Digital Agenda Scoreboard 2013 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

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¹ Source: FTTH Council

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 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 27 Member States.

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

Bulgaria

Data includes estimations made by the national regulatory authority (CRC).

Germany

Incumbent wholesale lines: Incumbent activated main lines excluding All-IP access lines, shared access, bitstream access, DSL resale and public payphones.

Retail lines: VDSL included in new entrants' DSL figures for own network, Full LLU, shared access, bitstream access and DSL resale. 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 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 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) including fibre lines provided by cable operators. Broadband services are also offered by clubs in Germany. Broadband services of clubs are not included.

Estonia

Retail lines: NGA figures of July 2012 and January 2013 are not comparable.

France

Retail lines: Cable NGA figures of July 2012 and January 2013 are not comparable.

Italy

Historical data were updated.

Operator switching: Average value - days weighted by specific operator's customer base.

Latvia

Retail lines: NGA figures of July 2012 and January 2013 are not comparable.

Lithuania

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

Retail lines: incumbent's ULL lines are used in retail level by new entrants also for the provision other data transmission services (e.g. VPN) and 58+48=106 lines are used for provision of broadband (BB) Internet access services.

Retail lines by speeds: Downstream speed rates that are ensured.

Operator switching: Time needed to terminate a contract varies from 5 to 30 days. Time needed to get connected varies from 1 to 20 days.

Malta

Mobile broadband: Figures of July 2012 and January 2013 are not comparable.

The Netherlands

Incumbent wholesale lines: Data on requested lines is not available.

Retail lines: NGA figures of July 2012 and January 2013 are not comparable.

Retail lines by speeds: Not all retail lines can be broken down to speed categories.

Mobile broadband: Figures as of July 2012 have been updated.

Austria

Data is as of 1 October 2012.

Portugal

Retail lines: Figures refer to internet access broadband lines only.

Operator switching: Weighted average for a group of ISP's with a collective market share of 40%. The incumbent did not report these figures.

Romania

Data are provisional.

Mobile broadband: Fixed+mobile broadband bundles are also considered.

Slovakia

Operator switching: Maximum time needed to terminate contract depends on the part of month when the request to terminate was made. Usually the time to terminate contract is specified as 30 days from the end of the month, when the request was made. Therefore, the

maximum timed needed to terminate is reached when the request is made in the beginning of the month - 60 days.

Finland

Retail lines: There are 28 SMP operators in Finland. SMP operators operate 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. 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 all end user do not have Docsis 3.0 equipment in use.

Mobile broadband: Dedicated data subscriptions are reported based on estimates from a consumer survey.

UK

Mobile broadband: "Dedicated data subscriptions for stand-alone services via cards/modems/keys only" refers to September 2012.

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 'peerto-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).
- APRM: Average Revenue per Minute. All retail voice related revenues should be accounted for including also monthly fees, which give free minutes allowances. In case of service bundles (where for example data and voice services are included in one package) the related voice revenues should be estimated. Wholesale revenues (such as interconnection) and not voice related revenues (such as SMS, MMS, data, content and handset revenues) should be excluded. VAT should be excluded. All outgoing retail voice

minutes should be included regardless of the call types (all call directions including roaming, free minutes allowances too). Number of minutes should be given as billed minutes and real minutes.

• **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 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.

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 pirces) 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 27 Member States.

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

Belgium

Fixed telephony: data on the percentage of subscribers using an alternative provider refers to end of 2010 and 2011.

Bundled offers: Data refers to the end of the previous year instead of July.

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

Bulgaria

Bundled services: Data as of 31 December 2011. 2520 subscribers are not included in the total as they use other bundled offers (such as: CVPN and Data VPN; Voice VPN, data VPN and Internet access).

Broadcasting: Data as of 31 December 2011.

Denmark

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

Germany

Fixed telephony: Number of operators includes those with at least 100 access lines. Call market shares: National fixed calls include calls to the Internet.

Mobile market: ARPM data include estimations.

Bundled services: Double Play: The number of bundles of mobile voice telephony and mobile broadband is a preliminary estimation. Fixed voice telephony and broadband incl. cable operators. 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 do not go in line with the definition given by European Commission.

Broadcasting: Excluding DVB-T. Source: ASTRA TV-Monitor, TNS Infratest.

Greece

Revenue and investment: 2010 data was updated.

Fixed telephony: Some operators do not distinguish between POTS and VoIP traffic. Such VoIP traffic is not reported to the national regulatory authority (EETT) and therefore has not been taken into account.

Estonia

Mobile market: 2010 ARPU has been revised.

Spain

Bundled services: 2011 and 2012 figures are not comparable.

Ireland

Revenue and investment: Pay TV revenues refer to cable TV and IPTV revenues only. Investment data is based on estimates.

Fixed telephony: 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).

Mobile market: 2010-2011 ARPM figures are not comparable.

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

Number portability: Total time calculation does not follow definition.

Italy

Revenue and investment: Revenue: source Agcom Annual report 2012, raw data, according with Table 2.3 page 77 and table 2.43 p120. Investment: Agcom Annual Report 2012, table 2.7 p80.

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.

Fixed telephony: LLU price: the cost of the test to access and the frequency splitter are included; no additional cancellation fee is applied.

Broadcasting: Cable TV, including MMDS.

Malta

Mobile market: ARPU includes access fees, local & international voice calls, local & international SMS, MMS, data and outbound roaming revenues.

The Netherlands

Fixed telephony: Market share of managed VoIP operators on fixed calls is based on the number of subscriptions

Mobile market: 2010-2011 ARPM figures are not comparable. 2011 data also include some of the handset revenues. Without handset revenues, ARPM would be 10.9 eurocents in 2011.

Austria

Fixed telephony: LLU: No installation or connection fee during promotion periods.

Shared acces monthly rental 50% of full ULL monthly rental.

Mobile market: ARPM is likely to be overestimated, as it may include some data revenues of service bundles. M2M data is not available. 2012 subscription data is as of July 2012.

Bundled services: Information on bundles which do not include fixed broadband is not available.

Portugal

Mobile market: ARPM: retail voice related revenues include all monthly fees.

Number portability: The Directive related to number portability was transposed in the middle of September 2011, nevertheless the modification of the Portability Regulation took only effect in September 2012.

Romania

Traffic: Roaming traffic is not included.

Broadcasting: 2011 data was revised.

Mobile market: Subscriptions data are as of 1 July each year. The number of subscribers includes only the number of mobile telephony voice subscribers (the number of mobile broadband-only subscriptions is not included).

Slovenia

Revenue and investment: 2010-2011 revenue figures are not comparable.

Fixed telephony: There are 12 alternative VoiP operators in Slovenia. International calls include calls from fixed from fixed geographical and non-geographical numbers to foreign fixed and mobile numbers.

Mobile market: Number of mobile network operators with an active LTE network: 2 mobile network operators in testing phase.

Finland

Fixed telephony: Managed VoiP traffic market share is estimated based on the number of subscribers. LLU prices: Weighted average of 28 SMP operators providing ULL. Connection fee includes also the switch off the old local loop connection.

Mobile market: Subscriptions data for 2012 is as of June2012. The total number of subscriptions does not include M2M subscriptions. Operator market shares are calculated without taking M2M into account.

Broadcasting: The figures of Satellite TV are based on customer research made by Finnpanel. FICORA started to collect the number of cable TV and IPTV subscriptions on 2S/2011. Before that all the figures were based on customer research made by Finnpanel. Though, 2011 and 2012 figures are not comparable.

Number portability: 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.

Sweden

Mobile market: Subscriptions are as of July of each year.

UK

Revenue and investment: 2010-2011 revenue figures are not comparable.

Fixed telephony: Direct access excludes WLR lines.