

A ICT Infrastructure

This chapter examines trends in the available **telecommunication and internet infrastructure** measured mainly by number of telephone and broadband subscriptions. Data used in this chapter are collected from the telecommunication or Internet service providers (supply side) and should be distinguished from data based on ICT users' surveys (demand side).

Reference period: end of the year

Definitions:

- **Fixed telephone subscription** refers to a natural person or legal entity connected to the public switched telephone network (PSTN). Number of fixed telephone subscriptions is measured as a number of active **fixed telephone lines**. *VoIP subscriptions are not included here.*
- **Mobile telephone subscription** refers to a natural person or legal entity connected to a public mobile telephone service that provides access to the PSTN using cellular technology and offering voice communication. Number of mobile telephone subscriptions is measured as a number of **SIM cards**. Both **post-paid** and active **prepaid** SIM cards that have been used during the last three months are included. *Note: As one person may use more than one active SIM card, the number of mobile phones can exceeds the number of individuals in total.*
- **The telephone traffic** originated in fixed or mobile telephone networks is measured by means of the number of actually called minutes (real minutes of calling) during the reference year, not the invoiced ones.
- **Broadband subscription** includes both **fixed** (wired and wireless) and **mobile** access to the Internet with nominal speed 256 or more kbit/s, in one or both directions.
- **Fixed broadband subscription by technology** includes:
 - **xDSL (ADSL, SDSL or VDSL)** is technology using digital subscriber line (DSL) and enabling connectivity over ordinary copper telephone lines. *Unlike dial-up, DSL can operate using a single phone line without preventing use of the telephone line for voice phone calls.*
 - **Cable modem (CATV)** - internet service using a modem attached to a Hybrid Fiber Coaxial wiring originally developed to carry television signals (cable television network). *Like xDSL, broadband cable provides a continuous connection with an ISP.*
 - **Fixed wireless access (FWA)** - the terrestrial internet connection by means of a radio systems both in licensed frequency bands (e.g. WiMAX) and in frequency bands with no licence required (Wi-Fi). It is characteristic by the placing of the end point device on a fixed location. *It is included only if these services are used as the transport mechanism of the Internet service provider (ISP).*
 - **Fibre (FTTx)** - optical connections of the type of FTTH (Fibre to the Home), when the optical fibre takes the optical connectivity to the dwelling, and FTTB (Fibre to the Building), when the optical fibre takes the optical connectivity to the building only and indoor the connection is distributed by other means.
- **Mobile broadband subscription by technology** includes:
 - **Standard mobile 3G** subscription via **SIM cards** (only active use),
 - **Dedicated data** subscription based on 3G (CDMA or UMTS) standards offered separately from voice services, either as an **add-on data package** to voice service via **SIM cards** or a **standalone service** using **data cards** or **mobile access sticks** such as USB modems, dongles or keys integrated usually into portable PCs or tablets for continuous connection with an ISP.

Statistical information from the **Czech Telecommunication Office** was used as main data source for the Czech Republic.

The ITU, EC and OECD online databases were used for the international comparison. More information can be found at: <http://www.itu.int/ITU-D/ict/> or <http://www.oecd.org/sti/ict/broadband>

For further information on statistics about ICT infrastructure see:

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

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Tab. A1 Telecommunication infrastructure in the Czech Rep.

Thous./Mill.

	2009	2010	2011
Fixed telephone lines (thous.)	2 070	1 889	1 711
Residential	1 161	989	888
Business	889	882	806
Public payphones	20	18	17
Mobile phone subscriptions (thous. active SIM cards)	14 217	14 359	14 215
Pre-paid cards	7 207	7 072	6 620
Post-paid cards	7 010	7 287	7 595
Outgoing fixed telephone traffic (mil. minutes)	2 964	2 418	2 148
National	2 793	2 274	2 028
International	171	144	120
Outgoing mobile phone traffic (mil. minutes)	13 824	14 954	15 541
National	13 509	14 638	15 209
International	315	316	332

Figure A1 Telephone subscriptions per 100 inhabitants

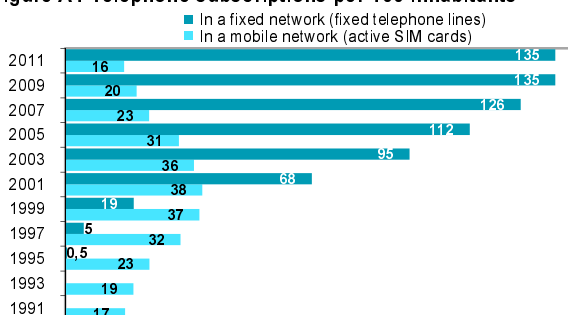


Figure A2 Domestic outgoing telephone traffic (mil. minutes)

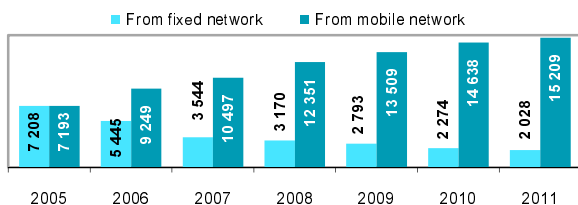
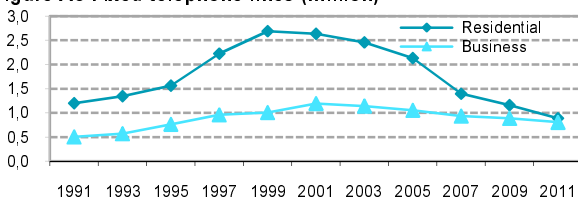


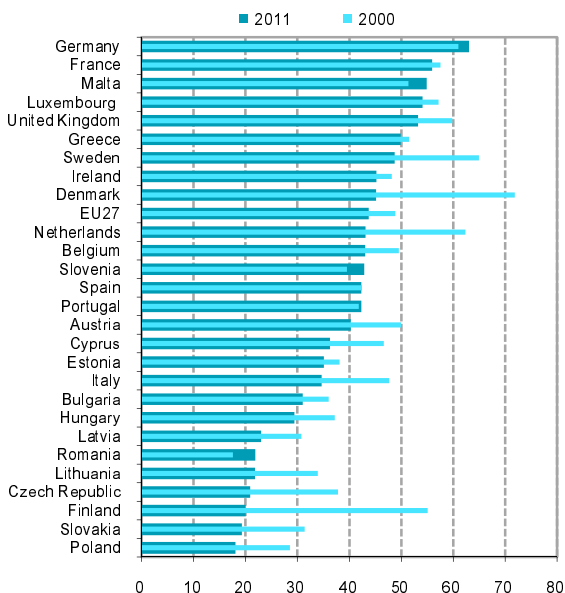
Figure A3 Fixed telephone lines (million)



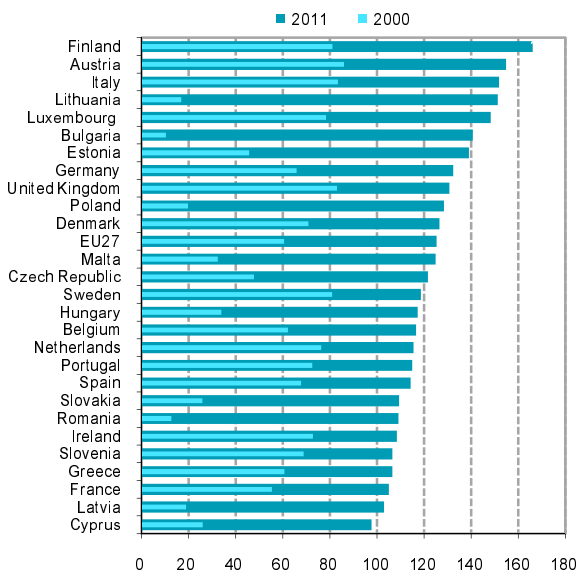
Source: Czech Telecommunication Office

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**Figure A4 Fixed telephone subscriptions
(fixed telephone lines per 100 inhabitants)**



**Figure A5 Mobile phone subscriptions
(active SIM cards per 100 inhabitants)**



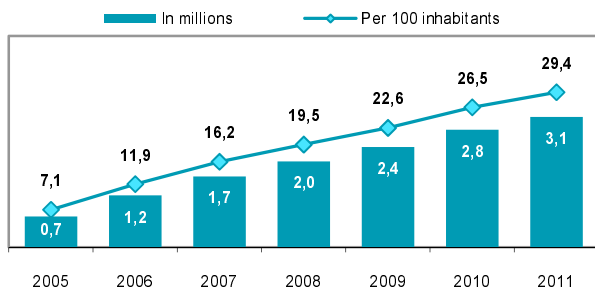
Source: International Telecommunication Union

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Tab. A2 Broadband Internet connection in the Czech Republic

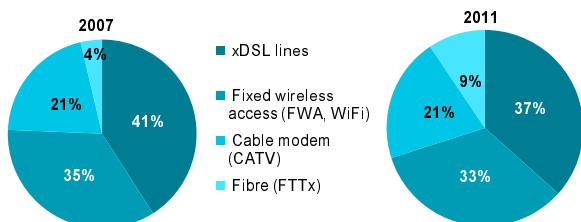
	Subscriptions (thous.)		
	2009	2010	2011
Fixed broadband, total	2 005	2 240	2 508
<i>By technology</i>			
DSL (ADSL) lines	778	859	918
Fixed wireless access (FWA, Wifi)	680	720	839
Cable modem (CATV)	442	481	515
Fibre (FTTx)	105	180	236
<i>By connection speed</i>			
< 2 Mbit/s		191	132
≥ 2 Mbit/s < 10 Mbit/s		1 451	1 491
≥ 10 Mbit/s < 100 Mbit/s		588	868
≥ 100 Mbit/s		10	17
Mobile broadband (CDMA or UMTS), total			4 569
Stand-alone dedicated data subscriptions via data cards/modems/keys only	371	542	578
Dedicated data subscriptions via SIM cards provided independently of voice services			1 353
Internet access using standard mobile subscription via SIM cards			2 638

Figure A6 Permanent broadband subscriptions*



* Any fixed wired broadband connection, a terrestrial fixed wireless access and dedicated data access based on 3G (CDMA or UMTS) standards offered as a standalone service using data cards or mobile access sticks integrated usually into portable PCs or tablets for continuous (permanent) connection.

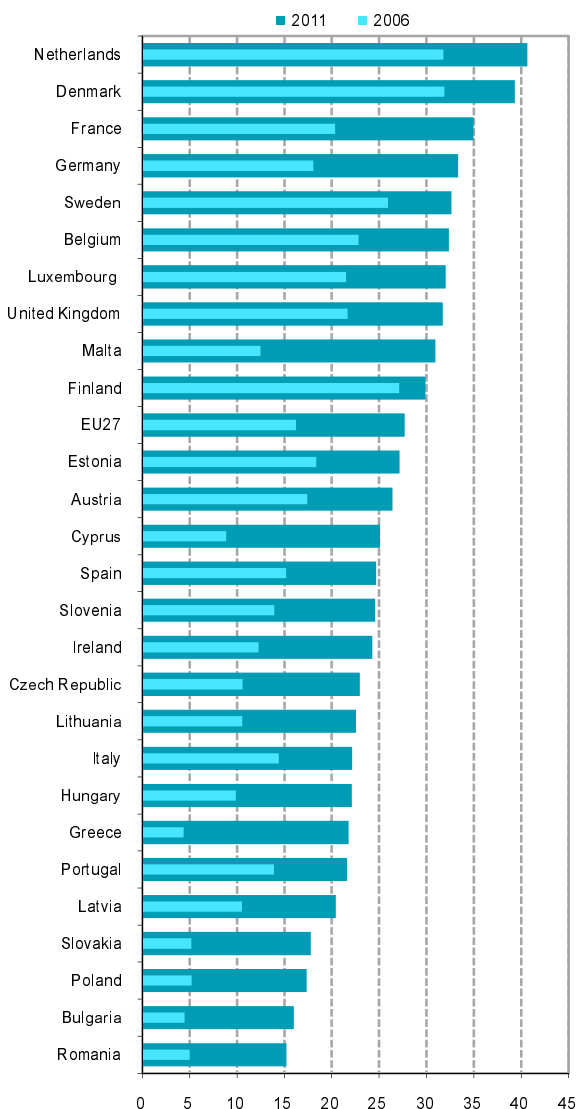
Figure A7 Fixed broadband subscriptions by technology, 2011



Source: Czech Telecommunication Office

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**Figure A8 Fixed broadband subscriptions
(fixed broadband lines per 100 inhabitants)**

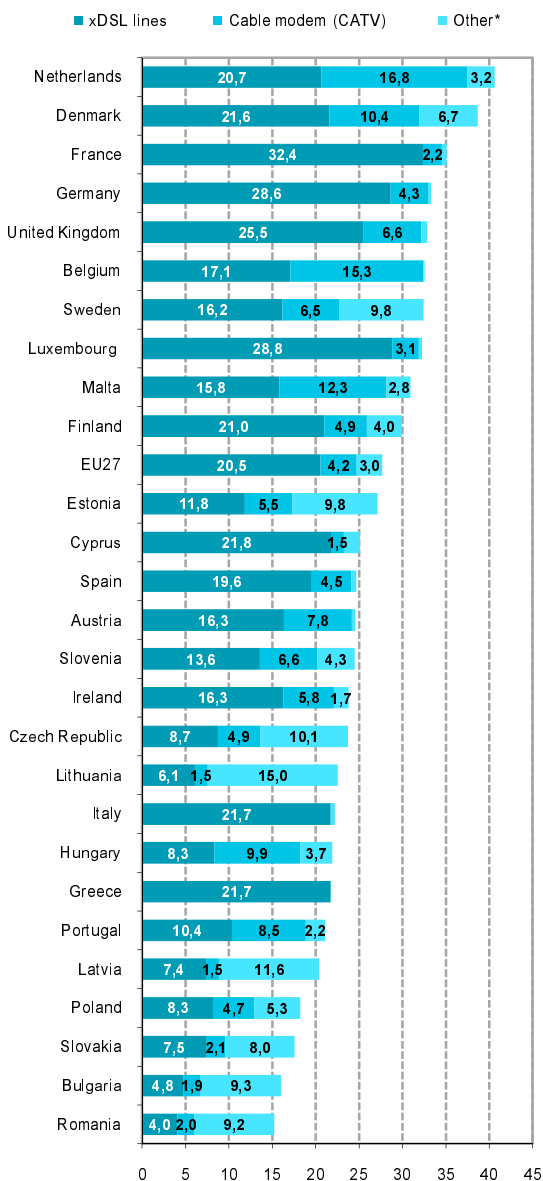


Note: Includes also connection via terrestrial fixed wireless access (FWA) by means of radio signal both in licensed frequency bands (e.g. WiMAX) and in frequency bands with no licence required (Wi-Fi) where the receiving device is placed in a fixed location (building, apartment). Sometimes this alternative is also called WLL (Wireless Local Loop).

Source: CZSO based on the EC (Communications Committee)

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Figure A9 Fixed broadband by technology, 2011
(number of subscriptions per 100 inhabitants)



* A fibre optic line (FTTx) and fixed wireless access (FWA)

Source: CZSO based on the EC (Communications Committee) and OECD