Digital Agenda Scoreboard 2015
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 an 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:

**Austria**

*Retail lines:* Number of NGA subscriptions is estimated based on the speed of the connection (retail lines from 30 Mbit/s upward are counted as NGA lines, but this does not apply to FTTH).

*Operator switching:* Time needed to get connected refers to the average for DSL.
**Bulgaria**

Data include estimations.

**Finland**

There were 28 SMP operators in 2014. SMP operators are operating as the incumbent in their own operating area and as entrants in other incumbents' operating areas. FICORA only collects data on whole country level. Therefore, incumbent/entrant data is not available. Incumbent activated main lines include all operators' activated lines from their own operating areas and from other incumbents' operating areas.

*Retail lines*: 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). Nearly all cable television networks are upgraded to Docsis 3.0, but not all end user have Docsis 3.0 equipment in use.

*Mobile broadband*: All mobile data subscriptions in Finland can in general be used with all kinds of terminals and can be used with more than one terminal, and most can also be used for voice services.

**Germany**

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

*Retail lines*: VDSL is included in new entrants' DSL figures for own network, full LLU, shared access, bitstream access and DSL resale. New entrants' VDSL and 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 are 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 new entrants refers to the estimated number of leased lines and powerline access lines. Data on other wireline access supplied by the incumbent is not available. Fibre lines (FTTB/FTTH) including fibre lines provided by cable operators.

**Lithuania**

*Wholesale lines*: The same 2 agreements can be used and for fully unbundled lines and for shared access lines.

*Retail lines*: Incumbents’ LLU lines are used in retail level by new entrants for the provision other data transmission services (e.g. VPN) and 80 lines are used for the provision of broadband Internet access services.

*Retail lines by speed*: Data refers to “downstream speed rates that are ensured”.
Malta

Data refers to Q3 2014.

Poland

The decrease of the Incumbent's Other subscriptions results from the removal of subscriptions of WiFi hotspots of Orange Polska (OPL). The change stems from the OPL’s interpretation of the term "wireless WLAN", and classifying hotspots provided free of charge under that category. The previous calculation method, including these WiFi hotspots, results in the total number of 2,487,799 in January 2015 and 2,194,719 in July 2014 for Incumbent's Other subscriptions.

Romania

Data is provisional.

-Mobile broadband: Activity criterion refers to 180 days.

-Operator switching: Time needed to terminate a contract/get connected corresponds to market leader (alternative operator).

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 through 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](http://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:

**Bulgaria**

*Revenue and Investment*: 2012 revenues data are updated.

*Fixed telephony choice*: 2013 data are updated.

*Bundled services*: 2013 data are updated.
Croatia

**Bundled services:** Data includes only fixed bundles.

Czech Republic

**Broadcasting:** Data refers to end 2013 instead of June 2014.

**Mobile subscriptions:** Data refers to June instead of October of each year.

Denmark

**Mobile market: subscriptions** 2013 data were updated.

**Number portability:** Transactions refer to the full year, not only to the first nine months of the year.

Estonia

**Revenues and investment:** Investment data of 2012 are updated.

Greece

**Revenues and investment:** Revenue data are not comparable across years.

**Bundles services:** Double play data were updated for 2013.

**Number portability:** Average number of days is provided.

Ireland

**Revenues and investment:** Revenue data of 2012 are updated.

Latvia

**Revenues and investment:** Mobile wholesale revenues for 2012 and 2013 are not comparable.

Lithuania

**LLU:** 2013 data are updated.