The main sources for the data presented in this document are National Regulatory Authorities (NRAs), exceptions are noted. A methodological workshop with representatives from NRAs took place in September 2011. Furthermore, draft versions of the charts and data tables were distributed to the NRAs for validation and comments.

The source for the population figures is Eurostat.

The source for the exchange rates is the European Central Bank. Prices are in Euros. Purchase power parity methodology is not used for the specific objective of this Report.

In each Report figures from previous years are revised, therefore the figure for a certain date may diverge from previous Reports.

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1. FINANCIAL INDICATORS

1.1 Revenues and investments of the telecom sector

All wholesale and retail revenues of electronic communications are included excluding VAT. In case of investments, all telecommunications network investments (both tangible and intangible) are included. License fees are excluded from investments.
Table 1: Electronic communications sector revenues by Member State

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Figure 1: Electronic communications sector revenues at EU level, 2010

Electronic communications sector revenues, 2010

- Mobile 45.6%
- Fixed 44.2%
- Pay TV 4.9%
- Other 5.3%

Figure 2: Telecom investment over revenue, 2010

Telecom investment as a % of revenue, 2010
Figure 3: Telecom revenues growth, 2009-2010

Telecom revenue growth, 2009-2010

-10.7% 
-7.1% 
-4.8% 
-4.8% 
-4.6% 
-4.0% 
-3.5% 
-3.1% 
-2.8% 
-2.8% 
-2.4% 
-1.9% 
-0.5% 

Figure 4: Telecom investment growth, 2009-2010

Austria: Investments in acquiring property (land and building) are not included.

Belgium: From 2010, the BIPT only publishes revenue information from 11 telecom operators (Belgacom NV, KPN Group Belgium, BT Limited, Colt Telecom, Mobistar Enterprise services, Mobistar, Numéricable, Telenet, Verizon Belgium Luxemburg NV, Brutélé, Tecteo).

Denmark: Pay TV includes only revenue from mobile and fixed IPTV.

Germany: Mobile: Data include estimations. Data for mobile includes investments in software. Intangible investments are not included. Fixed revenues partially include pay TV.

France: Licences fees are included in the investment data in 2010.

Ireland: Pay TV revenues refer to cable TV revenues only.
Italy: Pay TV including IPTV, & mobile TV services Sky and Mediaset pay TV revenues. Investments: Cfr Agcom annual Report 2011, table 2.8, page 90.

Portugal: Fixed voice, retail fixed broadband and retail pay TV revenues are estimates. Operators do not provide the bundled revenues split by service. Estimates were made according to EC criteria (the relative value of the different components was calculated by looking at competitors' similar stand-alone products). "Other" includes Leased Lines revenues. Investment figures are estimates. Fix investments include investment in fixed telephony and all investment in fibre optics.

1.2 Average Revenue per Minute (ARPM) in mobile communications

All retail voice related revenues (including also monthly fees, which give free minutes allowances) are considered. In case of service bundles (where for example data and voice services are included in one package) the related voice revenues are estimated. Wholesale revenues (such as interconnection) and not voice related revenues (such as SMS, MMS, data, content and handset revenues) are excluded. VAT is also excluded. As for traffic, all outgoing retail voice minutes are included regardless of the call types (all call directions including roaming and free minute allowances, too). Due to the change in the definition figures may not be comparable with those of previous years.

Figure 5: Average Revenue per Minute (ARPM) in mobile communications, 2010

ARPM is calculated based on actual voice minutes except for Malta, Hungary, Italy and France, where billed minutes were used.

Germany: Data include estimations. Revenues with monthly fees which were allocated to voice services could partially also include broadband and other services. Retail voice related revenues include all monthly fees.

1.3 Average Revenue per User (ARPU) in mobile communications

ARPU is defined as the total retail revenues of mobile communications (excluding device revenues and VAT) divided by the average number of subscribers (number of subscribers at
the beginning and end of the year divided by two). Due to the change in the definition figures may not be comparable with those of previous years.

Figure 6: Average Revenue per User (ARPU), 2010

Germany: Data include estimations.
2. MOBILE MARKET

2.1 Mobile penetration and market share

Figure 7: Mobile subscribers and penetration rate at EU level, October 2004 – October 2011

Figure 8: Mobile penetration rate, October 2010 – October 2011
Figure 9: Mobile subscribers: prepaid and monthly paid, October 2011

Figure 10: Mobile market share based on subscribers at EU level, October 2004 - October 2011
Figure 11: Mobile market share based on subscribers, October 2011

Figure 12: Share of Machine-to-Machine SIM cards, October 2011
Data on market shares for The Netherlands, Greece and the UK come from Screen Digest.

**Austria**: Date as of 01/07/2011.

**Denmark**: Date as of 01/07/2011.

**Finland**: Mobile subscriptions are as of 30/06/2011 and 30/06/2010. Subscriptions do not include M2M subscriptions.

**France**: Commercial launch of the 4th MNO was on 10/01/12.

**Luxembourg**: Date as of 01/07/2010 and 01/07/2011.

**Poland**: One of the MNOs provides only wholesale mobile services.

**Portugal**: Postpaid includes hybrid tariff plans.

**Romania**: Date as of 01/07 of the respective year. The number of subscribers only includes the number of mobile telephony voice subscribers (the number of mobile broadband-only subscriptions are not included). Calculating with the population figures of the 2011 Census, mobile penetration would be 124.8% in July 2010 and 123.9% in July 2011.

**Slovenia**: Number of mobile network operators with an active LTE network: 2 mobile network operators in testing phase.

### 2.2 Mobile number portability

Mobile number portability enables subscribers to retain their number when moving from one operator to another.
Figures are provided by NRAs and include the number of transactions calculated up to 1 October each year. Data also include the maximum number of days taken to port a number based on the definition of the regulatory framework (the maximum time between the conclusion of the agreement to port a number /when the agreement takes into effect/, and the activation of the number at the new operator /i.e. the end of the porting process/. Those cases are excluded where the customer requests to port a number later than the standard timing proposed by the operator. The time needed for porting is shown for portings from the major mobile operator (operator with the highest market share in terms of revenue) to the second largest operator. Wholesale charges refer to the amount charged by the leading operator to the recipient operators for porting a geographic number (excluding VAT). Definitions have been revised on number portability, figures are not comparable with previous reports.

**Figure 14: Mobile number portability – transactions as a % of total subscriptions, 2010-2011**

![Mobile number portability transactions, 2010 (Jan-Sept) - 2011 (Jan-Sept)](image)

**Figure 15: Mobile number portability – maximum wholesale charges, October 2010 – October 2011**

![Charges of mobile number portability, October 2010 - October 2011](image)
Figure 16: Number of days needed to port a mobile number (regulatory framework definition), October 2010 - October 2011

*Definition of the regulatory framework*

**Belgium**: In practise the recipient operator doesn't charge for porting a number (maximum retail price allowed in legislation is 15 euro). Wholesale charges are not applied in practice. Time needed based on the regulatory framework definition is 65 minutes. Total time needed is 1 working days for simple installation and 2 working days for complex installation.

**Cyprus**: Number of days refers to working days.

**Denmark**: Transactions cover only the first half of 2010 and 2011.

**Estonia**: Ratio of ported numbers and reserved numbers that are issued for operator use. It is an estimated value. Ratio can be up to 3% depending how to count the number of active end-users. The time count (regulatory framework definition) starts when the communication contract with new operator has been entered into force and the activation of the number is being taken place at the new operator (on agreed date and time for porting). Total time depends on customer and recipient operator when they are ready (both legally and technically) to port. Generally, the number porting takes place at the earliest possible time. In practice it takes maximum 8 working days for mobile numbers and according to regulation it is allowed.

**Greece**: The number of transactions as % of total numbers is calculated on the basis of subscribers. In mobile telephony the number of active subscribers is used.

**Finland**: The time needed for porting a number - regulatory framework reflects the maximum time set by FICORA's regulation. The number has to be ported in 5 working days from the porting request sent by the recipient operator. Total time for porting a number is not measured, but there is no reason for the recipient operator to delay its porting request after making a contract with the customer.

**Italy**: Some operators foreseen a price of 10 €, but always special conditions apply and the real retail price is 0 €. The time between when recipient send the portability request to the donor and when portability is applied is 3 working days (if the request is accepted). The request is rejected only for technical reasons. Data are not in homogeneous terms with previous report.

**Luxembourg**: Wholesale price: medium price to pay to database manager for mobile, Retail: no tariff announced. Total number of active numbers is less than attributed numbers (1 million). Time needed is based on an ILR decision (maximum 3 days, 90% realised in 1 day).

**Portugal**: According to present Number Portability Regulation, recipient provider manages the time to the portability from 2 working days on. 2 working days are then the minimum time to port defined to donor in portability request. Number Portability Regulation does not define a maximum time to recipient in fixed
telephony, but defines 3 working days to recipient in mobile telephony. New Number Portability Regulation, pending final decision, foresees 1 working days to recipient in both portability situations.

2.3 Mobile interconnection

Figure 17: Interconnection charges for terminating calls on mobile networks at EU level, 2005-2011

Ireland: Rates are the Irish average rate, weighted by subscriptions. The rate is reviewed every 6 months and updated effective 30 June and 31 December.

Italy: Termination rate depends on the mobile operator. 2010: 6.6 €cent (Vodafone and Telecom Italia Mobile), 7.2 €cent (Wind) and 9 €cent (H3G) - prices valid from 1 July 2010. 2011: 5.3 €cent (Telecom Italia Mobile, Vodafone and Wind), 6.3 €cent (H3G) - prices valid from 1 July 2011.

Lithuania: IC charges are the same for all mobile operators.

Luxembourg: Approved tariffs.

Poland: Data refers to the three incumbent MNOs (PTC, PTK and Polkomtel). There are different charges for the other operators: from 0.379 PLN to 0.65 PLN in 2010 and from 0.1520 PLN to 0.4106 PLN in 2011.

Portugal: Mobile termination rates (MTR) result from ICP-ANACOM's determination of May 2010 (http://www.anacom.pt/render.jsp?contentId=1026957). MTRs apply symmetrically to all three MNOs deemed with significant market power in the wholesale market for voice call termination in mobile networks. Fixed-Mobile MTRs are the same as Mobile-Mobile.
2.4 Traffic

Figure 19: Voice traffic on fixed and mobile networks at EU level, 2005-2010
Figure 20: Voice traffic on fixed and mobile networks, 2010


**UK**: Mobile volumes exclude calls made while roaming.
3. FIXED MARKET

3.1 Fixed market share

This section shows the incumbents’ market share in fixed voice telephony markets.

In addition to the overall fixed voice telephony market, submarkets for fixed calls to mobile networks, national fixed calls (including PSTN local calls, local calls to internet, long-distance calls and fixed calls to mobile networks) and international fixed calls are also shown.

Figures for market shares are calculated based on outgoing minutes of traffic. The EU averages are weighted on the population of each Member State.

The figures include managed Voice over IP services (VoIP) and calls made from public payphones. Traffic from peer-to-peer VoIP, simple reselling and calling cards are excluded. However, the above criteria are not followed by all Member States. For this reason the figures are not strictly comparable between countries.

Figure 21: Incumbents’ overall average market share on the fixed voice telephony market at EU level, 2004-2010
Incumbent's market share in the different segments of the market

The following charts show the incumbents’ market share in the national, international and fixed to mobile calls markets by minutes of outgoing traffic. The national calls market includes local phone calls, local calls to internet, long-distance calls and fixed calls to mobile networks. Figures are not available for some Member States.

Figure 23: Incumbent's market share – national calls by volume, 2009-2010

Incumbents’ market share - all national fixed calls by traffic volume, 2009-2010
Figure 24: Incumbent's market share – international calls by volume, 2009-2010

![Incumbents’ market share - international calls by traffic volume, 2009-2010](image)

Austria: Calls to service numbers are not included.

Germany: National fixed calls include (corresponding to the definition given by European Commission) calls made to the internet.

Italy: Source: Agcom Annual Report 2011, raw data.

Poland: National Fixed calls refer to local and long distance calls. All national calls are local, long distance calls and calls to mobile. All fixed calls are local, long distance calls, calls to mobile and international calls.

VoIP market share

The following chart shows the available data for operators’ market share on the voice over internet market. The market shares have been calculated on the basis of outgoing minutes of
traffic for all fixed calls. The figures consider only managed VoIP services meaning Publicly Available Telephone Services (PATS) using Voice over Internet Protocol technology), whereby the operator controls the quality of service provided through an IP network, at a speed over 128 Kbit/sec. Unmanaged Voice over IP and peer-to-peer services are not included. However, the above criteria are not followed by all Member States and the figures are not strictly comparable between countries.

Figure 26: Market share of VoIP operators by volume, 2010

Bulgaria: Fixed voice telephony, provided over IP based networks through the geographic numbers from the National numbering plan is not treated as a separate voice service, as far as the operators observe the legal requirement on the quality of the voice service.

Denmark: The reported market share includes minutes from both managed and unmanaged VoIP.

Spain: These figures do not include Internet lines used by applications that allow telephone calls through Internet.

Finland: Estimated based on number of subscriptions.

3.2 Direct access

Direct access means that customers buy services from an alternative operator using the incumbents’ or another operator's network via Local Loop Unbundling. The table below shows what percentage of national and international calls were made through direct access in 2011. It is also presented, what percentage of direct access customers used the incumbents’ networks.
**Figure 27:** Number of alternative operators offering voice telephony through direct access, July 2011

**Figure 28:** EU subscribers using an alternative provider for fixed voice services, July 2009 – July 2011
Figure 29: Subscribers using an alternative provider, July 2011

![Figure 29: Subscribers using an alternative provider, July 2011](image)

Austria: Number of operators is an estimate.

Belgium: Scarlet excluded. Market shares are as of 01/01/2010 and 01/01/2011.

Germany: Operators as of 01/07/2010: Only operators with more than 100 access lines. Operators as of 01/07/2011: Including operators with less than 100 access lines. Proprietary infrastructure as of 01/07/2010 and 01/07/2011: Cable- and FTTB/FTTH-operators. Market share data is based on estimates.

Lithuania: Proprietary infrastructure includes IP operators, cable TV and other operators, that provide fixed telephony

Poland: No data on the number of alternative operators who are actually offering public voice telephony through direct access for 2011.

Slovenia: Number of alternative VoIP operators: 11.
UK: For LLU the figures given are the number of agreements with BT - the actual number of operators providing service will be smaller; data for proprietary infrastructure operators is not available. The proportion of subscribers using a provider other than BT for national and international calls will be slightly understated as they exclude BT lines using CPS and Wholesale Calls; direct access figures are calculated as direct access operator share plus that of cable operators and other licensed operators (including those using full LLU) but excludes WLR connections.

3.3 Fixed number portability

Fixed number portability enables subscribers to retain their number when moving from one operator to another.

Figures are provided by NRAs and include the number of transactions calculated up to 1 October each year. Data also include the maximum number of days taken to port a number based on the definition of the regulatory framework (the maximum time between the conclusion of the agreement to port a number /when the agreement takes into effect/, and the activation of the number at the new operator /i.e. the end of the porting process/. Those cases are excluded where the customer requests to port a number later than the standard timing proposed by the operator. The time needed for porting is shown for portings from the major mobile operator (operator with the highest market share in terms of revenue) to the second largest operator. Wholesale charges refer to the amount charged by the leading operator to the recipient operators for porting a geographic number (excluding VAT). Definitions have been revised on number portability, figures are not comparable with previous reports.

Figure 31: Fixed number portability – transactions as a % of total subscriptions, 2010-2011
Figure 32: Fixed number portability – wholesale charge, October 2010 – October 2011

![Charges of fixed number portability, October 2010 - October 2011](image)

Figure 33: Fixed number portability - number of days to port a number (regulatory framework definition), October 2010 – October 2011

![Number of days needed to port a fixed number, October 2010 - October 2011](image)

**Belgium**: In practice the recipient operator doesn't charge for porting a number but no maximum retail price foreseen in legislation. Wholesale price per installation is 4.692 euro for simple installation and 71.222 euro for complex installation. Regulatory framework definition: 2 working days; total time needed: 3 working days simple installation and 4 working days complex installation.

**Bulgaria**: The time limit for portability is the same for all operators - 7 working days for single number ported and 10 working days for a group of numbers. If there are reasons for interruption of the number portability process (such as: unpaid invoices) an extension of the term (from 30 days) could be applied.

**Cyprus**: Number of days refers to working days.

**Denmark**: Transactions cover only the first half of 2010 and 2011.

**Estonia**: Ratio of ported numbers and reserved numbers that are issued for operator use. It is an estimated value. Ratio can be up to 3% depending how to count the number of active end-users. The time count (regulatory
framework definition) starts when the communication contract with new operator has been entered into force and the activation of the number at the new operator (on agreed date and time for porting). Total time depends on customer and recipient operator when they are ready (both legally and technically) to port. Generally, the number porting takes place at the earliest possible time. In practice it takes maximum 10 working days for fix numbers and according to regulation it is allowed.

**Greece:** The time needed for porting a fixed number includes the time needed for LLU activation. The number of transactions as % of total numbers is calculated on the basis of subscribers.

**Finland:** The time needed for porting a number (regulatory framework definition) reflects the maximum time set by FICORA's regulation. The number has to be ported in 5 working days from the porting request sent by the recipient operator. Total time for porting a number is not measured, but there is no reason for the recipient operator to delay its porting request after making a contract with the customer.

**Luxembourg:** Transactions equal to ported numbers for fixed networks in the considered period.

**Portugal:** According to present Number Portability Regulation, recipient provider manages the time to the portability from 2 working days on. 2 working days are then the minimum time to port defined to donor in portability request. Number Portability Regulation does not define a maximum time to recipient in fixed telephony, but defines 3 working days to recipient in mobile telephony. New Number Portability Regulation, pending final decision, foresees 1 working day to recipient in both portability situations.

**Sweden:** Time needed for porting a business-number in fixed network is 10 days.

### 3.4 Fixed interconnection

Figure 34: Fix interconnection charges for call termination on incumbent's network at EU level, October 2005 – October 2011
Figure 35: Interconnection charges – Local level, October 2010 – October 2011

![Bar chart showing interconnection charges for terminating calls on incumbent’s fixed network, €-cents, October 2010 - October 2011.](image)

Figure 36: Interconnection charges – Single transit, October 2010 – October 2011

![Bar chart showing interconnection charges for terminating calls on incumbent’s fixed network, €-cents, October 2010 - October 2011.](image)
**Czech Republic:** Double transit price is not regulated.

**Spain:** Data is only provided for time based interconnection rates, which represents 67.16% of total revenues and 54.17% for total minutes.

**Finland:** Based on the average of 32 SMP-operators call termination charges.

**France:** As for local, the value stated is the price cap as set by ARCEP, which is blended peak/off-peak. Single and double transit termination services are not regulated any longer in France, since the underlying markets have been found competitive.

**Luxembourg:** Double transit is not applied; figures are based on approved RIO tariffs.

**UK:** Charges calculated based on peak rates. Double transit rate shown applies where distance between transits is less than 100 km. Higher charges apply where distance is above this.
4. BROADBAND MARKET

4.1 Broadband access definitions

Information has been provided by the national regulatory authorities through the COCOM questionnaires on data for broadband access. Given the rapid developments in this sector, it has been agreed with NRAs to collect data twice a year (every January and July). Unless otherwise stated, the data below refer to the market situation on 1 January 2012.

Definitions are as follows:

- **Broadband connection**: An internet connection enabling higher than 144 Kbit/s download speed.

- **DSL**: Digital Subscriber Line

- **Cable broadband**: Broadband internet connections by means of cable TV access.

- **WLL**: Broadband internet connections by means of wireless local loop (sometimes referred to as fixed wireless access).

- **L.L. or Other traditional wireline access**: Broadband internet connections by means of dedicated capacity (Leased Lines) provided over metallic copper pairs, including tail ends or partial circuits. “Incumbent's leased lines” include only retail lines and excludes lines provided to other operators. “New entrants' leased lines” include all retail lines provided to end users, even if based on wholesale lines supplied by the incumbent.

- **Satellite internet**: Broadband internet connections via satellite.

- **Powerline communications**: Broadband internet transmitted over utility power lines.

- **NGA**: Next Generation Access technologies including VDSL, FTTH, FTTB, Cable NGA and other NGA as defined below.

- **VDSL**: Very high bitrate digital subscriber line. It uses copper networks in the access. Typically the physical network interface at the delivery point at subscriber's home is an RJ-11 type connector. Fibre to the Node + vDSL lines are included in this category. VDSL is deployed over existing wiring used for analogue telephone service and lower-speed DSL connections.

- **FTTH**: Fibre to the Home. A communications architecture in which the final connection to the subscriber’s premises is Optical Fibre. The fibre optic communications path is terminated on or in the premise for the purpose of carrying communications to a single subscriber. In order to be classified as FTTH, the access fibre must cross the subscriber’s premises boundary and terminate:
  - inside the premises, or
  - on an external wall of the subscriber’s premises, or
  - not more than 2m from an external wall of the subscriber’s premises.
FTTH services may deliver just one application, but generally deliver several such as data, voice and video. This FTTH definition excludes architectures where the optical fibre terminates in public or private space before reaching the premises and where the access path.

- **FTTB**: Fibre to the Building: An optical fibre reaches the boundary of the building, such as the basement in a multi-dwelling unit, and the final connection to the subscriber’s premises is a physical medium other than Optical Fibre.

- **NGA cable**: Lines transmitting very high-speed data transfer on an existing coaxial cable TV network. Typically the physical network interface at the delivery point at subscriber's home is an F connector type.

- **Other NGA**: Technologies other than FTTH, FTTB, VDSL and Cable NGA, which are capable of at least 30 Mbps download (headline speed).

- **Incumbents**: Organisations having enjoyed special and exclusive rights or de facto monopoly for the provision of voice telephony services before liberalisation, regardless of the role played in the provision of access by means of technologies alternative to the PSTN.

- **New entrant**: Alternative telecommunications operators, as well as internet service providers (ISPs).

- **Fully unbundled lines**: Fully unbundled lines supplied by the incumbent operator to other operators (new entrants), excluding experimental lines. In the case of full unbundling, a copper pair is rented to a third party for its exclusive use. As fully unbundled lines (LLU) supplied by the incumbent operator to the new entrants could in principle be used for services other than broadband, the total number of LLU for access to internet can be lower than the total number of LLU.

- **Shared access lines**: Shared access lines supplied by the incumbent to other operators (new entrants), excluding experimental lines. In the case of shared access, the incumbent continues to provide telephony service, while the new entrant delivers high-speed data services over the same local loop.

- **Bitstream access**: It refers to the situation where the incumbent installs a high-speed access link to the customer premises, and makes this access link available to third parties (new entrants) to enable them to provide high-speed services to customers. Bitstream depends in part on the PSTN, and may include other networks such as the ATM network. Bitstream access is a wholesale product that consists of the provision of transmission capacity in such a way as to allow new entrants to offer their own, value-added services to their clients. The incumbent may also provide transmission services to its competitor, to carry traffic to a 'higher' level in the network hierarchy where new entrants may already have a broadband point of presence.

- **Simple resale**: In contrast to bitstream access, simple resale occurs when a new entrant receives and sells on to end users a product (with no possibility of value added features to the DSL part of the service) that is commercially similar to the DSL product provided by the incumbent to its own retail customers, irrespective of the ISP service that may be packaged with it. Resale offers are not a substitute for bitstream access because they do not allow new entrants to differentiate their services from those of the incumbent (i.e. when the new entrant simply resells the end-to-end service provided to him by the incumbent on a wholesale basis).
- **Retail access**: Access provided to end users.

- **Mobile broadband**: internet access on third generation technologies (3G) and higher speed mobile technologies (i.e., HSPA or LTE). In the case of UMTS the unit of reference is SIM/USIM cards (including modem/dongles). For the CDMA standard, the unit of measurement should be the number of User Equipments.

- **Mobile broadband – standard mobile subscriptions**: Number of subscriptions which have made a mobile internet connection in the last 90 days through a standard mobile subscription. Standard mobile subscriptions are typical voice subscriptions which also provide access to the internet but are not purchased separately. Standard mobile subscriptions exclude dedicated mobile internet subscriptions. A mobile internet connection is a connection to the open internet using Internet Protocol (IP). Hence, subscriptions which only offer “walled garden” or email-only services (or SMS/MMS only) are not considered. Those subscriptions are also excluded, where the offering allows access to the open internet but only a "walled garden" or email services were used. Bundled offers (i.e. voice and data access) for a unique (flat rate) tariff are to be counted if a data connection has been made in last 3 months.

- **Mobile broadband - Dedicated data subscriptions for stand-alone services via cards/modems/keys only**: Number of subscriptions to dedicated data services over a mobile network which are purchased separately from voice services as a stand alone service (modem/dongle), i.e. excluding mobile handset users. All dedicated data subscriptions with a recurring subscription fee are included as "active data subscriptions", regardless of actual use. Pre-paid mobile broadband plans (i.e. all non- recurrent fee subscriptions) require active use in previous 3 months. Subscriptions which only offer “walled garden” or email-only services (or SMS/MMS only) are not considered. Bundled offers (i.e., voice and data access) are excluded.

**Dedicated data subscriptions for add-on data package to a voice service requiring an additional subscription**: Number of subscriptions to dedicated data services over a mobile network which are purchased separately from voice services as an add-on data package to voice service which require an additional subscription (i.e. excluding datacards/dongles). Recurrent fee subscriptions (i.e., contract) are included automatically. Prepaid subscriptions (or any other type of non-recurrent subscription) need to pass the activity criterion (usage occurred in the last 3 months). Subscriptions which only offer “walled garden” or email-only services (or SMS/MMS only) are not considered. Bundled offers (i.e., voice and data access) are excluded.

### 4.2 Wholesale access

This section shows the availability of fixed wholesale access lines supplied by incumbent operators to new entrants. Separate figures are provided for fully unbundled lines, shared access, bitstream access and resale.
Table 2: Number of wholesale lines and agreements (full LLU, shared lines, bitstream and resale lines) on 1 January 2012

<table>
<thead>
<tr>
<th>Country</th>
<th>Incumbent's PSTN activated main lines</th>
<th>Availability of wholesale access</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fully unbundled lines</td>
<td>Shared access lines supplied by the incumbent’s PSTN</td>
</tr>
<tr>
<td></td>
<td>Unbundled lines</td>
<td>FUL Requested lines</td>
</tr>
<tr>
<td>BE</td>
<td>2 942 929</td>
<td>97 548</td>
</tr>
<tr>
<td>BG</td>
<td>1 623 109</td>
<td>N/A</td>
</tr>
<tr>
<td>CZ</td>
<td>1 582 000</td>
<td>46 000</td>
</tr>
<tr>
<td>DK</td>
<td>1 527 029</td>
<td>1 439 079</td>
</tr>
<tr>
<td>DE</td>
<td>32 539 000</td>
<td>9 598 000</td>
</tr>
<tr>
<td>EE</td>
<td>382 807</td>
<td>7 063</td>
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<tr>
<td>EL</td>
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<td>1 642 183</td>
</tr>
<tr>
<td>ES</td>
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<td>2 676 128</td>
</tr>
<tr>
<td>FR</td>
<td>9 476 000</td>
<td>8 866 000</td>
</tr>
<tr>
<td>IE</td>
<td>1 430 102</td>
<td>13 510</td>
</tr>
<tr>
<td>IT</td>
<td>14 680 934</td>
<td>4 952 965</td>
</tr>
<tr>
<td>CY</td>
<td>360 147</td>
<td>31 282</td>
</tr>
<tr>
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<td>623</td>
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<tr>
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<td>FI</td>
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<td>SE</td>
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<td>245 520</td>
</tr>
<tr>
<td>UK</td>
<td>confidential</td>
<td>confidential</td>
</tr>
</tbody>
</table>
**Germany:** Incumbent wholesale lines: Public payphones, bitstream access and simple resale are not included in the incumbents' activated main lines.

**Finland:** There are 28 SMP operators in Finland. SMP operators are operating as incumbent in their own operating area and as entrant in others incumbents' operating areas. FICORA only collects data at country level. Consequently, incumbent/new entrant data is not available. Incumbent activated main lines includes all the 28 SMP operators' activated lines from their own operating areas and from others incumbents' operating areas.

### 4.3 Retail fixed broadband access

This section provides information on fixed broadband access lines by incumbents (and their subsidiaries or partners) and by new entrants (alternative telecom operators or Internet Service Providers) to end-users.

**Figure 38: Fixed broadband lines at EU level, January 2004 - January 2012**

**Figure 39: Fixed broadband penetration at EU level, January 2004 - January 2012**
Figure 40: Fixed broadband lines growth per day at EU level, January 2004 - January 2012

Figure 41: Fixed broadband lines, January 2012
Figure 42: Fixed broadband penetration, January 2012

Figure 43: Fixed broadband penetration and speed of progress, January 2011 – January 2012
Figure 44: NGA lines as a percentage of total broadband lines, January 2012

NGA (FTTH, FTTB, VDSL, Cable Docsis 3.0 and other NGA) lines as a % of total broadband lines, January 2012

EL CY IT AT FR PL UK LU DE EU DK SI ES PT NL IE SK FI SE EE LV CZ BG BE MT LT RO

Figure 45: NGA penetration, January 2012

NGA penetration (NGA lines as a % of population), January 2012

EL CY IT PL AT FR UK LU DE EU SI PT SK ES HU BG DK IE LV CZ FI EE NL SE RO LT BE MT
Figure 46: Fixed broadband lines – operator market shares at EU level, January 2006 – January 2012

Figure 47: Fixed broadband lines – net adds per day by operator at EU level, January 2006 – January 2012
Figure 48: Fixed broadband lines – operator market shares, January 2012

Figure 49: Fixed broadband lines – new entrants’ market share, January 2010 – January 2012
Figure 50: Fixed broadband lines – operator market shares at EU level (resale shown separately), January 2012

Figure 51: Fixed broadband lines – operator market shares at EU level (resale shown separately), January 2006 – January 2012
Figure 52: Fixed broadband lines – incumbents' market share excluding/including resale lines, January 2012

Figure 53: Fixed broadband lines – technology market shares at EU level, January 2006 – January 2012
Figure 54: Fixed broadband lines – technology market shares, January 2012

Figure 55: Fixed broadband net adds by technology at EU level, January 2006 – January 2012
Figure 56: DSL lines, January 2012

Figure 57: DSL lines and market share at EU level, January 2006 – January 2012
Figure 58: DSL lines – operator market shares at EU level, January 2006 - January 2012

Figure 59: DSL lines – operator market shares, January 2012
Figure 60: DSL lines – new entrants’ market share, January 2010 - January 2012

Figure 61: New entrants’ DSL lines by type of access at EU level, January 2012
Figure 62: New entrants’ DSL lines by type of access at EU level, January 2009 - January 2012

Figure 63: New entrants’ DSL lines by type of access, January 2012
Figure 64: Cable internet lines, January 2012

Figure 65: Cable internet lines at EU level, January 2006 - January 2012
Historical figures on fixed broadband take-up by operators and technologies have been revised by the UK, Sweden and Finland, which has also changed EU averages.

**Czech Republic:** Numbers of FWA and FTTx retail broadband lines have been estimated

**Germany:** Retail broadband lines: VDSL included in new entrants' DSL figures. New entrants' VDSL figures are based on estimates. New entrants' own network DSL figures are based on estimates. Full ULL includes wholesale DSL lines (bitstream access, DSL resale) supplied by alternative operators to other alternative operators on the basis of unbundled local loops provided by the incumbent. Bitstream access includes only bitstream access lines supplied by the incumbent to new entrants. For resale only DSL resale lines supplied by the incumbent to new entrants are included. For FWA, number of subscribers is reported. In case of cable modem and cable NGA, lines on cable infrastructures based on FTTB/FTTH are excluded. In case of cable NGA, lines with a capacity equal to or higher than 30 Mbps are reported. Other wireline access supplied by the incumbent refers to the estimated number of leased lines, other wireline access supplied by new entrants refers to the estimated number of leased lines and powerline access lines. Fibre lines (FTTB/FTTH) include fibre lines provided by cable operators. Total number of new entrant operators (incl. municipalities): Broadband services are also offered by clubs in Germany. Broadband services of clubs are not included.

**Finland:** There are 28 SMP operators in Finland. SMP operators are operating as incumbent in their own operating area and as entrant in others incumbents' operating areas. FICORA only collects data at country level. Consequently, incumbent/entrant data is not available. NGA/Cable includes subscriptions which are offered with Docsis 3.0 technology (Docsis 3.0 is used in the network and in the end user premise). Normally, all the cable television networks are upgraded to Docsis 3.0, but not all the end user have Docsis 3.0 equipments in use. NGA/Fiber to the building - Ethernet + LAN (FTTB) includes fibre/ethernet, fibre/HomePNA and fibre to building subscriptions.

**Denmark:** DSL includes VDSL lines. 'Other' consist of LAN-, 'Fiber to the Business'- and 'Other' subscriptions (all speeds). VDSL consist of DSL subscriptions with a least 30 Mbps download. Fiber to the building consist of LAN subscriptions with a least 30 Mbps download. NGA cable consist of cable subscriptions with at least 30 Mbps download. 'Other NGA' consist of FWA- 'Fiber to the Business'- and 'Other'- subscriptions with at least 30 Mbps. Total number of new entrants is excl. municipalities.

**Ireland:** LLU / bitstream are wholesale products sold by the incumbent to OAOs. Figures do not capture all broadband providers in Ireland.

**Lithuania:** Incumbents’ ULL lines are used in retail level by new entrants for the provision other data transmission services (e.g. VPN) and 120 lines are used for provision of broadband (BB) Internet access services.
Romania: Calculating with the population figures of the 2011 Census, fixed broadband penetration would be 15.6% in January 2011 and 17.1% in January 2012.

UK: Figures differ from those published by Ofcom as the wholesale connection data used is prepared on a RSS basis rather than a WSS basis.

4.4 Fixed broadband lines by speed

Figure 67: Fixed broadband lines by speed at EU level, January 2008 – January 2012

Figure 68: Fixed broadband lines by speed, January 2012
Figure 69: Very high speed fixed broadband lines, January 2012

Figure 70: Basic and high-speed (at least 30 Mbps) broadband penetration, January 2012
Austria: Values in speed categories estimated.

Germany: Other wireline access supplied by the incumbent refers to the estimated number of leased lines, other wireline access supplied by new entrants refers to the estimated number of leased lines and power line access lines. Figures for DSL/VDSL provided by new entrants are based on estimates.

Lithuania: According to the RRT questionnaire, operators provide information about subscribers by speeds “downstream speed rates that are ensured”, thus is submitted slightly lower rate.

4.5 Retail mobile broadband access

Figure 72: Mobile broadband at EU level, January 2009 - January 2012
Figure 73: Mobile broadband – all active users, January 2012

Figure 74: Mobile broadband penetration – all active users, January 2012
Figure 75: Mobile broadband users – dedicated data service cards/modems/keys only, January 2012

Figure 76: Mobile broadband penetration – dedicated data service cards/modems/keys only, January 2012

**Austria:** For post-paid, only those with at least 250 MB per month are included.

**Germany:** Data include estimations.

**Finland:** The number of dedicated data subscriptions for stand-alone services via cards/modems/keys only is estimated. Estimate is based on the sum of the number of i) mobile broadband with monthly fee and no data cap (1,989,500) and ii) mobile broadband with monthly fee and data cap (1,558,300) and the sum (3,547,800) is multiplied by 80 %. Based on FICORA’s customer research 80 % use mobile broadband (without or with data caps) via laptops or tablets, 20 % use it via desktop pc and 20 % use it via mobile phone (many use mobile broadband with many terminals and there is no restrictions of terminals used by operators).

**France:** Figures are estimates.

**Latvia:** GPRS users are also included. Excluding GSM/GPRS technologies, there was an increase of 3G and higher speed mobile technologies (13% compared to 1 July 2011).
Romania: Calculating with the population figures of the 2011 Census, mobile broadband penetration would be 15.9% for all active users and 5.8% for dedicated devices only as of January 2012.

4.6 Price of the local loop

This section illustrates the cost of connection and monthly rental for both Fully Unbundled Access (full LLU) and Shared Access (SA) to the loop. Monthly rental and connection fees are presented as well as the total average monthly cost, which is calculated as the monthly fee + the connection fee amortised over three years.

Unless otherwise stated in the footnotes, connection fees include the technical expertise to assess the speed that can be conveyed through and the disconnection fees (where applicable). Furthermore, only the price for a single line is presented here (charges may be different in the case of subsequent access). It is assumed that the loop is active and it will be used to provide both telephony and DSL services. Unless otherwise stated, figures exclude a whole range of additional one-off costs that may exist in some Member States like cost of co-location, cost for the cable termination point, cost for installation at the end-user premises, etc.

Data is not always comparable with those of the previous reports, due to changes in methodology in some countries.

The following charts illustrate the monthly total cost for the full Local Loop Unbundling and Shared Access (connection and monthly fees) based on the assumption that the loop is used for three years. The EU average since 2005 is also shown.

Figure 77: LLU monthly average total cost at EU level, October 2005 – October 2011
Figure 78: LLU monthly average total cost, October 2011

Figure 79: LLU monthly average total cost per fully unbundled loop, October 2010 – October 2011
Figure 80: LLU monthly average total cost per shared access, October 2010 – October 2011

Figure 81: LLU connection cost per fully unbundled loop, October 2010 – October 2011
Austria: No installation or connection fee applies during promotion periods.

Cyprus: Connection charge is 45.07 euro for an active and 90.15 euro for an inactive line.

Finland: Weighted average of 28 SMP operators providing ULL.

Ireland: Shared access connection charge with successful completion (existing metallic path – access seeker provides exchange splitter).

Italy: 53.90 and 57.4 Euros connection prices are charged for a non-active copper pair, and do not include the cost to test the maximum access speed and the disconnection fees. Connection prices for active copper pair (without number portability) are 36.77€ (2010) and 34.90€ (2011), and do not include the cost to test the maximum access speed and the disconnection fees. Cost to test the maximum access speed (ULL and shared access): 7.71€ (2010), 8.38€ (2011). Disconnection fees ULL: 33.60€ (2010), 34.30€ (2011). Disconnection fee shared access: 30.65€ (2010), 27.60€ (2011).

Lithuania: The cost of the test to access, disconnection cost, and frequency splitter's price are included.

Luxembourg: Approved RUO tariffs.

Poland: Co-location costs are not included. Splitter prices are also not included because the price depends on the incumbent's cost estimate (the price is not included in the reference offer). As for shared access, 22 PLN applies both to active links and inactive links. As for full LLU, 55.51 PLN applies to the active link, the fees for the inactive link are 143.83 PLN. 5.81 PLN applies to the active link, the fee for the inactive link is 22 PLN.

Portugal: The connection price is applicable for the connection of active loops. Additional prices are applicable to non-active loops. The connection price includes the eligibility analysis. The remote test to assess the speed is not mandatory. In the case of shared access the splitter is always provided by the access seeker.

UK: There are additional charges if there is no connection to the premise. Cease charge is levied if the rental is discontinued (£ 5.22 in 2010, £5.37 in 2011).
5. CONVERGED SERVICES - BUNDLED OFFERS

Fixed broadband offers are increasingly bundled to other services (e.g.: fixed telephony or television). Although bundling is hard to measure (sometimes services in one offer are invoiced separately, sometimes not), it is becoming a key element of electronic communications markets.

A bundled offer means a commercial offer of two or more services (fixed public telephony services, access to TV programs, broadband internet access and mobile services) marketed as a single offer and offered for a single price.

Data in this section is purely indicative and can be complemented with the Eurostat E-Communications Household survey.

Figure 85: Bundled offer penetration, July 2011

Austria: Date as of 31/12/2010.
Belgium: Date as of 01/01/2011.
Bulgaria: Data as of 31/12/2010. 1729 subscribers not included in the total as they use special bundles offers (such as: CVPN and Data VPN; Voice VPN, data VPN and Internet access; Voice services through numbers with national access code “99x” type and Internet access).
Germany: Data for Double Play is based on estimates. Triple Play: Access to TV programs, broadband internet access and fixed voice telephony is often marketed as a single offer by cable operators but not for a single price. Therefore, the plurality of Triple Play offers provided by cable operators does not go in line with the definition given by the European Commission.
Italy: Including Telecom Italia, Vodafone, Wind, Fastweb, H3g, Tiscali, Eutelia, Carrefour, Poste Mobile and Daily Telecom.
Luxembourg: A bundled offer means an advantage for the customer by subscribing to more services.
Portugal: Date as of 01/10/2011.
UK: Figures are estimates based on Ofcom consumer research; 3% of respondents claimed to have a bundle but were not able to confirm how many bundles or what type of bundle, so are not allocated to a bundle type in the
table above (but are counted in the total figure; a small number of households claim to have more than one bundle, so sub-totals (and any subsequent adding together) may contain a small amount of double counting.

**Romania**: Calculating with the population figures of the 2011 Census, bundled offers penetration would be 14.7%.
6. BROADCASTING

Figure 86: Household penetration of different broadcasting services, July 2011

Figure 87: IPTV household penetration, July 2011

Belgium: Date as of 01/01/2011. Data for satellite TV is not available.
Bulgaria: Date as of 31/12/2010.
Cyprus: Satellite is an estimate.
Germany: Excluding DVB-T (1.700.000) Source: SES ASTRA.
Finland: Figures are based on customer research made by Finnpanel. There were also 1.22 million terrestrial TV households. Satellite TV and IPTV are mostly supplementary platforms to cable and terrestrial TV.
France: Sources: Mediametrie, Q2 2011 for satellite TV access and cable TV access. ARCEP for IPTV.

Ireland: Source: Nielsen TV Audience Measurement Establishment Survey on behalf of TAM Ireland.

Italy: Satellite TV subscriptions refer to Sky Italia.

Lithuania: Cable TV includes MMDS.


The Netherlands: DVB-T is excluded.

UK: Date as of end 2010.

Romania: Calculating with the household figures of the 2011 Census, TV platforms penetration would be 31.1% for satellite, 49.1% for cable and 0.5% for IPTV.