Digital Agenda Scoreboard 2014
Electronic communications market indicators: Definitions, methodology and footnotes on Member State data

**Broadband indicators**

**Definitions**

- **Broadband connection**: a connection enabling higher than 144 Kbit/s download speed. As of January 2010 it is estimated that 1-2 Mbps is the minimum download speed and that just a fraction of all retail broadband lines provide speeds of 144 Kbit/s.

- **Broadband penetration**: Broadband subscription lines as a percentage of population.

- **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).

- **DSL**: Digital Subscriber Line.

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

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

- **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 would be a RJ-11 type connector. Fibre to the Node + vDSL lines should be included in this category. VDSL is deployed over existing wiring used for analog 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 continues to the subscriber over a physical medium other than optical fibre (for example copper loops, power cables, wireless and/or coax).¹

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

- **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 would be 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).

- **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 will 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 that 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).

- **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 an Internet mobile connection in the last 90 days through a standard mobile subscription. Standard mobile subscriptions are typical voice subscriptions which also

¹ Source: FTTH Council
provide access to the Internet but are not purchased separately. Standard mobile subscription excludes dedicated Internet mobile subscriptions. An Internet mobile 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) as well as those offering access to the open Internet but that only have made access to “walled garden” and email-only services in the last three months will not be considered. 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) will not be 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. Prepayment subscriptions (or any other type of non-recurrent subscription) need to pass the activity criterion (a usage occurred in the last 3 months). Subscriptions which only offer “walled garden” or email-only services (or SMS/MMS only) will not be considered. Bundled offers (i.e., voice and data access) are excluded.

**Methodology**

The data (except for broadband coverage and broadband retail prices) have been collected by the European Commission, Communications Networks, Content and Technology Directorate General, from national ministries and regulatory authorities except when noted. The definitions have been agreed in the Communications Committee (COCOM).

In some cases information for some types of access is not available. In a number of countries certain figures are estimates, as the National Regulatory Authorities had not received consolidated data from operators. It should also be noted that in some cases information only refers to major broadband access providers and that broadband access lines provided by small operators are not included.

This report includes information from all 28 Member States.

Data should be interpreted taking the below comments of Member States into consideration:

**Belgium**

*Mobile broadband:* Mobile broadband subscriptions are those of the mobile network operators and one full MVNO. Mobile broadband traffic is the retail traffic of the three mobile network operators.

**Bulgaria**

The data as of 1st of January 2014 is based on estimations.
Germany

*Wholesale:* Incumbent activated main lines including retail analogue, ISDN and All-IP access lines. Wholesale unbundled lines, shared lines, bitstream access and simple resale are also included.

*Retail lines:* VDSL included in new entrants’ DSL figures for own network, Full LLU, shared access, bitstream access and DSL resale.

New entrants’ own network DSL and VDSL 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, the 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.

Public access WiFi Hotspots: Data based on estimates.

Fiber lines (FTTB/FTTH) including fiber 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.

Percentage of all broadband subscriptions and percentage of NGA broadband subscriptions provided by municipalities: data based on estimates.

*Retail lines by speed:* 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.

Croatia

*Speed data:* The data is not available for the speed categories.

Finland

*Incumbent wholesale lines:* There were 28 SMP operators in 2013. SMP operators are operating as the incumbent in their own operating area and as entrants in other incumbents' operating areas. FICORA only collects data at country level. Therefore, the split between incumbent and new entrant data is not available. Incumbent activated main lines include all operators' activated lines from their own operating areas and from other incumbent's operating areas.

*Retail lines by speed:* FICORA only collects data at country level. Therefore, the split between incumbent and new entrant data is not available. FICORA does not collect speed data by technologies.
*Mobile broadband*: Data subscriptions are estimates.

**France**

*Retail lines by speed*: Some subscriptions cannot be broken down between speed categories. VDSL lines are broken down between lines with an effective speed <30 Mbit/s and lines with an effective speed ≥ 30 Mbit/s.

**Lithuania**

*Wholesale lines*: The same two agreements can be used for fully unbundled lines and for shared access lines.

*Retail lines*: Incumbents’ ULL lines are used at the retail level by new entrants for the provision other data transmission services (e.g. VPN) and some lines are used for provision of broadband (BB) Internet access services.

*Operator switching*: Time needed to terminate a contract: from 5 to 30 days (depending on the operator). Time needed to get connected: from 1 to 20 days (depending on the operator).

**Malta**

*Wholesale lines*: Data as at Q3 2013.

*Mobile broadband*: Data as at Q3 2013.

**The Netherlands**

*Mobile broadband*: Data from July 2013 and January 2014 are not comparable.

**Austria**

*Retail lines*: Information on NGA vs. not-NGA is not available: estimation based on retail lines speeds (retail lines from 30 Mbit/s upward are counted as NGA lines).

*Mobile broadband*: Subscriptions of 4G only.

**Portugal**

*Retail lines by speed*: Other NGA lines include LTE in a fixed location.

**Romania**

*Mobile broadband*: Number of subscriptions which have made an Internet mobile connection in the last 180 days through a standard mobile subscription.

Pre-paid mobile broadband plans (i.e. all non-recurrent fee subscriptions) require active use in previous 6 months.

Prepayment subscriptions (or any other type of non-recurrent subscription) need to pass the activity criterion (a usage occurred in the last 6 months).

*Operator switching*: Time needed to terminate a contract and to get connected: data corresponding to market leader (alternative operator).

**Slovenia**

*Mobile broadband*: Mobile broadband traffic (GB) is available only for Q4 2013.
Financial indicators, fixed and mobile telephony, broadcasting and bundled services indicators

Definitions

Revenues and investment
- **Electronic communications sector revenues**: All wholesale and retail revenues of electronic communications excluding VAT.
- **Electronic communications sector network investment**: All telecommunications network investment (both tangible and intangible) excluding license fees.

Fixed telephony
- **Fixed telephony market**: the market for publicly available telephone services and includes managed VoIP and calls made from public payphones; and should exclude 'peer-to-peer' VoIP services, simple reselling and calling cards.
- **National fixed calls**: all national public fixed voice telephony calls including local calls, long-distance calls and calls to internet (both to geographic and non-geographic numbers, excluding flat tariffs (FRIACO)).
- **Calls to mobile**: all calls in the fixed voice telephony market terminating on a mobile network, excluding calls to foreign mobiles.
- **International calls**: all calls in the fixed telephony market originating in the Member State and terminating abroad. International calls should include calls from fixed geographic numbers to foreign fixed and mobile numbers.
- **Managed VOIP (voice over broadband) operator**: an operator providing a publicly available telephone service (PATS) service using voice over internet protocol technology (VoIP), whereby the operator controls the quality of service provided though an IP network, at a speed over 128 kbit/sec. Unmanaged voice and 'peer to peer' services should not be included. The market share should be calculated based on outgoing minutes of fixed voice communications.
- **Direct access**: the provision of publicly available telephone services through LLU and/or proprietary infrastructure (excluding incumbents).
- **Full LLU**: full unbundled access to the local loop, the provision to a beneficiary of access to the local loop or local sub loop of the notified operator authorising the use of the full frequency spectrum of the twisted metallic pair.
- **Shared access**: the provision to a beneficiary of access to the local loop or local sub loop of the notified operator, authorising the use of the non-voice band frequency spectrum of the twisted metallic pair; the local loop continues to be used by the notified operator to provide the telephone service to the public.

Mobile market
- **Mobile subscriptions**: 2G, 3G and 4G subscriptions of a mobile network operator or Mobile Virtual Network Operators. Number of post-paid active subscribers means number of subscribers with a valid contract. Number of prepaid active subscribers means numbers
of subscribers that have made or received a call, sent an SMS or MMS or used data services at least once in the last three months.

- **M2M SIMs:** "M2M is about enabling the flow of data between machines and machines and ultimately machines and people. Regardless of the type of machine or data, information usually flows in the same general way -- from a machine over a network, and then through a gateway to a system where it can be reviewed and acted on.” – www.m2mcomm.com.

- **MVNO:** Mobile Virtual Network operators with own SIM cards and own mobile network code. Operators that fulfil the above two conditions, but are majority owned (more than 50%) by any of the Mobile Network Operators operating in the same national market should not be included (e.g. operators being only a sub-brand of Mobile Network Operator should be excluded).

- **APRU:** Average Revenue per User. Retail mobile revenues divided by the average number of subscriptions.

### Bundled services

- **Bundled offer:** a commercial offer of two or more of the following services marketed as a single offer and offered for a single price. Services include (1) fixed broadband, (2) fixed telephony, (3) mobile telephony (4) mobile broadband and (5) pay TV (Mobile TV should not be included).

### Broadcasting

- **Satellite TV:** analogue and digital transmission of TV signals to and/or receiving from satellites.

- **Cable TV:** a system of providing television to consumers via radio frequency signals transmitted to televisions through fixed optical fibres or coaxial cables.

- **IPTV:** a system whereby television programmes are delivered to subscribers using Internet Protocol over a broadband connection.

### Number portability

- **Time needed for porting a number - 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). For fixed numbers, indicate the time needed for porting a number from the incumbent to the major alternative operator. For mobile numbers, indicate the time needed for porting a number from the major mobile operator (operator with the highest market share in terms of revenue) to the second largest operator. Those cases should be excluded, where (1) the customer requests to port a number later than the standard timing proposed by the operator, (2) the porting process is delayed purely due to the lack of cooperation of the customer, and (3) any unexpected event delays the process at the operator’s side concerning maximum 5% of all the portings in the given period.

- **Time needed for porting a number – total time:** The maximum time between the first action of the customer (e.g. the submission of the request to port a number or the request to terminate the old contract with the intention to port a number to a new operator including the notice period) and the activation of the number at the new operator. Those cases should be excluded, where (1) the customer requests to port a number later than the standard
timing proposed by the operator, (2) the porting process is delayed purely due to the lack of cooperation of the customer, and (3) any unexpected event delays the process at the operator's side concerning maximum 5% of all the portings in the given period.

**Methodology**

The data (except for interconnection charges and roaming prices) have been collected by the European Commission, Communications Networks, Content and Technology Directorate General, from national ministries and regulatory authorities except when noted. The definitions have been agreed in the Communications Committee (COCOM).

In some cases, information for some types of access is not available. In a number of countries certain figures are estimates, as the National Regulatory Authorities had not received consolidated data from operators. It should also be noted that in some cases information only refers to major broadband access providers and that broadband access lines provided by small operators are not included.

This report includes information from all 28 Member States.

Data should be interpreted taking the below comments of Member States into consideration:

**Belgium**

*Fixed telephony choice:* Data on the percentage of subscribers using an alternative provider refer to end of 2012 and 2013.

*Bundled services:* Data refer to the end of the previous year instead of July.

*Broadcasting:* Data refer to the end of the previous year instead of July.

*Numbering:* About 6 million geographical numbers and 10 million mobile numbers are in use. A transaction can contain more than 1 ported number. The maximum retail price for porting a number is 10 euros. In practise it is offered free of charge by the operators.

**Bulgaria**

*Bundled services:* Data for 2012 is as of 31 December 2011. 2,520 subscribers are not included in the total as they use others bundles offers (such as: CVPN and Data VPN; Voice VPN, data VPN and Internet access). Data for 2013 is as of 31 December 2012. 8,488 subscribers are not included in the total as they use others bundles offers (such as: voice trough national code "99x" and Internet; CVPN and Data VPN; VoIP and IPTV; Voice VPN, data VPN and Internet access; IPTV, Internet and VoIP).

*Broadcasting:* Data as of 31st December 2011 and 2012.

**Denmark**

*Mobile market:* Subscription figures as of 1st of July 2011 and 2012.

**Czech Republic**

*Bundled services:* Data as of 31st December 2012.

*Numbering:* Retail prices for porting a fixed number are subject to frequent discounts.

**Germany**

*Revenue and Investment:* Intangible investments are not included.
**Fixed telephony choice:** For the calculation of the number of alternative operators, there are overlapping offers by certain operators between LLU, shared access and proprietary infrastructure. The percentage of subscribers actually using a provider other than the incumbent operator for international calls is based on estimations. Call market shares: National fixed calls include calls to the Internet.

**Mobile market:** ARPM data include estimations.

**Bundled services:** The number of subscribers is sometimes estimated.


**Estonia**

**Numbering:** Number of transactions as a % of total numbers: estimated value of the ratio of ported numbers and reserved numbers issued for operator use. Ratio can be up to 3% depending how to count the number of active end-users.

**Greece**

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

**Spain**

**Fixed telephony choice:** Data as of September 2012 and 2013.

**France**

**Numbering:** The data on number of transactions as a percentage of the total fixed numbers is not available. Maximum Basic wholesale price for porting a number is € 0. There are two options on the business market synchronisation call (€ 9.20) and number validation (€ 11.50). Active mobile numbers used exclusively for data or M2M are excluded from the number of transactions as a percentage of total mobile numbers.

**Croatia**

**Mobile ARPU and ARPM:** Number of active subscribers at the end of the year. ARPM: Calls to VAS numbers are included.

**Bundled services:** Only fixed broadband is included.

**Market shares fixed:** Calls to VAS numbers are not included.

**Traffic:** Calls to VAS numbers are included. Visitor roaming minutes are not included.

**Broadcasting:** Digital terrestrial reception – pay TV is also included in total number of TV subscriptions.

**Numbering:** Accurate data is not available and it depends on where and how the porting request is submitted and on indisputable contractual obligation.

**Mobile Subscribers:** As of 1st of October 2012 and 2013.

**Ireland**

**Revenue and investment:** Pay TV revenues refer to cable TV and IPTV revenues only. Investment data is based on estimates.
**LLU pricing:** Full unbundled local loop Connection Charge with Successful Completion (existing metallic path). Shared Access Connection Charge with Successful Completion (existing metallic path – Access Seeker provides exchange splitter).

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

**Numbering:** The total number of PSTN lines has been used as a proxy for the total number of fixed numbers. The total number of mobile subscriptions excluding dedicated mobile broadband has been used as a proxy for the total number of mobile numbers.

**Italy**

*Market share fixed:* Market share of managed VoIP operators on fixed calls calculated on lines, as at September 2012 and 2013.

**Latvia**

*Bundled services:* Double play figures for 2011 and 2012 are not comparable.

**Lithuania**

*Revenue and investment:* Device revenues are not included in the electronic communications sector revenues.

*Mobile operators:* In 2012, revenues were estimated from flat rate and bundled services. Due to this, there is an increase in average revenues per minute.

*LLU pricing:* The cost of the test to access and the frequency splitter are included; no additional cancellation fee is applied.

**Broadcasting:** Cable TV, including MMDS.

*Mobile subscribers:* 4 ESP providing mobile services through Bite Lietuva network do not have their own mobile network code and their subscribers are included in those of Bite Lietuva.

**Luxembourg**

*Broadcasting:* The number of satellite TV subscriptions is estimated.

*Mobile subscribers:* Data as of 1st July 2013.

**Malta**

*Mobile operators:* Revenue includes also roaming and access revenue was apportioned to extract voice related revenue only.

**The Netherlands**

*Mobile operators:* Average Revenue per User: device revenues are excluded if they are not part of the subscription.

*Market share fixed:* Incumbents' traffic market share in public fixed voice telephony is based on volumes instead of calls.

*Mobile subscribers:* The number of postpaid subscribers includes mobile broadband subscriptions.
Austria

Revenue and Investment: From 2012 onwards, fixed broadband retail revenues include all revenues from bundles with broadband.

Bundled services: Double Play bundles include fixed broadband + fixed telephony and fixed broadband + TV. Triple Play bundles include fixed broadband + fixed telephony + TV and other bundles including fixed telephony, TV or mobile broadband. Bundles not including fixed broadband are not included.

LLU pricing: No connection fee during promotion periods. The connection fee for connections within time schedule is € 31.5. The connection fee for connections out of time schedule is € 55. The shared access monthly rental is 50% of full ULL monthly rental.

Portugal

Revenue and Investment: Mobile equipment revenues for 2011 do not include data from one operator. Fixed equipment revenues include fixed telephone service devices revenues only. Network investment by the fixed incumbent and alternative operators are estimates. Other mobile revenues include other Transmission Data Services and Leased Lines revenues.

Bundled services: 2013 data refers to September 2013. Number of subscribers of double and quintuple Play bundles is not available.

Romania

Revenue and Investment: Electronic communications sector revenue: Data roaming revenues are included in the mobile broadband category.

Bundled services: Business customers might have two or more types of packages and thus the total number of bundle subscribers might be lower. Subscribers to tying services are also included.

Market share fixed: Incumbents' traffic market share in public fixed voice telephony: the data provided include the traffic registered through calling cards.

Mobile subscribers: Mobile subscribers number as of 1st July 2013.

Slovenia

Bundled services: The data for the year 2012 are the same as in the previous report because agency did not collect the data in accordance to the new definition. Mobile services are considered as single play service according to the previous definition.

Market share fixed: Incumbents' traffic market share in public fixed voice telephony: International calls include calls from fixed geographic and non-geographic numbers to foreign fixed and mobile numbers.

Numbering: No wholesale charge applies. According to the Article 133 of Electronic communication act (ZEKom-1) the prices charged between operators in relation to Numbering must be cost-oriented. However, the recipient may choose to pay the retail price of € 5.00 for its customer or the donor may charge the same price to the recipient.

Finland

Revenue and Investment: Investments for Fixed by the incumbent includes also investments by the alternative operators.
Market share fixed: The market share of managed VoIP operators on fixed calls is estimated based on the number of subscriptions.

Broadcasting: The number of Satellite TV subscriptions is based on consumer survey made by Finnpanel. The number of Cable TV and IPTV subscriptions is based on data collected by FICORA.

LLU pricing: Price charged for LLU is simple average of SMP operators providing ULL.

Numbering: The time needed for porting a number 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.

Mobile subscribers: Figures as end of June 2013. Others include one MNO, MVNOs and SPs.

UK

Fixed telephony choice: Data regarding the number of infrastructure providers is not available.

Mobile operators: The fall in the number of MVNOs compared to 2012 is because the 2013 figures have been compiled as per new definition rather than because there has been a fall in the number of UK MVNOs.

Broadcasting: Figures for 2012 have been revised to reflect more accurate data.