

## A ICT Infrastructure

This chapter examines trends in the available **telecommunication and internet infrastructure** measured by number of telephone and broadband subscriptions. *Data used in this chapter are collected from the telecommunication and 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) including usage of IP telephony (VoIP technology). Number of fixed telephone subscriptions is measured as a number of active **fixed telephone lines (PSTN lines)** and **VoIP fixed line subscriptions (VoIP lines)**.
- **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 active **SIM cards**. Both **post-paid** and active **prepaid** SIM cards that have been used during the last three months are included.
- **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 (wired) broadband subscription by technology** includes:
  - **xDSL** line is a technology using digital subscriber line (DSL) and enabling connectivity over ordinary copper telephone lines. It includes all DSL lines such as ADSL or VDSL.
  - **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.*
  - **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.
- **Fixed (wireless) broadband subscription (FWA)** is the terrestrial internet connection by means of a radio system 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).*
- **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** (<http://www.ctu.eu>) was used as main data source for the Czech Republic.

The **ITU online database** was used for the international comparison. More information can be found at: <http://www.itu.int/ITU-D/ict/>

**For further information on ICT infrastructure see:**

[http://www.czso.cz/eng/redakce.nsf/i/telecommunication\\_infrastructure\\_and\\_internet](http://www.czso.cz/eng/redakce.nsf/i/telecommunication_infrastructure_and_internet)

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Tab. A1 Fixed telephone network in the Czech Republic

	thous./ mil.		
	2010	2011	2012
<b>PSTN lines (thous.)</b>	<b>1 889</b>	<b>1 683</b>	<b>1 515</b>
Residential	989	888	765
Business	882	778	735
Public payphones	18	17	15
<b>VoIP lines (thous.)</b>	<b>462</b>	<b>579</b>	<b>617</b>
Residential	300	319	354
Business	162	260	263
<b>Outgoing phone traffic - PSTN lines (mil. minutes)</b>	<b>2 418</b>	<b>2 156</b>	<b>1 897</b>
National	2 274	2 028	1 786
International	144	128	111
<b>National outgoing phone traffic - VoIP lines (mil. minutes)</b>	<b>489</b>	<b>546</b>	<b>527</b>

Figure A1 Fixed telephone subscriptions - PSTN lines

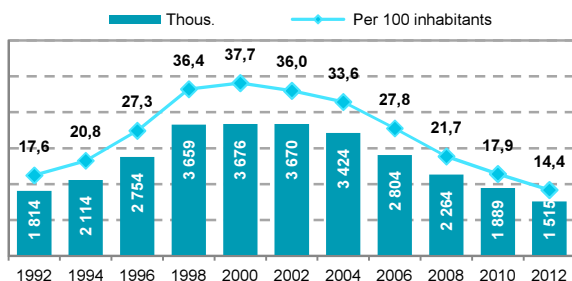


Figure A2 Fixed telephone (PSTN) lines (million)

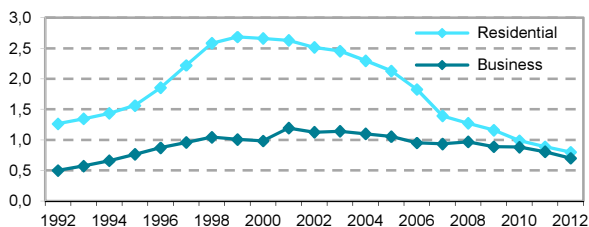
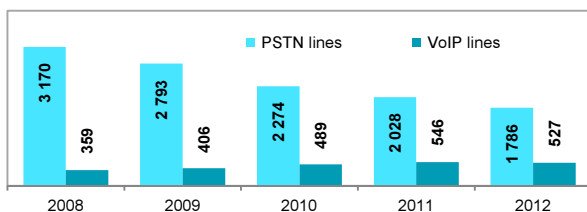


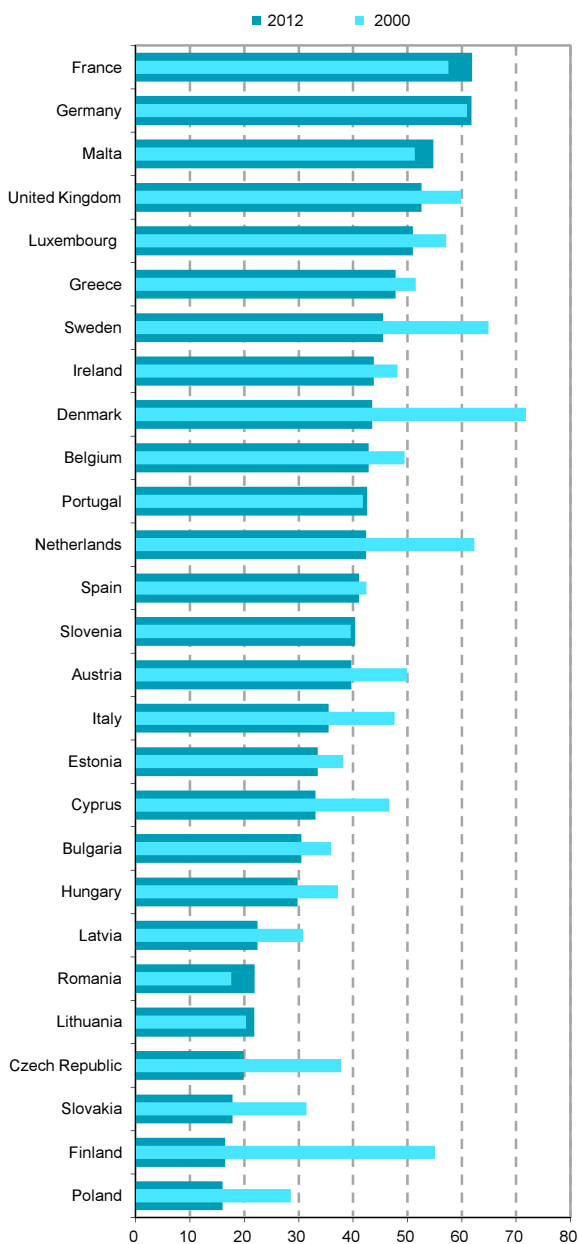
Figure A3 Domestic outgoing telephone traffic in fixed telephone network (mil. minutes)



Source: Czech Telecommunication Office

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**Figure A4 Fixed telephone subscriptions  
(per 100 inhabitants, PSTN and VoIP lines)**



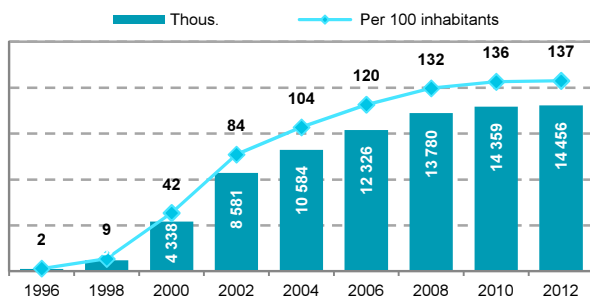
Source: International Telecommunication Union

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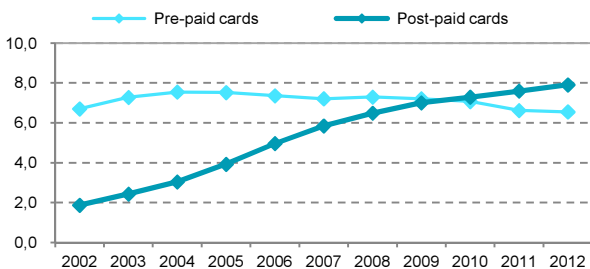
**Tab. A2 Mobile telephone network in the Czech Republic**

	thous./ mil.		
	2010	2011	2012
<b>Subscriptions (thous. active SIM cards)</b>	<b>14 359</b>	<b>14 215</b>	<b>14 456</b>
Pre-paid cards	7 072	6 620	6 548
Post-paid cards	7 287	7 595	7 908
<b>Outgoing mobile phone traffic (mil. min.)</b>	<b>14 954</b>	<b>15 541</b>	<b>16 169</b>
National	14 638	15 209	15 862
International	316	332	307

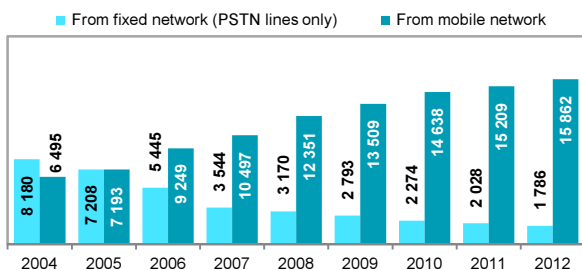
**Figure A5 Mobile telephone subscriptions - Active SIM cards**



**Figure A6 Mobile telephone subscriptions by type of used SIM card (million)**



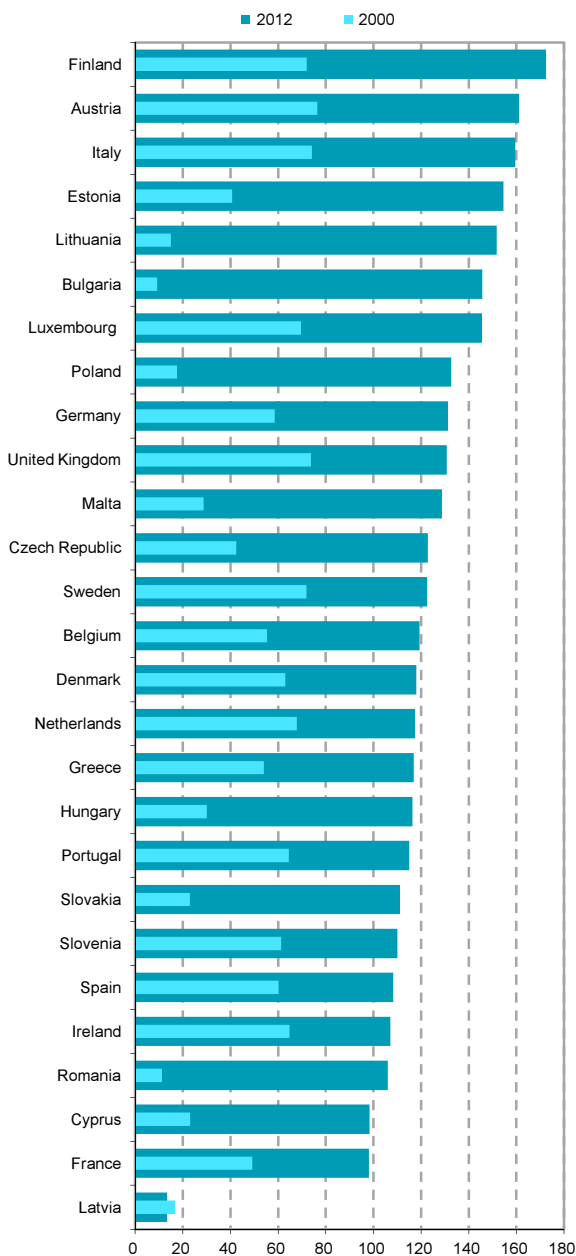
**Figure A7 Domestic outgoing telephone traffic (mil. minutes)**



Source: Czech Telecommunication Office

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**Figure A8 Mobile phone subscriptions  
(active SIM cards per 100 inhabitants)**



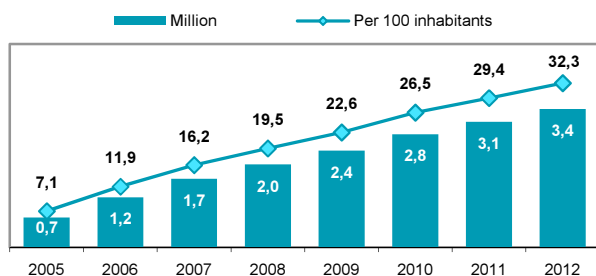
Source: International Telecommunication Union

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**Tab. A3 Broadband network in the Czech Republic**

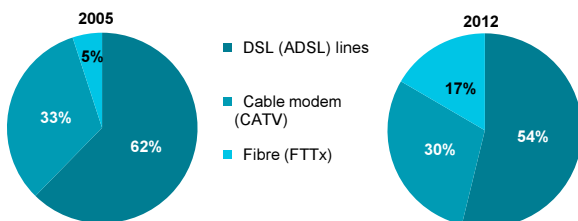
	Subscriptions (thous.)		
	2010	2011	2012
<b>Fixed wired broadband, total</b>	<b>1 534</b>	<b>1 670</b>	<b>1 767</b>
<i>By technology:</i>			
DSL (ADSL) lines	859	918	951
Cable modem (CATV)	481	516	523
Fibre (FTTx)	194	236	293
<i>By connection speed:</i>			
< 2 Mbit/s	45	38	5
≥ 2 Mbit/s < 10 Mbit/s	941	882	781
≥ 10 Mbit/s < 100 Mbit/s	538	733	938
≥ 100 Mbit/s	10	17	43
<b>Fixed wireless broadband, total</b>	<b>713</b>	<b>847</b>	<b>985</b>
<i>By connection speed:</i>			
< 2 Mbit/s	147	96	75
≥ 2 Mbit/s < 10 Mbit/s	514	614	641
≥ 10 Mbit/s < 100 Mbit/s	52	137	265
≥ 100 Mbit/s	0	0	4
<b>Mobile broadband, total</b>		<b>4 569</b>	<b>4 643</b>
Dedicated data subscriptions for stand-alone services via data cards/keys only	542	578	647
Dedicated data subscriptions via SIM cards provided independently of voice services		1 353	2 133
Internet access using standard mobile subscription via SIM cards		2 638	1 863

**Figure A9 Permanent broadband subscriptions\***



\* Does not include mobile connection via SIM cards

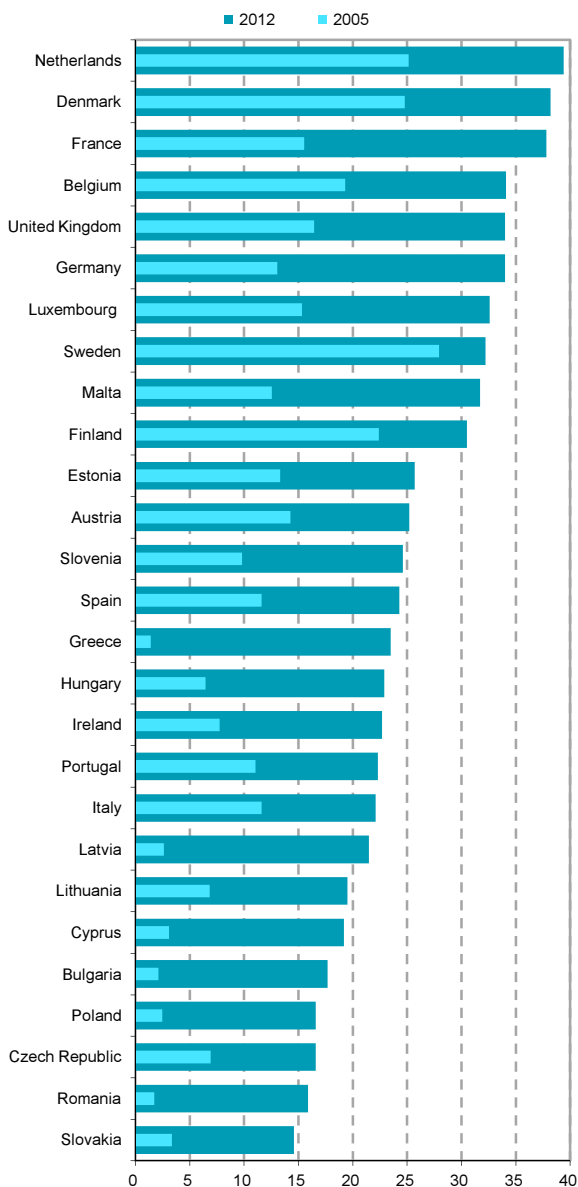
**Figure A10 Fixed wired broadband subscriptions**



Source: Czech Telecommunication Office

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**Figure A11 Fixed wired broadband subscriptions  
(per 100 inhabitants)**

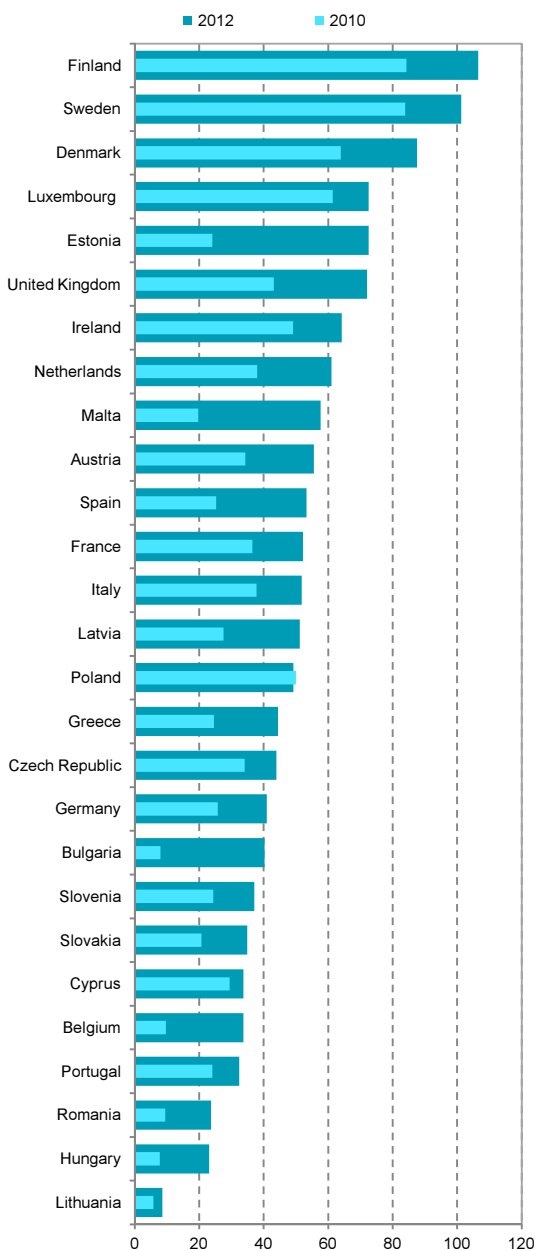


*Note: Does not include fixed wireless access (FWA, WiFi) and mobile broadband connections.*

*Source: ITU Database 2013*

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**Figure A12 Mobile broadband subscriptions  
(per 100 inhabitants)**



Source: ITU Database 2013