and use tables

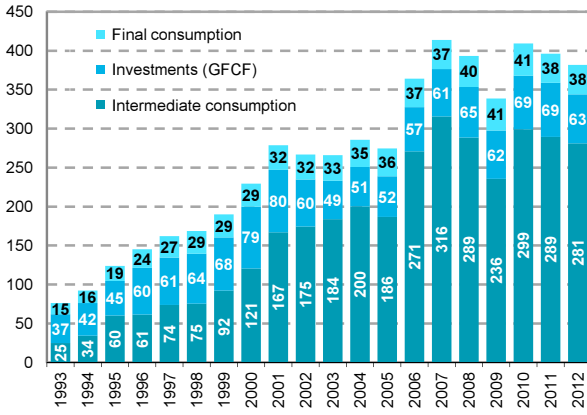
B ICT expenditure and investment

Table B2 ICT equipment expenditure in the Czech Republic

CZK million

	2010	2011	2012
Total	**412 202**	**397 969**	**381 066**
Type of resources (supply side)			
Domestic output	31 877	39 726	15 082
Imports	334 764	318 766	327 929
Others (trade margins, taxes, subsidies)	45 561	39 477	38 055
Type of expenditures (user side)			
Investments (GFCF), total	**68 944**	**69 270**	**63 035**
of which ICT equipment	*45 303*	*47 538*	*39 802*
Changes in inventories	2 776	1 780	-876
Final consumption	41 391	37 539	37 877
Intermediate consumption, total	**299 091**	**289 380**	**281 030**
Industry (CZ-NACE section)			
Agriculture	288	314	307
Mining and quarrying	182	205	205
Manufacturing, total	248 939	243 016	236 220
of which in ICT industries (NACE 26)	*202 823*	*194 635*	*186 143*
Electricity, gas and water supply	687	903	1 056
Construction	6 445	5 694	5 112
Wholesale and retail trade	3 427	3 284	3 299
Transportation and storage	3 189	3 024	2 953
Accommod. and food service activities	3 305	3 915	3 773
Information and communication	13 021	10 219	10 163
Financial and insurance activities	3 574	2 929	2 874
Real estate activities	432	484	454
Professional, scientific and technical activ.	6 395	6 349	6 264
Administrative and support service activ.	486	532	497
Public administration and defence	1 888	1 486	1 315
Education	2 993	3 063	2 714
Human health and social work activities	2 412	2 499	2 492
Other comm., social and personal services	1 428	1 464	1 332

Figure B3 ICT equipment expenditure (CZK billion)



Source: CZSO, Annual National Accounts Statistics - Supply and use tables

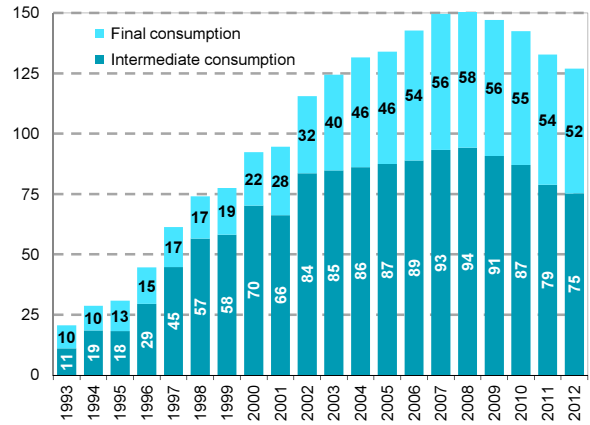
B ICT expenditure and investment

Table B3 Telecommunication expenditure in the CR

CZK million

	2010	2011	2012
Total	**142 421**	**132 799**	**126 919**
Type of resources (supply side)			
Domestic output	121 093	111 650	106 024
Imports	10 490	10 467	10 841
Others (trade margins, taxes, subsides)	10 838	10 682	10 054
Type of expenditures (user side)			
Investments (GFCF)	.	.	.
Final consumption	55 371	53 928	51 673
Intermediate consumption, total	**87 050**	**78 871**	**75 246**
Industry (CZ-NACE section)			
Agriculture	593	605	565
Mining and quarrying	74	62	63
Manufacturing	5 706	5 282	5 246
Electricity, gas and water supply	1 462	1 502	1 664
Construction	2 098	1 761	1 542
Wholesale and retail trade	7 272	6 586	6 177
Transportation and storage	3 449	2 996	2 759
Accommod. and food service activities	1 917	1 619	1 518
Information and communication, total	39 358	35 692	34 738
of which in Telecom. industries (NACE 61)	*35 604*	*32 295*	*31 423*
Financial and insurance activities	2 786	2 521	2 455
Real estate activities	2 254	1 932	1 773
Professional, scientific and technical activ.	4 942	4 176	3 966
Administrative and support service activ.	1 117	1 026	930
Public administration and defence	10 506	9 920	8 890
Education	1 059	1 062	918
Human health and social work activities	861	730	708
Other comm., social and personal services	1 596	1 399	1 334

Figure B4 Telecomm. services expenditure (CZK billion)



Source: CZSO, Annual National Accounts Statistics - Supply and use tables

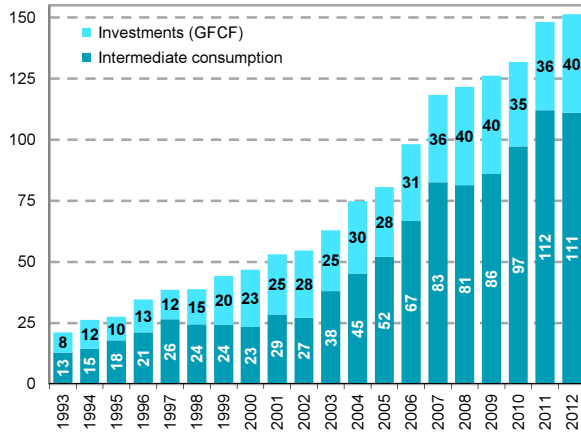
B ICT expenditure and investment

Table B4 IT services expenditure in the Czech Republic

CZK million

	2010	2011	2012
Total	**131 971**	**148 123**	**150 916**
Type of resources (supply side)			
Domestic output	98 418	111 961	115 402
Imports	15 119	15 076	14 012
Others (trade margins, taxes, subsidies)	18 434	21 086	21 502
Type of expenditures (user side)			
Investments (GFCF)	34 606	36 135	40 340
Final consumption	.	.	13
Intermediate consumption, total	**97 218**	**112 109**	**110 949**
Industry (CZ-NACE section)			
Agriculture	234	313	298
Mining and quarrying	48	51	50
Manufacturing	10 994	13 067	13 251
Electricity, gas and water supply	805	1 079	1 258
Construction	1 149	1 223	1 094
Wholesale and retail trade	8 985	10 783	10 445
Transportation and storage	2 047	2 324	2 269
Accommod. and food service activities	289	322	310
Information and communication, total	37 893	44 818	44 917
of which in IT services indust. (NACE 62)	*30 858*	*37 231*	*37 899*
Financial and insurance activities	17 316	19 058	18 634
Real estate activities	1 850	2 104	2 008
Professional, scientific and technical activ.	6 605	7 341	7 079
Administrative and support service activ.	1 424	1 708	1 551
Public administration and defence	1 719	1 619	1 461
Education	1 516	1 676	1 548
Human health and social work activities	713	782	783
Other comm., social and personal services	3 631	3 841	3 993

Figure B5 IT services expenditure (CZK billion)



Source: CZSO, Annual National Accounts Statistics - Supply and use tables

B ICT expenditure and investment

Table B5 Total ICT investment in the Czech Republic

CZK million

	2010	2011	2012
Total	**82 702**	**86 459**	**82 442**
ICT equipment (CZ CPA 262, 3)	45 414	47 538	39 802
Telecommunication services (CZ CPA 61)	.	.	.
Software (CZ CPA 582, 62)	37 288	38 921	42 640
Industry (CZ-NACE Section)			
Agriculture	460	336	744
Mining and quarrying	389	745	662
Manufacturing	7 339	7 350	10 411
Electricity, gas and water supply	3 685	3 322	3 028
Construction	1 807	2 281	1 280
Wholesale and retail trade	6 883	7 347	8 276
Transportation and storage	2 629	3 540	3 445
Accommodation and food service activities	459	1 033	1 077
Information and communication, total	29 151	28 445	21 834
of which in IT services industries (NACE 62)	*7 710*	*8 165*	.
Financial and insurance activities	9 012	8 783	8 993
Real estate activities	1 642	1 331	1 005
Professional, scientific and technical activ.	5 529	8 596	7 209
Administrative and support service activities	918	606	1 257
Public administration and defence	6 742	7 373	8 499
Education	2 702	2 763	2 362
Human health and social work activities	1 352	1 210	1 076
Other comm., social and personal services	2 003	1 398	1 284

Figure B6 Total ICT investment

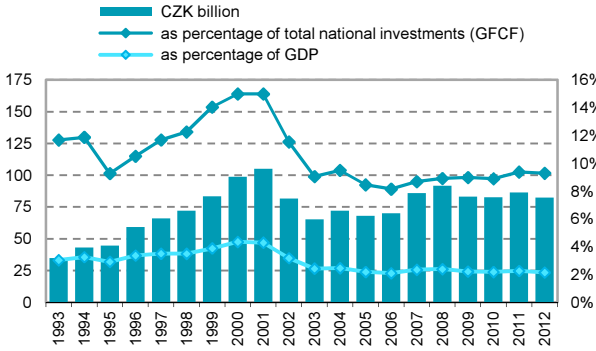
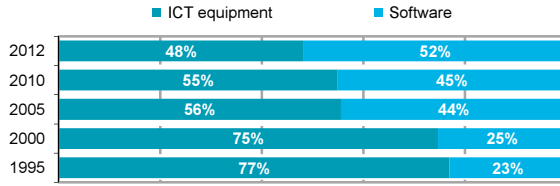


Figure B7 ICT investment by groups of products



Source: CZSO, Annual National Accounts Statistics - Supply and use tables

B ICT expenditure and investment

Figure B8 ICT investment (as % of GDP)

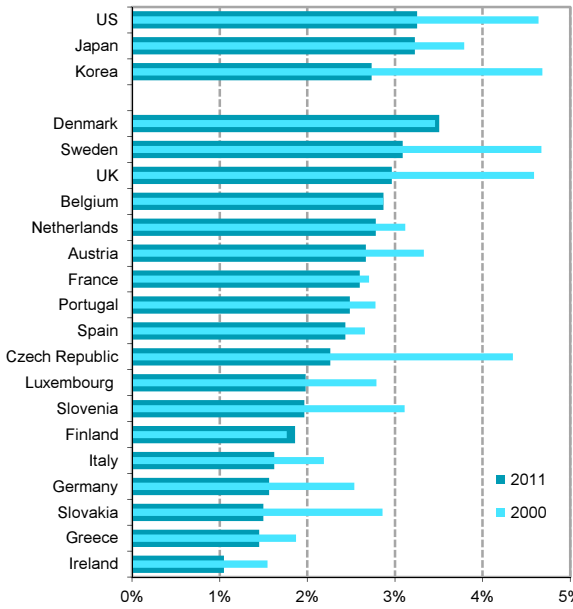
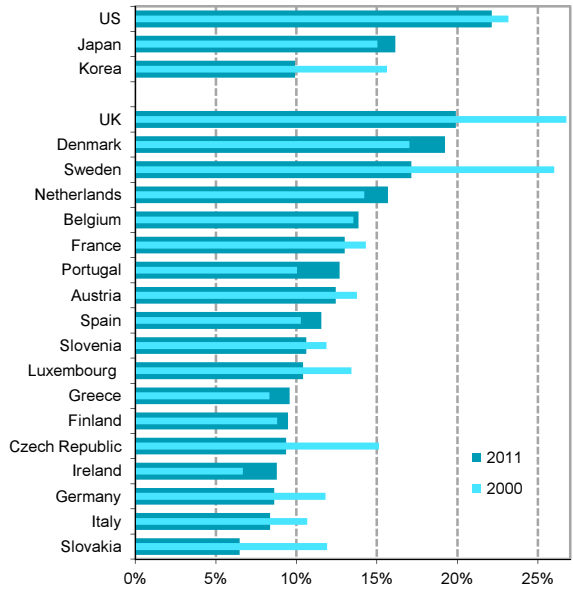


Figure B9 ICT investment (as % of total investment)



Source: OECD Science, Technology and Industry Scoreboard 2013

B ICT expenditure and investment

Table B6 ICT equipment investment in the Czech Republic

CZK million

	2010	2011	2012
Total	**45 414**	**47 538**	**39 802**
IT equipment (CZ CPA 262)	28 786	31 345	29 526
Communication equipment (CZ CPA 263)	16 628	16 193	10 276
Industry (CZ-NACE Section)			
Agriculture	185	177	582
Mining and quarrying	215	649	500
Manufacturing	2 349	3 589	4 806
Electricity, gas and water supply	2 524	2 384	1 969
Construction	1 120	1 465	836
Wholesale and retail trade	5 078	5 173	5 109
Transportation and storage	867	1 355	1 520
Accommodation and food service activities	371	885	966
Information and communication, total	19 289	16 245	10 534
of which in IT services industries (NACE 62)	*4 331*	*3 548*	*3 935*
Financial and insurance activities	1 214	1 636	1 545
Real estate activities	1 390	1 120	672
Professional, scientific and technical activ.	3 862	6 592	4 648
Administrative and support service activities	784	446	588
Public administration and defence	2 383	2 371	2 312
Education	1 545	1 691	1 871
Human health and social work activities	631	687	503
Other comm., social and personal services	1 607	1 073	841

Figure B10 ICT equipment investment

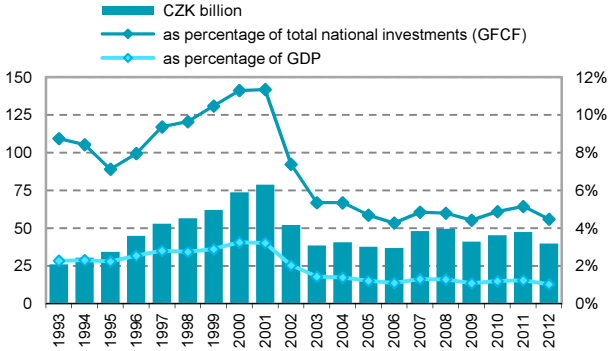
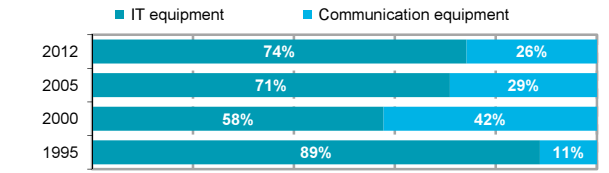
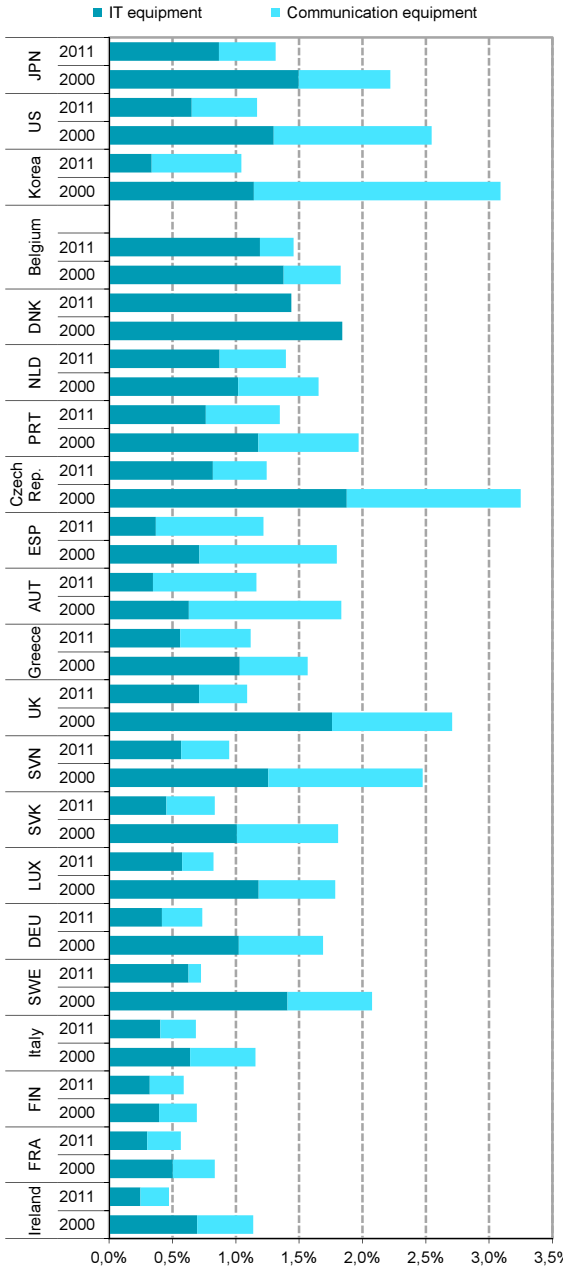


Figure B11 ICT equipment investment by type of goods



Source: CZSO, Annual National Accounts Statistics - Supply and use tables

Figure B12 ICT equipment investment (as % of GDP)



Source: OECD Science, Technology and Industry Scoreboard 2013

B ICT expenditure and investment

Table B7 Software investment in the Czech Republic

CZK million

	2010	2011	2012
Total	**37 288**	**38 921**	**42 640**
Original/custom-made software (CZ CPA 62)	34 606	36 135	40 340
Other software (CZ CPA 582)	2 682	2 786	2 300
Industry (CZ-NACE Section)			
Agriculture	275	159	162
Mining and quarrying	174	96	162
Manufacturing	4 990	3 761	5 605
Electricity, gas and water supply	1 161	938	1 059
Construction	687	816	444
Wholesale and retail trade	1 805	2 174	3 167
Transportation and storage	1 762	2 185	1 925
Accommodation and food service activities	88	148	111
Information and communication, total	9 862	12 200	11 300
of which in IT services industries (NACE 62)	*3 379*	*4 617*	.
Financial and insurance activities	7 798	7 147	7 448
Real estate activities	252	211	333
Professional, scientific and technical activ.	1 667	2 004	2 561
Administrative and support service activities	134	160	669
Public administration and defence	4 359	5 002	6 187
Education	1 157	1 072	491
Human health and social work activities	721	523	573
Other comm., social and personal services	396	325	443

Figure B13 Software investment

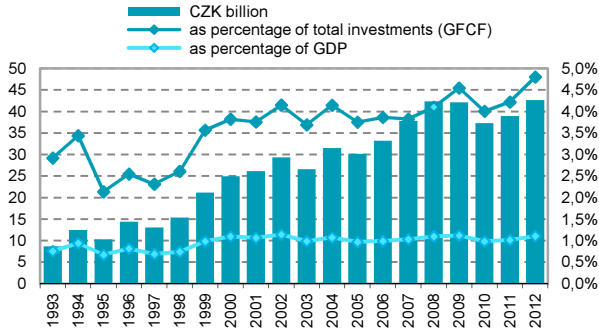
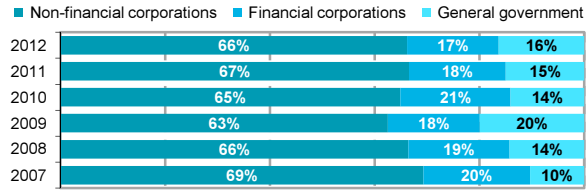


Figure B14 Software investment by sectors



Source: CZSO, Annual National Accounts Statistics - Supply and use tables

Figure B15 Software investment (as % of GDP)

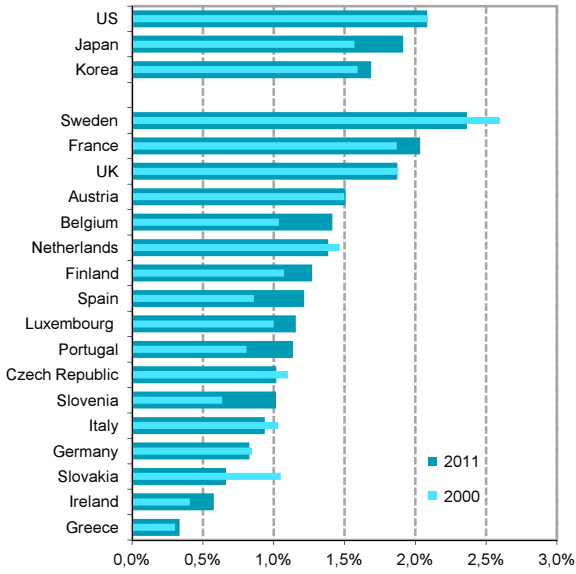
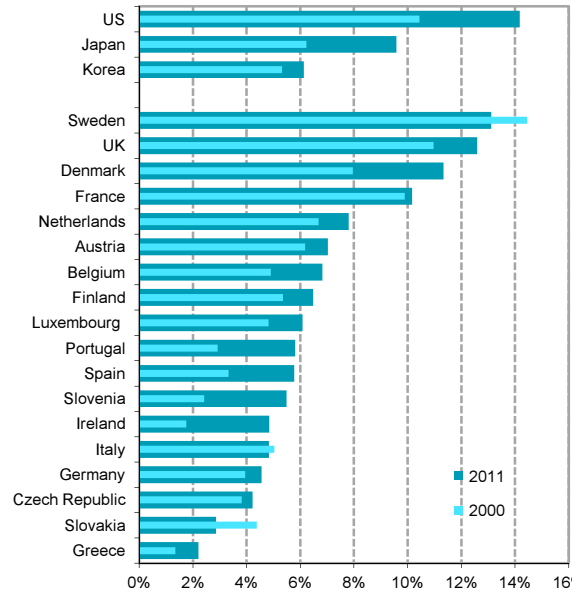
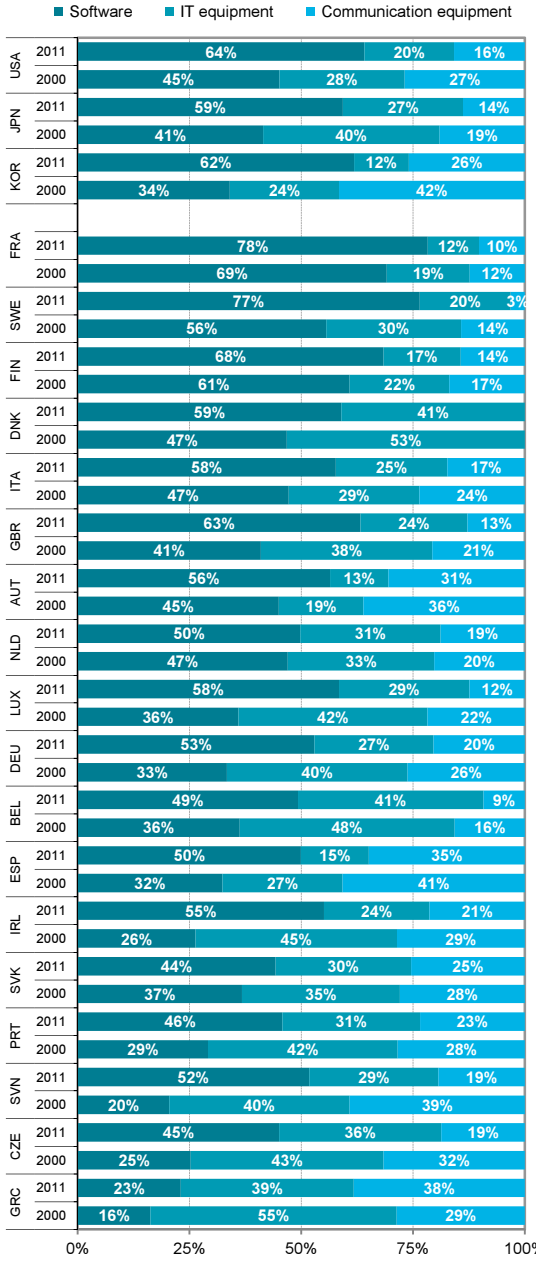


Figure B16 Software investment (as % of total investment)



Source: OECD Science, Technology and Industry Scoreboard 2013

Figure B17 ICT investment by groups of products



Source: OECD Science, Technology and Industry Scoreboard 2013

C ICT and science

Data about **ICT related R&D expenditures** are based on the results of the special module that is included in the **Czech Annual R&D survey.**

ICT products for R&D expenditures are classified into two main categories based on the following CPA 2008 divisions and groups:

- **ICT equipment** that includes Electronic components and boards (26.1); Computers and peripheral equipment (26.2); Communication equipment (26.3) and Consumer electronics (26.4)
- **Software** that includes Computer programming, consultancy and related services (62)

Research and development (R&D) *is a systematic creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of human beings, culture and society.* ***Software-related activities*** *of a routine nature which do not involve scientific and/or technological advances or resolution of technological uncertainties are not to be included in R&D.*

R&D expenditures include all current (wage and other) and capital expenditures determined for R&D performed in observed institutions on the territory of a given country made during the reference year regardless the source of the funds.

Data for **international comparison** of ICT R&D expenditures is based on the principal economic activity of the enterprises with intramural R&D expenditures within the ICT industries (ICT sector).

This data based on R&D expenditures of enterprises within the ICT sector are not comparable with the data based on special module on **ICT related R&D expenditures**. For more information about ICT sector see chapter E of this publication.

Further information on the **Czech R&D statistics** can be found at:
http://www.czso.cz/csu/redakce.nsf/i/statistika_vyzkumu_a_vyvoje

ICT patent statistics bring information about results and success of research, development and innovation activities in selected areas of information and communication technologies.

A ***patent*** *is a public deed issued by the relevant patent office, which provides legal protection to an invention for the period of up to 20 years (provided that maintenance fees are paid), namely on the territory for which it was issued by the office.*

Patent protection on the territory of the Czech Republic is ensured by the **Industrial Property Office of the Czech Republic** (hereinafter only IPO CR). Data in this chapter were processed by the Czech Statistical Office based on data sources of the IPO CR.

Patent data are broken down according to the **Patent Manual of the OECD (OECD, Paris 2009).** Based on the International Patent Classification (IPC) it is possible to classify ICT related patents into four main categories as follows:

- Telecommunications
- Consumer electronics
- Computers and peripheral equipment
- Other ICT

Category 'other ICT' includes, compare to other chapters, invention in the field of ICT related medical and scientific equipment.

The following **OECD web site** was used as a data source for the international comparison: www.oecd.org/sti/ipr-statistics.

Further information on the **Czech patent statistics** can be found at:
http://www.czso.cz/csu/redakce.nsf/i/patentova_statistika.

C ICT and science

Table C1 ICT R&D expenditures in the Czech Republic

CZK million

	2010	2011	2012
Total	**6 811**	**7 626**	**9 107**
ICT equipment	3 147	3 951	4 628
Software	3 664	3 675	4 479
Sector of R&D performance			
Business enterprise	5 956	6 607	7 918
Government	180	204	129
Higher education	667	749	1 041
Private non-profit	9	66	18

Table C2 ICT R&D expenditures funded by Czech government

CZK million

	2010	2011	2012
Total	**1 282**	**1 508**	**1 462**
ICT equipment	947	1 117	982
Software	335	391	480
Sector of R&D performance			
Business enterprise	554	676	742
Government	162	187	113
Higher education	561	643	596
Private non-profit	5	3	11

Figure C1 Total ICT R&D expenditures

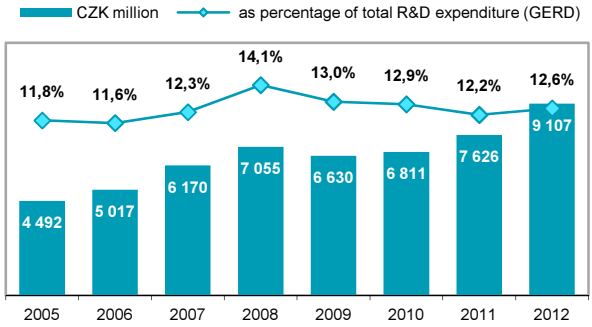
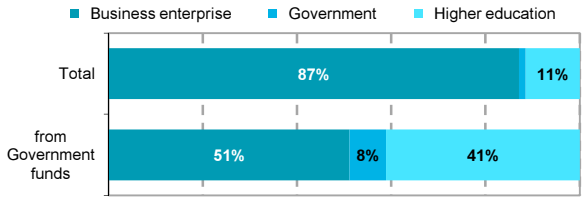


Figure C2 ICT R&D expenditures by sector of performance and source of funds, 2012



Source: CZSO, Annual R&D survey

Table C3 Software R&D expenditures in the Czech Republic

CZK million

	2010	2011	2012
Total	**3 664**	**3 675**	**4 479**
Sector of R&D performance			
Business enterprise	3 415	3 382	4 168
Government	13	6	2
Higher education	235	282	305
Private non-profit	1	6	4

Table C4 Software R&D expenditures funded by government

CZK million

	2010	2011	2012
Total	**335**	**391**	**480**
Sector of R&D performance			
Business enterprise	137	143	210
Government	11	6	2
Higher education	187	242	266
Private non-profit	1	1	2

Figure C3 Total software R&D expenditures

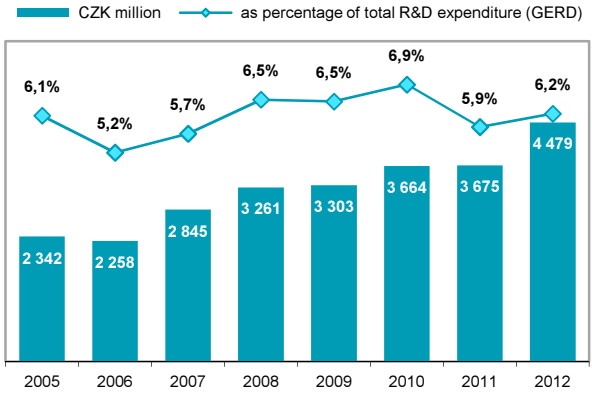
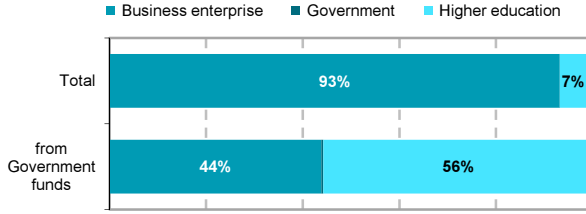


Figure C4 Software R&D expenditures by sector of performance and source of funds, 2012



Source: CZSO, Annual R&D survey

Table C5 ICT R&D expenditures in Czech enterprises, 2012

CZK million

	Total	ICT equipment	SW
Total	**7 918**	**3 750**	**4 168**
thereof financed from government funds	*742*	*532*	*210*
Size class of enterprises			
Small (0-49 employees)	1 434	555	879
Medium (50-249 employees)	2 844	1 433	1 411
Large (250 or more employees)	3 640	1 762	1 879
Ownership of enterprises			
Public	90	61	29
National private	3 633	1 920	1 713
Foreign controlled	4 196	1 769	2 427
Industry (CZ-NACE)			
Manufacturing, total	962	637	325
ICT manufacturing (261-264)	292	195	97
Other manufacturing industries	670	442	228
IT services (582+62+63)	4 496	1 415	3 081
Telecommunications (61)	607	415	192
Research and development (72)	516	501	15
Other industries	1 336	782	555

Figure C5 ICT R&D expenditures in enterprises

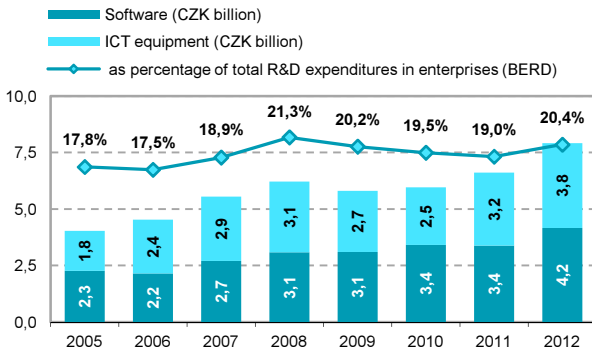
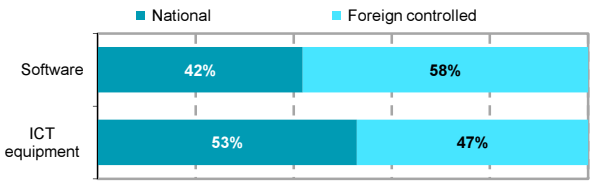


Figure C6 ICT R&D expenditures in enterprises by ownership, 2012



Source: CZSO, Annual R&D survey

Figure C7 R&D expenditures in ICT sector, 2012 (as % of GDP)

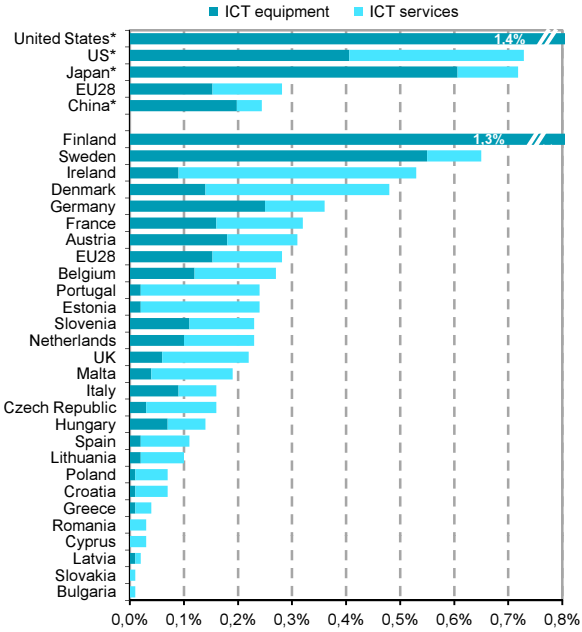
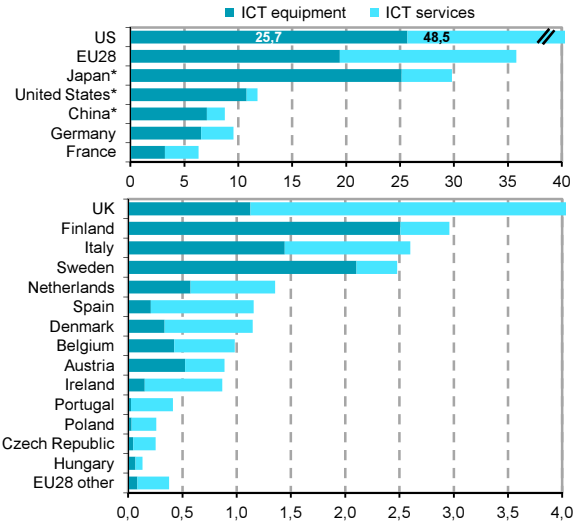


Figure C8 R&D expenditures in ICT sector, 2012 (EUR billion)



** Year 2010*

Source: CZSO calculations based on OECD and Eurostat data

Table C6 ICT patents granted or validated in the CR

number

	2010	2011	2012
Total	**304**	**356**	**480**
Telecommunications	79	91	130
Consumer electronics	33	40	40
Computers	41	62	120
Other ICT	151	163	190
Applicant's country of origin			
Czech Republic, total	**37**	**54**	**64**
Business enterprise sector	7	11	15
Government sector	3	8	6
Higher education sector	26	33	39
Private persons	1	3	4
Foreign applicants, total	**267**	**302**	**416**
Germany	72	76	80
United States	53	65	60
Japan	17	27	46

Figure C9 ICT patents granted or validated in the CR

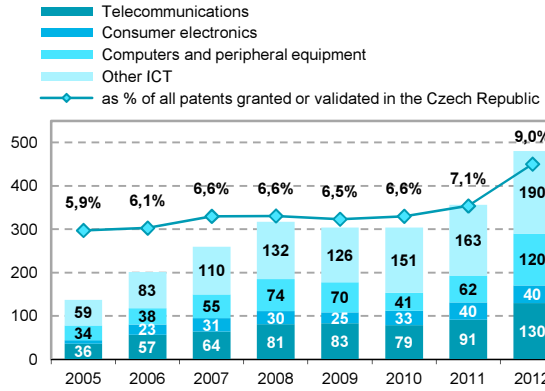
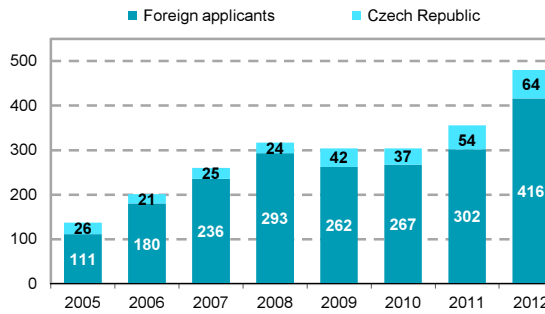


Figure C10 ICT patents granted or validated in the Czech Republic by applicant's country of origin



Source: IPO of the Czech Republic and CZSO calculations

Table C7 ICT patents valid in the CR as of 31.12.2012

	Total	Applicant's country of origin	
		Czech	Foreign
Total	**1 980**	**238**	**1 742**
Telecommunications	532	27	505
Consumer electronics	219	3	216
Computers	398	29	369
Other ICT	831	179	652

Figure C11 ICT patents valid in the CR as of 31.12.2012 by technology and applicant's country of origin

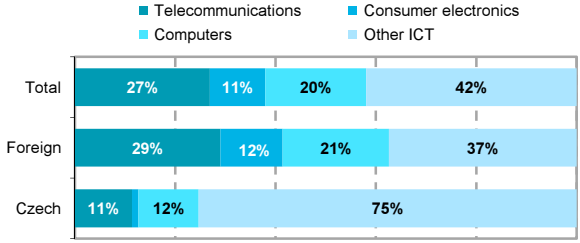
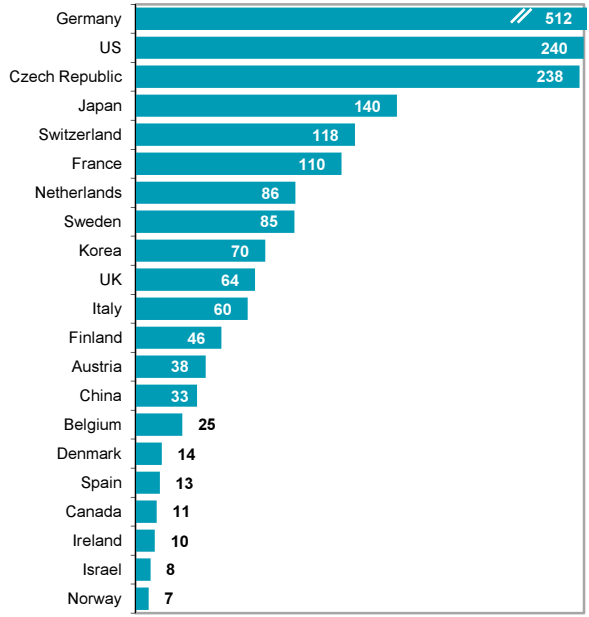


Figure C12 ICT patents valid in the Czech Republic as of 31.12.2012 by applicant's country of origin



Source: IPO of the Czech Republic and CZSO calculations

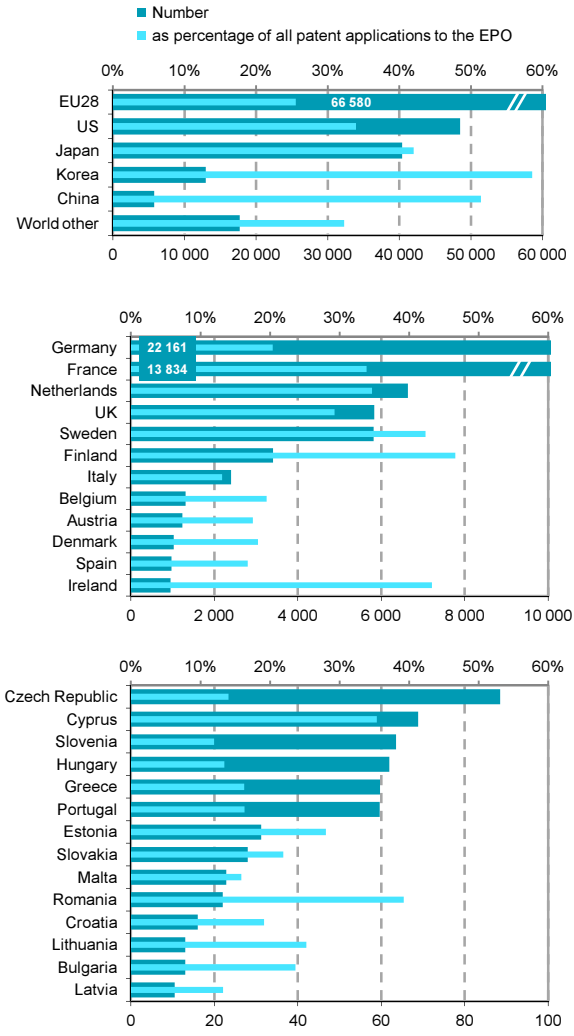
Table C8 ICT patents filed by Czech applicants abroad

	2009	2010	2011
ICT patent applications to the EPO	22	19	21
ICT patents granted by EPO	4	5	3
ICT patents granted by USPTO	6	3	5

EPO: European Patent Office

USPTO: United States Patent and Trademark Office

Figure C13 ICT patent applications to the EPO, 2007-2011



Source: OECD and CZSO calculations

D ICT international trade

ICT international trade **contains** external trade in both ICT goods and ICT services. **ICT products** are defined as goods or services which must be primarily intended to fulfill or enable the function of information processing and communication by electronic means, including transmission and display (OECD 2008).

The list of ICT goods used for the external trade statistics is based on the *Harmonized System (HS2007*), an international classification standard used for trade statistics, and worked carried by the WPIIS expert group in 2010. List of ICT goods defined at 6-digit level of HS2007 (95 items) was further grouped into the five main categories as follows:

- Communication equipment;
- Computer equipment;
- Consumer electronics;
- Electronic components;
- Miscellaneous ICT parts.

The **External Trade Statistics Database** of the Czech Statistical Office (CZSO) was used as a data source for national data. **2012 data are preliminary.** For more information see:
http://apl.czso.cz/pll/stazo/STAZO.STAZO?jazyk=EN

The detail data on external trade in ICT goods at the level of sub-categories are published here only since the reference year 2007. This is due to substantial changes of respective items of the main ICT goods categories in the 2007 version of the Harmonized System.

The **UNCTAD database** and **The UN Comtrade database** was used as a data source for the international comparison:
http://unctad.org/en/Pages/Statistics.aspx; http://comtrade.un.org/db/

Data on trade in ICT goods for main ICT categories published by the Czech Statistical Office differ slightly from the data published by OECD or UNCTAD as different classification of some ICT items was used.

Further information on ICT goods trade statistics can be found at:
http://www.czso.cz/eng/redakce.nsf/i/external_trade_in_ict_goods

Data on trade in **ICT services** are currently limited compared to data on trade in ICT goods. The current services classification is based on the Extended Balance of Payments Services Classification (EBOPS). The ICT services are subdivided into two fundamental categories as follows:

- Telecommunication services (code 247); and
- Computer services (code 263).

Since 2005 data about trade in ICT services in the Czech Republic comes from the **survey on exports and imports of services** carry out by the CZSO. Until 2004 data were based on the current account of the balance of payments (BOP) provided by the **Czech National Bank (CNB).** The individual BOP items are defined in compliance with individual receipt and payment items and correspond with international codes of BPM5. For more information see: http://www.cnb.cz/en/statistics/bop_stat/

The **Eurostat Balance of Payments Database** was used as a data source for the international comparison. For more information see:
http://epp.eurostat.ec.europa.eu/portal/page/portal/balance_of_payments/data/database

Further information on ICT services trade statistics can be found at:
http://www.czso.cz/csu/redakce.nsf/i/zahranicni_obchod_s_ict_sluzbami.

D ICT international trade

Table D1 Exports of ICT goods from the Czech Republic

CZK million

	2010	2011	2012
Total	**396 508**	**440 053**	**441 839**
Communication equipment	35 220	61 281	62 429
Computer equipment	186 551	194 971	216 557
Consumer electronics	89 274	86 460	76 007
Electronic components	44 080	49 246	40 483
Miscellaneous ICT parts	41 383	48 094	46 361

Figure D1 ICT goods exports

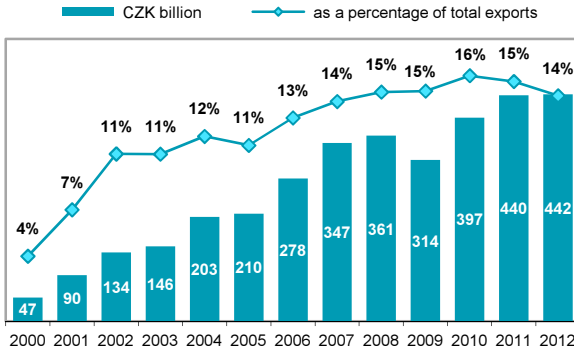


Figure D2 ICT goods exports by commodities

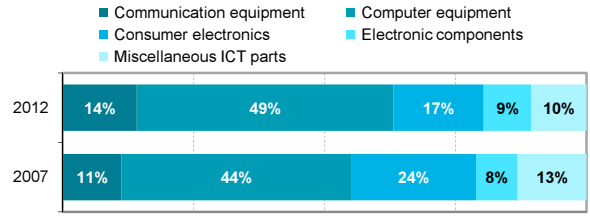
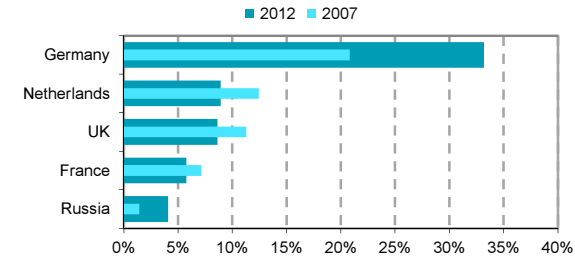


Figure D3 ICT goods exports by countries



Source: CZSO, External Trade Statistics Database

D ICT international trade

Table D2 Imports of ICT goods to the Czech Republic

CZK million

	2010	2011	2012
Total	**432 179**	**422 231**	**399 408**
Communication equipment	34 751	52 182	51 709
Computer equipment	123 278	149 274	142 364
Consumer electronics	30 825	33 166	32 014
Electronic components	114 187	76 710	74 832
Miscellaneous ICT parts	129 137	110 900	98 489

Figure D4 ICT goods imports

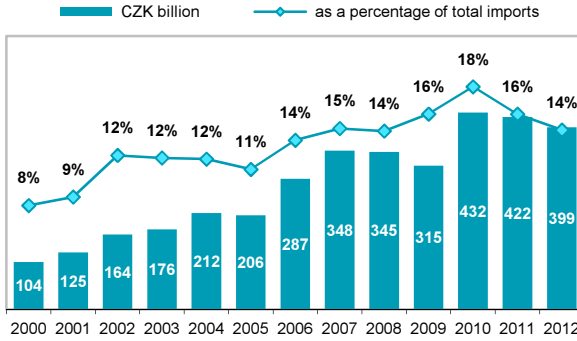


Figure D5 ICT goods imports by commodities

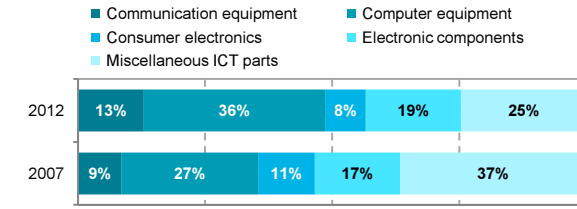
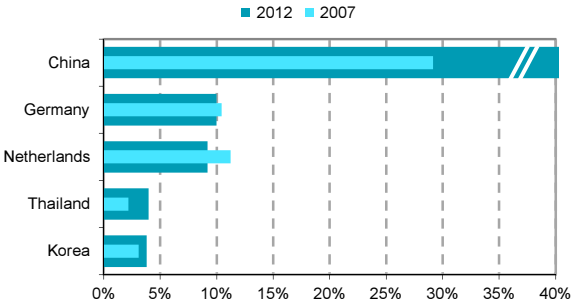


Figure D6 ICT goods imports by countries



Source: CZSO, External Trade Statistics Database

Figure D7 ICT goods exports
(as percentage of total merchandise exports)

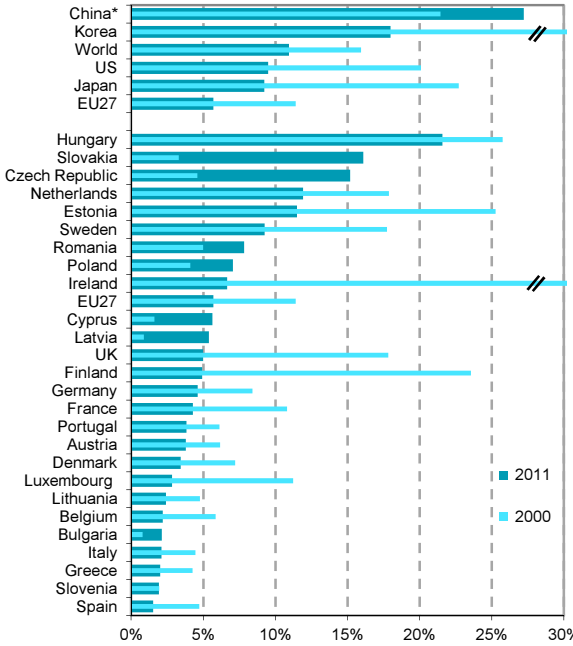
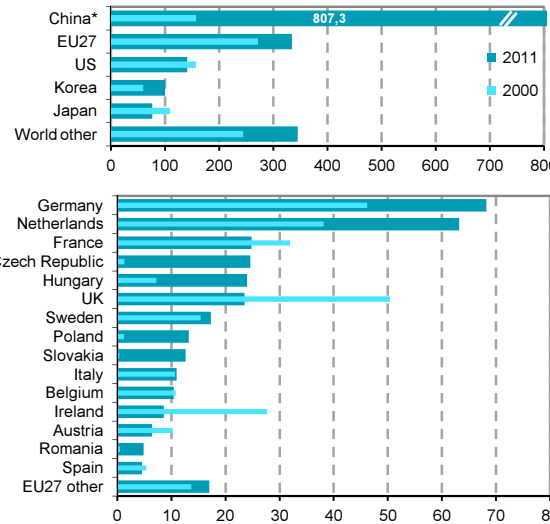


Figure D8 ICT goods exports (US$ billion)



China = (China; Hong Kong China; Macao China; China Taiwan)*

Source: UNCTAD and CZSO calculations

Figure D9 ICT goods imports
(as percentage of total merchandise imports)

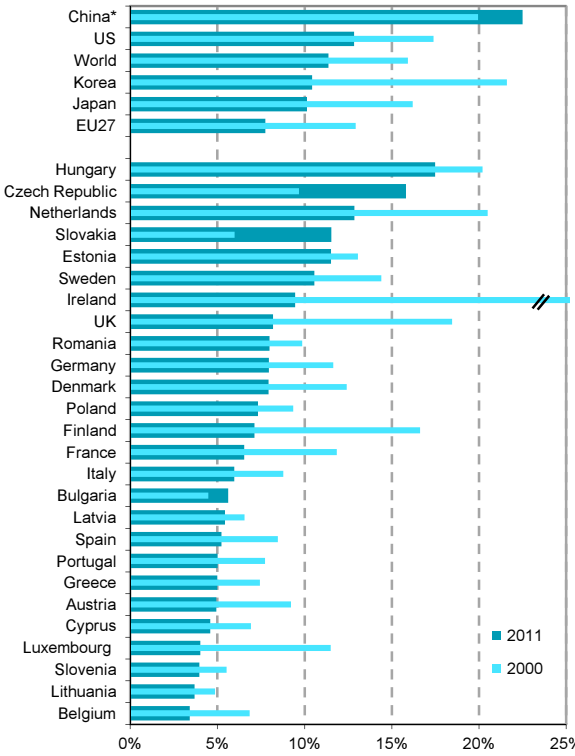
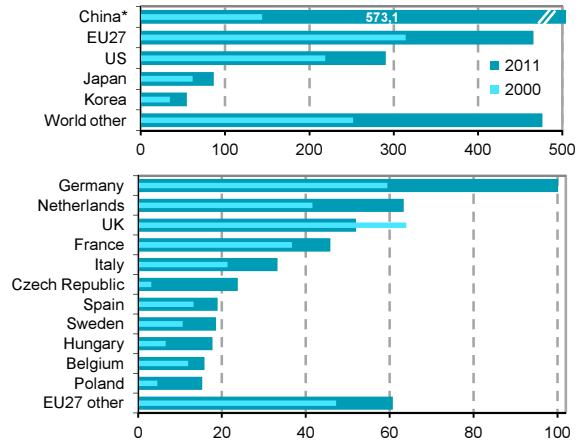


Figure D10 ICT goods imports (US$ billion)



China = (China; Hong Kong China; Macao China; China Taiwan)*

Source: UNCTAD and CZSO calculations

D ICT international trade

Table D3 Communication equipment exports from the CR

CZK million

	2010	2011	2012
Total	**35 220**	**61 281**	**62 429**
Mobile phones	18 058	38 140	39 435
Other telecommunication equipment	1 221	1 459	1 440
Radio or TV transmission apparatus	15 941	21 681	21 555

Figure D11 Communication equipment exports

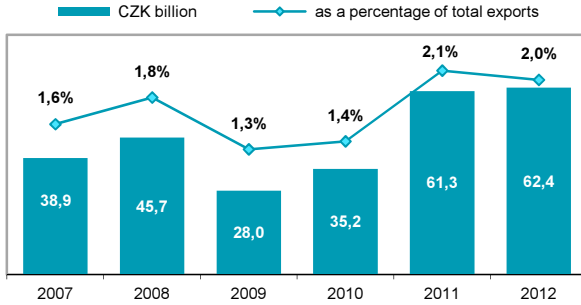


Figure D12 Communication equipment exports by commodities

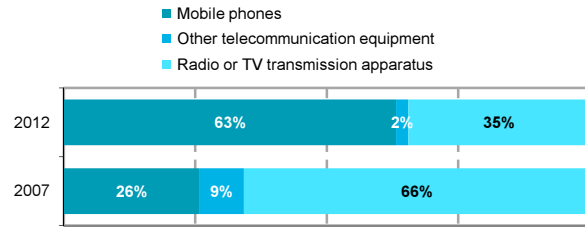
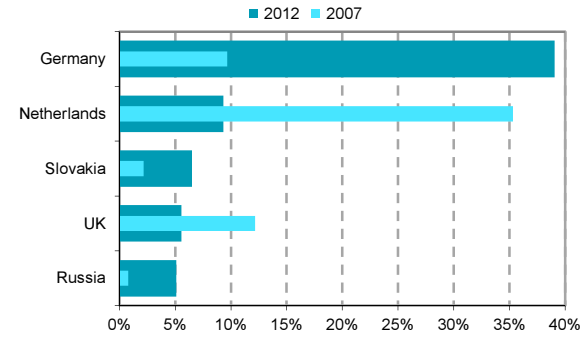


Figure D13 Communication equipment exports by countries



Source: CZSO, External Trade Statistics Database

D ICT international trade

Table D4 Communication equipment imports to the CR

CZK million

	2010	2011	2012
Total	**34 751**	**52 182**	**51 709**
Mobile phones	20 849	35 586	34 585
Other telecommunication equipment	2 424	2 022	1 981
Radio or TV transmission apparatus	11 478	14 575	15 143

Figure D14 Communication equipment imports

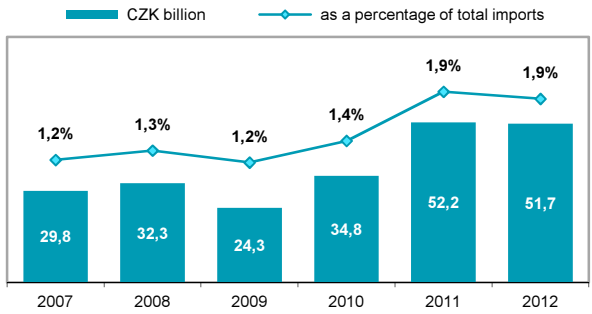


Figure D15 Communication equipment imports by commodities

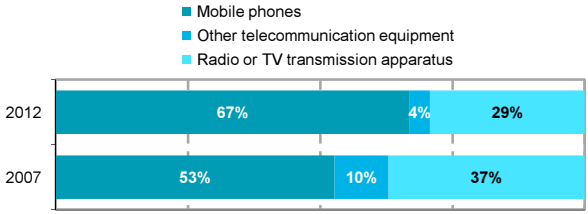
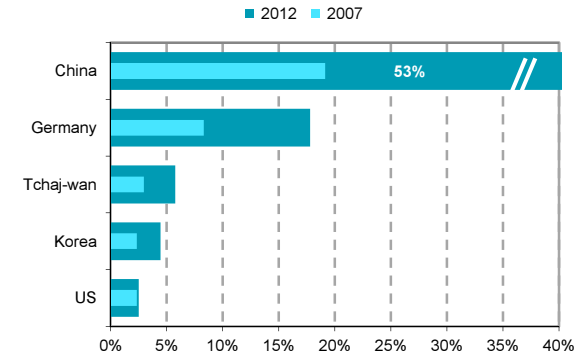


Figure D16 Communication equipment imports by countries



Source: CZSO, External Trade Statistics Database

D ICT international trade

Table D5 Computer equipment exports from the CR

CZK million

	2010	2011	2012
Total	**186 551**	**194 971**	**216 557**
Portable computers and tablets	42 260	56 324	67 940
Other computers	89 346	81 282	83 035
Computer peripherals, total	54 945	57 365	65 582
Storage units	33 946	33 233	42 748
Sound, video, network and similar cards	5 891	7 749	7 435
Monitors and projectors	4 526	4 849	3 980
Printers, copying or faxing machines	5 579	5 271	5 198
Input or output peripherals n.e.s*.	10 641	13 748	13 461

** Keyboards; joystick, computer mice, scanners or optical readers*

Figure D17 Computer equipment exports

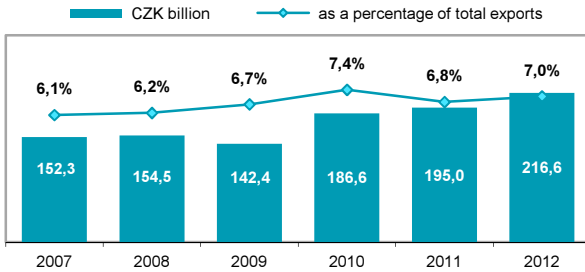


Figure D18 Computer equipment exports by commodities

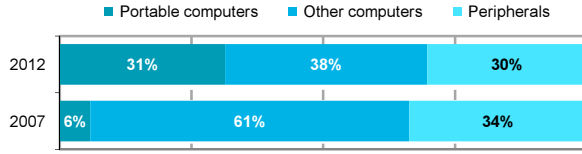
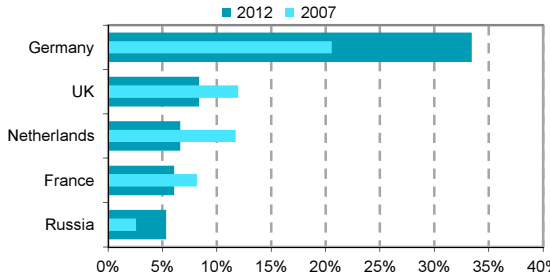


Figure D19 Computer equipment exports by countries



Source: CZSO, External Trade Statistics Database

D ICT international trade

Table D6 Computer equipment imports to the Czech Republic

CZK million

	2010	2011	2012
Total	**123 278**	**149 274**	**142 364**
Portable computers and tablets	44 876	69 912	59 053
Other computers	13 765	13 799	12 903
Computer peripherals, total	64 637	65 562	70 407
Storage units	40 453	34 700	43 433
Sound, video, network and similar cards	7 007	9 190	9 820
Monitors and projectors	4 525	9 204	5 301
Printers, copying or faxing machines	7 004	7 192	6 672
Input or output peripherals n.e.s*.	12 086	13 836	14 201

** Keyboards; joystick, computer mice, scanners or optical readers*

Figure D20 Computer equipment imports

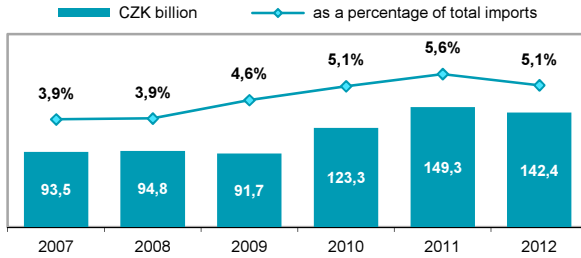


Figure D21 Computer equipment by commodities

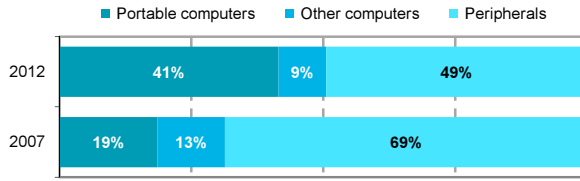
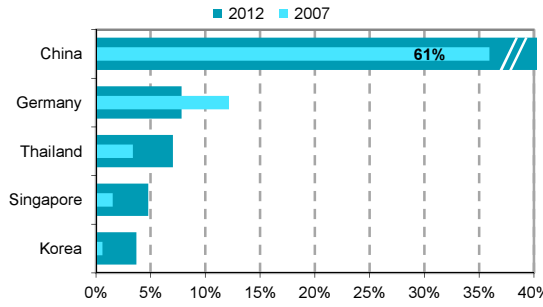


Figure D22 Computer equipment by countries



Source: CZSO, External Trade Statistics Database

Table D7 Consumer electronics exports from the CR

CZK million

	2010	2011	2012
Total	**89 274**	**86 460**	**76 007**
Radio and TV receivers	66 807	65 022	57 409
Sound, video and image record. apparat.	15 714	16 052	12 352
Parts and accessories*	6 753	5 387	6 247

** Monitors and projectors; Microphones and stands there for; Loudspeakers; Headphones, Electric sound amplifier sets etc.*

Figure D23 Consumer electronics exports

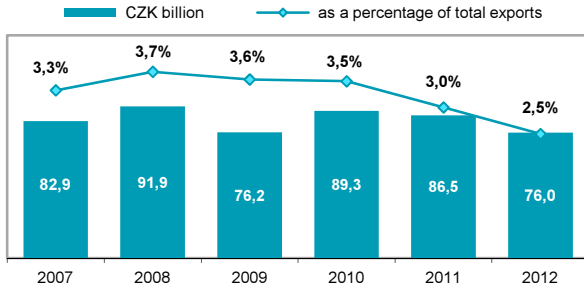


Figure D24 Consumer electronics exports by commodities

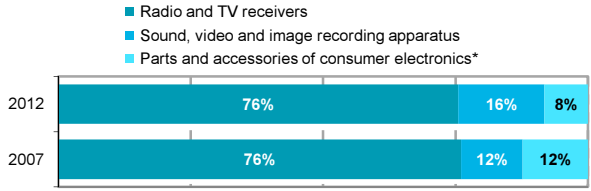
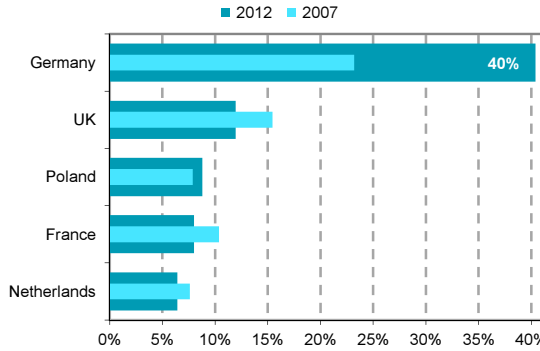


Figure D25 Consumer electronics exports by countries



Source: CZSO, External Trade Statistics Database

Table D8 Consumer electronics imports to the Czech Republic

CZK million

	2010	2011	2012
Total	**30 825**	**33 166**	**32 014**
Radio and TV receivers	11 746	15 916	15 025
Sound, video and image record. apparat.	10 100	11 797	11 504
Parts and accessories*	8 979	5 452	5 485

** Monitors and projectors; Microphones and stands there for; Loudspeakers; Headphones, Electric sound amplifier sets etc.*

Figure D26 Consumer electronics imports

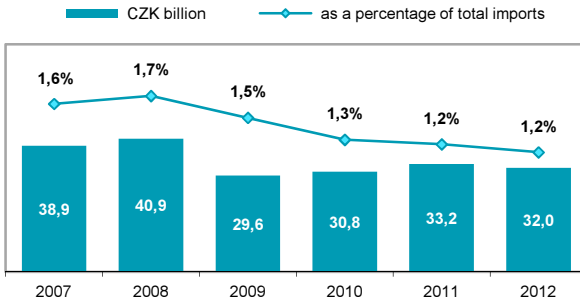


Figure D27 Consumer electronics imports by commodities

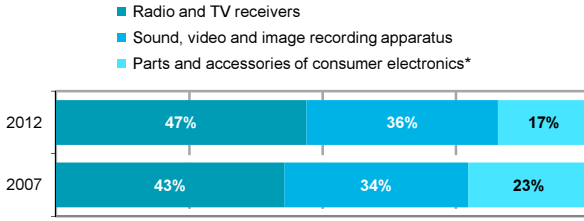
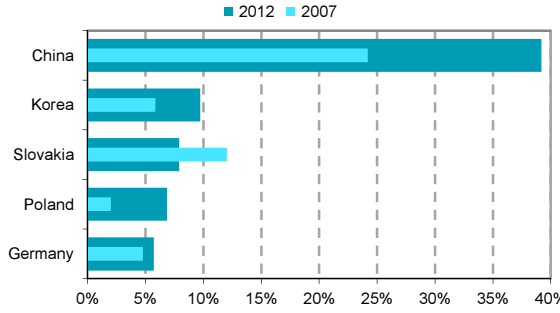


Figure D28 Consumer electronics imports by countries



Source: CZSO, External Trade Statistics Database

D ICT international trade

Table D9 Electronic components exports from the CR

CZK million

	2010	2011	2012
Total	**44 080**	**49 246**	**40 483**
Electronic integrated circuits	19 473	25 097	26 029
Printed circuits	2 960	3 245	3 076
Other electronic components	21 647	20 904	11 378

Figure D29 Electronic components exports

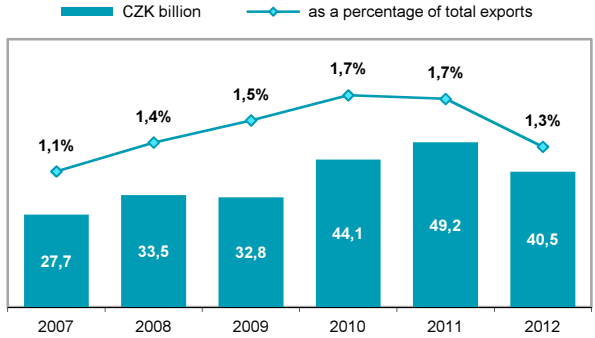


Figure D30 Electronic components exports by commodities

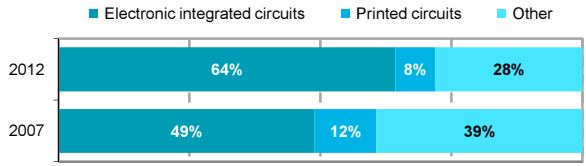
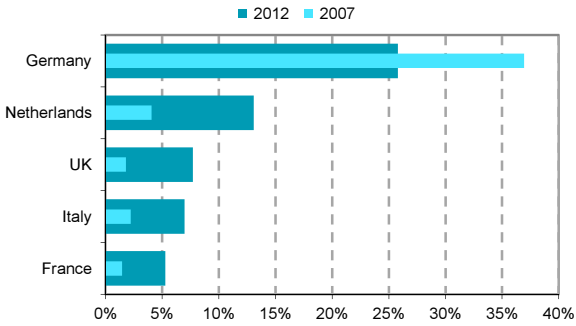


Figure D31 Electronic components exports by countries



Source: CZSO, External Trade Statistics Database

Table D10 Electronic components imports to the CR

CZK million

	2010	2011	2012
Total	**114 187**	**76 710**	**74 832**
Electronic integrated circuits	45 127	47 190	54 912
Printed circuits	7 389	6 569	6 584
Other electronic components	61 671	22 950	13 336

Figure D32 Electronic components imports

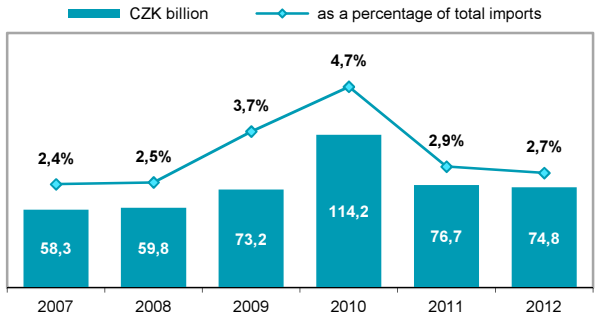


Figure D33 Electronic components imports by commodities

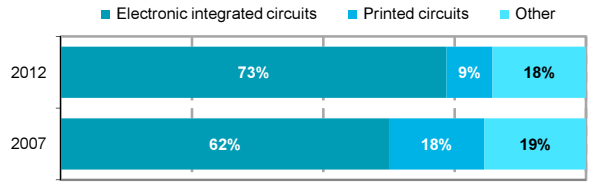
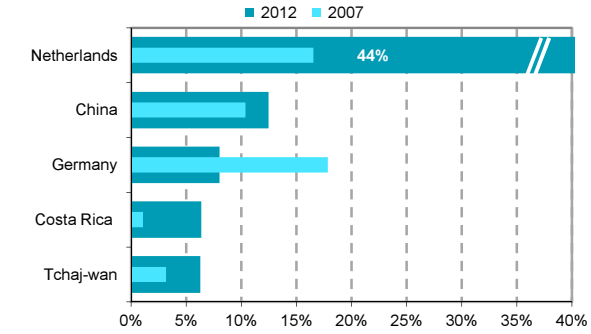


Figure D34 Electronic components imports by countries



Source: CZSO, External Trade Statistics Database

D ICT international trade

Table D11 Miscellaneous ICT parts exports from the CR

CZK million

	2010	2011	2012
Total	**41 383**	**48 094**	**46 361**
Parts and accessories n.e.s. mainly for			
computers	23 902	32 732	31 009
telecommunication equipment	7 688	7 200	7 077
consumer electronics	9 794	8 163	8 275

Figure D35 Miscellaneous ICT parts exports

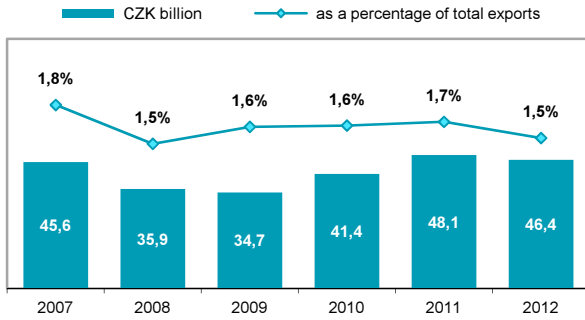


Figure D36 Miscellaneous ICT parts exports by commodities

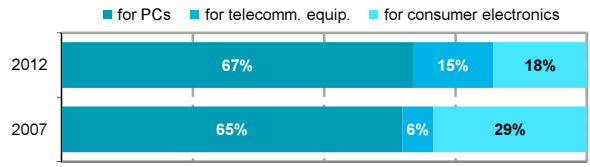
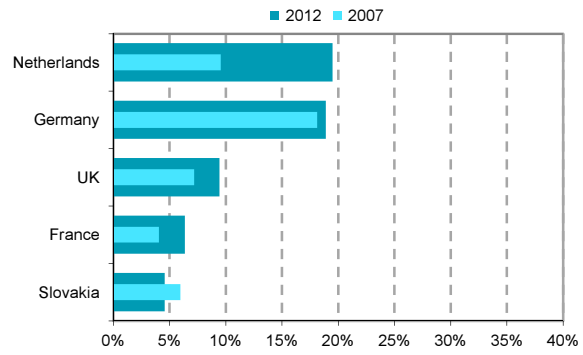


Figure D37 Miscellaneous ICT parts exports by countries



Source: CZSO, External Trade Statistics Database

D ICT international trade

Table D12 Miscellaneous ICT parts imports to the CR

CZK million

	2010	2011	2012
Total	**129 137**	**110 900**	**98 489**
Parts and accessories n.e.s. mainly for			
computers	62 513	58 239	55 409
telecommunication equipment	7 151	7 605	9 071
consumer electronics	59 473	45 056	34 009

Figure D38 Miscellaneous ICT parts imports

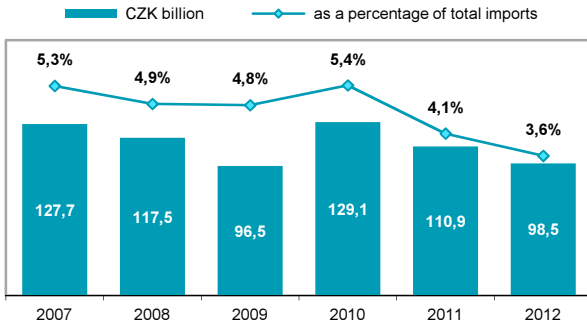


Figure D39 Miscellaneous ICT parts imports by commodities

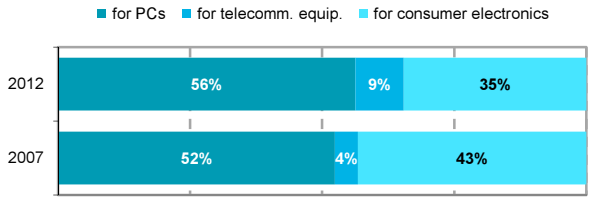
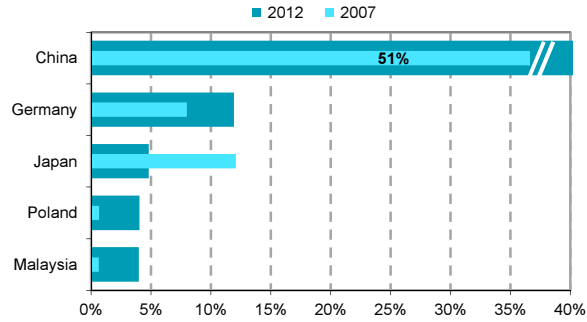
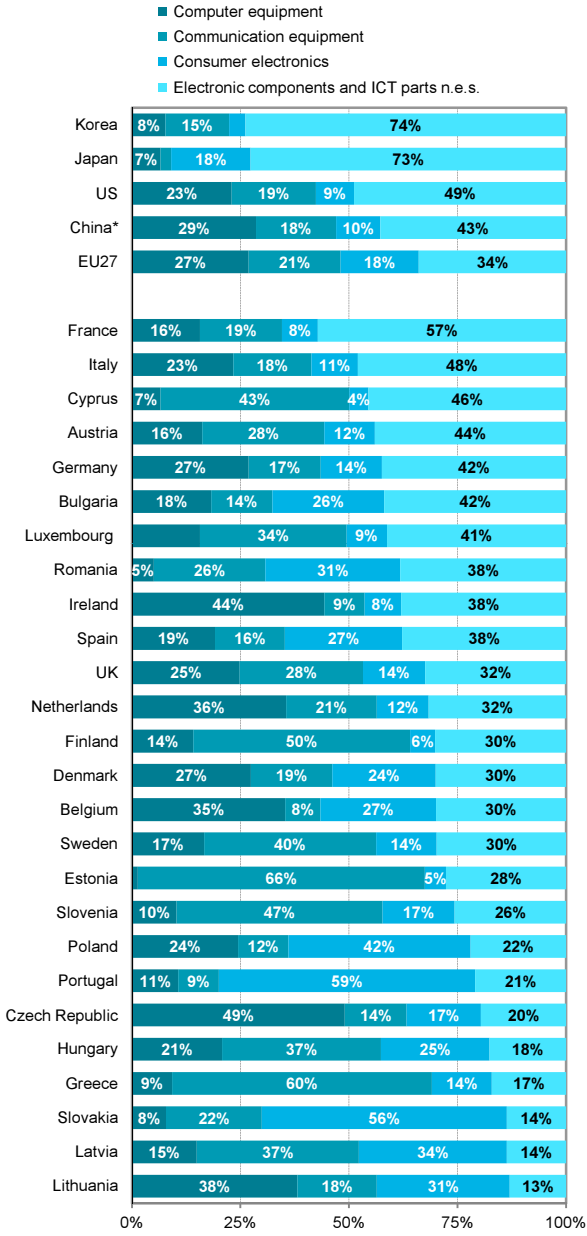


Figure D40 Miscellaneous ICT parts imports by countries



Source: CZSO, External Trade Statistics Database

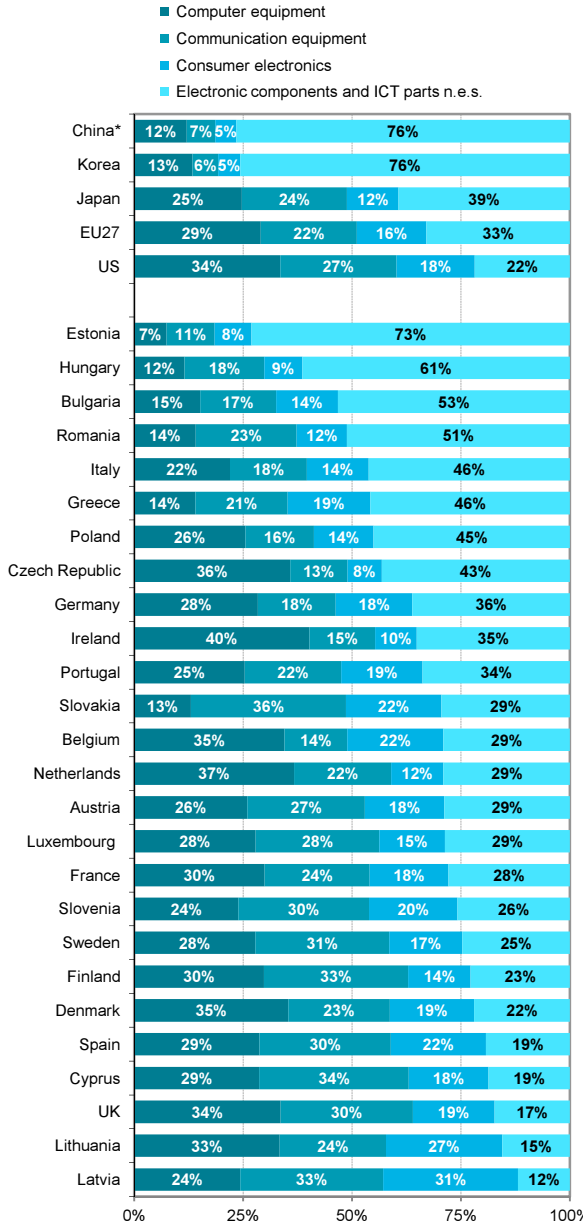
Figure D41 ICT goods exports by commodities, 2012



China = (China; Hong Kong China; Macao China; China Taiwan)*

Source: UN, Comtrade database and CZSO calculations

Figure D42 ICT goods imports by commodities, 2012



China = (China; Hong Kong China; Macao China; China Taiwan)*

Source: UN, Comtrade database and CZSO calculations

D ICT international trade

Table D13 Exports of ICT services from the Czech Republic

CZK million

	2010	2011	2012
Total	**31 506**	**35 471**	**42 780**
Telecommunication services	9 156	8 128	8 874
Computer services	22 351	27 343	33 907
Ownership of enterprises			
National	2 581	2 746	5 386
Foreign controlled	28 926	32 725	37 394
Size class of enterprises			
Small (0-49 employees)	1 857	3 109	3 877
Medium (50-249 employees)	7 402	6 451	5 677
Large (250+ employees)	22 248	25 911	33 226

Figure D43 ICT services exports

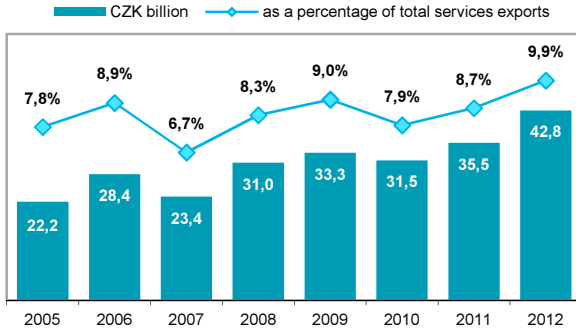


Figure D44 ICT services exports by type of service

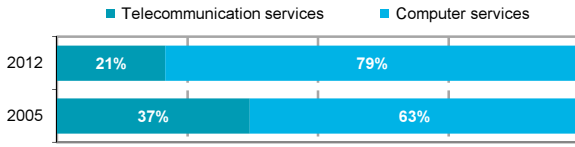
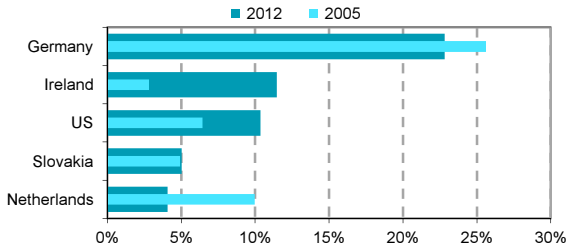


Figure D45 ICT services exports by countries



Source: CZSO, Survey on exports and imports of services

D ICT international trade

Table D14 Imports of ICT services to the Czech Republic

CZK million

	2010	2011	2012
Total	**29 944**	**29 696**	**30 713**
Telecommunication services	10 433	10 418	10 811
Computer services	19 511	19 278	19 902
Ownership of enterprises			
National	1 888	938	1 904
Foreign controlled	28 057	28 757	28 809
Size class of enterprises			
Small (0-49 employees)	1 892	1 364	1 922
Medium (50-249 employees)	5 813	5 257	4 172
Large (250+ employees)	22 239	23 075	24 619

Figure D46 ICT services imports

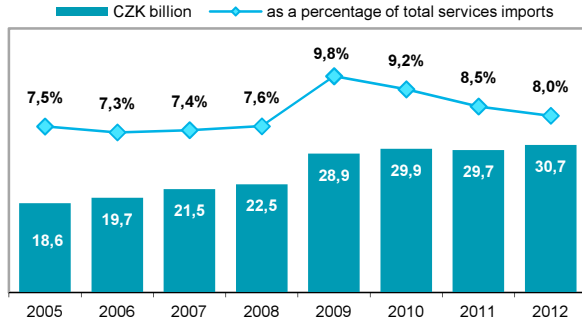


Figure D47 ICT services imports by type of service

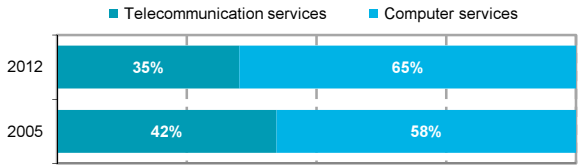
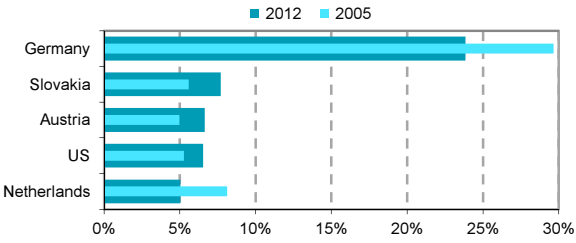


Figure D48 ICT services imports by countries



Source: CZSO, Survey on exports and imports of services

Figure D49 ICT services exports (as percentage of total services exports)

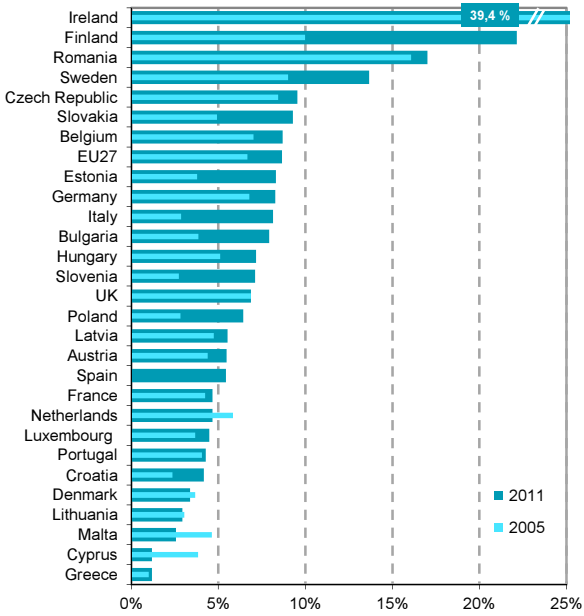
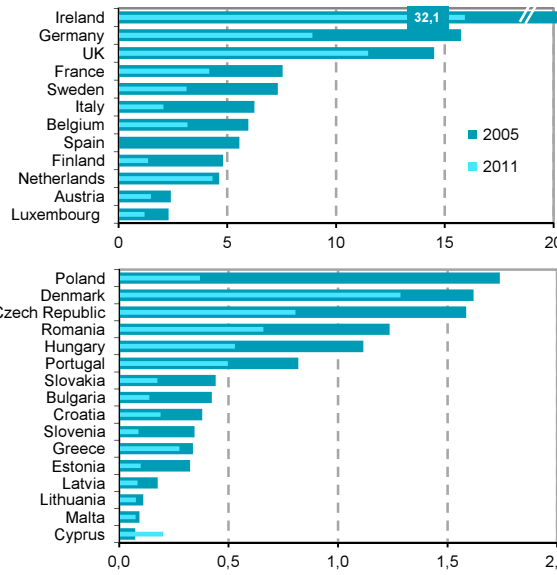


Figure D50 ICT services exports (US$ billion)



Source: Eurostat

Figure D51 ICT services imports
(as percentage of total services imports)

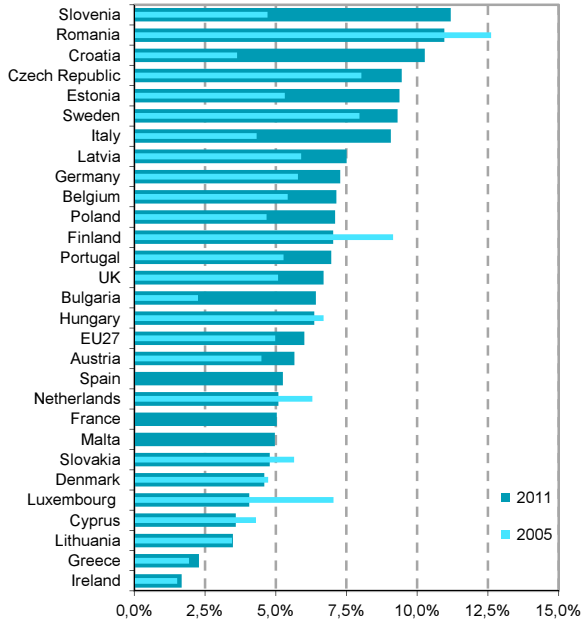
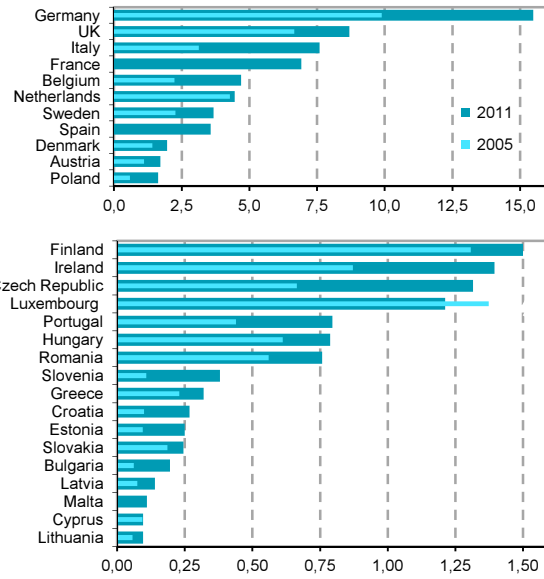


Figure D52 ICT services imports (US$ billion)



Source: Eurostat

D ICT international trade

Table D15 Computer services exports from the Czech Republic

CZK million

	2010	2011	2012
Total	**22 351**	**27 343**	**33 907**
IT design, development, consulting, support and related services	.	15 202	18 446
Data processing, hosting and relat. serv.	.	9 835	12 265
Maintenance and repair of computers	.	2 306	3 196
Ownership of enterprises			
National	2 143	2 721	5 148
Foreign controlled	20 207	24 622	28 759
Size class of enterprises			
Small (0-49 employees)	1 385	2 888	3 526
Medium (50-249 employees)	6 882	5 822	5 352
Large (250+ employees)	14 084	18 633	24 501

Figure D53 Computer services exports

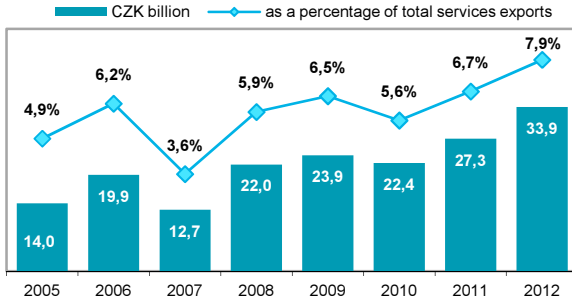


Figure D54 Computer services exports by ownership of exporting enterprises

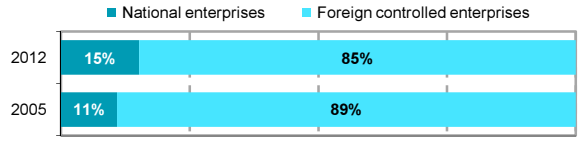
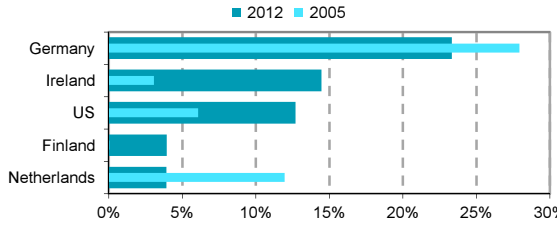


Figure D55 Computer services exports by countries



Source: CZSO, Survey on exports and imports of services

D ICT international trade

Table D16 Computer services imports to the Czech Republic

CZK million

	2010	2011	2012
Total	**19 511**	**19 278**	**19 902**
IT design, development, consulting, support and related services	.	13 680	12 283
Data processing, hosting and relat. serv.	.	4 457	6 312
Maintenance and repair of computers	.	1 140	1 306
Ownership of enterprises			
National	1 797	870	1 744
Foreign controlled	17 714	18 408	18 157
Size class of enterprises			
Small (0-49 employees)	1 423	1 113	1 512
Medium (50-249 employees)	5 195	3 780	3 118
Large (250+ employees)	12 894	14 385	15 271

Figure D56 Computer services imports

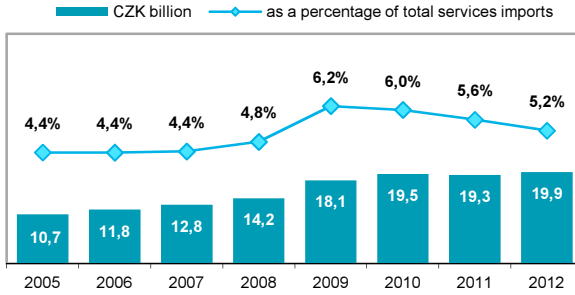


Figure D57 Computer services imports by ownership of importing enterprises

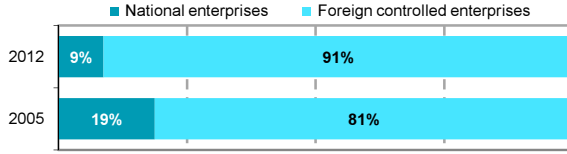
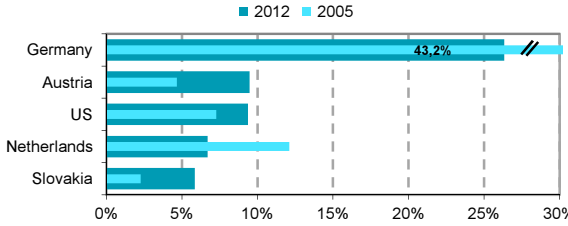


Figure D58 Computer services imports by countries



Source: CZSO, Survey on exports and imports of services

Figure D59 Computer services exports (as percentage of total services exports)

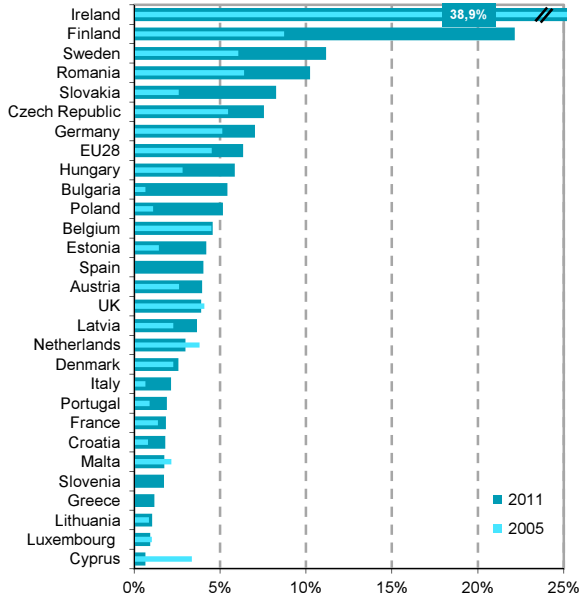
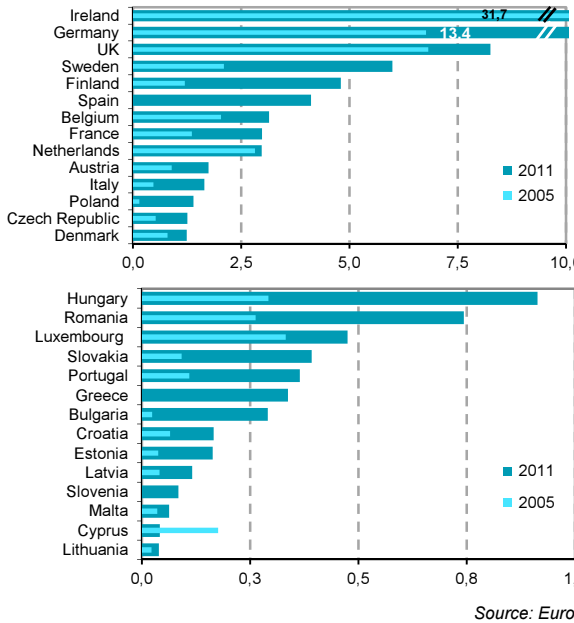


Figure D60 Computer services exports (EUR billion)



Source: Eurostat

E ICT sector

In general, **the term ICT sector** includes a combination of ICT manufacturing and ICT services industries which are associated with the production and/or distribution of information and communication technologies and a provision of related services.

The list of ICT sector's industries is decided on the following OECD definition:"The production (goods and services) of a candidate industry must primarily be intended to fulfill or enable the function of information processing and communication by electronic means including transmission and display".

*In 2007 the ICT sector together with Content and media sector **(information economy)** was recognized by the United Nation Statistics Division as a new alternative grouping of economic activities defined within the International Standard Industrial Classification of All Economic Activities (ISIC), Revision 4. For more information see following web page:*

http://unstats.un.org/unsd/cr/registry/docs/i4_information_economy.pdf

The activities (industries) in the ICT sector can be grouped into the following **four main categories**: ICT manufacturing industries, ICT trade industries and ICT services industries. ICT sector involves all businesses whose dominating activities belong to the **CZ-NACE groups** as follows:

ICT manufacturing industries:

- Manufacture of electronic components and boards (26.1)
- Manufacture of computers and peripheral equipment (26.2)
- Manufacture of communication equipment (26.3)
- Manufacture of consumer electronics and media (26.4 and 26.8)

ICT trade industries (ICT wholesale):

- Wholesale of information and communication equipment (46.5)

Telecommunications:

- Wired telecommunications activities (61.1)
- Wireless telecommunications activities (61.2)
- Satellite and other telecommunications activities. (61.3 and 61.9)

IT services industries:

- Software publishing; Computer programming, consultancy and related activities (58.2 and 62.0)
- Data processing, hosting and related activities; web portals (63.1)
- Repair of computers and communication equipment (95.1)

Data for this chapter, except for R&D expenditure (source: R&D annual survey), were obtained from the annual structural survey of business entities from selected production industries (**SBS – Structural Business Statistics).** In the case of SBS the first reference period for data processing according to the new classification CZ-NACE was the year 2008. Data for 2005–2007 are based on the retroactive conversion of structural data. **2012 data are preliminary.**

Data prior to the year 2005 are estimates based on the **Annual National Accounts Statistics**. More information about this data source is available at: http://apl.czso.cz/pll/rocenka/rocenka.indexnu_en

The **Eurostat Structural Business Statistics Database** was used as a data source for the international comparison. More information about the data from the SBS, including definitions of individual indicators, is available at:http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/en/sbs_esms.htm

Further information on ICT sector statistics can be found at:
http://www.czso.cz/eng/redakce.nsf/i/ict_sector

E ICT sector

Table E1 Employment in ICT sector in the Czech Republic

Headcount persons

	2010	2011	2012
Total	**136 668**	**140 525**	**140 643**
ICT manufacturing	28 602	29 419	27 392
ICT wholesale	10 791	11 073	11 638
Telecommunications	21 261	19 831	18 697
IT services	76 014	80 202	82 916

Figure E1 Employment in ICT sector

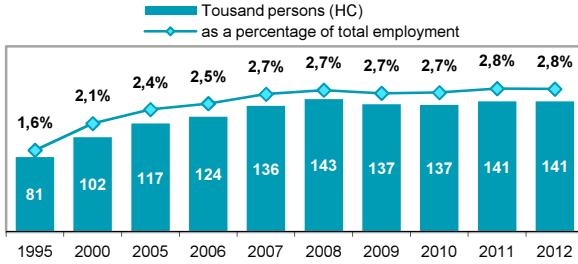


Figure E2 Employment in ICT sector by main industry groups

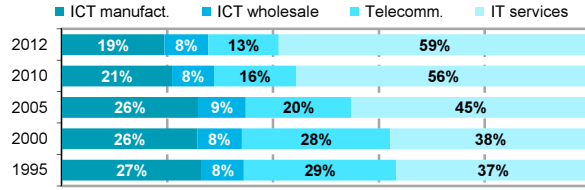


Figure E3 Employment in ICT sector by industry and ownership of enterprises, 2012

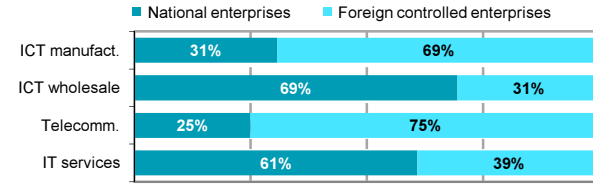
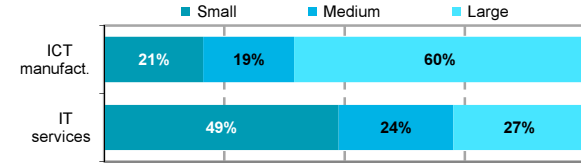


Figure E4 Employment in ICT sector by industry and size of enterprises, 2012



Source: CZSO, Structural Business Statistics and Annual National Accounts

Figure E5 Employment in ICT manufacturing

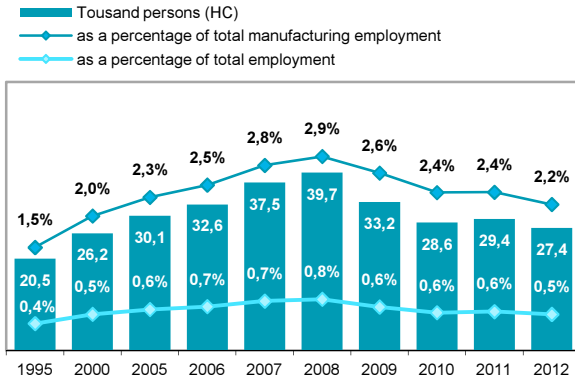


Figure E6 Employment in Telecommunications

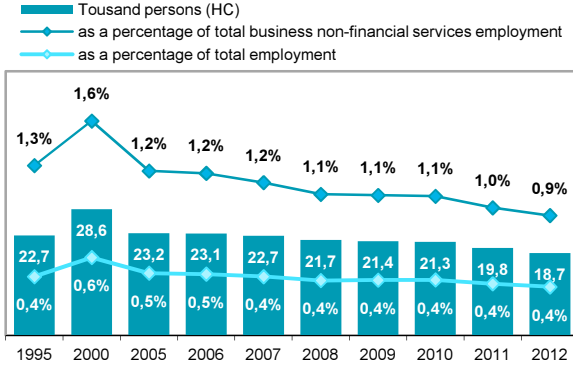
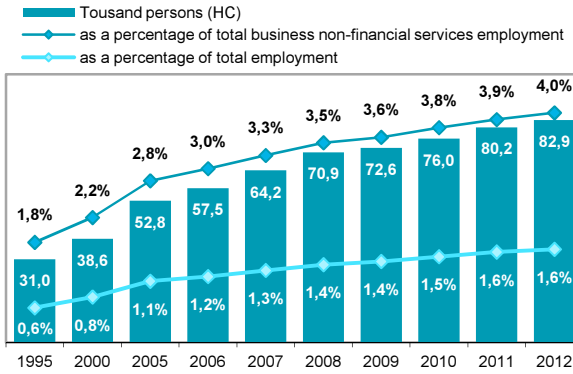
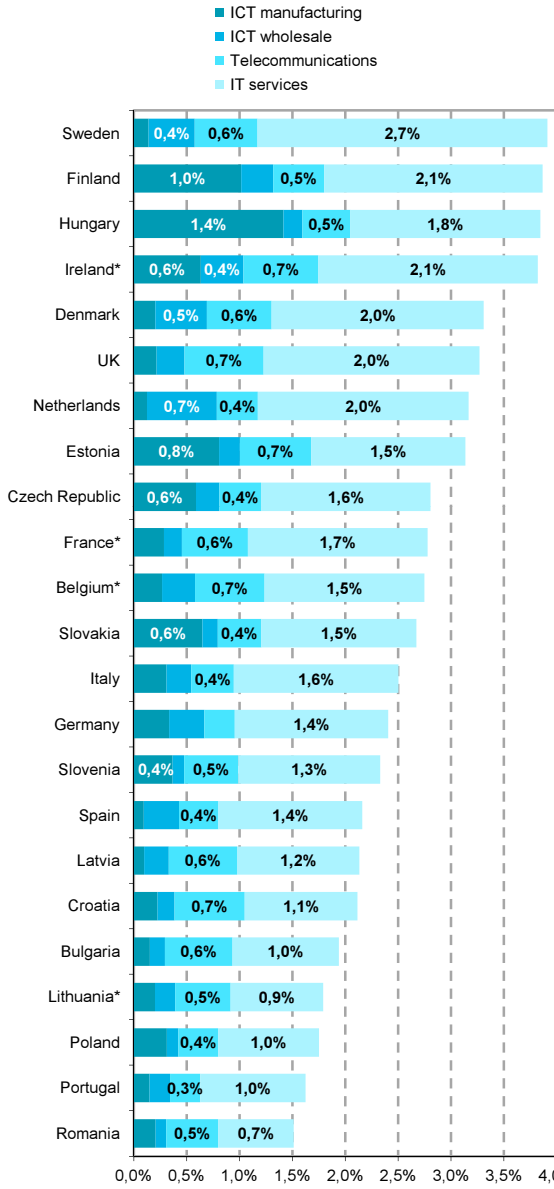


Figure E7 Employment in IT Services



Source: CZSO, Structural Business Statistics and Annual National Accounts

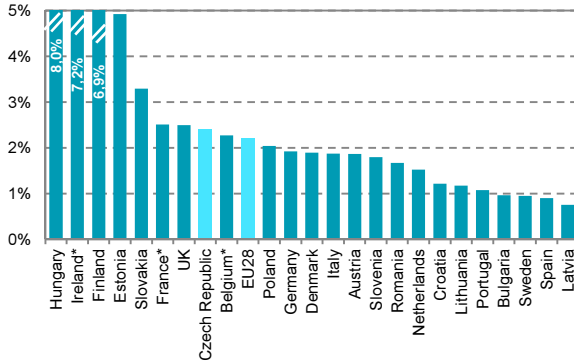
Figure E8 Employment in ICT sector, 2011
(as a percentage of total employment)



** Year 2012*

Source: Eurostat, Structural Business Statistics

Figure E9 Employment in ICT manufacturing, 2011**



***as a percentage of total manufacturing industries*

Figure E10 Employment in Telecommunications*, 2011**

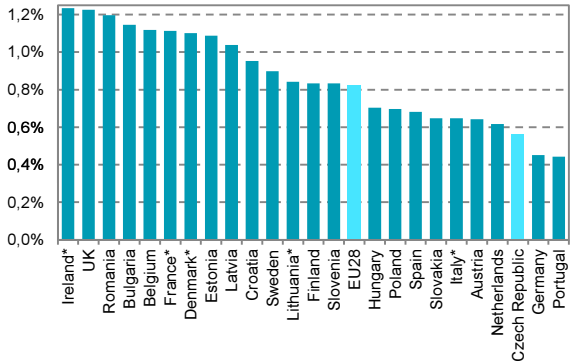
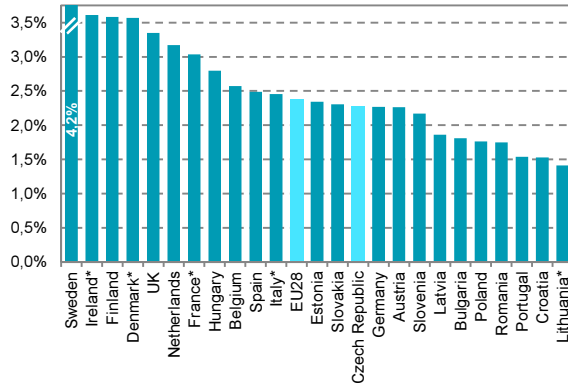


Figure E11 Employment in IT Services*, 2011**



****as a percentage of total non-financial business enterprise sector*

** Year 2011*

Source: Eurostat, Structural Business Statistics

E ICT sector

Table E2 Production value in ICT sector in the Czech Republic

CZK million

	2010	2011	2012
Total	**541 572**	**520 340**	**505 305**
ICT manufacturing	247 116	222 851	209 948
ICT wholesale	18 235	19 800	21 230
Telecommunications	125 024	116 056	109 490
IT services	151 197	161 633	164 637

Figure E12 Production value in ICT sector

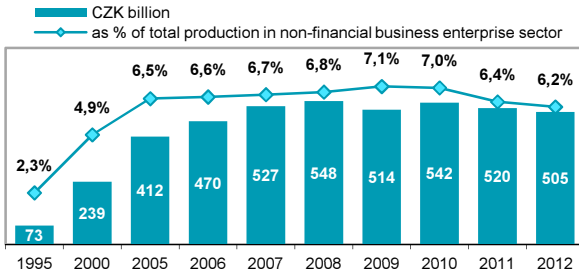


Figure E13 Production value in ICT sector by main industry groups

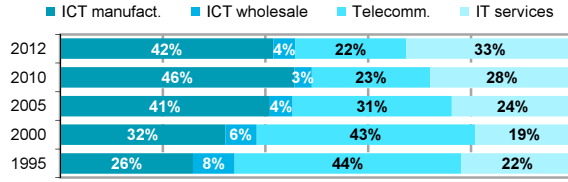


Figure E14 Production value in ICT sector by industry and ownership of enterprises, 2012

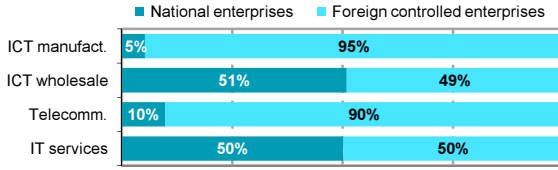
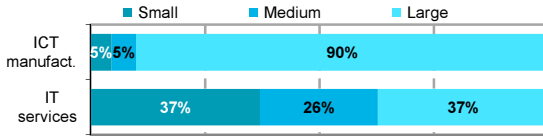


Figure E15 Production value in ICT sector by industry and size of enterprises, 2012



Source: CZSO, Structural Business Statistics and Annual National Accounts

Figure E16 Production value in ICT manufacturing

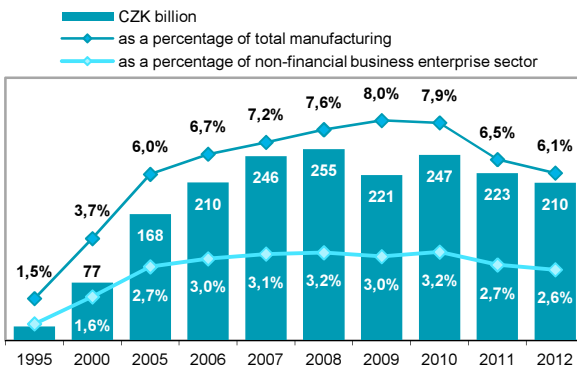


Figure E17 Production value in Telecommunications

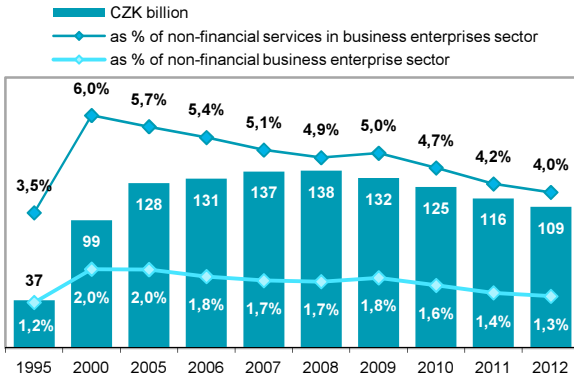
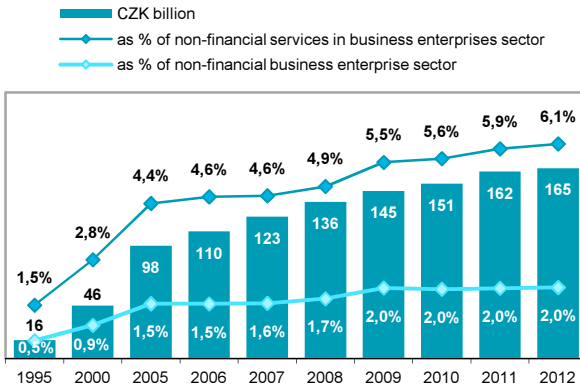
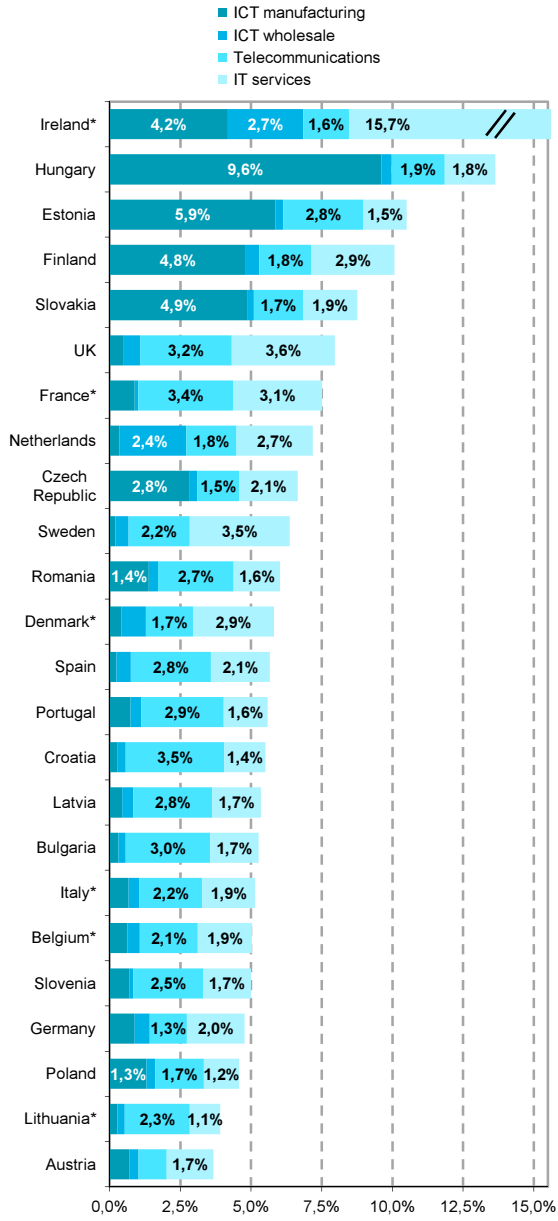


Figure E18 Production value in IT services



Source: CZSO, Structural Business Statistics and Annual National Accounts

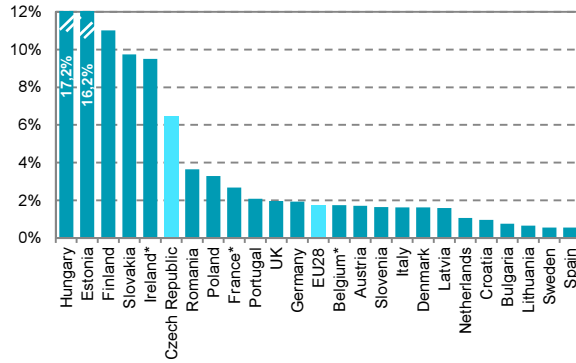
Figure E19 Production value in ICT sector, 2011
(as % of production in non-financial business enterpr. sector)



** Year 2012*

Source: Eurostat, Structural Business Statistics

Figure E20 Production value in ICT manufacturing, 2011**



***as a percentage of total manufacturing industries*

Figure E21 Production value in Telecommunications*, 2011**

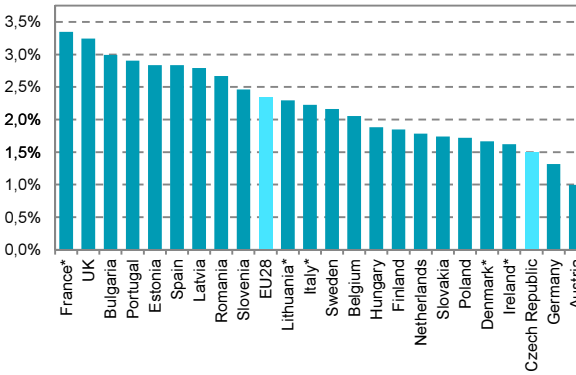
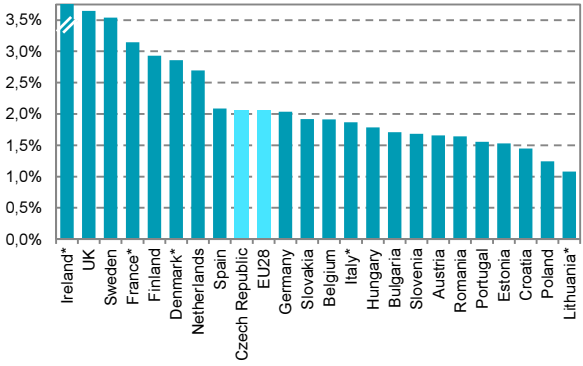


Figure E22 Production value in IT services*, 2011**



****as a percentage of total non-financial business enterprise sector*

** Year 2011*

Source: Eurostat, Structural Business Statistics

Table E3 Value added in ICT sector in the Czech Republic

CZK million

	2010	2011	2012
Total	**159 108**	**158 286**	**159 422**
ICT manufacturing	13 668	12 214	14 413
ICT wholesale	8 417	9 219	9 394
Telecommunications	66 071	60 062	55 129
IT services	70 952	76 792	80 487

Figure E23 Value added in ICT sector

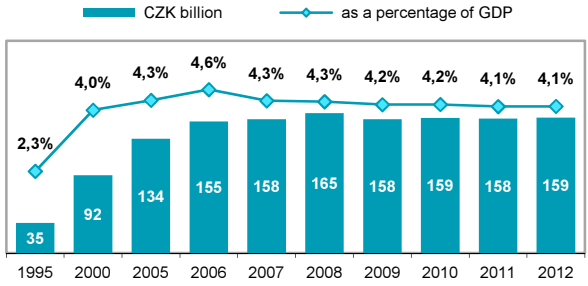


Figure E24 Value added in ICT sector by main industry groups

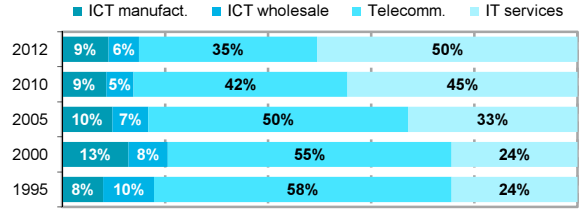


Figure E25 Value added in ICT sector by industry and ownership of enterprises

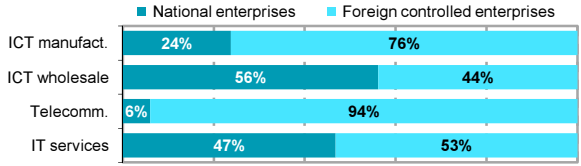
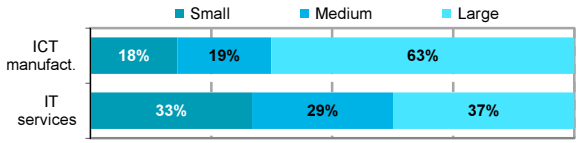


Figure E26 Value added in ICT sector by industry and size of enterprises, 2012



Source: CZSO, Structural Business Statistics and Annual National Accounts

Figure E27 Value added in ICT manufacturing

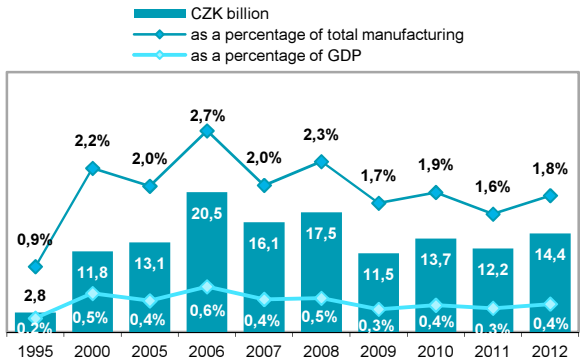


Figure E28 Value added in Telecommunications

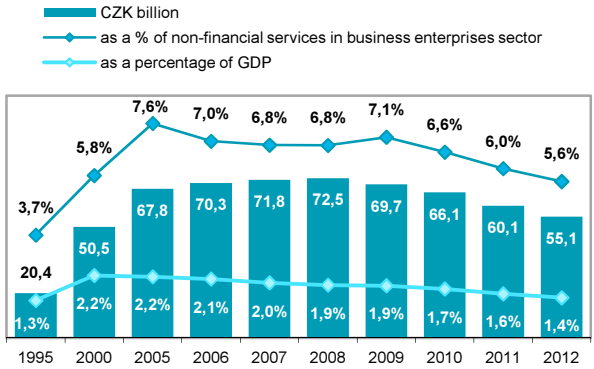
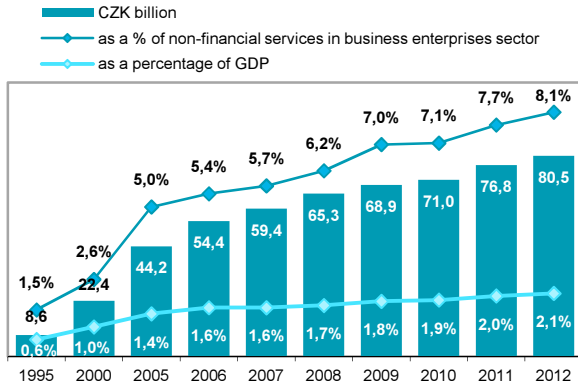
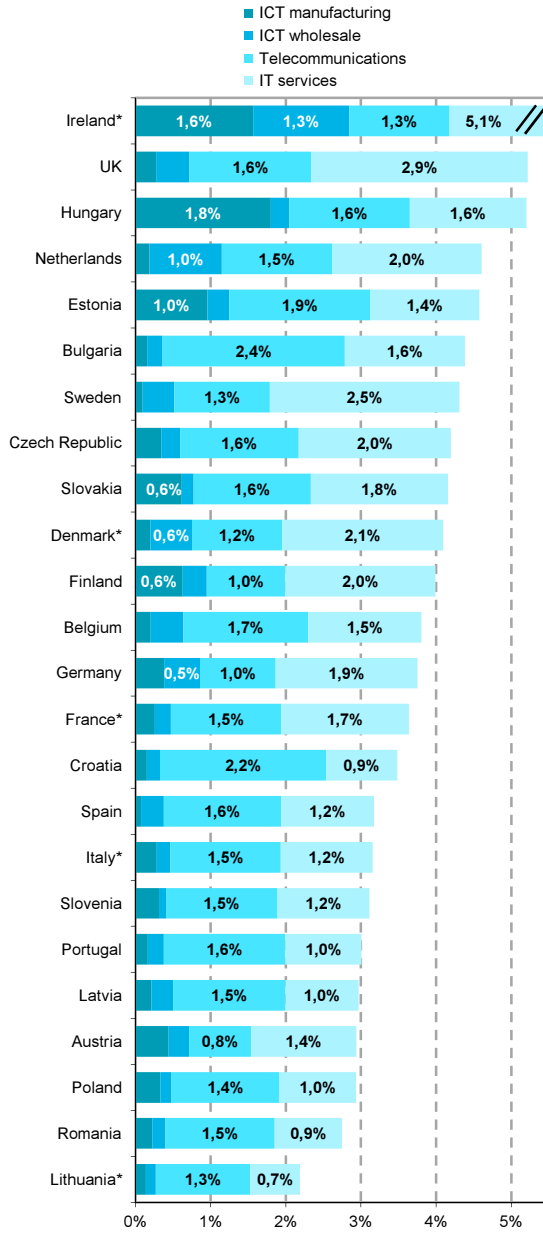


Figure E29 Value added in IT services



Source: CZSO, Structural Business Statistics and Annual National Accounts

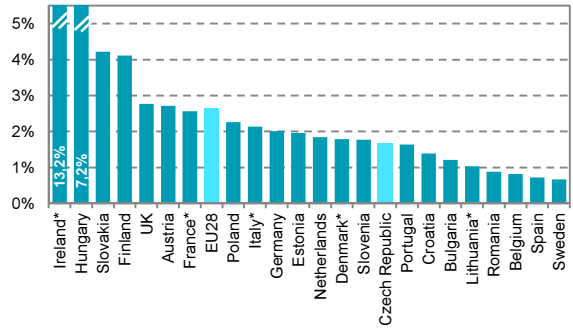
Figure E30 Value added in ICT sector, 2011
(as a percentage of GDP)



** Year 2011*

Source: Eurostat, Structural Business Statistics

Figure E31 Value added in ICT manufacturing, 2011**



***as a percentage of total manufacturing industries*

Figure E32 Value added in Telecommunications*, 2011**

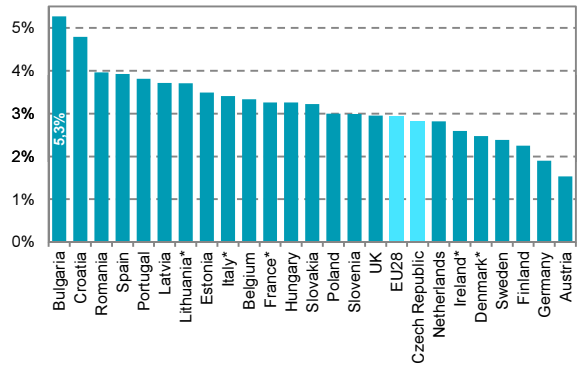
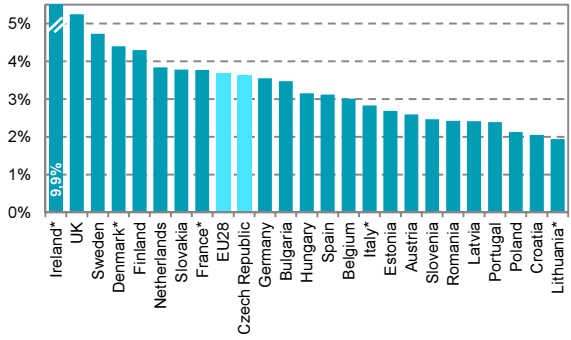


Figure E33 Value added in IT services*, 2011**



****as a percentage of total non-financial business enterprise sector*

** Year 2011*

Source: Eurostat, Structural Business Statistics

E ICT sector

Table E4 R&D expenditure in ICT sector in the Czech Republic

CZK million

	2010	2011	2012
Total	**4 790**	**5 643**	**6 199**
ICT manufacturing	592	567	466
ICT wholesale	82	101	117
Telecommunications	519	549	607
IT services	3 597	4 427	5 009

Figure E34 R&D expenditure in ICT sector

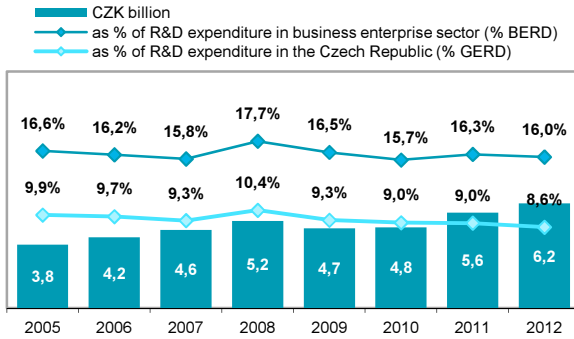


Figure E35 R&D expenditure in ICT sector by industry

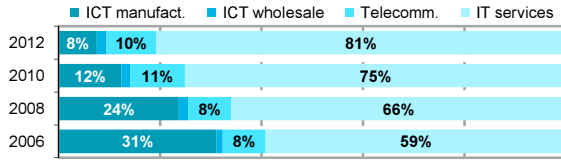


Figure E36 R&D expenditure in ICT sector by industry and ownership of enterprises, 2012

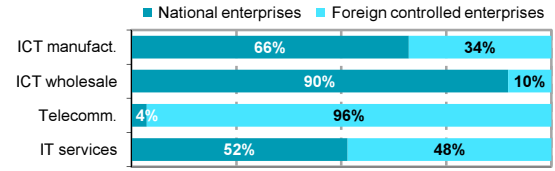
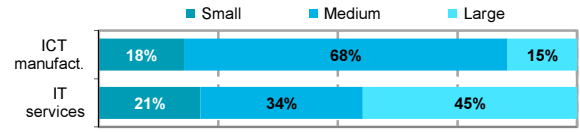


Figure E37 R&D expenditure in ICT sector by industry and size of enterprises, 2012



Source: CZSO, Annual R&D survey

Figure E38 R&D expenditure in ICT manufacturing

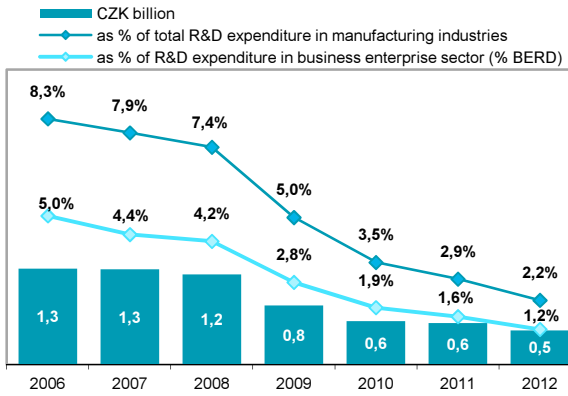


Figure E39 R&D expenditure in Telecommunications

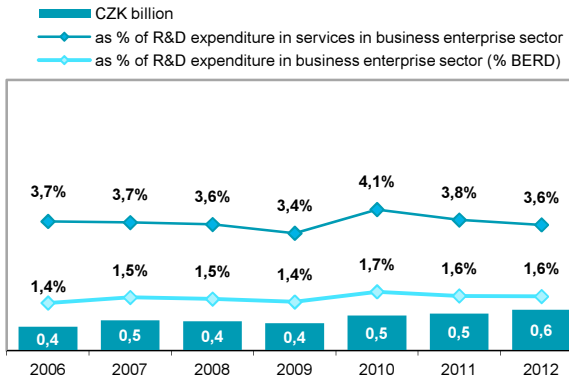
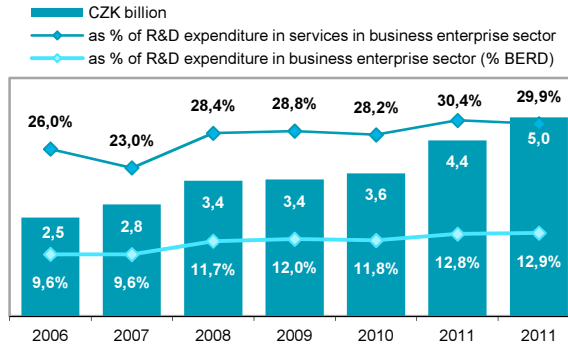


Figure E40 R&D expenditure in IT services



Source: CZSO, Annual R&D survey

E ICT sector

Table E5 Monthly gross wage in ICT sector in the CR

CZK

	2010	2011	2012
Total	**39 827**	**41 268**	**42 396**
ICT manufacturing	24 063	24 319	25 076
ICT wholesale	34 778	34 702	34 651
Telecommunications	45 052	46 236	48 485
IT services	45 840	48 116	48 549

Figure E41 Average monthly gross wage in ICT sector

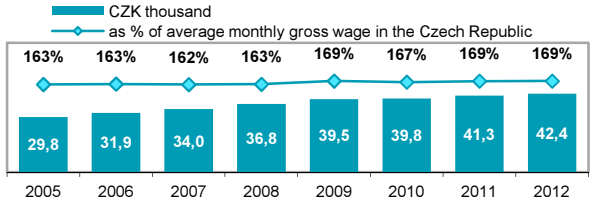
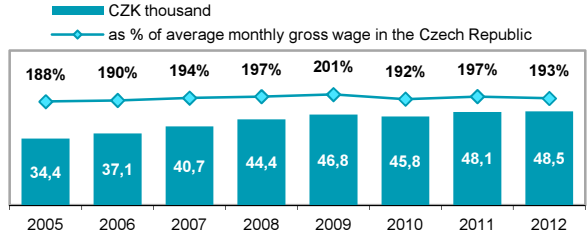


Figure E42 Average monthly gross wage in ICT manufacturing

Figure E43 Average monthly gross wage in Telecommunication

Figure E44 Average monthly gross wage in IT services



Source: CZSO, Structural Business Statistics

Figure E45 Average monthly gross wage in ICT manufacturing, 2011 (thousands EUR)

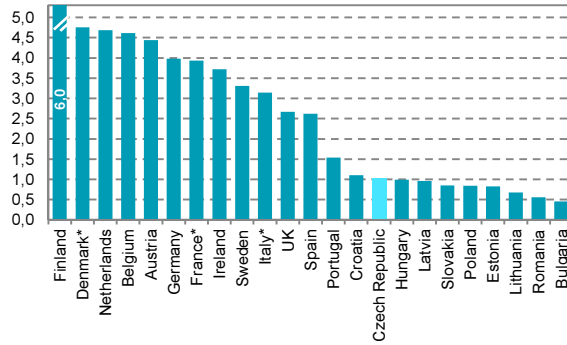


Figure E46 Average monthly gross wage in Telecommunications, 2011 (thousands EUR)

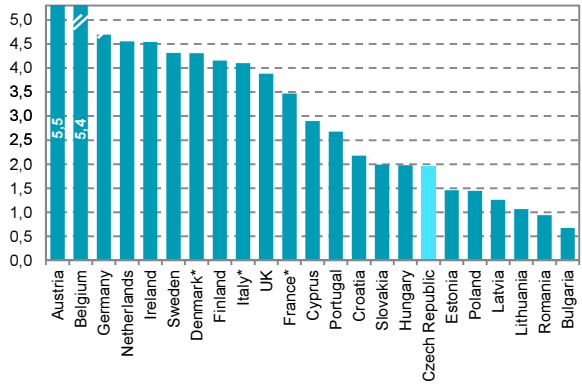
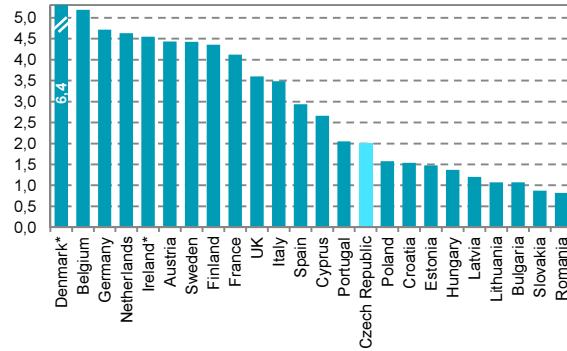


Figure E47 Average monthly gross wage in IT services, 2011 (thousands EUR)



** Year 2011*

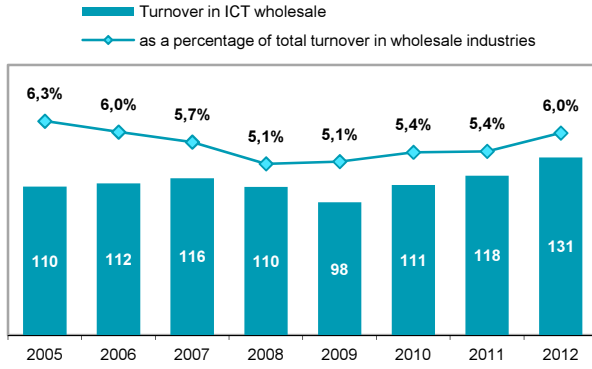
Source: Eurostat, Structural Business Statistics

Table E6 Turnover in ICT wholesale in the Czech Republic

CZK million

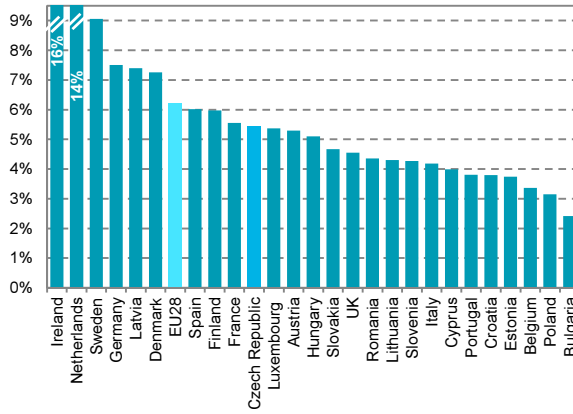
	2010	2011	2012
Total	**111 163**	**118 095**	**131 390**
Ownership of enterprises			
National	65 953	73 920	77 269
Foreign controlled	44 010	43 221	53 267
Size class of enterprises			
Small (0-49 employees)	62 898	69 998	80 816
Medium (50-249 employees)	44 184	33 000	36 513
Large (250+ employees)	4 080	15 097	14 061

Figure E48 Turnover in ICT wholesale



Source: CZSO, Structural Business Statistics

Figure E49 Turnover in ICT wholesale, 2011 (as % of total turnover in wholesale industries)



Source: Eurostat, Structural Business Statistics