# INFORMATION ECONOMY

# IN FIGURES

# 2008

CZECH REPUBLIC AND WORLD

# Contents

# INTRODUCTION

In many countries the information and communication technologies (ICTs) have been a significant driver of the economic growth, knowledge, technology and employment creation and many other development opportunities such as educational, health, cultural, social and welfare benefits. ICTs have penetrated every sector of the economy and society and to some extent, every sector of the economy has adapted to ICTs in order to better deliver services, conduct business, and share information.

The Czech Statistical Office (CZSO) issues the brochure 'Information Economy in Figures' for the first time to complement 'Information Society in Figures' similar brochure published by CZSO regularly since 2005.

The aim of this brochure is to provide basic overview of a state and progress in the following four areas:

- **Chapter A: 'ICT professionals'** brings an insight into the quantity and structure of the specialists (occupations) who have the capability to specify, design, develop, install, operate, support, maintain, manage, evaluate and research ICT and ICT systems. It provides population estimates of ICT professionals in the Czech Republic for the main socio-demographic characteristics, such as sex, age, education and regions of residence, their employment according to industry (CZ- NACE activity) and occupation categories.
- **In chapter B: 'ICT sector'** the main economic indicators for economic activities that are primarily engaged in the production of ICT products (goods and services) are presented. The ICT sector may have considerable impacts on economic performance, as it is characterised by very high rates of technological progress, output and productivity growth. These characteristics imply a considerable contribution of the sector to economy-wide performance."
- **Chapter C: 'External trade in ICT products'** informs about the value of Imports (exports) of ICT goods and services that enter (leave) our domestic territory.
- **Last chapter D: 'Investment, Research and Development in ICTs'** brings apart from the main information about investment and R&D expenditures in ICT products also additional data for ICT sector. Among indicators of ICT-related innovation are the numbers of ICT patents granted in the Czech Republic presented here.

Brochure also offers a comparison with other advanced economies in the Europe or in the World.

Data in this publication came from the variety of the Czech Statistical Office sources. International data came mainly from OECD, Eurostat and EU KLEMS sources.

For more detailed information, please visit our Science and IT website at www.czso.cz. If you have any questions not answered there, please contact us directly. Your suggestions will be an incentive for further improvement of future releases.

In Prague, April 2008

Czech Statistical Office
Department of Research, Development
and Information Society Statistics

## A ICT professionals

**ICT professionals** have the capability to specify, design, develop, install, operate, support, maintain, manage, evaluate and research ICT and ICT systems. They also develop and put in place the ICT tools for others. It includes following tasks:

- business software development, programming, web development, database development, communication network development, systems integration and installation,

- technical support, user help and support, network administration, web administration, database administration.

ICT professionals are **defined** as persons employed in the national economy whose principal activity comes within the following two main occupations groups expressed in terms of the current International Standard Classification of Occupations 1998 (CZ-ISCO-88 in the Czech Republic):

**CZ-ISCO 213 – Computing professionals**
- 2131 Computer systems designers and analysts
- 2132 Computer programmers
- 2139 Computing professionals not elsewhere classified

**CZ-ISCO 312 – Computer associate professionals**
- 3121 Computer assistants
- 3122 Computer equipment operators
- 3123 Industrial robot controllers
- 3129 Computer associate professionals not elsewhere classified

**Computing professionals** conduct research, plan, develop and improve computer based information systems, software and related concepts, develop principles and operational methods as well as maintain data dictionary and management systems of databases to ensure integrity and security of data.

**Computer associate professionals** provide assistance to users of computers and standard software packages, control and operate computers and peripheral equipment and carry out limited programming tasks connected with the installation and maintenance of computer hardware and software.

**The Czech Labour Force Survey (VŠPS)** is used as a data source for ICT professionals in the Czech Republic (since 1993). It provides population estimates of ICT professionals for the main socio-demographic characteristics, such as sex, age, education and regions of residence. ICT professionals can be further breakdown according by employment according to industry (CZ- NACE activity) classification and by occupation categories according to CZ-ISCO 88 classification.

*Note: Presented data are always average numbers for each year. Generally in the whole chapter, the annual averages lower than 3 000 persons must be considered as a data with very low reliability. In real terms it means that their relative standard error (i.e. coefficient of variation) is higher than 20%. For more information about data reliability see:*
***Labour Market in the CR 1993 – 2006; Code:** 3103-07*
*http://www.czso.cz/csu/2007edicniplan.nsf/engp/3103-07*

**The European Union Labour Force Survey (EU LFS)** was used as a data source for an international comparison.
http://circa.europa.eu/irc/dsis/employment/info/data/eu_lfs/index.htm

# A ICT professionals

**Table A1 ICT professionals part 1.**

thousand persons

| | 2004 | 2005 | 2006 | 2007 |
|---|---|---|---|---|
| **Total** | **72.8** | **78.7** | **87.6** | **96.3** |
| ***by gender*** | | | | |
| Male | 61.0 | 66.1 | 74.6 | 84.1 |
| Female | 11.9 | 12.6 | 13.0 | 12.2 |
| ***by age groups*** | | | | |
| 15-24 years | 8.8 | 7.1 | 6.9 | 9.1 |
| 25-34 years | 31.6 | 34.5 | 42.3 | 42.6 |
| 35-44 years | 17.3 | 19.2 | 21.2 | 23.4 |
| 45-54 years | 10.9 | 12.7 | 10.6 | 15.3 |
| 55-64 years | 4.4 | 5.1 | 6.1 | 5.7 |
| 65+ years | 0.0 | 0.1 | 0.4 | 0.2 |
| ***by qualification*** | | | | |
| Tertiary | 31.6 | 35.6 | 38.8 | 42.4 |
| of which in Computing | 5.1 | 7.0 | 7.0 | 7.3 |
| Upper secondary | 35.4 | 37.3 | 42.1 | 45.3 |
| of which in Computing | 3.4 | 2.3 | 2.7 | 3.1 |
| Other | 5.8 | 5.8 | 6.6 | 8.6 |
| of which in Computing | . | . | . | . |
| ***by occupation*** | | | | |
| Computing professionals | 36.5 | 36.8 | 40.0 | 44.8 |
| Computer associate professionals | 36.4 | 41.9 | 47.6 | 51.5 |

**Figure A1 ICT professionals**

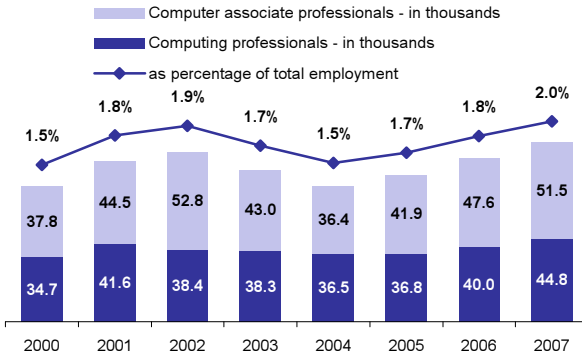
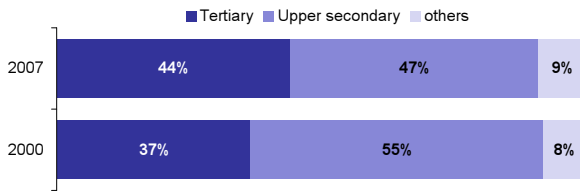
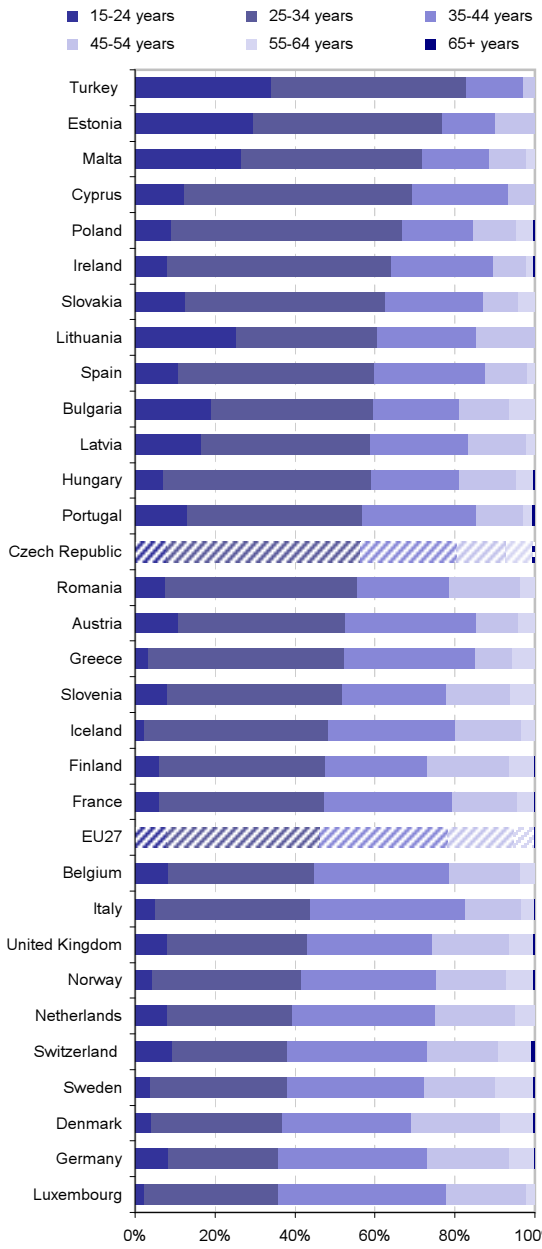



**Figure A2 Qualification distribution of ICT professionals**




*Source: CZSO, Labour Force Survey*

**Figure A3 Age distribution of ICT professionals, 2006**



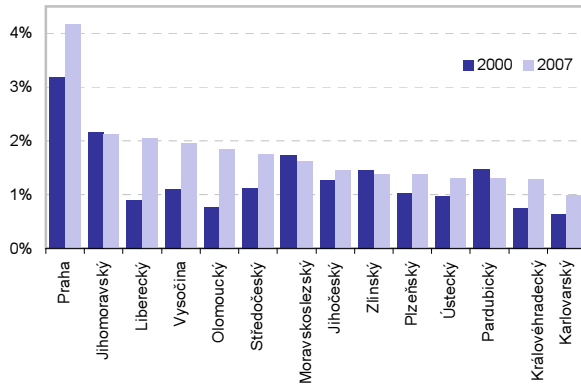

*Source: Eurostat, European Labour Force Survey*

**Table A2 ICT professionals part 2.**

thousand persons

| | 2004 | 2005 | 2006 | 2007 |
|---|---|---|---|---|
| **Total** | **72.8** | **78.7** | **87.6** | **96.3** |
| ***by Industry (CZ-NACE)*** | | | | |
| A+B Agriculture, forestry and fishing | 0.1 | 0.2 | 0.3 | 0.5 |
| C Mining and quarrying | 0.4 | 0.4 | 0.1 | 0.3 |
| D Manufacturing | 18.2 | 20.7 | 23.6 | 25.7 |
| E Electricity, gas and water supply | 1.1 | 1.8 | 2.5 | 1.5 |
| F Constructions | 1.6 | 0.8 | 1.2 | 1.2 |
| G+H Trade, hotels, restaurants | 3.7 | 3.1 | 5.6 | 7.0 |
| I Transport and communications | 4.4 | 5.0 | 4.5 | 5.4 |
| J Financial intermediations | 2.8 | 4.2 | 3.4 | 3.6 |
| K Business activities | 31.6 | 32.1 | 36.7 | 42.2 |
| L Community service activities | 5.8 | 7.2 | 6.2 | 5.8 |
| M Education | 1.8 | 1.5 | 2.1 | 2.4 |
| N Health and social Services | 0.7 | 1.1 | 0.8 | 0.4 |
| O-Q Other Services | 1.0 | 0.7 | 0.4 | 0.5 |
| ***by regions*** | | | | |
| Praha | 19.0 | 20.6 | 23.6 | 26.4 |
| Středočeský | 8.5 | 9.5 | 10.6 | 10.3 |
| Jihočeský | 3.1 | 3.1 | 4.1 | 4.6 |
| Plzeňský | 3.9 | 3.4 | 3.5 | 3.8 |
| Karlovarský | 0.9 | 0.8 | 1.0 | 1.5 |
| Ústecký | 4.4 | 4.4 | 3.4 | 4.8 |
| Liberecký | 2.3 | 2.5 | 2.6 | 4.1 |
| Královéhradecký | 4.0 | 3.7 | 4.2 | 3.4 |
| Pardubický | 4.5 | 3.3 | 3.5 | 3.1 |
| Vysočina | 2.4 | 2.8 | 3.3 | 4.9 |
| Jihomoravský | 8.0 | 11.3 | 11.5 | 11.3 |
| Olomoucký | 2.9 | 2.7 | 4.1 | 5.5 |
| Zlínský | 3.1 | 3.7 | 3.0 | 3.9 |
| Moravskoslezský | 6.0 | 6.7 | 9.2 | 8.9 |

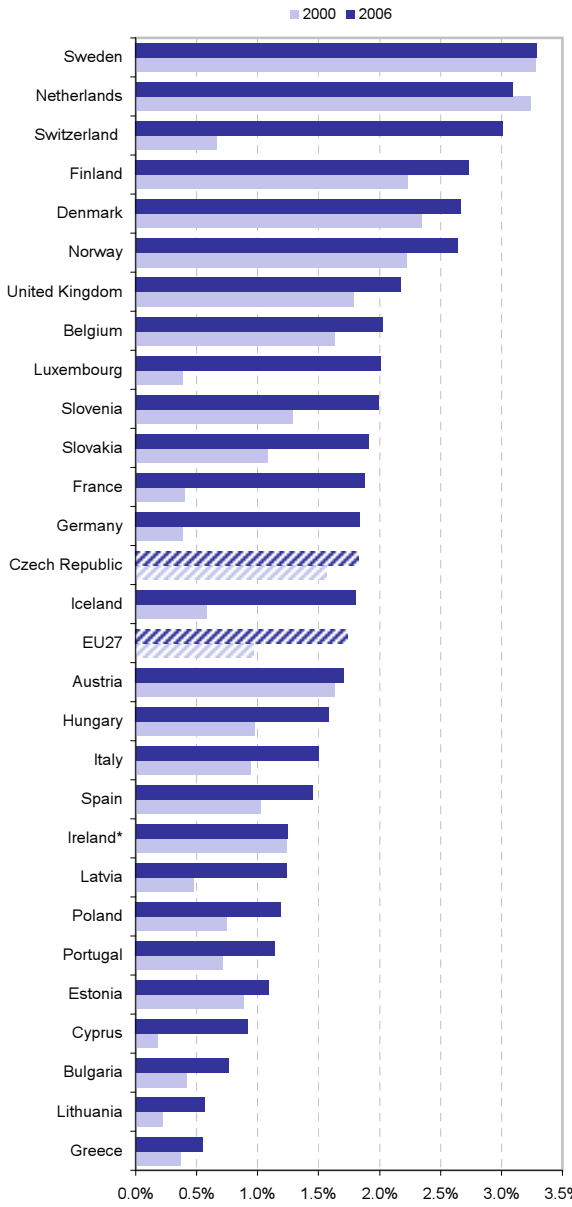
**Figure A4 ICT professionals by regions**
**(as a percentage of total employment in a given region)**




*Source: CZSO, Labour Force Survey*

# A ICT professionals

**Figure A5 ICT professionals**
**(as a percentage of total employment)**




** only for Computing professionals*

*Source: Eurostat, European Labour Force Survey*

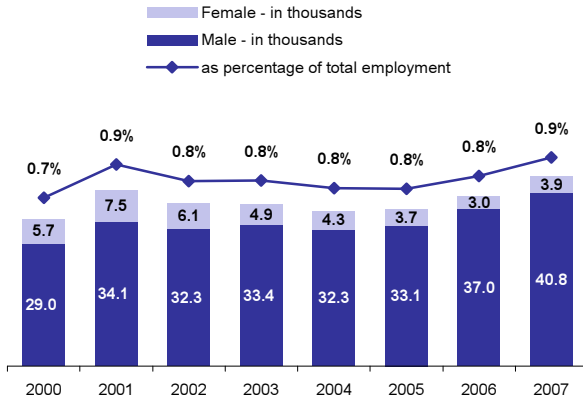
# A ICT professionals

## Table A3 Computing professionals

thousand persons

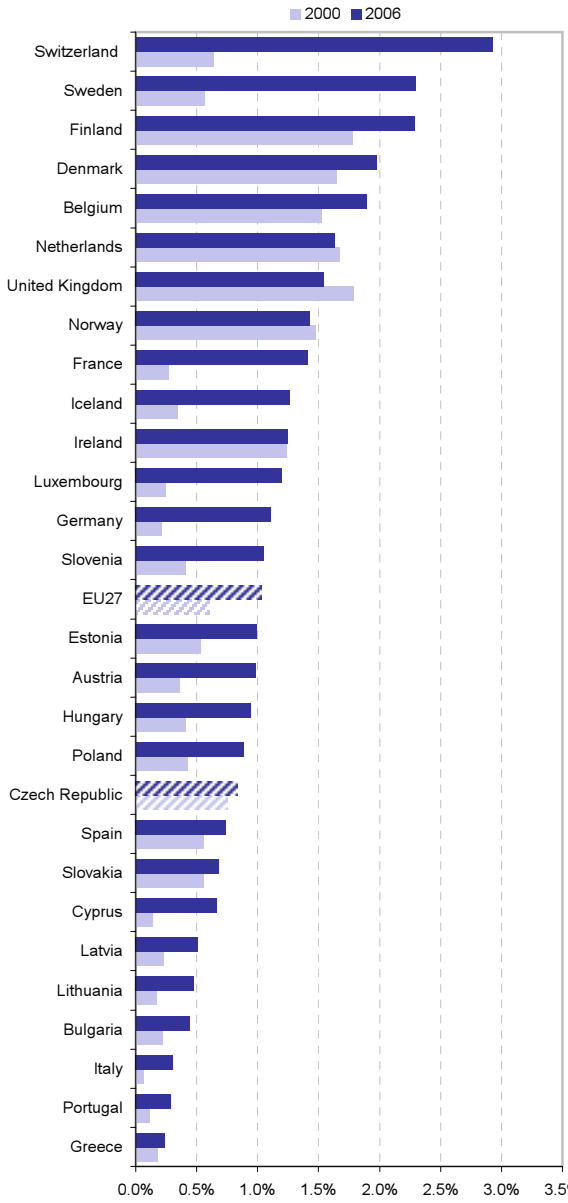
| | 2004 | 2005 | 2006 | 2007 |
|---|---|---|---|---|
| **Total** | **36.5** | **36.8** | **40.0** | **44.8** |
| ***by gender*** | | | | |
| Male | 32.3 | 33.1 | 37.0 | 40.8 |
| Female | 4.3 | 3.7 | 3.0 | 3.9 |
| ***by age groups*** | | | | |
| 15-34 years | 17.8 | 18.5 | 22.4 | 22.1 |
| 35-54 years | 16.6 | 16.3 | 14.8 | 19.7 |
| 55+ years | 2.2 | 2.0 | 2.8 | 2.9 |
| ***by qualification*** | | | | |
| Tertiary | 22.9 | 24.6 | 26.0 | 29.2 |
| of which in Computing | 4.0 | 5.6 | 5.2 | 6.3 |
| Upper secondary | 12.8 | 11.5 | 13.0 | 15.1 |
| of which in Computing | 1.8 | 0.7 | 1.4 | 1.1 |
| Other | 0.8 | 0.8 | 1.0 | 0.4 |
| of which in Computing | . | . | . | . |
| ***by Industry (CZ-NACE)*** | | | | |
| Agriculture | 0.3 | 0.4 | 0.3 | 0.5 |
| Industry | 7.5 | 7.8 | 10.6 | 10.6 |
| Services | 28.7 | 28.6 | 29.1 | 33.6 |
| ***by regions (NUTS 2)*** | | | | |
| Praha | 12.8 | 12.0 | 12.2 | 12.7 |
| Střední Čechy | 3.1 | 2.6 | 3.3 | 3.8 |
| Jihozápad | 2.8 | 2.8 | 3.5 | 4.0 |
| Severozápad | 2.4 | 2.1 | 1.8 | 2.0 |
| Severovýchod | 4.6 | 3.6 | 4.1 | 5.1 |
| Jihovýchod | 5.6 | 6.8 | 7.6 | 8.5 |
| Střední Morava | 2.4 | 3.0 | 3.0 | 4.4 |
| Moravskoslezsko | 2.8 | 4.0 | 4.6 | 4.1 |

## Figure A6 Computing professionals




*Source: CZSO, Labour Force Survey*

**Figure A7 Computing professionals**
**(as a percentage of total employment)**




*Source: Eurostat, European Labour Force Survey*

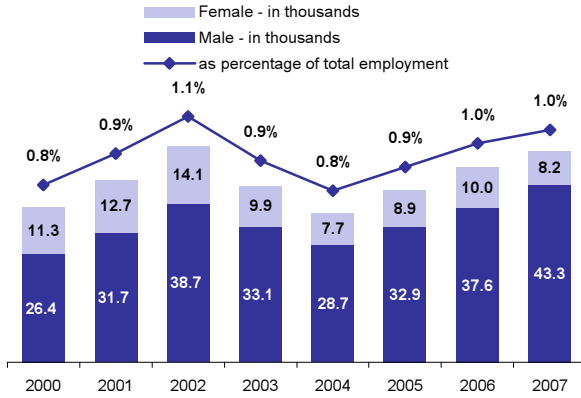
# A ICT professionals

**Table A4 Computer associate professionals**

thousand persons

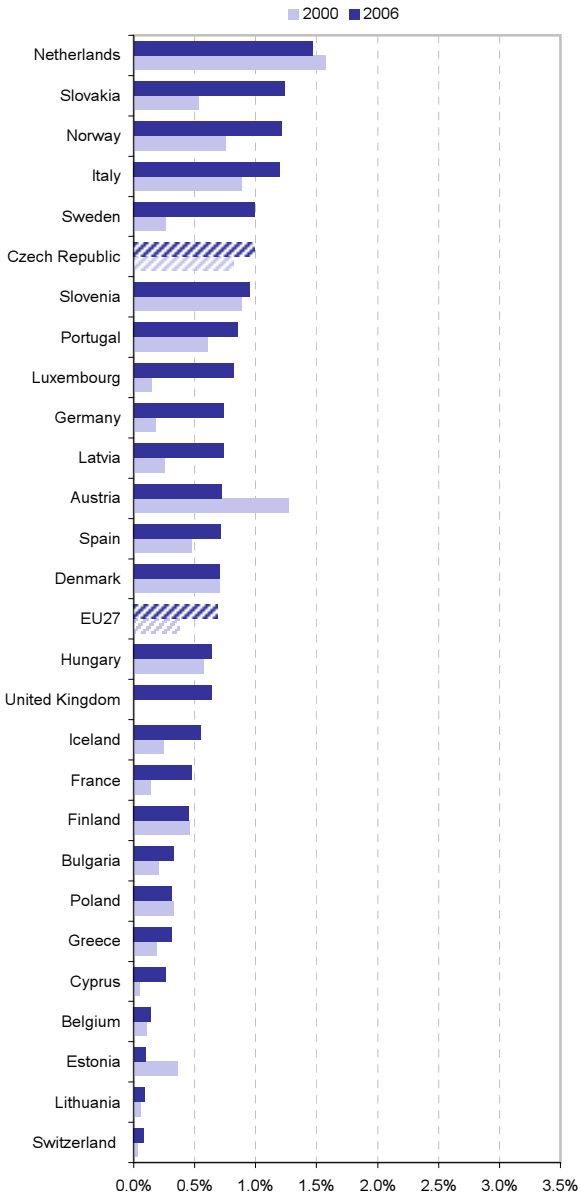
| | 2004 | 2005 | 2006 | 2007 |
|---|---|---|---|---|
| **Total** | **36.4** | **41.9** | **47.6** | **51.5** |
| ***by gender*** | | | | |
| Male | 28.7 | 32.9 | 37.6 | 43.3 |
| Female | 7.7 | 8.9 | 10.0 | 8.2 |
| ***by age groups*** | | | | |
| 15-34 years | 22.6 | 23.1 | 26.8 | 29.6 |
| 35-54 years | 11.6 | 15.6 | 17.0 | 19.0 |
| 55+ years | 2.2 | 3.2 | 3.7 | 3.0 |
| ***by qualification*** | | | | |
| Tertiary | 8.7 | 11.0 | 12.8 | 13.1 |
| of which in Computing | 1.1 | 1.4 | 1.8 | 1.0 |
| Upper secondary | 22.6 | 25.9 | 29.2 | 30.2 |
| of which in Computing | 1.6 | 1.5 | 1.3 | 2.0 |
| Other | 5.0 | 5.1 | 5.6 | 8.2 |
| of which in Computing | . | . | . | . |
| ***by Industry (CZ-NACE)*** | | | | |
| Agriculture | 0.1 | 0.2 | 0.1 | 0.3 |
| Industry | 13.3 | 15.4 | 16.7 | 17.7 |
| Services | 22.9 | 26.3 | 30.8 | 33.6 |
| ***by regions (NUTS 2)*** | | | | |
| Praha | 6.2 | 8.7 | 11.4 | 13.6 |
| Střední Čechy | 5.4 | 7.0 | 7.3 | 6.5 |
| Jihozápad | 4.1 | 3.8 | 4.2 | 4.3 |
| Severozápad | 3.0 | 3.1 | 2.6 | 4.2 |
| Severovýchod | 6.2 | 5.9 | 6.1 | 5.6 |
| Jihovýchod | 4.8 | 7.3 | 7.2 | 7.6 |
| Střední Morava | 3.6 | 3.5 | 4.2 | 4.9 |
| Moravskoslezsko | 3.2 | 2.7 | 4.5 | 4.8 |

**Figure A8 Computer associate professionals**




*Source: CZSO, Labour Force Survey*

**Figure A9 Computer associate professionals (as a percentage of total employment)**




*Source: Eurostat, European Labour Force Survey*

# A ICT professionals

**Table A5 ICT professionals by occupation (ISCO 88)**

thousand persons

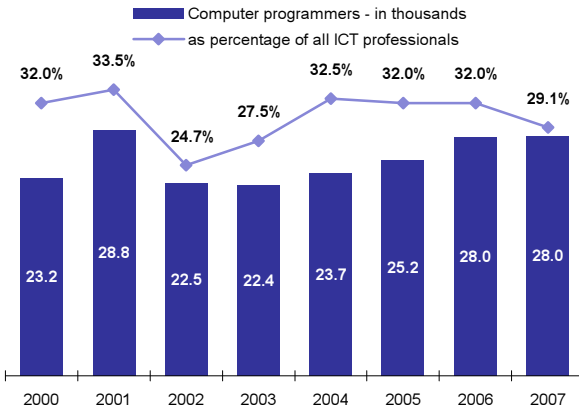
| | 2004 | 2005 | 2006 | 2007 |
|---|---|---|---|---|
| **Total** | **72.8** | **78.7** | **87.6** | **96.3** |
| ***by occupation*** | | | | |
| Computing professionals | 36.5 | 36.8 | 40.0 | 44.8 |
| Com. systems designer and analysts | 5.3 | 4.4 | 4.5 | 6.8 |
| Computer programmers | 23.7 | 25.2 | 28.0 | 28.0 |
| Com. prof. not elsewhere classified | 7.2 | 6.7 | 7.4 | 9.5 |
| Computer associate professionals | 36.4 | 41.9 | 47.6 | 51.5 |
| Computer assistants | 8.8 | 10.3 | 12.4 | 12.8 |
| Computer equipment operators | 17.6 | 19.6 | 22.0 | 23.5 |
| Industrial robot controllers | 3.0 | 4.7 | 5.9 | 7.0 |
| Other computer associate prof. | 6.7 | 6.2 | 5.7 | 7.2 |

**Table A6 Computer programmers**

thousand persons

| | 2004 | 2005 | 2006 | 2007 |
|---|---|---|---|---|
| **Total** | 23.7 | 25.2 | 28.0 | 28.0 |
| ***by gender*** | | | | |
| Male | 21.0 | 23.3 | 26.4 | 26.1 |
| Female | 2.7 | 1.8 | 1.6 | 2.0 |
| ***by age groups*** | | | | |
| 15-34 years | 12.1 | 14.5 | 17.4 | 14.9 |
| 35-54 years | 10.1 | 9.6 | 9.5 | 10.6 |
| 55+ years | 1.4 | 1.1 | 1.1 | 2.5 |
| ***by qualification*** | | | | |
| Tertiary | 14.2 | 15.8 | 16.5 | 15.9 |
| Upper secondary | 9.1 | 8.9 | 10.6 | 11.8 |
| Other | 0.4 | 0.4 | 0.9 | 0.3 |

**Figure A10 Computer programmers**




*Source: CZSO, Labour Force Survey*

# B ICT sector

In general, the term **ICT sector** (industries producing information and communication technologies) 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 provision of the related services.

**ICT sector definition (OECD 1998, 2002)** is based on the following guiding principles to identify ICT industries (economic activities):

1) **for manufacturing industries**, the products (goods) of a candidate industry must be primary intended to fulfil the function of information processing and communication including transmission and display, or must use electronic processing to detect, measure and/or record physical phenomena or control a physical process.

2) **for services industries**, the products (services) of a candidate industry must be intended to enable the function of information processing and communication by electronic means.

**The ICT sector classification (list of ICT industries) by CZ-NACE:**

**a) ICT manufacturing**:

- Manufacture of office machinery and computers (CZ NACE 30)
- Manufacture of radio, television and communication equipment and apparatus (CZ NACE 32)
  - Manufacture of electronic valves and tubes and other electronic components (CZ NACE 321)
  - Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy (CZ NACE 322)
  - Manufacture of television and radio receivers, sound or video recording (CZ NACE 323)
- Manufacture of instruments & appliances for measuring, checking, testing (CZ NACE 332)
- Manufacture of industrial process control equipment (CZ NACE 333)

**b) ICT services (intangible services)**:

- Telecommunications (CZ NACE 642)
- Computer and related services (CZ NACE 72)
  - Hardware consultancy (CZ NACE 721)
  - Software consultancy and supply (CZ NACE 722)
  - Data processing (CZ NACE 723)
  - Data base activities (CZ NACE 724)
  - Maintenance and repair of office, accounting and computing machinery (CZ NACE 725)
  - Other computer related activities (CZ NACE 726)

*Note: tables in this publication do not include any data on industries related to ICT wholesale (included in OECD ICT sector definition) for the absence of reliable data in requested breakdowns.*

The SBS (structural business survey) database was used as a data source for the Czech ICT sector. The 2006 data are preliminary.

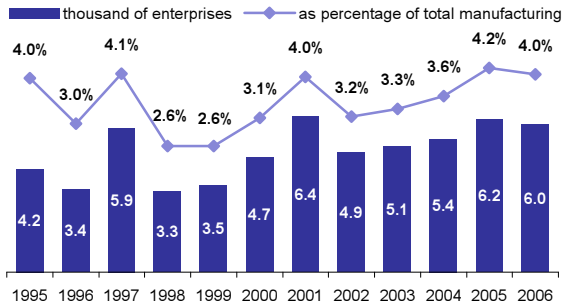
EU KLEMS database was used as a data source for an international comparison. http://www.euklems.net/

### Table B1 Enterprises in ICT Manufacturing

number of enterprises

| | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| **Total** | **5 115** | **5 439** | **6 234** | **6 034** |
| **by Industry (CZ-NACE)** | | | | |
| 30 Manuf. of computers equipment | 388 | 399 | 480 | 575 |
| 32 M. of radio, TV and commun. equip. | 3 481 | 3 893 | 4 647 | 4 443 |
| 321 M. of electronic components | 1 125 | 1 432 | 1 931 | 1 718 |
| 322 M. of communication equipment | 1 400 | 1 815 | 1 875 | 1 890 |
| 323 M. of consumer electronics | 956 | 646 | 841 | 835 |
| 332 M. of instrum. for measur., testing | 1 174 | 1 084 | 1 046 | 949 |
| 333 M. of ind. process control equip. | 72 | 63 | 61 | 67 |
| **by size group of enterprise** | | | | |
| 0 - 19 employees | 4 844 | 5 179 | 5 978 | 5 751 |
| 20 - 49 employees | 125 | 109 | 105 | 127 |
| 50 - 249 employees | 110 | 110 | 109 | 117 |
| 250 + employees | 36 | 41 | 42 | 39 |
| **by legal form** | | | | |
| private entrepreneurs | 4 030 | 4 246 | 5 076 | 4 802 |
| business companies | 1 085 | 1 193 | 1 158 | 1 232 |
| of which foreign affiliates | 185 | 225 | 222 | 232 |
| **by regions*** | | | | |
| Praha | 1 002 | 805 | 896 | 970 |
| Středočeský | 703 | 840 | 1 008 | 867 |
| Jihočeský | 259 | 298 | 234 | 250 |
| Plzeňský | 135 | 181 | 195 | 220 |
| Karlovarský | 122 | 130 | 107 | 106 |
| Ústecký | 231 | 237 | 339 | 393 |
| Liberecký | 167 | 138 | 195 | 258 |
| Královéhradecký | 294 | 293 | 251 | 248 |
| Pardubický | 192 | 199 | 254 | 178 |
| Vysočina | 229 | 232 | 333 | 311 |
| Jihomoravský | 772 | 1 032 | 946 | 952 |
| Olomoucký | 283 | 306 | 389 | 388 |
| Zlínský | 438 | 426 | 565 | 623 |
| Moravskoslezský | 392 | 520 | 642 | 409 |

### Figure B1 Enterprises in ICT Manufacturing




** number of local units*

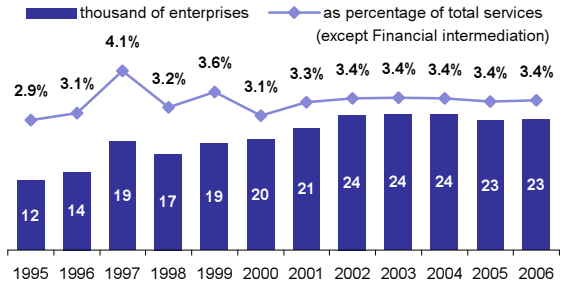
*Source: CZSO, Structural Business Survey*

### Table B2 Enterprises in ICT Services

number of enterprises

| | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| **Total** | **23 937** | **23 906** | **22 874** | **23 063** |
| ***by Industry (CZ-NACE)*** | | | | |
| 642 Telecommunications | 408 | 514 | 557 | 630 |
| 72 Computer and related activities | 23 529 | 23 392 | 22 317 | 22 433 |
| 721 Hardware consultancy | 2 188 | 2 329 | 2 211 | 2 206 |
| 722 Software consultancy and supply | 13 498 | 13 660 | 13 523 | 13 922 |
| 723 Data processing | 4 555 | 4 211 | 3 612 | 3 612 |
| 724 Data base activities | 358 | 431 | 454 | 489 |
| 725 Repair of computing machinery | 2 140 | 1 868 | 1 840 | 1 763 |
| 726 Other computer related activities | 790 | 893 | 677 | 441 |
| ***by size group of enterprise*** | | | | |
| 0 - 19 employees | 23 516 | 23 484 | 22 411 | 22 574 |
| 20 - 49 employees | 281 | 269 | 293 | 309 |
| 50 - 249 employees | 123 | 134 | 146 | 154 |
| 250 + employees | 17 | 19 | 24 | 26 |
| ***by legal form*** | | | | |
| private entrepreneurs | 19 323 | 19 007 | 17 740 | 17 697 |
| business companies | 4 614 | 4 899 | 5 134 | 5 366 |
| of which foreign affiliates | 680 | 705 | 674 | 819 |
| ***by regions**** | | | | |
| Praha | 8 778 | 8 037 | 7 854 | 8 097 |
| Středočeský | 1 831 | 2 119 | 2 089 | 2 631 |
| Jihočeský | 998 | 1 097 | 1 250 | 968 |
| Plzeňský | 1 367 | 1 493 | 1 845 | 1 393 |
| Karlovarský | 713 | 500 | 674 | 423 |
| Ústecký | 746 | 706 | 1 131 | 1 290 |
| Liberecký | 627 | 619 | 696 | 844 |
| Královéhradecký | 1 439 | 1 087 | 1 832 | 1 559 |
| Pardubický | 1 085 | 1 443 | 688 | 1 052 |
| Vysočina | 478 | 439 | 457 | 468 |
| Jihomoravský | 1 721 | 2 845 | 2 530 | 2 294 |
| Olomoucký | 807 | 1 378 | 591 | 624 |
| Zlínský | 1 437 | 1 242 | 669 | 875 |
| Moravskoslezský | 3 475 | 2 418 | 1 825 | 1 840 |

### Figure B2 Enterprises in ICT Services




** number of local units (includes also CZ-NACE 641)*

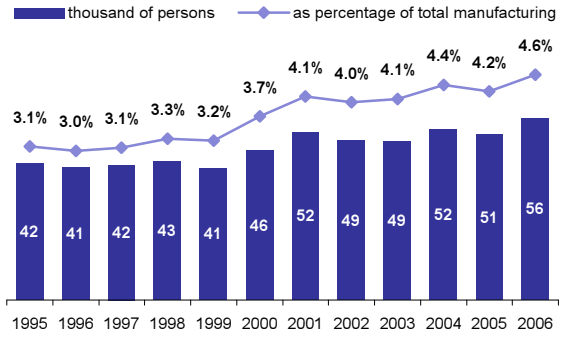
*Source: CZSO, Structural Business Survey*

### Table B3 Employees in ICT Manufacturing

persons

| | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| **Total** | **48 757** | **52 442** | **51 032** | **56 003** |
| ***by Industry (CZ-NACE)*** | | | | |
| 30 Manuf. of computers equipment | 7 999 | 8 434 | 8 657 | 9 836 |
| 32 M. of radio, TV and commun. equip. | 28 173 | 30 518 | 27 991 | 29 815 |
| 321 M. of electronic components | 16 649 | 17 051 | 15 288 | 15 480 |
| 322 M. of communication equipment | 7 325 | 8 046 | 7 167 | 8 176 |
| 323 M. of consumer electronics | 4 199 | 5 421 | 5 537 | 6 159 |
| 332 M. of instrum. for measur., testing | 10 801 | 11 053 | 11 737 | 12 785 |
| 333 M. of ind. process control equip. | 1 784 | 2 436 | 2 646 | 3 566 |
| ***by size group of enterprise*** | | | | |
| 0 - 19 employees | 4 670 | 5 037 | 5 153 | 5 413 |
| 20 - 49 employees | 3 256 | 3 035 | 3 101 | 3 754 |
| 50 - 249 employees | 11 443 | 11 160 | 11 227 | 13 566 |
| 250 + employees | 29 388 | 33 210 | 31 551 | 33 270 |
| ***by legal form*** | | | | |
| private entrepreneurs | 1 191 | 1 286 | 1 461 | 1 495 |
| business companies | 47 567 | 51 156 | 49 571 | 54 508 |
| of which foreign affiliates | 29 113 | 32 919 | 30 741 | 34 232 |
| ***by regions*** | | | | |
| Praha | 4 501 | 5 183 | 4 943 | 5 740 |
| Středočeský | 5 260 | 5 996 | 6 149 | 4 913 |
| Jihočeský | 2 847 | 2 128 | 3 473 | 2 092 |
| Plzeňský | 3 083 | 4 320 | 3 515 | 5 005 |
| Karlovarský | 1 144 | 385 | 1 326 | 508 |
| Ústecký | 2 247 | 2 269 | 1 909 | 1 935 |
| Liberecký | 833 | 1 172 | 1 113 | 1 236 |
| Královéhradecký | 4 495 | 4 670 | 4 091 | 4 502 |
| Pardubický | 8 029 | 8 712 | 8 111 | 8 551 |
| Vysočina | 827 | 936 | 619 | 1 222 |
| Jihomoravský | 5 461 | 6 287 | 7 221 | 9 926 |
| Olomoucký | 2 694 | 2 990 | 1 995 | 2 631 |
| Zlínský | 6 127 | 5 863 | 5 216 | 5 012 |
| Moravskoslezský | 1 210 | 1 530 | 1 350 | 2 727 |

### Figure B3 Employees in ICT Manufacturing



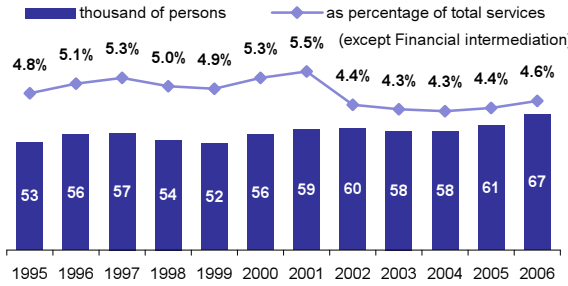

*Source: CZSO, Structural Business Survey*

### Table B4 Employees in ICT Services

persons

| | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| **Total** | **58 279** | **57 943** | **61 284** | **66 520** |
| ***by Industry (CZ-NACE)*** | | | | |
| 642 Telecommunications | 24 302 | 22 080 | 22 194 | 22 995 |
| 72 Computer and related activities | 33 976 | 35 864 | 39 090 | 43 525 |
| 721 Hardware consultancy | 1 399 | 1 285 | 1 416 | 1 670 |
| 722 Software consultancy and supply | 23 456 | 26 526 | 29 925 | 33 289 |
| 723 Data processing | 5 424 | 4 569 | 4 368 | 5 090 |
| 724 Data base activities | 633 | 600 | 520 | 498 |
| 725 Repair of computing machinery | 2 710 | 2 602 | 2 605 | 2 860 |
| 726 Other computer related activities | 354 | 282 | 255 | 119 |
| ***by size group of enterprise*** | | | | |
| 0 - 19 employees | 13 982 | 15 188 | 15 214 | 15 134 |
| 20 - 49 employees | 8 100 | 7 782 | 8 381 | 8 990 |
| 50 - 249 employees | 10 671 | 12 337 | 13 398 | 15 511 |
| 250 + employees | 25 526 | 22 637 | 24 291 | 26 885 |
| ***by legal form*** | | | | |
| private entrepreneurs | 1 166 | 975 | 986 | 811 |
| business companies | 57 113 | 56 969 | 60 298 | 65 709 |
| of which foreign affiliates | 14 681 | 18 545 | 20 143 | 32 189 |
| ***by regions**** | | | | |
| Praha | 35 223 | 35 812 | 31 161 | 43 821 |
| Středočeský | 6 928 | 7 640 | 12 962 | 3 724 |
| Jihočeský | 5 847 | 5 686 | 5 563 | 5 542 |
| Plzeňský | 4 837 | 4 607 | 5 984 | 5 822 |
| Karlovarský | 1 452 | 1 287 | 341 | 322 |
| Ústecký | 5 164 | 4 826 | 6 664 | 6 571 |
| Liberecký | 2 620 | 2 693 | 1 027 | 1 073 |
| Královéhradecký | 4 284 | 3 950 | 2 066 | 2 432 |
| Pardubický | 5 048 | 4 846 | 7 408 | 7 212 |
| Vysočina | 2 476 | 2 365 | 803 | 950 |
| Jihomoravský | 11 517 | 11 803 | 14 237 | 15 376 |
| Olomoucký | 4 585 | 4 300 | 1 834 | 1 719 |
| Zlínský | 2 787 | 2 600 | 1 554 | 1 705 |
| Moravskoslezský | 9 659 | 9 161 | 12 146 | 12 275 |

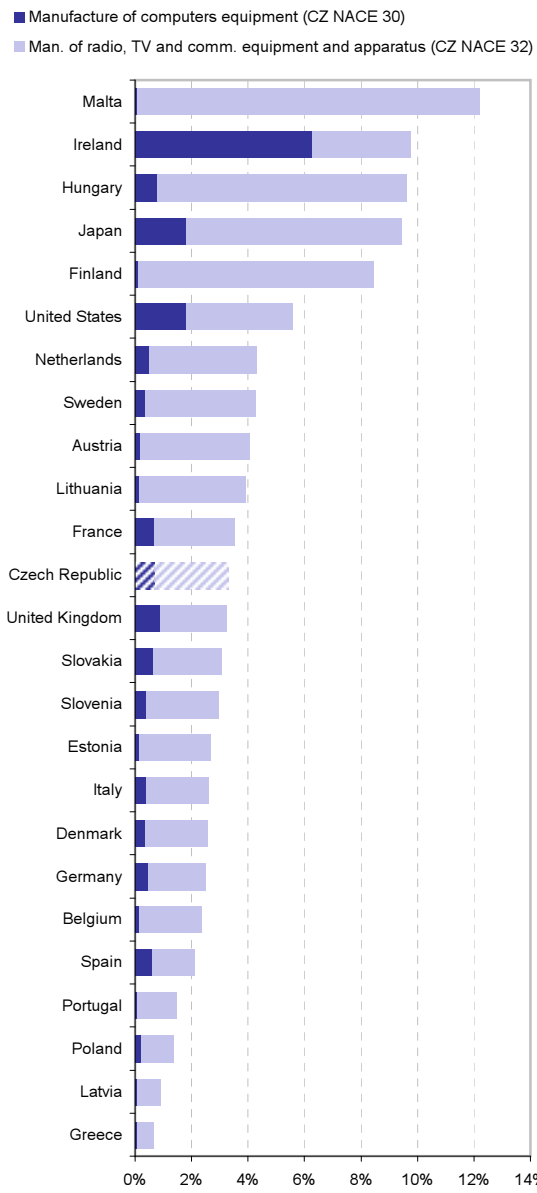
### Figure B4 Employees in ICT Services




** includes also CZ-NACE 641*

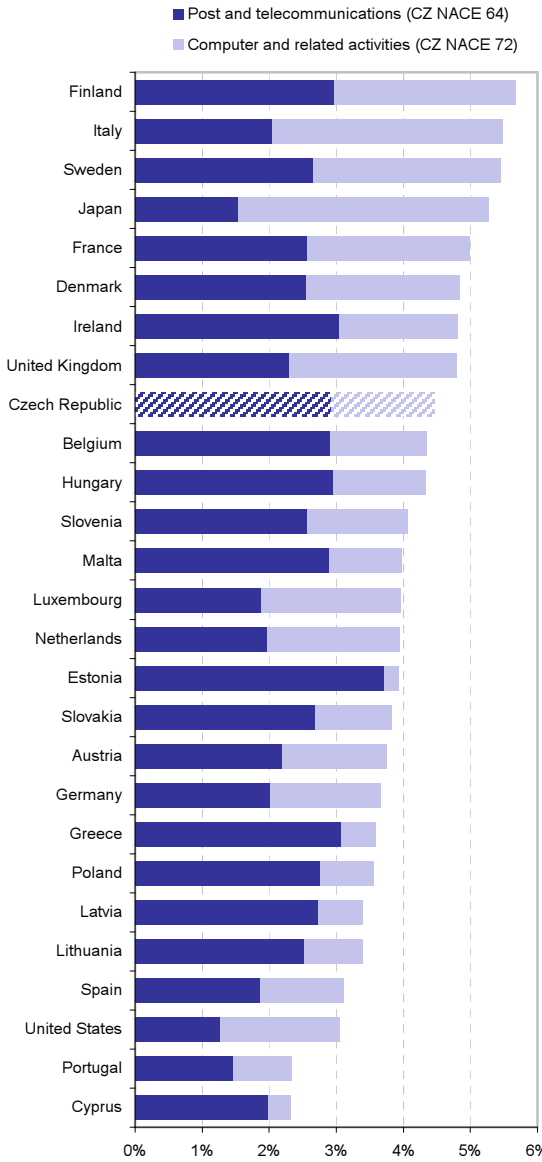
*Source: CZSO, Structural Business Survey*

**Figure B5 Employees in selected ICT manufacturing industries (as percentage of total manufacturing), 2004**




*Source: EU KLEMS database*

**Figure B6 Employees in ICT Services*, 2004**
**(as percentage of total services)**




** includes also CZ-NACE 641*

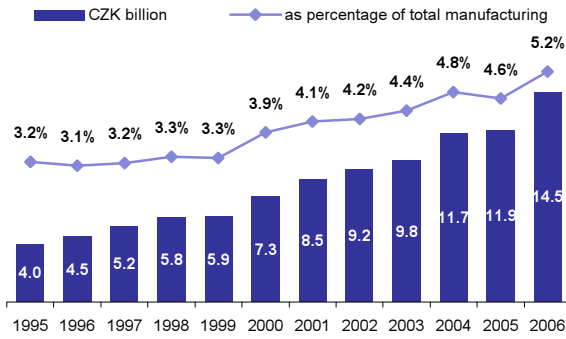
*Source: EU KLEMS database*

### Table B5 Wages and Salaries in ICT Manufacturing

CZK million

| | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| **Total** | **9 783** | **11 704** | **11 876** | **14 518** |
| ***by Industry (CZ-NACE)*** | | | | |
| 30 Manuf. of computers equipment | 1 469 | 1 725 | 1 960 | 2 245 |
| 32 M. of radio, TV and commun. equip. | 5 685 | 6 903 | 6 390 | 7 877 |
| 321 M. of electronic components | 2 840 | 3 246 | 2 697 | 3 457 |
| 322 M. of communication equipment | 2 043 | 2 627 | 2 560 | 3 003 |
| 323 M. of consumer electronics | 802 | 1 031 | 1 134 | 1 416 |
| 332 M. of instrum. for measur., testing | 2 122 | 2 327 | 2 656 | 3 134 |
| 333 M. of ind. process control equip. | 507 | 749 | 870 | 1 262 |
| ***by size group of enterprise*** | | | | |
| 0 - 19 employees | 946 | 1 041 | 1 067 | 1 128 |
| 20 - 49 employees | 707 | 739 | 782 | 1 004 |
| 50 - 249 employees | 2 330 | 2 522 | 2 538 | 3 332 |
| 250 + employees | 5 800 | 7 401 | 7 490 | 9 054 |
| ***by legal form*** | | | | |
| private entrepreneurs | 169 | 198 | 240 | 250 |
| business companies | 9 614 | 11 506 | 11 636 | 14 267 |
| of which foreign affiliates | 5 951 | 7 632 | 7 410 | 9 239 |
| ***by regions*** | | | | |
| Praha | 1 573 | 2 010 | 2 055 | 2 503 |
| Středočeský | 1 091 | 1 445 | 1 542 | 1 381 |
| Jihočeský | 470 | 392 | 646 | 429 |
| Plzeňský | 619 | 889 | 735 | 1 355 |
| Karlovarský | 205 | 80 | 249 | 98 |
| Ústecký | 399 | 422 | 387 | 418 |
| Liberecký | 140 | 227 | 212 | 258 |
| Královéhradecký | 807 | 902 | 885 | 1 030 |
| Pardubický | 1 420 | 1 627 | 1 674 | 1 841 |
| Vysočina | 129 | 171 | 148 | 312 |
| Jihomoravský | 1 018 | 1 325 | 1 595 | 2 353 |
| Olomoucký | 518 | 619 | 359 | 660 |
| Zlínský | 1 105 | 1 229 | 1 037 | 1 134 |
| Moravskoslezský | 289 | 367 | 350 | 744 |

### Figure B7 Wages and Salaries in ICT Manufacturing



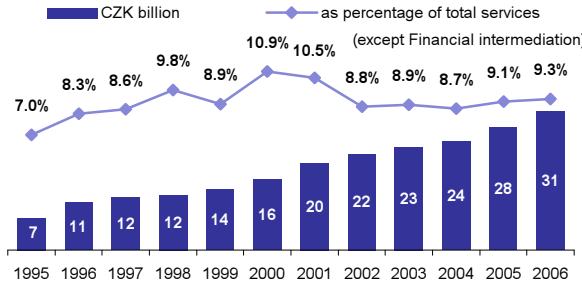

*Source: CZSO, Structural Business Survey*

### Table B6 Wages and Salaries in ICT Services

CZK million

| | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| **Total** | **23 188** | **24 437** | **27 611** | **31 038** |
| ***by Industry (CZ-NACE)*** | | | | |
| 642 Telecommunications | 10 324 | 10 136 | 10 941 | 11 103 |
| 72 Computer and related activities | 12 864 | 14 301 | 16 671 | 19 935 |
| 721 Hardware consultancy | 418 | 368 | 507 | 610 |
| 722 Software consultancy and supply | 9 710 | 11 558 | 13 658 | 16 309 |
| 723 Data processing | 1 716 | 1 432 | 1 474 | 1 823 |
| 724 Data base activities | 156 | 147 | 139 | 148 |
| 725 Repair of computing machinery | 748 | 737 | 837 | 1 021 |
| 726 Other computer related activities | 116 | 60 | 56 | 23 |
| ***by size group of enterprise*** | | | | |
| 0 - 19 employees | 3 734 | 3 960 | 4 130 | 4 596 |
| 20 - 49 employees | 3 131 | 3 143 | 3 457 | 3 721 |
| 50 - 249 employees | 4 960 | 6 031 | 6 501 | 7 898 |
| 250 + employees | 11 362 | 11 302 | 13 523 | 14 822 |
| ***by legal form*** | | | | |
| private entrepreneurs | 430 | 161 | 174 | 268 |
| business companies | 22 757 | 24 275 | 27 437 | 30 770 |
| of which foreign affiliates | 8 283 | 10 463 | 11 720 | 18 793 |
| ***by regions**** | | | | |
| Praha | 1 564 | 2 010 | 2 048 | 2 502 |
| Středočeský | 1 091 | 1 445 | 1 542 | 1 381 |
| Jihočeský | 470 | 392 | 646 | 429 |
| Plzeňský | 619 | 889 | 735 | 1 355 |
| Karlovarský | 205 | 80 | 249 | 98 |
| Ústecký | 399 | 422 | 387 | 418 |
| Liberecký | 140 | 227 | 212 | 258 |
| Královéhradecký | 807 | 902 | 885 | 1 030 |
| Pardubický | 1 420 | 1 627 | 1 674 | 1 841 |
| Vysočina | 129 | 171 | 148 | 312 |
| Jihomoravský | 1 018 | 1 325 | 1 595 | 2 353 |
| Olomoucký | 518 | 619 | 359 | 660 |
| Zlínský | 1 105 | 1 229 | 1 037 | 1 134 |
| Moravskoslezský | 289 | 367 | 350 | 744 |

### Figure B8 Wages and Salaries in ICT Services




** includes also CZ-NACE 641*

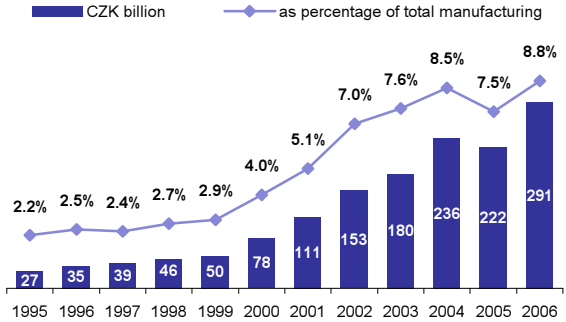
*Source: CZSO, Structural Business Survey*

### Table B7 Turnover in ICT Manufacturing

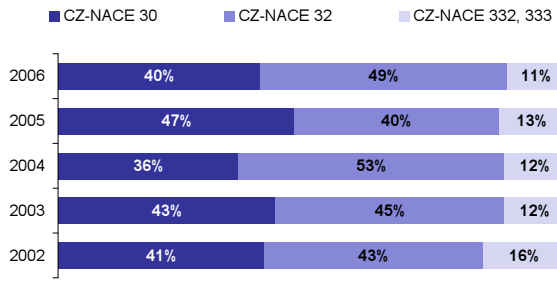
CZK million

| | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| **Total** | **179 530** | **236 113** | **221 749** | **291 427** |
| ***by Industry (CZ-NACE)*** | | | | |
| 30 Manuf. of computers equipment | 76 869 | 84 007 | 103 495 | 116 259 |
| 32 M. of radio, TV and commun. equip. | 81 283 | 124 179 | 89 343 | 141 972 |
| 321 M. of electronic components | 23 301 | 40 864 | 18 357 | 54 086 |
| 322 M. of communication equipment | 42 202 | 56 679 | 36 392 | 33 234 |
| 323 M. of consumer electronics | 15 781 | 26 636 | 34 593 | 54 652 |
| 332 M. of instrum. for measur., testing | 17 805 | 23 142 | 23 844 | 26 366 |
| 333 M. of ind. process control equip. | 3 572 | 4 785 | 5 067 | 6 831 |
| ***by size group of enterprise*** | | | | |
| 0 - 19 employees | 8 416 | 12 378 | 11 923 | 13 095 |
| 20 - 49 employees | 4 393 | 5 434 | 4 915 | 7 257 |
| 50 - 249 employees | 16 288 | 19 810 | 18 372 | 40 495 |
| 250 + employees | 150 433 | 198 490 | 186 539 | 230 580 |
| ***by legal form*** | | | | |
| private entrepreneurs | 3 548 | 4 202 | 5 917 | 5 633 |
| business companies | 175 982 | 231 911 | 215 831 | 285 794 |
| of which foreign affiliates | 155 351 | 205 947 | 192 078 | 249 693 |

### Figure B9 Turnover in ICT Manufacturing




### Figure B10 Industrial distribution of turnover in ICT Manuf.



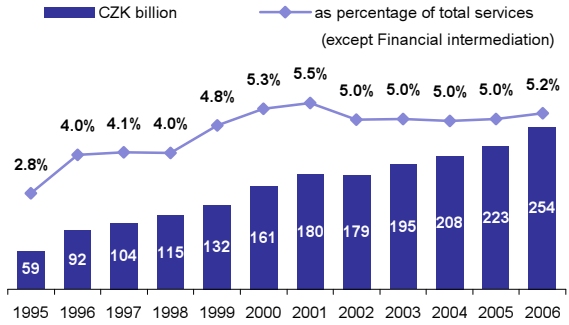

*Source: CZSO, Structural Business Survey*

### Table B8 Turnover in ICT Services

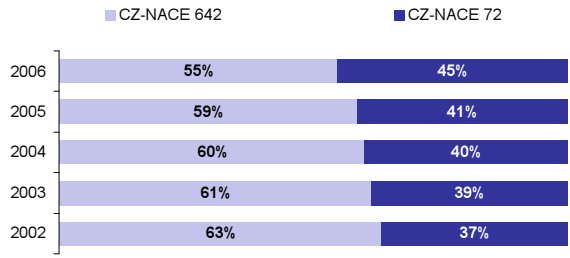
CZK million

| | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| **Total** | **195 273** | **208 103** | **223 360** | **253 590** |
| ***by Industry (CZ-NACE)*** | | | | |
| 642 Telecommunications | 119 759 | 125 146 | 130 783 | 139 051 |
| 72 Computer and related activities | 75 514 | 82 957 | 92 577 | 114 539 |
| 721 Hardware consultancy | 4 109 | 3 202 | 4 598 | 6 515 |
| 722 Software consultancy and supply | 53 771 | 64 389 | 72 185 | 87 767 |
| 723 Data processing | 8 837 | 7 611 | 7 654 | 10 744 |
| 724 Data base activities | 1 266 | 915 | 934 | 1 024 |
| 725 Repair of computing machinery | 6 689 | 6 300 | 6 654 | 8 193 |
| 726 Other computer related activities | 842 | 540 | 553 | 296 |
| ***by size group of enterprise*** | | | | |
| 0 - 19 employees | 29 880 | 32 724 | 33 105 | 37 234 |
| 20 - 49 employees | 14 179 | 14 187 | 15 780 | 19 049 |
| 50 - 249 employees | 24 695 | 31 132 | 33 946 | 38 498 |
| 250 + employees | 126 520 | 130 060 | 140 529 | 158 809 |
| ***by legal form*** | | | | |
| private entrepreneurs | 8 551 | 8 852 | 9 247 | 9 437 |
| business companies | 186 721 | 199 252 | 214 113 | 244 153 |
| of which foreign affiliates | 76 325 | 93 308 | 99 753 | 175 283 |

### Figure B11 Turnover in ICT Services




### Figure B12 Industrial distribution of turnover in ICT Services



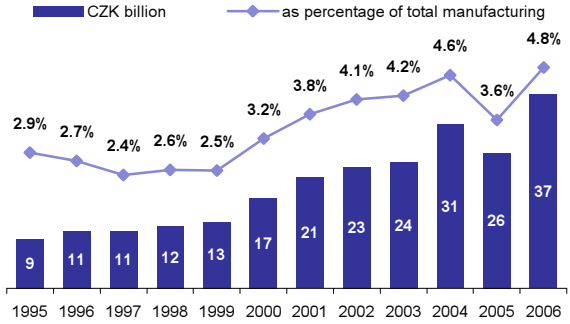

*Source: CZSO, Structural Business Survey*

### Table B9 Value added in ICT Manufacturing

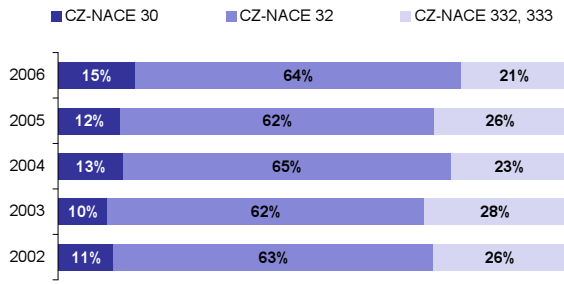
CZK million

| | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| **Total** | **24 041** | **31 167** | **25 685** | **36 992** |
| ***by Industry (CZ-NACE)*** | | | | |
| 30 Manuf. of computers equipment | 2 346 | 3 969 | 3 184 | 5 597 |
| 32 M. of radio, TV and commun. equip. | 14 932 | 20 128 | 15 802 | 23 764 |
| 321 M. of electronic components | 7 574 | 8 986 | 6 155 | 10 133 |
| 322 M. of communication equipment | 5 222 | 8 501 | 7 333 | 8 779 |
| 323 M. of consumer electronics | 2 136 | 2 641 | 2 314 | 4 851 |
| 332 M. of instrum. for measur., testing | 5 762 | 5 625 | 5 085 | 5 244 |
| 333 M. of ind. process control equip. | 1 000 | 1 445 | 1 614 | 2 388 |
| ***by size group of enterprise*** | | | | |
| 0 - 19 employees | 3 036 | 3 624 | 3 494 | 4 409 |
| 20 - 49 employees | 1 384 | 1 645 | 1 586 | 2 152 |
| 50 - 249 employees | 5 037 | 5 242 | 5 146 | 11 431 |
| 250 + employees | 14 583 | 20 656 | 15 459 | 19 001 |
| ***by legal form*** | | | | |
| private entrepreneurs | 1 501 | 1 734 | 1 958 | 2 272 |
| business companies | 22 539 | 29 433 | 23 727 | 34 719 |
| of which foreign affiliates | 15 274 | 21 625 | 15 544 | 23 644 |

### Figure B13 Value added in ICT Manufacturing




### Figure B14 Industrial distribution of value added in ICT Manuf.



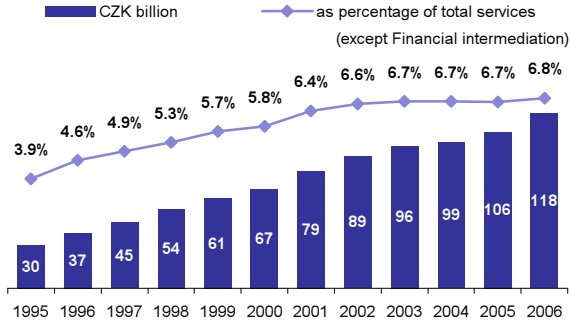

*Source: CZSO, Structural Business Survey*

### Table B10 Value added in ICT Services

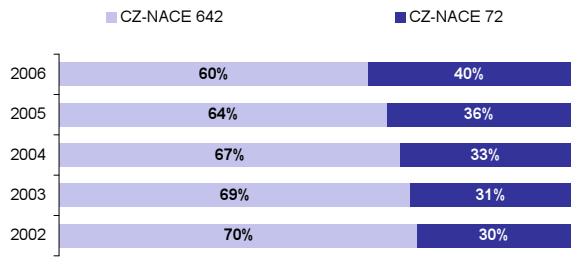
CZK million

| | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| **Total** | **96 218** | **98 862** | **105 956** | **118 183** |
| ***by Industry (CZ-NACE)*** | | | | |
| 642 Telecommunications | 66 088 | 65 916 | 67 926 | 71 437 |
| 72 Computer and related activities | 30 129 | 32 946 | 38 030 | 46 746 |
| 721 Hardware consultancy | 1 509 | 924 | 1 555 | 1 579 |
| 722 Software consultancy and supply | 21 666 | 26 140 | 29 913 | 37 483 |
| 723 Data processing | 4 196 | 3 325 | 3 655 | 4 646 |
| 724 Data base activities | 507 | 414 | 411 | 500 |
| 725 Repair of computing machinery | 1 989 | 1 974 | 2 311 | 2 433 |
| 726 Other computer related activities | 262 | 168 | 185 | 105 |
| ***by size group of enterprise*** | | | | |
| 0 - 19 employees | 12 356 | 12 550 | 13 048 | 13 626 |
| 20 - 49 employees | 6 078 | 5 685 | 6 420 | 7 457 |
| 50 - 249 employees | 11 147 | 13 513 | 13 608 | 16 221 |
| 250 + employees | 66 637 | 67 114 | 72 880 | 80 878 |
| ***by legal form*** | | | | |
| private entrepreneurs | 5 124 | 4 540 | 4 876 | 4 398 |
| business companies | 91 093 | 94 322 | 101 080 | 113 785 |
| of which foreign affiliates | 31 046 | 39 219 | 42 292 | 86 273 |

### Figure B15 Value added in ICT Services

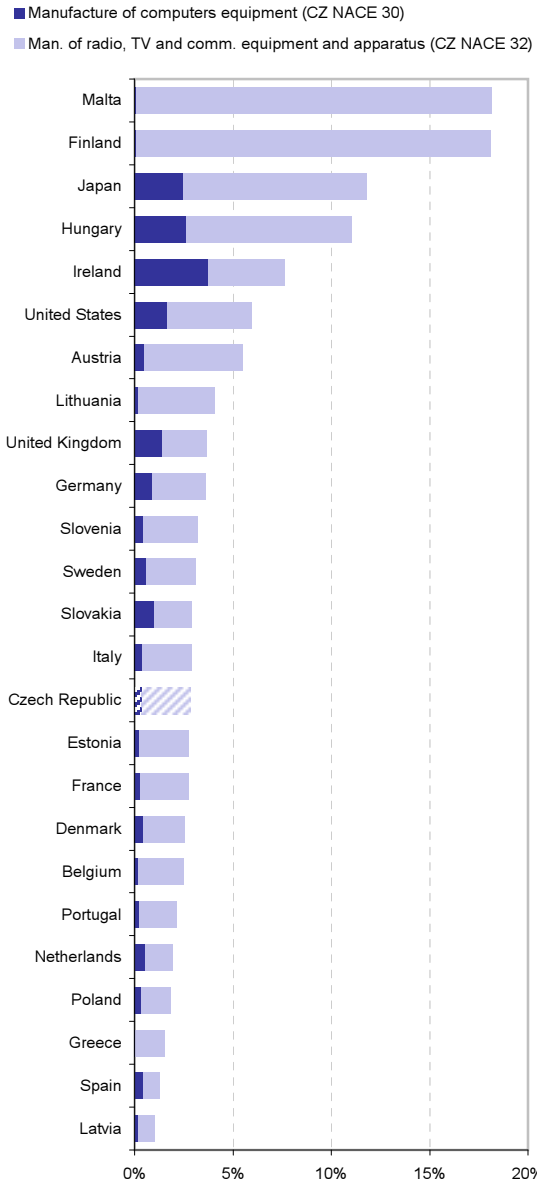



### Figure B16 Industrial distribution of value added in ICT Services



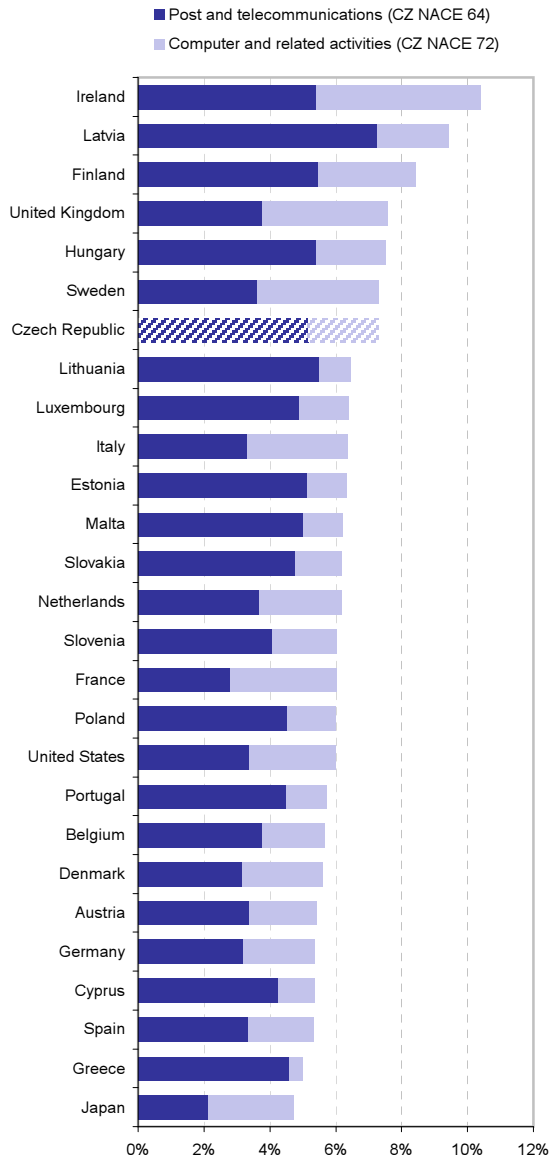

*Source: CZSO, Structural Business Survey*

**Figure B17 Value added in selected ICT Manufacturing idustries (as percentage of total manufacturing), 2004**




*Source: EU KLEMS database*

**Figure B18 Value added in ICT Services*, 2004**
**(as percentage of total services)**




** includes also CZ-NACE 641*

*Source: EU KLEMS database*

**Figure B19 Employees in Czech ICT sector (as percentage of total employment)**

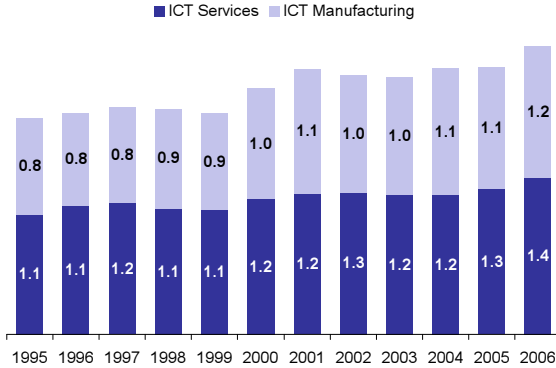
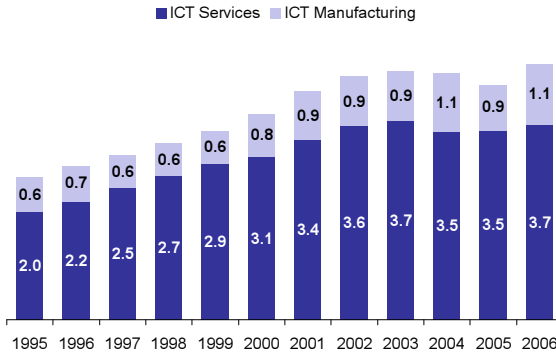



**Figure B20 Value added in Czech ICT sector (as percentage of GDP)**




*Source: CZSO, Structural Business Survey*

# C External trade in ICT products

**1) External trade (imports and exports) in ICT goods**

Imports (exports) of ICT goods measures the value of ICT goods that enter (leave) the domestic territory of a country irrespective of their final destination.

**ICT goods** must either be intended to fulfill the function of information processing and communication by electronic means, including transmission and display, or use electronic processing to detect, measure and/or record physical phenomena, or to control a physical process.

**List of ICT goods** (179 items) was defined in 2003 by the OECD in terms of the **Harmonised System (HS 2002)** – classification standard used for international trade. HS codes of ICT goods were grouped into the following five broad categories:

- Telecommunications equipment
- Computer and related equipment
- Electronic components.
- Audio and video equipment
- Other ICT goods.

The **Czech External Trade database** was used as a main data source for national data. For more information see:

http://dw.czso.cz/pls/stazo/

The **OECD's International Trade Indicators database** was used as a data source for an international comparison.

http://stats.oecd.org/wbos/Default.aspx?usercontext=sourceoecd

**2) External trade (imports and exports) in ICT services**

Imports (and exports) of ICT services reflect the value of services provided to residents of other countries (or received by residents of the domestic territory).

For **ICT services**, an industry-based definition was used. ICT services must be primary intended to enable the function of information processing and communication by electronic means. The two ICT services sectors correspond to the following **Balance of Payments Coding System (BPM5)** categories:

- Telecommunication services – BPM5 code 247,
- Computer services – BPM5 code 263.

Until 2004, data on ICT services external trade are taken from data sources of the Czech National Bank, particularly from the balance of payment statistics. Since 2005 the Czech Statistical Office has its own survey about import and export of services. This data source is used since than.

*Note: The data for years 2005 and 2006 are not comparable with previous years, however should better reflect the situation in the Czech ICT services external trade.*

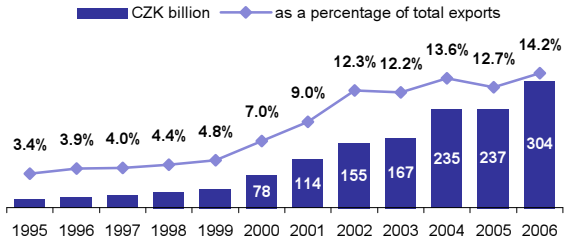
# C External trade in ICT products

## Table C1 ICT goods exports

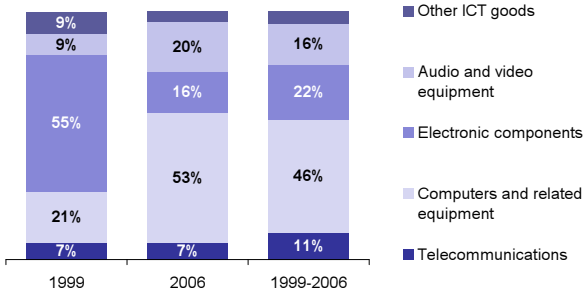
CZK million

| | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| ***by ICT categories*** | **166 748** | **231 774** | **233 463** | **303 180** |
| Telecommunications | 24 497 | 27 840 | 20 894 | 20 150 |
| Comp. and related equipment | 85 811 | 103 087 | 114 120 | 161 353 |
| Electronic components | 33 637 | 49 398 | 44 517 | 46 889 |
| Audio and video equipment | 14 740 | 38 857 | 42 893 | 62 487 |
| Other ICT goods | 8 062 | 12 592 | 11 040 | 12 301 |
| ***by regions*** | | | | |
| Praha | 5 682 | 13 733 | 21 494 | 27 482 |
| Středočeský | 31 542 | 51 041 | 23 458 | 18 137 |
| Jihočeský | 7 146 | 6 614 | 4 332 | 4 512 |
| Plzeňský | 11 643 | 26 116 | 29 639 | 55 483 |
| Karlovarský | 257 | 1 271 | 800 | 499 |
| Ústecký | 1 527 | 1 901 | 1 663 | 2 352 |
| Liberecký | 782 | 687 | 1 069 | 1 556 |
| Královéhradecký | 2 689 | 3 226 | 2 613 | 1 747 |
| Pardubický | 69 611 | 74 590 | 83 086 | 89 405 |
| Vysočina | 286 | 473 | 900 | 863 |
| Jihomoravský | 17 812 | 22 274 | 19 221 | 27 364 |
| Olomoucký | 8 954 | 12 430 | 6 685 | 5 749 |
| Zlínský | 5 956 | 8 317 | 7 124 | 6 408 |
| Moravskoslezský | 2 861 | 5 306 | 10 551 | 21 584 |
| unknown | 0 | 3 794 | 20 825 | 40 037 |

## Figure C1 ICT goods exports




## Figure C2 Commodity distribution of ICT exports




*Source: CZSO, External Trade Database*

# C External trade in ICT products

**Table C2 ICT goods imports**

CZK million

| | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| **Total** | **199 828** | **241 416** | **233 918** | **311 025** |
| Telecommunications | 24 999 | 29 544 | 20 604 | 25 761 |
| Comp. and related equipment | 66 516 | 83 126 | 82 341 | 129 240 |
| Electronic components | 73 593 | 82 873 | 86 264 | 101 313 |
| Audio and video equipment | 17 924 | 27 267 | 26 439 | 34 765 |
| Other ICT goods | 16 797 | 18 606 | 18 271 | 19 947 |

**Figure C3 ICT goods imports**

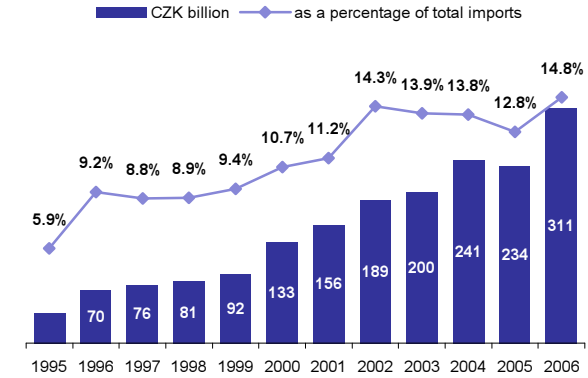
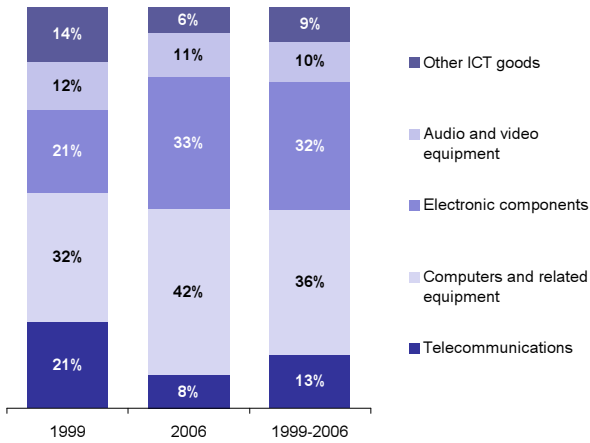



**Figure C4 Commodity distribution of ICT imports**




*Source: CZSO, External Trade Database*

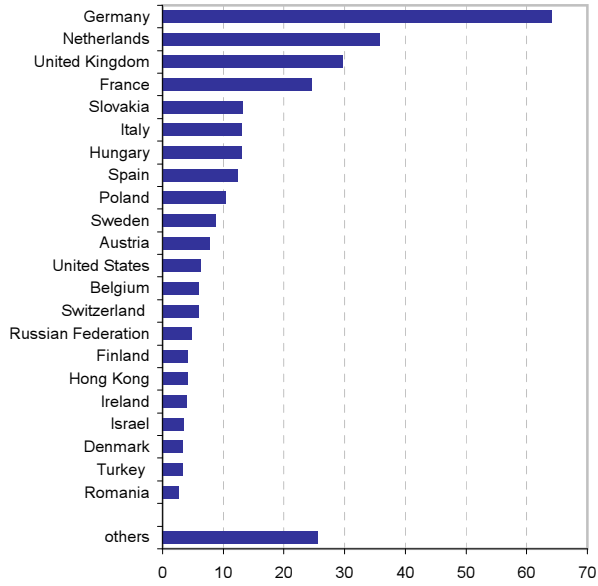
# C External trade in ICT products

**Table C3 ICT goods exports in Czech Republic by countries**

CZK million

| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|
| Austria | 2 890 | 3 429 | 4 928 | 7 797 | 5 968 | 7 651 |
| Belgium | 10 647 | 3 865 | 2 322 | 2 300 | 3 922 | 5 940 |
| Denmark | 149 | 475 | 610 | 724 | 1 911 | 3 247 |
| Finland | 805 | 594 | 1 277 | 1 361 | 2 304 | 4 097 |
| France | 7 868 | 10 545 | 11 846 | 12 182 | 18 771 | 24 523 |
| Germany | 22 418 | 26 519 | 33 010 | 61 171 | 49 619 | 64 043 |
| Hong Kong | 1 112 | 1 535 | 2 012 | 2 447 | 2 391 | 4 046 |
| Hungary | 1 171 | 7 417 | 4 360 | 8 605 | 8 682 | 12 869 |
| Ireland | 5 723 | 4 772 | 3 291 | 2 849 | 3 340 | 3 861 |
| Israel | 644 | 307 | 170 | 557 | 2 151 | 3 334 |
| Italy | 2 793 | 7 257 | 11 886 | 16 211 | 11 399 | 12 901 |
| Netherlands | 7 699 | 23 506 | 29 066 | 40 094 | 32 531 | 35 696 |
| Poland | 2 020 | 3 236 | 3 580 | 8 513 | 8 997 | 10 324 |
| Romania | 80 | 149 | 262 | 1 035 | 1 829 | 2 643 |
| Russian Federation | 818 | 706 | 913 | 2 187 | 3 979 | 4 652 |
| Slovakia | 2 840 | 3 275 | 3 752 | 7 250 | 10 639 | 13 230 |
| Spain | 1 207 | 3 108 | 2 726 | 6 713 | 8 711 | 12 263 |
| Sweden | 1 717 | 2 398 | 1 983 | 2 628 | 5 233 | 8 679 |
| Switzerland | 2 500 | 3 949 | 4 147 | 3 397 | 3 734 | 5 783 |
| Turkey | 720 | 2 043 | 3 134 | 4 303 | 3 076 | 3 232 |
| United Kingdom | 27 788 | 25 691 | 23 908 | 17 413 | 20 253 | 29 681 |
| United States | 3 742 | 6 520 | 5 657 | 6 415 | 6 753 | 6 215 |

**Figure C5 ICT goods exports by countries, 2006 (CZK billion)**



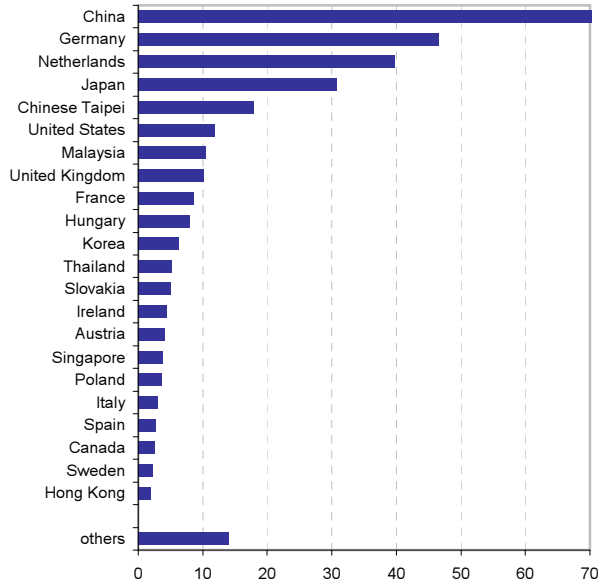

*Source: CZSO, External Trade Database*

**Table C4 ICT goods imports in Czech Republic by countries**

CZK million

| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|
| Austria | 3 598 | 2 563 | 3 098 | 4 187 | 3 370 | 4 014 |
| Canada | 947 | 593 | 778 | 1 181 | 1 609 | 2 472 |
| France | 8 084 | 5 014 | 5 782 | 6 117 | 4 180 | 8 414 |
| Germany | 36 220 | 30 096 | 32 786 | 39 308 | 37 069 | 46 472 |
| Hong Kong | 672 | 744 | 1 642 | 1 767 | 1 920 | 1 884 |
| Hungary | 2 236 | 2 543 | 4 082 | 5 185 | 2 881 | 7 848 |
| China | 15 805 | 33 887 | 42 545 | 47 134 | 45 503 | 70 177 |
| Chinese Taipei | 6 695 | 11 516 | 10 935 | 10 577 | 12 085 | 17 853 |
| Ireland | 3 883 | 3 448 | 3 317 | 4 102 | 3 992 | 4 309 |
| Italy | 6 066 | 6 201 | 3 437 | 3 325 | 2 881 | 2 991 |
| Japan | 7 473 | 9 343 | 10 989 | 21 343 | 23 421 | 30 684 |
| Korea | 2 401 | 6 015 | 5 469 | 7 063 | 6 362 | 6 200 |
| Malaysia | 5 176 | 12 673 | 15 936 | 11 002 | 8 013 | 10 333 |
| Netherlands | 2 737 | 3 986 | 3 325 | 10 741 | 32 668 | 39 741 |
| Poland | 966 | 1 265 | 1 727 | 1 848 | 1 896 | 3 593 |
| Singapore | 3 406 | 6 032 | 6 137 | 4 753 | 2 977 | 3 799 |
| Slovakia | 2 066 | 1 812 | 2 614 | 3 901 | 3 271 | 4 862 |
| Spain | 1 696 | 1 181 | 1 051 | 2 285 | 2 488 | 2 627 |
| Sweden | 2 345 | 1 187 | 893 | 1 437 | 1 002 | 2 055 |
| Thailand | 1 482 | 1 881 | 3 560 | 4 283 | 3 881 | 5 036 |
| United Kingdom | 15 376 | 9 749 | 5 936 | 8 867 | 7 964 | 10 069 |
| United States | 12 380 | 11 477 | 10 549 | 19 667 | 10 747 | 11 690 |

**Figure C6 ICT goods imports by countries, 2006 (CZK billion)**




*Source: CZSO, External Trade Database*

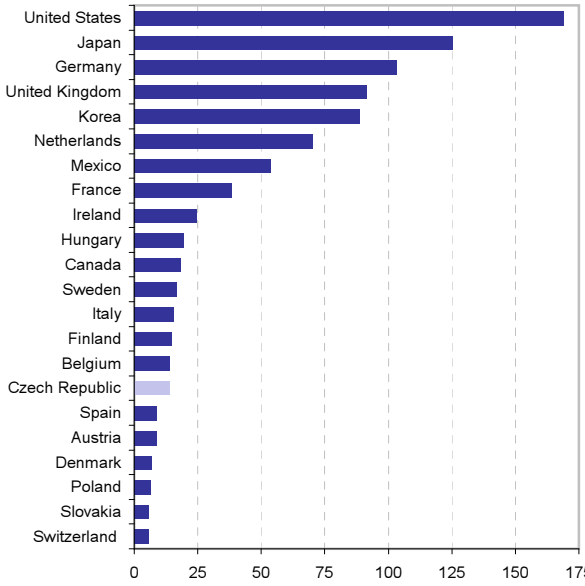
## C External trade in ICT products

**Table C5 ICT goods exports in OECD countries**

US$ billion

| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|
| Austria | 5.7 | 6.2 | 6.6 | 7.9 | 8.1 | 8.5 |
| Belgium | 12.2 | 10.6 | 12.5 | 13.6 | 14.6 | 13.7 |
| Canada | 15.0 | 12.0 | 12.0 | 14.2 | 16.6 | 18.1 |
| **Czech Republic** | **3.2** | **4.8** | **5.9** | **9.1** | **9.8** | **13.5** |
| Denmark | 4.1 | 5.4 | 5.1 | 5.8 | 7.0 | 6.8 |
| Finland | 9.4 | 9.8 | 11.1 | 11.5 | 14.6 | 14.6 |
| France | 31.5 | 27.8 | 28.2 | 32.6 | 33.2 | 38.1 |
| Germany | 59.1 | 61.4 | 70.3 | 91.3 | 95.0 | 103.2 |
| Hungary | 7.5 | 8.9 | 12.0 | 17.0 | 16.5 | 19.4 |
| Ireland | 30.8 | 27.2 | 22.6 | 23.7 | 24.9 | 24.5 |
| Italy | 12.8 | 11.3 | 12.5 | 14.5 | 15.2 | 15.4 |
| Japan | 94.5 | 95.0 | 106.7 | 124.2 | 121.5 | 125.1 |
| Korea | 46.8 | 55.0 | 66.5 | 86.1 | 87.2 | 88.5 |
| Mexico | 38.1 | 36.2 | 35.9 | 41.3 | 43.9 | 53.5 |
| Netherlands | 35.8 | 31.6 | 45.5 | 58.3 | 64.7 | 70.0 |
| Poland | 1.8 | 2.2 | 2.7 | 3.3 | 4.1 | 6.1 |
| Slovakia | 0.6 | 0.6 | 1.0 | 1.8 | 3.2 | 5.5 |
| Spain | 6.2 | 5.9 | 7.6 | 8.2 | 8.3 | 8.5 |
| Sweden | 9.3 | 10.3 | 11.4 | 14.8 | 15.8 | 16.5 |
| Switzerland | 4.3 | 3.6 | 4.1 | 4.7 | 5.6 | 5.5 |
| United Kingdom | 53.4 | 51.9 | 43.1 | 43.7 | 59.8 | 91.3 |
| United States | 152.2 | 132.6 | 136.6 | 149.3 | 154.9 | 169.0 |

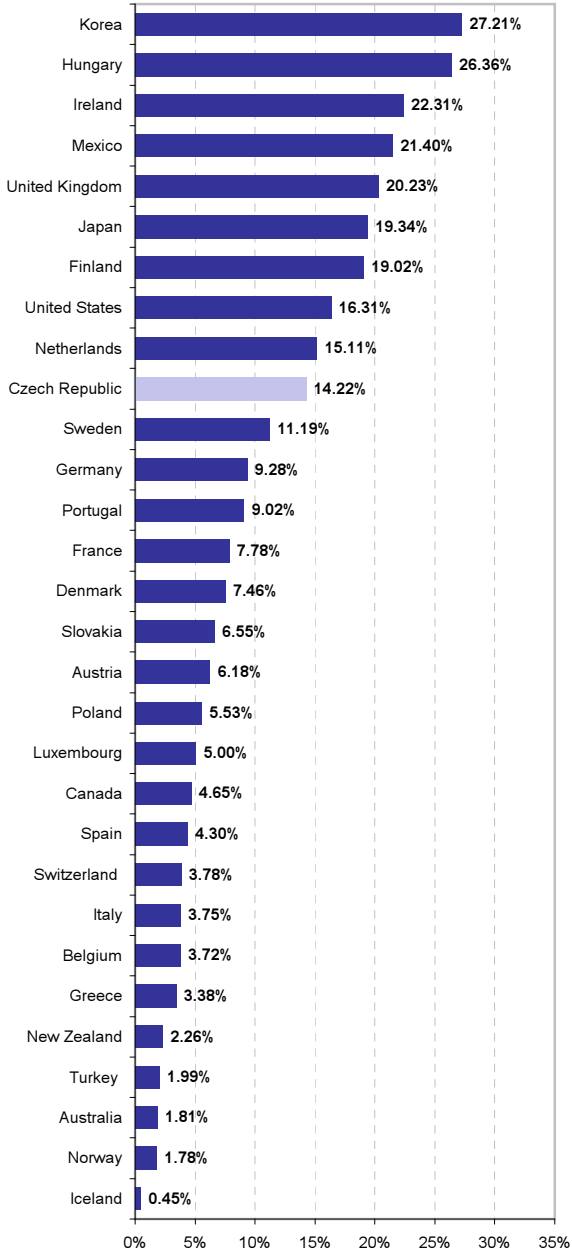
**Figure C7 ICT goods exports, 2006 (US $ billion)**




*Source: OECD, Bilateral Trade Database*

## C External trade in ICT products

**Figure C8 ICT goods exports, 2006**
**(as a percentage of total exports)**




*Source: OECD, Bilateral Trade Database*

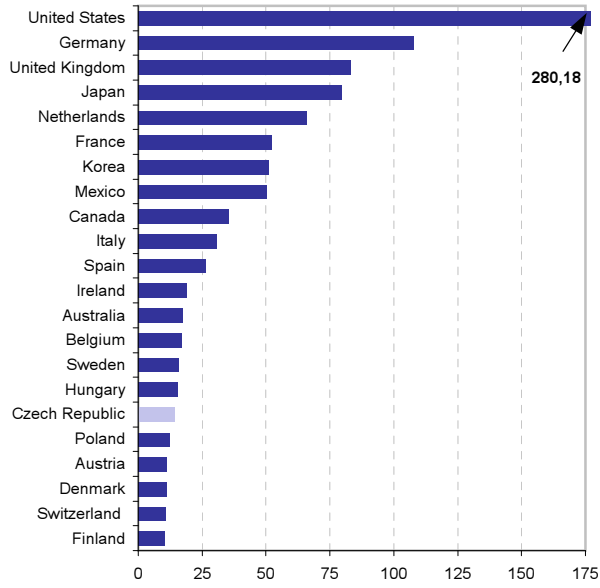
## C External trade in ICT products

**Table C6 ICT goods imports in OECD countries**

US$ billion

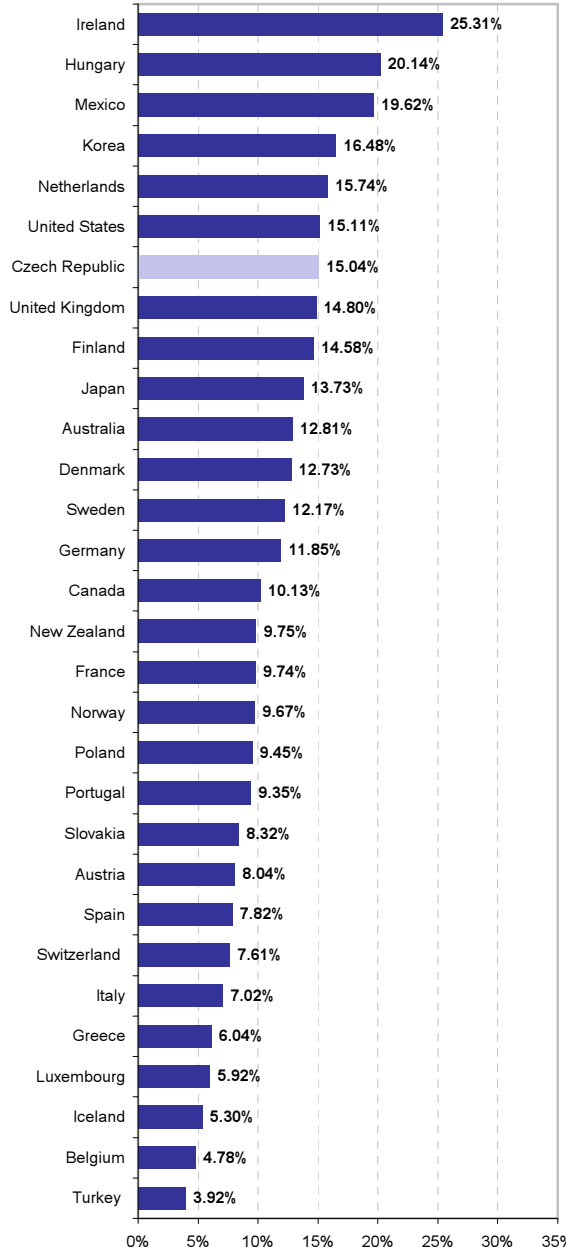
| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|
| Australia | 9.1 | 9.4 | 11.3 | 14.5 | 15.5 | 17.0 |
| Austria | 7.3 | 7.4 | 8.6 | 10.0 | 10.7 | 11.0 |
| Belgium | 14.4 | 12.7 | 14.3 | 16.2 | 17.7 | 16.8 |
| Canada | 28.3 | 24.8 | 25.5 | 29.9 | 32.8 | 35.4 |
| **Czech Republic** | **4.9** | **5.8** | **7.1** | **9.3** | **9.7** | **14.0** |
| Denmark | 5.6 | 6.7 | 6.9 | 7.9 | 10.4 | 10.7 |
| Finland | 5.5 | 5.3 | 5.9 | 6.9 | 9.1 | 10.0 |
| France | 35.6 | 31.7 | 35.8 | 43.3 | 45.8 | 52.1 |
| Germany | 67.9 | 65.7 | 73.7 | 89.9 | 94.3 | 107.7 |
| Hungary | 8.0 | 8.7 | 10.4 | 14.1 | 13.5 | 15.3 |
| Ireland | 17.4 | 17.7 | 14.0 | 15.6 | 17.3 | 18.4 |
| Italy | 21.5 | 20.4 | 24.0 | 29.8 | 30.2 | 30.7 |
| Japan | 58.2 | 55.1 | 61.2 | 72.7 | 76.5 | 79.3 |
| Korea | 30.3 | 32.3 | 37.5 | 42.8 | 47.0 | 51.0 |
| Mexico | 36.6 | 32.7 | 34.0 | 41.0 | 43.4 | 50.3 |
| Netherlands | 37.5 | 29.8 | 44.0 | 57.6 | 60.4 | 65.6 |
| Poland | 5.1 | 5.2 | 6.0 | 7.7 | 9.1 | 12.0 |
| Spain | 13.3 | 13.1 | 16.3 | 20.4 | 22.6 | 26.2 |
| Sweden | 9.1 | 8.6 | 10.2 | 13.0 | 13.7 | 15.4 |
| Switzerland | 8.2 | 7.5 | 8.3 | 9.5 | 10.6 | 10.5 |
| United Kingdom | 55.4 | 49.8 | 54.5 | 65.9 | 68.7 | 82.6 |
| United States | 193.8 | 193.9 | 199.9 | 234.8 | 256.8 | 280.2 |

**Figure C9 ICT goods imports, 2006 (US $ billion)**




*Source: OECD, Bilateral Trade Database*

**Figure C10 ICT goods imports, 2006**
**(as a percentage of total imports)**




*Source: OECD, Bilateral Trade Database*

# C External trade in ICT products

## Table C7 International trade with selected ICT goods

CZK million

| | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| **Mobile phones** | | | | |
| exports | 18 285 | 17 134 | 7 340 | 3 453 |
| imports | 15 568 | 17 880 | 10 404 | 10 293 |
| **Line telephones** | | | | |
| exports | 657 | 81 | 91 | 222 |
| imports | 201 | 269 | 200 | 142 |
| **Portable computers** | | | | |
| exports | 450 | 1 033 | 1 106 | 4 784 |
| imports | 3 588 | 5 076 | 5 709 | 12 051 |
| **Desktop computers** | | | | |
| exports | 85 361 | 102 380 | 113 942 | 154 807 |
| imports | 62 927 | 78 050 | 76 632 | 117 189 |
| **Digital video recorders** | | | | |
| exports | 23 | 1 163 | 1 543 | 982 |
| imports | 859 | 2 223 | 2 988 | 2 320 |
| **Analog video recorders** | | | | |
| exports | 9 | 55 | 50 | 29 |
| imports | 852 | 526 | 208 | 112 |
| **Digital audio players** | | | | |
| exports | 1 313 | 1 309 | 1 421 | 1 526 |
| imports | 864 | 1 269 | 1 461 | 1 450 |
| **Analog audio players** | | | | |
| exports | 130 | 244 | 348 | 708 |
| imports | 193 | 317 | 554 | 792 |
| **Data recording mediums** | | | | |
| exports | 127 | 328 | 1 199 | 1 935 |
| imports | 748 | 1 425 | 1 699 | 8 187 |
| **Analog recording mediums** | | | | |
| exports | 55 | 342 | 278 | 222 |
| imports | 740 | 831 | 559 | 475 |
| **Magnetic and chip cards** | | | | |
| exports | 5 543 | 12 869 | 8 446 | 7 950 |
| imports | 1 225 | 1 809 | 2 219 | 1 421 |

## Table C8 International trade with selected ICT goods

thousand units

| | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| **Mobile phones** | | | | |
| exports | 3 297 | 5 096 | 2 611 | 1 327 |
| imports | 4 922 | 6 930 | 4 989 | 3 868 |
| **Line telephones** | | | | |
| exports | 623 | 63 | 88 | 147 |
| imports | 139 | 280 | 224 | 207 |
| **Portable computers** | | | | |
| exports | 36 | 124 | 185 | 447 |
| imports | 151 | 290 | 444 | 948 |

*Source: CZSO, External Trade Database*

**Figure C11 External trade with mobile phones in Czech Rep. (thousand units)**

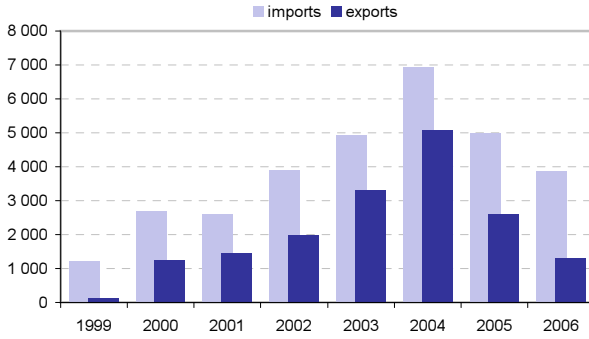



**Figure C12 External trade with laptops in Czech Rep. (thousand units)**

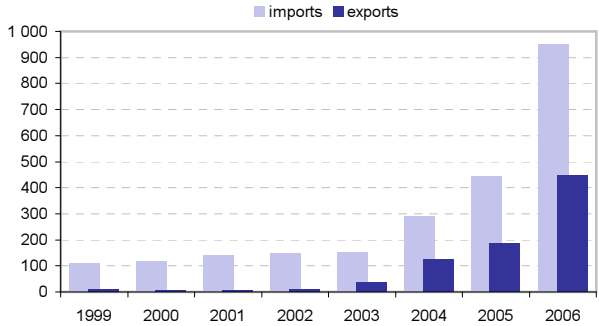
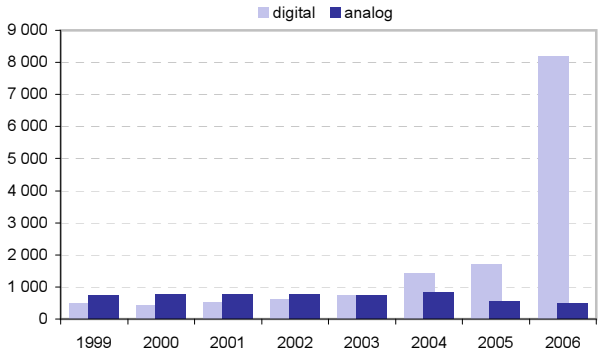



**Figure C13 Data recording mediums imports in Czech Rep. (CZK million)**




*Source: CZSO, External Trade Database*

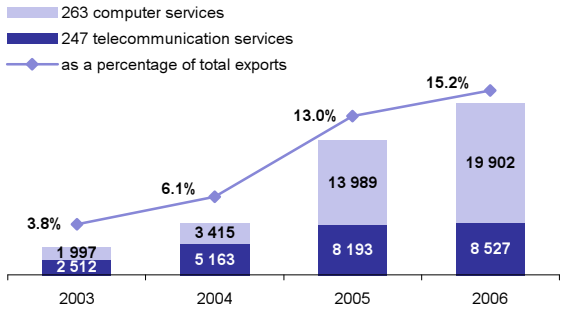
# C External trade in ICT products

### Table C9 ICT services exports

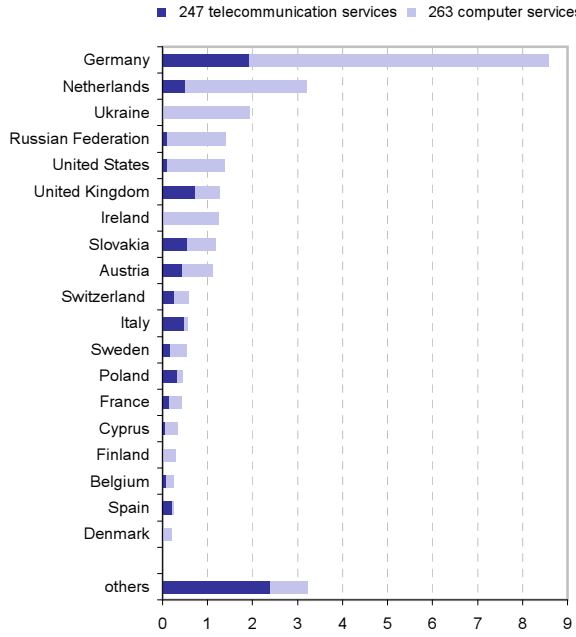
CZK million

| | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| **ICT services total** | **4 509** | **8 578** | **22 182** | **28 429** |
| 247 telecommunication services | 2 512 | 5 163 | 8 193 | 8 527 |
| 263 computer services | 1 997 | 3 415 | 13 989 | 19 902 |

### Figure C14 ICT services exports




### Figure C15 ICT services exports by countries, 2006 (CZK billion)




*Note: Break in time series in 2005*

*Source: CZSO, External Trade Services Database*

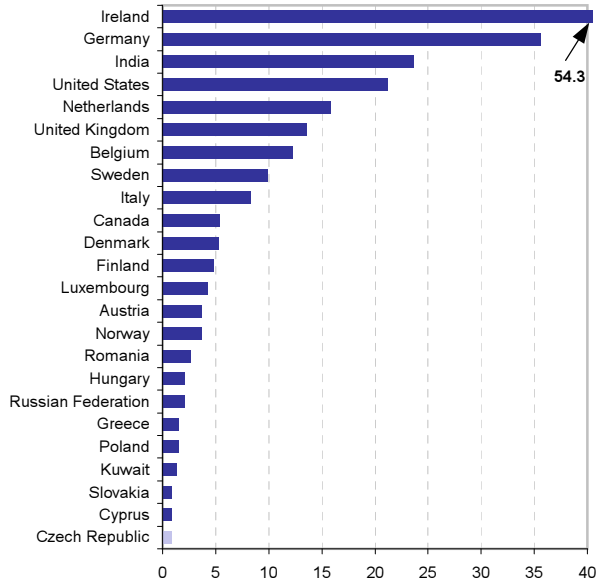
## C External trade in ICT products

**Table C10 ICT services exports in selected countries**

US $ billion

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|
| Austria | . | . | 2.0 | 2.3 | 2.6 | 3.7 |
| Belgium | . | . | 8.5 | 9.7 | 11.4 | 12.2 |
| Canada | 5.0 | 4.9 | 4.8 | 5.7 | 6.7 | 5.4 |
| **Czech Republic** | **0.4** | **0.8** | **0.8** | **0.5** | **0.7** | **0.8** |
| Denmark | . | . | . | . | . | 5.2 |
| Finland | 0.8 | 1.0 | 1.4 | 2.0 | 2.3 | 4.8 |
| Germany | 11.4 | 18.9 | 23.4 | 28.6 | 34.8 | 35.5 |
| Greece | 0.8 | 0.7 | 0.5 | 1.2 | 1.5 | 1.5 |
| Hungary | . | . | . | . | 1.7 | 2.0 |
| India | 6.3 | 7.6 | 9.6 | 12.8 | 17.7 | 23.6 |
| Ireland | 12.3 | 1.0 | 31.8 | 41.0 | 57.4 | 54.3 |
| Italy | 3.5 | 4.5 | 3.7 | 7.1 | 7.4 | 8.2 |
| Luxembourg | . | . | 2.8 | 3.3 | 3.7 | 4.2 |
| Netherlands | 1.7 | 6.9 | 7.6 | 12.9 | 15.1 | 15.8 |
| Norway | 0.2 | 0.8 | 0.2 | 0.4 | 2.5 | 3.6 |
| Poland | 0.0 | 0.1 | 0.1 | 0.1 | 1.5 | 1.5 |
| Romania | . | . | . | . | . | 2.6 |
| Russian Federation | . | . | 0.8 | 1.1 | 1.2 | 2.0 |
| Slovakia | 0.1 | 0.1 | 0.1 | 0.3 | 0.2 | 0.8 |
| Sweden | 3.4 | 4.1 | 5.5 | 7.0 | 9.0 | 9.9 |
| United Kingdom | . | 2.7 | 20.6 | 9.7 | 14.0 | 13.5 |
| United States | 17.2 | 18.5 | 16.8 | 18.8 | 20.5 | 21.1 |

**Figure C16 ICT services exports, 2005 (US $ billion)**




*Source: UN, International Trade in Services*

# C External trade in ICT products

**Table C11 ICT services imports**

CZK million

| | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| **ICT services total** | **11 595** | **15 634** | **18 579** | **19 700** |
| 247 telecommunication services | 7 707 | 10 307 | 7 861 | 7 921 |
| 263 computer services | 3 888 | 5 327 | 10 717 | 11 779 |

**Figure C17 ICT services imports**

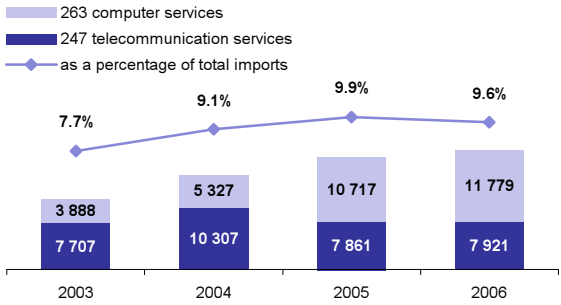
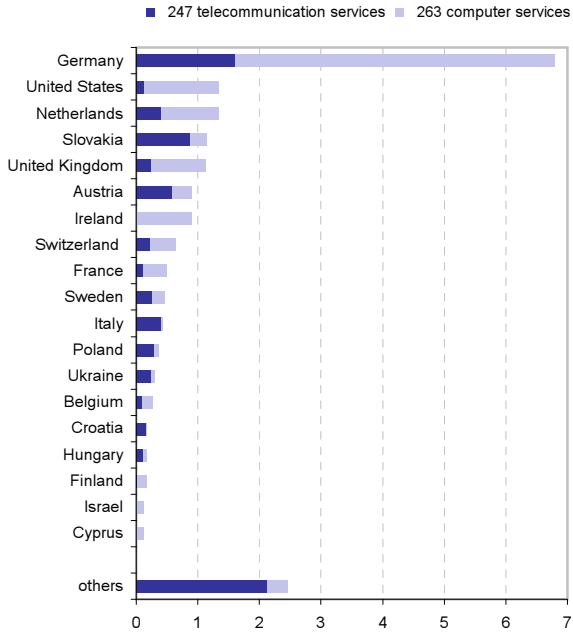



**Figure C18 ICT services imports by countries, 2006 (CZK billion)**




*Note: Break in time series in 2005*

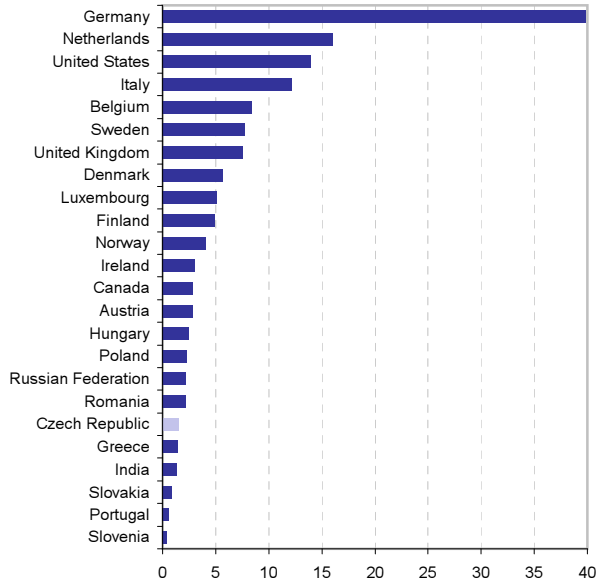
*Source: CZSO, External Trade Services Database*

**Table C12 ICT services imports in selected countries**

US$ billion

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|
| Austria | 0.0 | 0.0 | 1.7 | 2.0 | 2.4 | 2.8 |
| Belgium | . | . | 7.1 | 7.4 | 9.4 | 8.4 |
| Canada | 2.0 | 2.0 | 2.7 | 3.0 | 3.8 | 2.8 |
| **Czech Republic** | **0.3** | **0.4** | **0.8** | **1.2** | **1.6** | **1.5** |
| Denmark | . | . | . | . | . | 5.6 |
| Finland | 1.2 | 1.4 | 1.1 | 1.8 | 2.2 | 4.8 |
| Germany | 16.6 | 25.7 | 30.0 | 34.1 | 37.9 | 39.8 |
| Greece | 0.9 | 1.0 | 0.9 | 1.4 | 1.5 | 1.4 |
| Hungary | . | . | . | . | 1.8 | 2.4 |
| India | 0.6 | 0.7 | 0.7 | 0.5 | 0.8 | 1.3 |
| Ireland | 1.3 | 0.5 | 3.3 | 3.6 | 3.0 | 2.9 |
| Italy | 5.6 | 7.3 | 7.3 | 10.4 | 10.1 | 12.1 |
| Luxembourg | . | . | 0.9 | 2.5 | 4.6 | 5.1 |
| Netherlands | 1.9 | 7.8 | 8.1 | 11.5 | 13.2 | 16.0 |
| Norway | 0.1 | 0.5 | 0.8 | 0.5 | 2.5 | 4.1 |
| Poland | 0.2 | 0.2 | 0.2 | 0.3 | 2.2 | 2.2 |
| Romania | . | . | . | . | . | 2.1 |
| Russian Federation | . | . | 1.8 | 1.9 | 1.6 | 2.2 |
| Slovakia | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0.9 |
| Sweden | 3.5 | 2.8 | 3.7 | 6.0 | 7.2 | 7.7 |
| United Kingdom | . | 2.5 | 11.0 | 5.4 | 6.8 | 7.5 |
| United States | 14.2 | 13.3 | 11.6 | 12.6 | 13.7 | 13.9 |

**Figure C19 ICT services imports, 2005 (US $ billion)**




*Source: UN, International Trade in Services*

# D Investment and R&D expenditures in ICT

Data on **ICT Investment and R&D expenditures** are based on ICT product definition expressed in terms of CZ-CPA product classification:

- CZ-CPA 30 Office machinery and computers
- CZ-CPA 32 Radio, television and communication equipment
- CZ-CPA 642 Telecommunications services
- CZ-CPA 72 Computer and related services

*Note: In the national accounts, expenditure on ICT products is considered investment only if the products can be physically isolated (i.e. ICT embodied in equipment is considered not as investment but as intermediate consumption). This means that ICT investment may be underestimated and the order of magnitude of the underestimation may differ depending on how intermediate consumption and investment are treated in each country's accounts. Data on software investment in the Czech Republic are underestimate.*

**Data on investment and R&D expenditures in ICT sector** (ICT manufacturing and ICT services) are based on ICT industry definition expressed in terms of CZ-NACE industry classification (see chapter B).

*Note: Data refer to R&D performed by the ICT sector might be underestimate significantly given that much of ICT R&D may be performed in other industries (for example, software R&D). Figures should also be compared with caution owing to differences in how countries classify R&D by industry: countries which follow a "product group" approach (instead of principal economic activity) will therefore have more accurate estimates of "true" ICT R&D.*

**A patent** is a right granted by a government to an inventor in exchange for the publication of the invention; it entitles the inventor to prevent any third party from using the invention in any way, for an agreed period.

Data on **ICT patents** are classified according to the International Patent Classification (IPC) codes and 2003 OECD definition into four broad categories:

- Telecommunications
- Consumer electronics
- Computers, office machinery
- Other ICT

**Data sources:**

- ICT investment – Czech Annual National Accounts (table D1)
- Investment in ICT manufacturing and services – Structural Business Survey (CZSO)
- R&D expenditures in ICT manufacturing and services – Czech annual survey on research and development.
- Patents – Industrial Property Office of the Czech Republic
- International data for ICT investment are from OECD sources
- International data for R&D expenditures for selected ICT industries are from OECD's Analytical Business Enterprise R&D Expenditure (ANBERD) database.

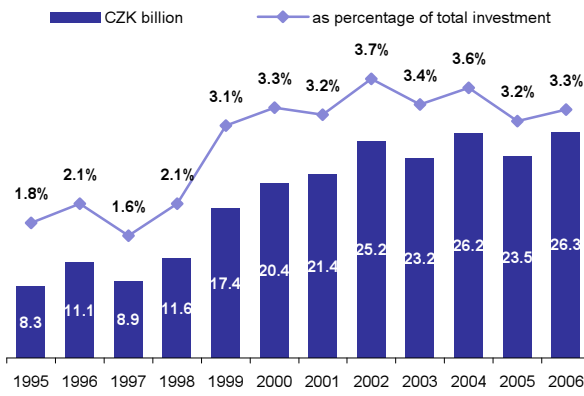
# D Investment and R&D expenditures in ICT

## Table D1 Software investment

CZK million

| | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| **Total** | **23 211** | **26 188** | **23 529** | **26 324** |
| ***by institutional sectors*** | | | | |
| Non-financial enterprises and corporat. | 14 710 | 18 506 | 15 630 | 16 399 |
| Public enterprises | 1 288 | 1 974 | 1 732 | 1 570 |
| National private enterprises | 8 009 | 9 501 | 6 859 | 6 854 |
| Foreign affiliation | 5 413 | 7 031 | 7 039 | 7 975 |
| Financial corporations | 5 075 | 4 586 | 4 363 | 5 512 |
| Government | 2 468 | 2 465 | 2 841 | 2 964 |
| Central government institutions | 1 847 | 1 911 | 2 138 | 2 308 |
| Local government institutions | 359 | 356 | 466 | 496 |
| Social security and welfare funds | 262 | 198 | 237 | 160 |
| Households | 890 | 598 | 677 | 1 413 |
| Non-profit institutions | 68 | 33 | 18 | 36 |
| ***by Industry (CZ-NACE)*** | | | | |
| Agriculture, Forestry, Fishing | 92 | 60 | 75 | 202 |
| Mining and quarrying | 98 | 123 | 167 | 545 |
| Manufacturing | 3 756 | 4 563 | 4 281 | 5 209 |
| Electricity, gas and water supply | 1 537 | 1 728 | 1 183 | 861 |
| Construction | 299 | 382 | 385 | 378 |
| Wholesale and retail trade | 2 071 | 1 710 | 1 815 | 1 930 |
| Hotels and restaurants | 325 | 98 | 56 | 69 |
| Transport, storage and communication | 3 790 | 4 708 | 4 652 | 4 647 |
| Financial intermediation | 5 091 | 4 590 | 4 386 | 5 605 |
| Real estate and business activities | 2 754 | 3 844 | 3 238 | 2 924 |
| Public administration | 2 194 | 2 328 | 2 355 | 2 313 |
| Education | 142 | 52 | 241 | 269 |
| Health | 457 | 128 | 463 | 318 |
| Other community, social and service | 605 | 1 874 | 232 | 1 054 |

## Figure D1 Software investment

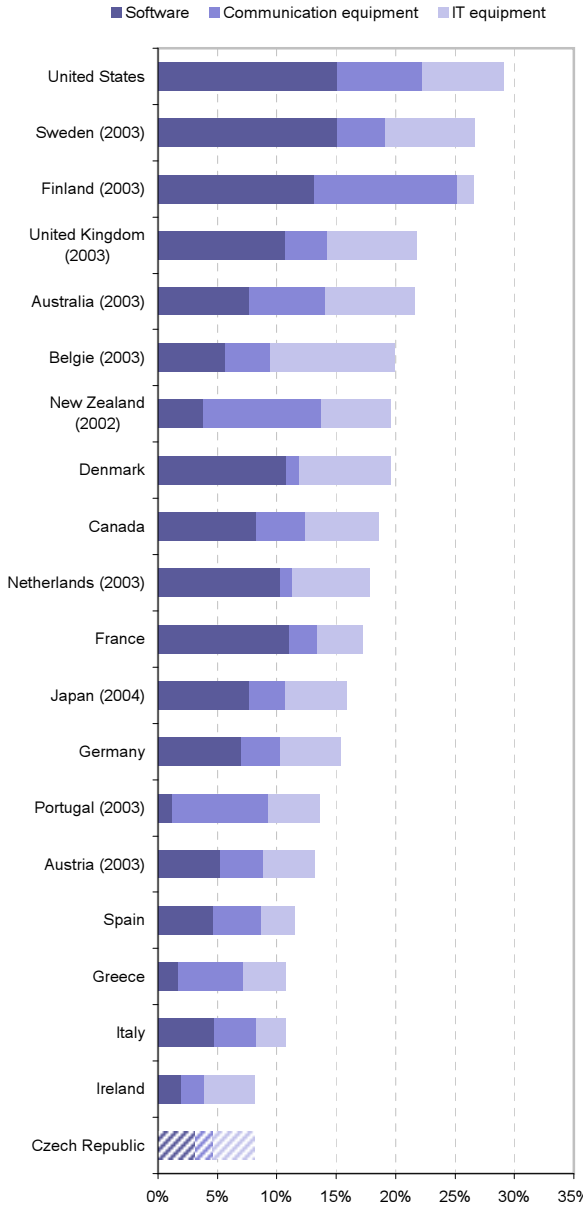



*Source: CZSO, Annual National Accounts*

## D Investment and R&D expenditures in ICT

**Figure D2 ICT investment, 2005**

**(as percentage of total investment)**




*Source: OECD and CZSO*

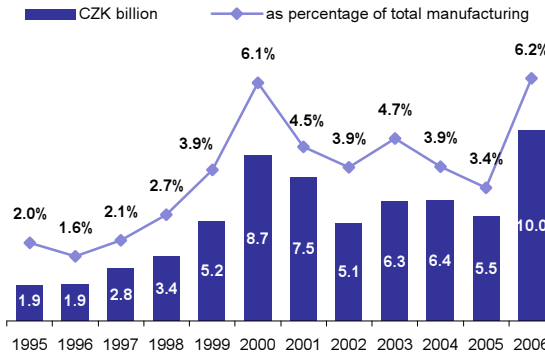
# D Investment and R&D expenditures in ICT

## Table D2 Investment in ICT Manufacturing

CZK million

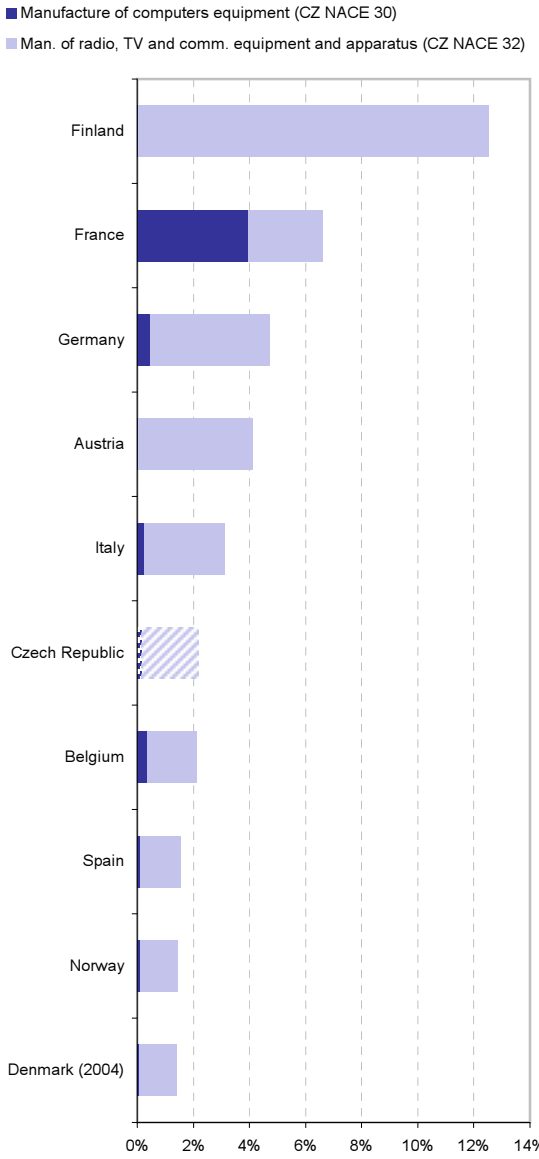
| | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| **Total** | **6 304** | **6 370** | **5 494** | **10 006** |
| national enterprises | 1 920 | 975 | 1 325 | 2 682 |
| foreign affiliates | 4 384 | 5 395 | 4 169 | 7 323 |
| ***by Industry (CZ-NACE)*** | | | | |
| 30 Manuf. of computers equipment | 654 | 574 | 546 | 1 230 |
| 32 M. of radio, TV and commun. equip. | 3 931 | 4 015 | 3 132 | 6 442 |
| 321 M. of electronic components | 2 614 | 2 616 | 1 665 | 2 686 |
| 322 M. of communication equipment | 897 | 774 | 624 | 1 754 |
| 323 M. of consumer electronics | 420 | 626 | 844 | 2 001 |
| 332 M. of instrum. for measur., testing | 1 555 | 1 501 | 1 697 | 1 937 |
| 333 M. of ind. process control equip. | 164 | 281 | 119 | 396 |
| ***by size group of enterprise*** | | | | |
| 0 - 19 employees | 1 778 | 293 | 284 | 976 |
| 20 - 49 employees | 231 | 138 | 243 | 402 |
| 50 - 249 employees | 696 | 1 031 | 1 215 | 1 399 |
| 250 + employees | 3 599 | 4 908 | 3 752 | 7 229 |
| ***by regions*** | | | | |
| Praha | 838 | 433 | 645 | 1 444 |
| Středočeský | 1 203 | 1 244 | 1 070 | 1 456 |
| Jihočeský | 255 | 132 | 202 | 247 |
| Plzeňský | 403 | 716 | 709 | 1 870 |
| Karlovarský | 188 | 24 | 71 | 50 |
| Ústecký | 144 | 96 | 57 | 100 |
| Liberecký | 54 | 240 | 66 | 110 |
| Královéhradecký | 504 | 374 | 339 | 651 |
| Pardubický | 797 | 778 | 470 | 550 |
| Vysočina | 49 | 77 | 28 | 156 |
| Jihomoravský | 785 | 717 | 530 | 1 696 |
| Olomoucký | 630 | 824 | 210 | 474 |
| Zlínský | 273 | 707 | 1 045 | 910 |
| Moravskoslezský | 214 | 109 | 61 | 311 |

## Figure D3 Investment in ICT Manufacturing




*Source: CZSO, Structural Business Survey*

**Figure D4 Investment in selected ICT manufacturing industries (% of total manufacturing), 2005**




*Source: OECD, STAN Indicators Database*

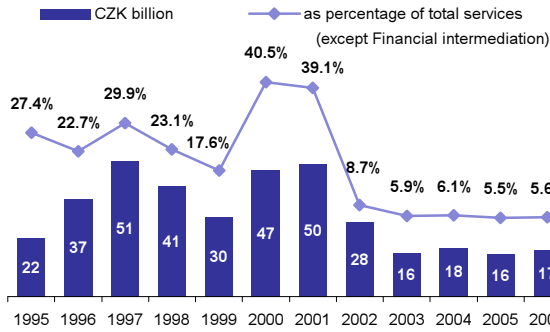
# D Investment and R&D expenditures in ICT

## Table D3 Investment in ICT Services

CZK million

| | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| **Total** | **16 466** | **18 325** | **16 143** | **17 466** |
| national enterprises | 10 322 | 7 594 | 8 069 | 3 401 |
| foreign affiliates | 6 145 | 10 730 | 8 074 | 14 065 |
| ***by Industry (CZ-NACE)*** | | | | |
| 642 Telecommunications | 14 255 | 12 768 | 12 028 | 13 711 |
| 72 Computer and related activities | 2 211 | 5 557 | 4 115 | 3 755 |
| 721 Hardware consultancy | 52 | 65 | 84 | 90 |
| 722 Software consultancy and supply | 1 637 | 4 873 | 3 417 | 2 684 |
| 723 Data processing | 362 | 458 | 264 | 374 |
| 724 Data base activities | 23 | 40 | 17 | 225 |
| 725 Repair of computing machinery | 119 | 103 | 322 | 377 |
| 726 Other computer related activities | 18 | 17 | 12 | 6 |
| ***by size group of enterprise*** | | | | |
| 0 - 19 employees | 1 059 | 1 083 | 1 192 | 1 317 |
| 20 - 49 employees | 659 | 751 | 662 | 642 |
| 50 - 249 employees | 1 606 | 2 704 | 1 776 | 2 077 |
| 250 + employees | 13 142 | 13 786 | 12 512 | 13 430 |
| ***by regions**** | | | | |
| Praha | 10 476 | 12 515 | 8 915 | 9 903 |
| Středočeský | 704 | 645 | 832 | 762 |
| Jihočeský | 547 | 604 | 576 | 704 |
| Plzeňský | 579 | 535 | 845 | 1 545 |
| Karlovarský | 142 | 270 | 204 | 249 |
| Ústecký | 793 | 790 | 527 | 748 |
| Liberecký | 224 | 459 | 353 | 391 |
| Královéhradecký | 686 | 461 | 300 | 330 |
| Pardubický | 350 | 443 | 325 | 477 |
| Vysočina | 190 | 172 | 195 | 374 |
| Jihomoravský | 1 527 | 1 146 | 2 790 | 2 828 |
| Olomoucký | 279 | 260 | 374 | 436 |
| Zlínský | 200 | 266 | 363 | 463 |
| Moravskoslezský | 1 097 | 1 019 | 815 | 1 000 |

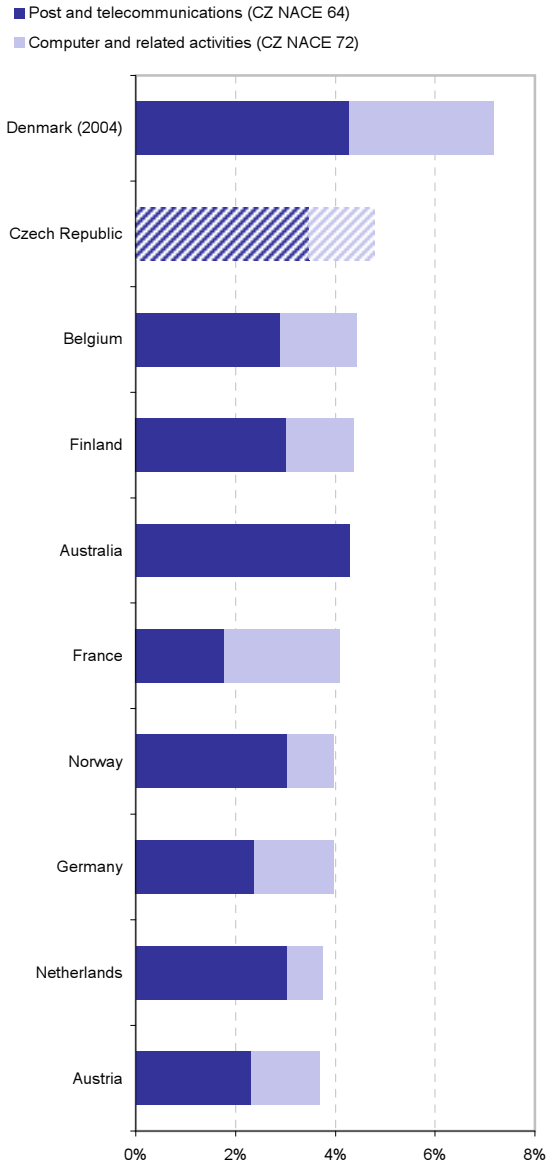
## Figure D5 Investment in ICT Services




** includes also CZ-NACE 641*

*Source: CZSO, Structural Business Survey*

**Figure D6 Investment in ICT Services*, 2005**
**(as percentage of total services)**




** includes also CZ-NACE 641*

*Source: OECD, STAN Indicators Database*

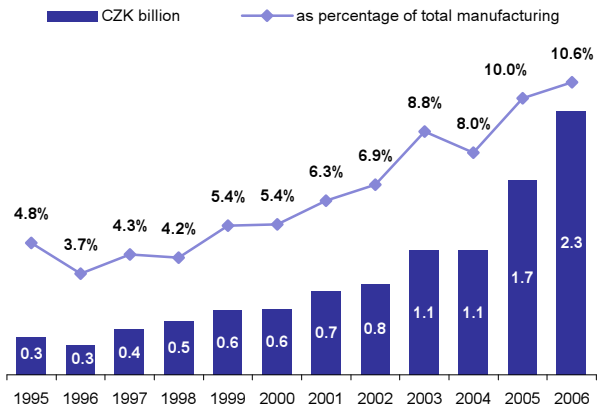
# D Investment and R&D expenditures in ICT

## Table D4 R&D Expenditures in ICT Manufacturing

CZK million

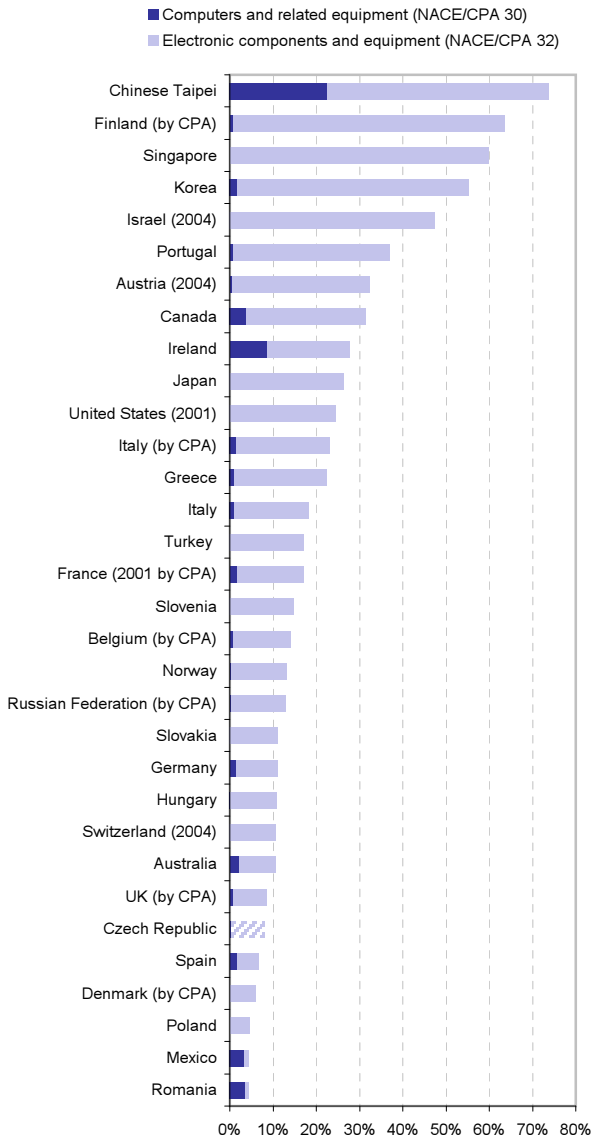
| | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| **Total** | **1 097** | **1 096** | **1 711** | **2 319** |
| national enterprises | 561 | 535 | 656 | 700 |
| foreign affiliates | 537 | 561 | 1 055 | 1 619 |
| ***by Industry (CZ-NACE)*** | | | | |
| 30 Manuf. of computers equipment | 26 | 40 | 46 | 19 |
| 32 M. of radio, TV and commun. equip. | 737 | 755 | 1 320 | 1 357 |
| 321 M. of electronic components | 104 | 166 | 186 | 137 |
| 322 M. of communication equipment | 466 | 456 | 926 | 1 028 |
| 323 M. of consumer electronics | 167 | 133 | 208 | 192 |
| 332 M. of instrum. for measur., testing | 214 | 221 | 244 | 563 |
| 333 M. of ind. process control equip. | 120 | 80 | 101 | 380 |
| ***by size group of enterprise*** | | | | |
| 0 - 19 employees | 13 | 28 | 24 | 31 |
| 20 - 49 employees | 94 | 104 | 75 | 66 |
| 50 - 249 employees | 729 | 709 | 605 | 648 |
| 250 + employees | 261 | 256 | 1 008 | 1 573 |
| ***by regions*** | | | | |
| Praha | 189 | 464 | 943 | 1 321 |
| Středočeský | 313 | 48 | 42 | 274 |
| Jihočeský | 13 | 12 | 9 | 11 |
| Plzeňský | 105 | 75 | 77 | 91 |
| Karlovarský | 1 | 1 | 1 | 1 |
| Ústecký | 2 | 6 | 11 | 3 |
| Liberecký | 25 | 27 | 13 | 28 |
| Královéhradecký | 27 | 32 | 50 | 41 |
| Pardubický | 169 | 145 | 225 | 162 |
| Vysočina | - | 0 | 6 | 6 |
| Jihomoravský | 172 | 136 | 160 | 210 |
| Olomoucký | 1 | 22 | 39 | 10 |
| Zlínský | 70 | 118 | 128 | 148 |
| Moravskoslezský | 11 | 11 | 8 | 12 |

## Figure D7 R&D expenditures in ICT Manufacturing




*Source: CZSO, R&D Database*

**Figure D8 R&D expenditures in selected ICT manufacturing industries, (% of total manufacturing), 2005**




*NACE = by economic activity (industry) of R&D unit*

*CPA = by product field of R&D unit*

*Source: OECD and CZSO calculations*

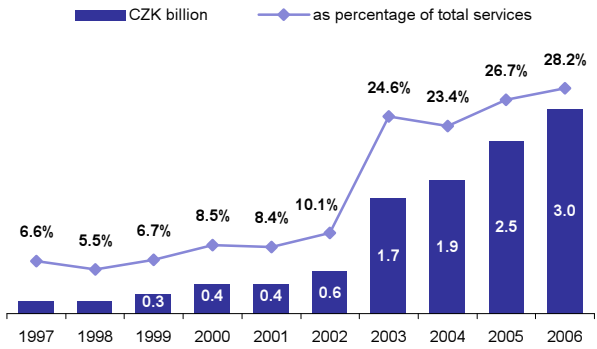
# D Investment and R&D expenditures in ICT

## Table D5 R&D Expenditures in ICT Services

CZK million

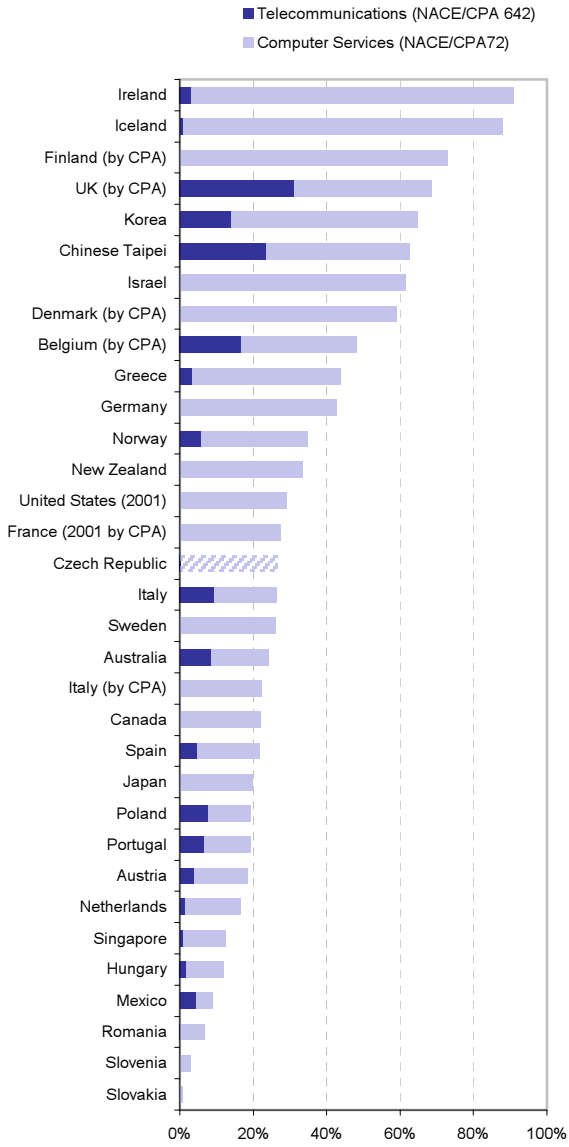
| | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| **Total** | **1 675** | **1 936** | **2 494** | **2 964** |
| national enterprises | 946 | 1 155 | 1 240 | 1 137 |
| foreign affiliates | 729 | 780 | 1 254 | 1 827 |
| ***by Industry (CZ-NACE)*** | | | | |
| 642 Telecommunications | 6 | 14 | 13 | 356 |
| 72 Computer and related activities | 1 669 | 1 921 | 2 481 | 2 608 |
| 721 Hardware consultancy | 3 | 21 | 22 | 21 |
| 722 Software consultancy and supply | 1 258 | 1 451 | 1 864 | 2 101 |
| 723 Data processing | 402 | 439 | 594 | 485 |
| 724 Data base activities | - | - | - | 0 |
| 725 Repair of computing machinery | 5 | 11 | 0 | 1 |
| 726 Other computer related activities | - | - | - | - |
| ***by size group of enterprise*** | | | | |
| 0 - 19 employees | 241 | 265 | 212 | 284 |
| 20 - 49 employees | 370 | 401 | 517 | 616 |
| 50 - 249 employees | 1 062 | 1 033 | 1 326 | 1 302 |
| 250 + employees | 1 | 237 | 439 | 762 |
| ***by regions*** | | | | |
| Praha | 1 078 | 1 253 | 1 748 | 2 346 |
| Středočeský | 47 | 24 | 29 | 14 |
| Jihočeský | 26 | 29 | 33 | 32 |
| Plzeňský | 61 | 82 | 79 | 92 |
| Karlovarský | - | - | - | - |
| Ústecký | 36 | 39 | 48 | 51 |
| Liberecký | 38 | 42 | 28 | 30 |
| Královéhradecký | 22 | 23 | 35 | 24 |
| Pardubický | 24 | 21 | 21 | 48 |
| Vysočina | 40 | 36 | 46 | |
| Jihomoravský | 154 | 278 | 347 | 206 |
| Olomoucký | 38 | 30 | 32 | 61 |
| Zlínský | 39 | 19 | 24 | 27 |
| Moravskoslezský | 72 | 59 | 24 | 33 |

## Figure D9 R&D expenditures in ICT Services




*Source: CZSO, R&D Database*

**Figure D10 R&D expenditures in ICT Services, 2005 (as percentage of total services)**




*NACE = by economic activity (industry) of R&D unit*

*SKP = podle produkce kam výdaje na VaV směřují*

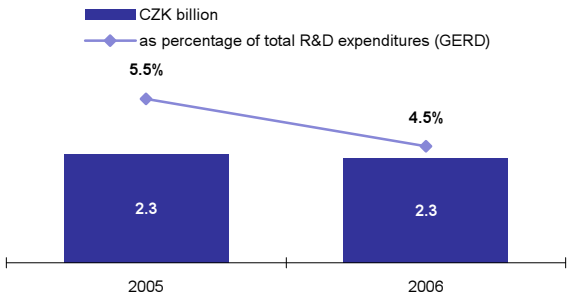
*Source: OECD and CZSO calculations*

**Table D6 Software R&D expenditures**

CZK million

| | 2005 | | 2006 | |
|---|---|---|---|---|
| | total | public funds | total | public funds |
| **Total** | **2 342** | **173** | **2 258** | **225** |
| ***by sector of performance*** | | | | |
| Business Enterprise sector | 2 271 | 108 | 2 152 | 138 |
| Government sector | 10 | 10 | 14 | 13 |
| Higher education sector | 61 | 56 | 90 | 72 |
| Private non-profit sector | 0 | 0 | 2 | 2 |
| ***by Industry (CZ-NACE)*** | | | | |
| Manufacturing | 826 | 21 | 598 | 58 |
| Electricity, gas and water supply | 6 | 0 | 0 | 0 |
| Construction | 75 | 0 | 75 | 0 |
| Wholesale and retail trade | 33 | 9 | 30 | 8 |
| Transport and storage | 0 | 0 | 0 | 0 |
| Post and telecommunications | 0 | 0 | 80 | 0 |
| Financial intermediation | 179 | 3 | 142 | 0 |
| Computer related activities | 1 107 | 62 | 1 129 | 62 |
| Research and Development | 29 | 9 | 49 | 6 |
| Other business activities | 20 | 9 | 27 | 7 |
| Public administration | 1 | 1 | 9 | 9 |
| Education | 61 | 56 | 90 | 72 |
| Health | 0 | 0 | 27 | 0 |
| Other social service | 4 | 4 | 3 | 2 |
| ***by regions*** | | | | |
| Praha | 1 707 | 64 | 1 664 | 137 |
| Středočeský | 24 | 8 | 28 | 6 |
| Jihočeský | 29 | 8 | 21 | 5 |
| Plzeňský | 76 | 2 | 77 | 12 |
| Karlovarský | 0 | 0 | 0 | 0 |
| Ústecký | 5 | 1 | 6 | 0 |
| Liberecký | 1 | 0 | 14 | 0 |
| Královéhradecký | 47 | 1 | 27 | 2 |
| Pardubický | 46 | 1 | 44 | 5 |
| Vysočina | 14 | 0 | 5 | 0 |
| Jihomoravský | 209 | 26 | 202 | 28 |
| Olomoucký | 63 | 6 | 57 | 22 |
| Zlínský | 39 | 3 | 48 | 4 |
| Moravskoslezský | 83 | 52 | 64 | 4 |

**Figure D11 Software R&D expenditures**




*Source: CZSO, R&D Database*

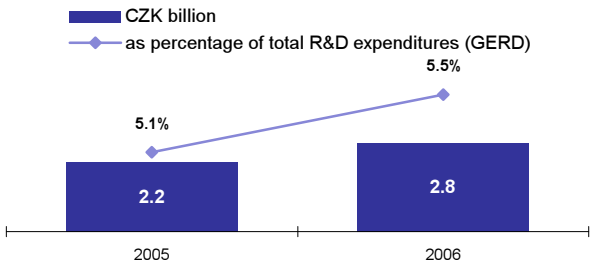
# D Investment and R&D expenditures in ICT

**Table D7 ICT (other than software) R&D expenditures**

CZK million

| | 2005 | | 2006 | |
|---|---|---|---|---|
| | total | public funds | total | public funds |
| **Total** | **2 150** | **788** | **2 758** | **850** |
| ***by sector of performance*** | | | | |
| Business Enterprise sector | 1 763 | 452 | 2 376 | 521 |
| Government sector | 178 | 151 | 230 | 207 |
| Higher education sector | 203 | 183 | 143 | 116 |
| Private non-profit sector | 6 | 2 | 10 | 7 |
| ***by Industry (CZ-NACE)*** | | | | |
| Manufacturing total | 697 | 77 | 974 | 111 |
| Electricity, gas and water supply | 5 | 3 | 1 | 0 |
| Construction | 175 | 7 | 173 | 11 |
| Wholesale and retail trade | 19 | 7 | 29 | 7 |
| Transport and storage | 1 | 1 | 4 | 2 |
| Post and telecommunications | 10 | 7 | 274 | 7 |
| Financial intermediation | 51 | 0 | 59 | 0 |
| Computer related activities | 557 | 273 | 563 | 296 |
| Research and Development | 297 | 162 | 264 | 154 |
| Other business activities | 79 | 18 | 161 | 36 |
| Public administration | 23 | 23 | 48 | 48 |
| Education | 204 | 183 | 144 | 116 |
| Health | 2 | 2 | 1 | 1 |
| Other social service | 31 | 26 | 63 | 62 |
| ***by regions*** | | | | |
| Praha | 1 299 | 595 | 1 999 | 681 |
| Středočeský | 23 | 7 | 29 | 7 |
| Jihočeský | 68 | 52 | 18 | 3 |
| Plzeňský | 83 | 7 | 108 | 0 |
| Karlovarský | 6 | 3 | 4 | 2 |
| Ústecký | 3 | 3 | 5 | 1 |
| Liberecký | 3 | 0 | 45 | 9 |
| Královéhradecký | 21 | 4 | 11 | 3 |
| Pardubický | 148 | 24 | 106 | 25 |
| Vysočina | 38 | 15 | 7 | 1 |
| Jihomoravský | 188 | 46 | 223 | 58 |
| Olomoucký | 139 | 3 | 33 | 24 |
| Zlínský | 68 | 2 | 149 | 31 |
| Moravskoslezský | 63 | 27 | 21 | 5 |

**Figure D12 ICT related (other than software) R&D expenditures**



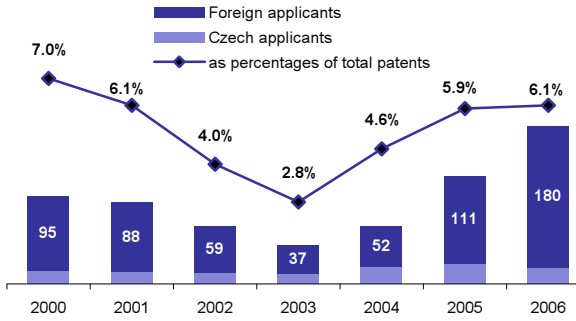

*Source: CZSO, R&D Database*

## Table D8 ICT patents granted in Czech Republic

| | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| **Total** | **50** | **74** | **137** | **201** |
| ***by country of patent applicant*** | | | | |
| Czech applicants | 13 | 22 | 26 | 21 |
| Foreign applicants | 37 | 52 | 111 | 180 |
| Germany | 14 | 19 | 38 | 68 |
| United States (US) | 7 | 13 | 16 | 16 |
| Netherlands | 2 | 2 | 4 | 15 |
| Switzerland | 1 | 2 | 11 | 14 |
| France | 3 | 5 | 5 | 12 |
| Japan | 2 | 5 | 8 | 10 |
| others | 8 | 6 | 29 | 45 |
| ***by ICT patent category*** | | | | |
| Telecommunications | - | 7 | 1 | 4 |
| Audio and video equipment | - | 1 | 1 | 1 |
| Computer and related equipment | 2 | 4 | 6 | 3 |
| Other ICT | 11 | 10 | 18 | 13 |
| ***by Institutional sectors**** | | | | |
| Enterprises | 6 | 14 | 10 | 9 |
| Private persons | 4 | 5 | 10 | 7 |
| Public research institutes | 2 | - | 2 | - |
| Universities | 1 | 3 | 4 | 5 |
| ***by regions**** | | | | |
| Praha | 9 | 8 | 17 | 6 |
| Středočeský | 1 | 2 | 2 | 3 |
| Jihočeský | - | 1 | - | - |
| Plzeňský | - | 1 | 2 | 1 |
| Karlovarský | - | - | - | - |
| Ustecký | - | 2 | 1 | - |
| Liberecký | 1 | - | 1 | 1 |
| Královéhradecký | - | 1 | - | - |
| Pardubický | - | - | - | - |
| Vysočina | - | 1 | - | - |
| Jihomoravský | 1 | 4 | 2 | 6 |
| Olomoucký | - | 2 | 1 | 1 |
| Zlínský | - | - | - | 1 |
| Moravskoslezský | 1 | - | - | 2 |

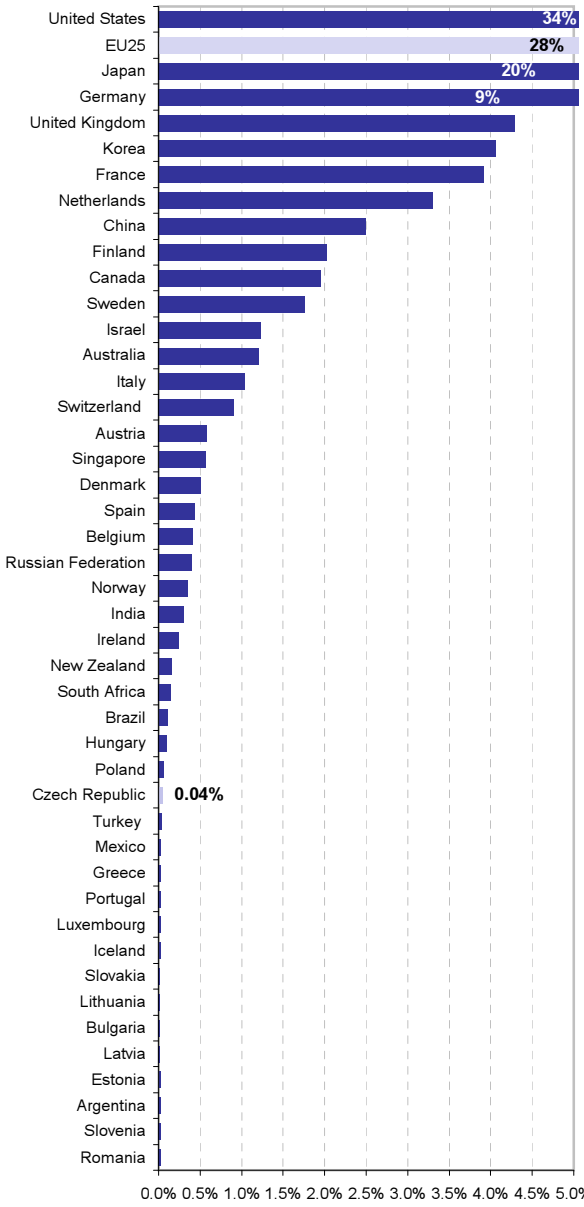
** only for Czech patent applicants*

## Figure D13 ICT patents granted in Czech Republic



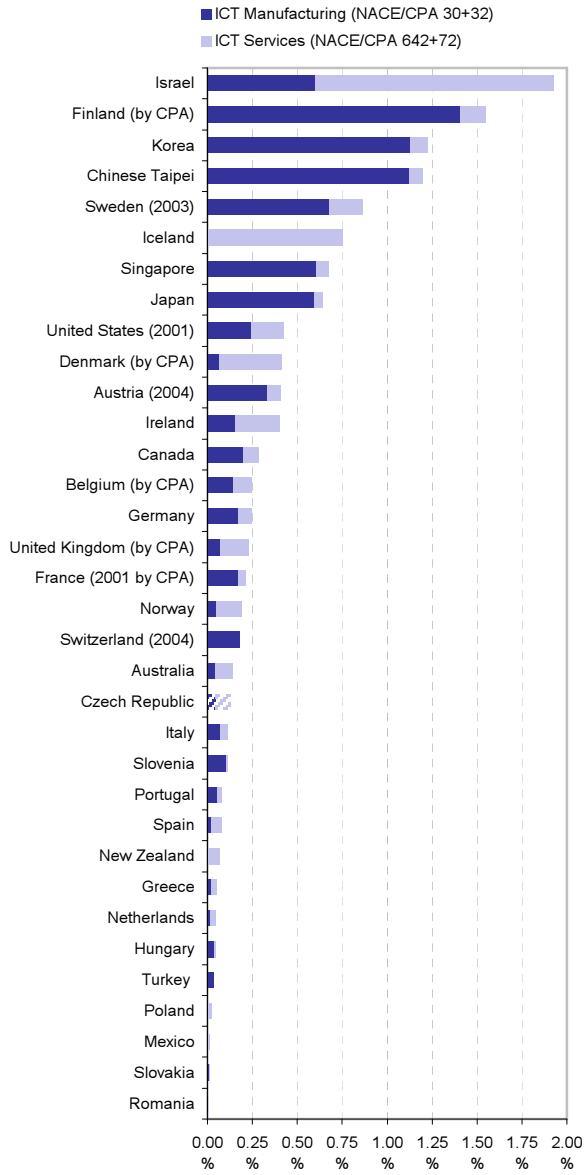

*Source: Patent Office of the Czech Republic and CZSO calculations*

**Figure D14 Share of countries in ICT-related patents filed under the PCT at EPO, 2004**




*Source: OECD*

**Figure D15 R&D expenditures in ICT sector, 2005 (as a percentage of GDP)**




*NACE = by economic activity (industry) of R&D unit*
*CPA = by product field of R&D unit*

*Source: OECD and CZSO calculations*

# Publications

**Use of ICT by Households and Individuals in 2007**

Data on access of households and individuals to selected IC technologies. Use of PC by individuals (place and frequency of use, computer training, PC skills), use of the Internet by individuals (place and frequency of use, Internet skills, purpose of using the Internet - communication, information searching, learning, on-line services, use of the Internet in relation to public administration, internet shopping).

**Use of ICT in the Business Sector in 2006**

Basic data on the penetration, way and level of use of individual state-of-the-art IC technologies and systems by companies and their employees.

**Use of ICT in Public Administration of the CR in 2006**

Penetration and use of selected IC technologies (computer, Internet, providing of information and services on www pages, related security precautions, etc.) in public administration.

**Research and Development Indicators 2006**

Detailed information on the structure of intramural expenditures on R&D including sources of funds and R&D employees broken down by fields of science, socio-economic goals, CZ-NACE activity and size of entities, sex, age and educational attainment of R&D employees.

**Licences in the CR in 2006**

Data on numbers of purchased and sold licence agreements and licence fees paid for them. Data on patent and utility model licence agreements are presented separately. Broken down by CZ-NACE activity, size group of businesses and region

**Government Budget Appropriations or Outlays for R&D (GBAORD) in the CR in 2006**

Detailed annual data on Government Budget Appropriations or Outlays for R&D (GBAORD) broken down by socio-economic objectives. Analytical section containing international comparisons is a part of the publication.

**Innovation in the Czech Republic in 2005**

Data on enterprises that implemented technical, marketing and organisation innovation; expenditure on development and results of these innovation activities in the CR in 2003 - 2005

The results of the most recent survey are available also in English version and free of charge on our web sites.

Other information in English (publications, bulletins and other materials) related to information society statistics can be found at the following dedicated link:

http://www.czso.cz/eng/redakce.nsf/i/information_society