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COVER NOTE

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Delegations will find attached Commission document SWD(2013) 217 final - Part 2 of 4.

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Part 2 of 4

COMMISSION STAFF WORKING DOCUMENT

Digital Agenda Scoreboard 2013

COMMISSION STAFF WORKING DOCUMENT

Digital Agenda Scoreboard 2013

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2. FAST AND ULTRA-FAST INTERNET ACCESS

2.1. Introduction

Over 99.9% of European homes can have access to broadband of at least a basic quality, when considering all technologies (including fixed, fixed-wireless, mobile and satellite). Standard fixed broadband covers 95.5% of homes. Rural coverage of standard fixed broadband stands at 83.2% as of end of 2012. **Next Generation Access technologies capable of providing at least 30 Mbps download cover 53.8% of EU homes.** Cable has the highest NGA coverage (39.4%) followed by VDSL (24.9%) and FTTP (12.2%).

The total number of fixed broadband lines went up by 5.5 million, and the penetration rate (number of lines over population) **reached 28.8% in January 2013**. 24% of European homes do not subscribe to internet[1]. Fixed broadband penetration is the highest in the Netherlands, Denmark and France, and the lowest in Romania, Poland, Bulgaria and Slovakia in the EU. Penetration increased the most in Lithuania, Latvia and Bulgaria.

Next Generation Access lines account for 20.3% of all fixed broadband lines as opposed to 12.2% a year ago. 57.4% of NGA lines are cable DOCSIS3.0, the majority of cable lines are already NGA. Cable is followed by FTTH/B (25.8%) and VDSL (14.9%). Contrary to cable, in xDSL, only 3.9% of lines have been upgraded to VDSL so far. New entrants provide 77.5% of NGA lines, although their market share in the total fixed broadband market is only 57.7%. The majority of fixed broadband lines are NGA in Romania, Belgium, Lithuania and the Netherlands, while the share of NGA is below 10% in Greece, Cyprus, Italy and France. **Although the number of ultrafast lines more than doubled in 2012, they currently represent only 3.4% of all fixed broadband lines, which translates to about 2% of European homes subscribing to at least 100Mbps**. 14.8% of fixed broadband lines provide at least 30 Mbps, up from 9% a year ago.

Third generation mobile broadband (HSPA) coverage reached 96.3% of population, while fourth generation (LTE) coverage tripled and stands at 26.2%. Mobile broadband subscriptions increased by 17.3% last year, and penetration (SIM cards over population) **grew to 54.5%**. Considering only large screen use, penetration reached 9%. Mobile broadband is the most popular in Finland, Sweden and Denmark.

2.2. The fixed broadband market

2.2.1. Broadband coverage

The Digital Agenda for Europe has set three targets related to broadband access, two of which refer to broadband coverage

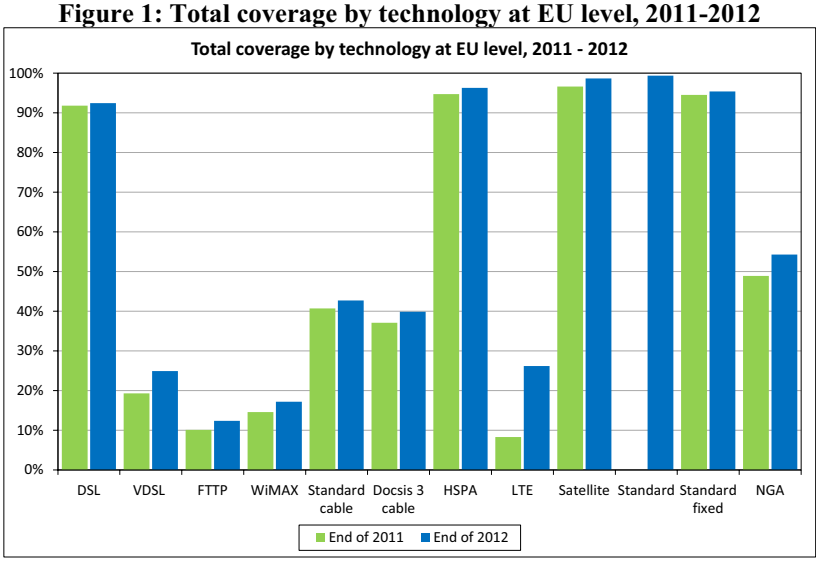
[1] According to Eurostat 76% of households with at least one member aged 16-74 years in the EU27 had access to the internet in 2012.

- All homes should have access to broadband of at least a basic quality by 2013,
- All homes should have access to high-speed broadband of at least 30 Mbps by 2020.

At the end of 2012, over 99.9% of European homes could have access to at least a basic broadband network considering all technologies (fixed, fixed-wireless, mobile and satellite). Satellite broadband has the largest physical coverage: it is available to 100% of population in 24 out of the 27 Member States. Despite the high coverage, satellite take-up is still marginal, as it represents less than 1% of all EU broadband lines. Without satellite, 99.4% of homes are covered by broadband (Standard broadband coverage). Considering only fixed and fixed wireless technologies (Standard fixed broadband coverage) coverage goes down to 95.5% leaving a gap of more than 9 million homes.

Next Generation Access technologies capable of at least 30 Mbps are available to 53.8% of homes as of end of 2012. Docsis 3.0 cable has by far the highest NGA footprint (39.4%) followed by VDSL (24.9%) and FTTP (12.2%)[2].

Figure 1: Total coverage by technology at EU level, 2011-2012



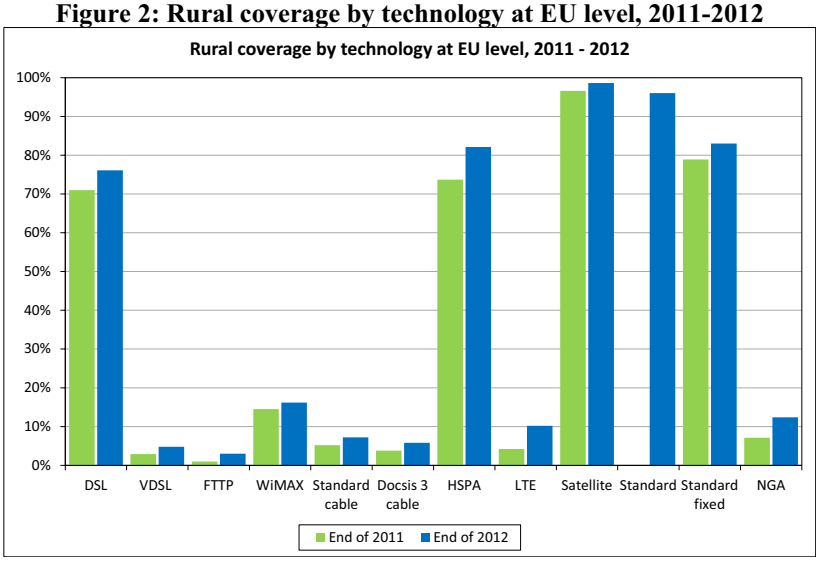
Source: Point Topic

Broadband coverage is significantly lower in rural areas. Standard broadband covers 96.1% while standard fixed broadband only 83.2% of rural homes. Wireless technologies (satellite and mobile

[2] In some countries proxies for coverage have been used in the absence of precise data on household coverage or if the data supplied deviated from the survey definitions. We have been informed of potential differences from the survey definitions for Poland (affecting the published results for DSL, FTTP and WiMAX – other technology data has been estimated based on research by Point Topic), the Netherlands (they have specified differences in the definition of rural households), Slovakia (affecting the data published for DSL and VDSL). Data in Denmark reflects the broadband market at June 2012 rather than December 2012. In Belgium, the published result for VDSL coverage represents all VDSL coverage – however, the NGA combination score in Belgium only considers only VDSL capable of delivering speeds greater than 25Mbps. In the UK VDSL represents all VDSL coverage. In Austria, Poland, Czech Republic, Italy and Hungary we have not had confirmation that the survey definition for VDSL has been met. Note that coverage does not include CDMA technology, which extends standard broadband coverage in several markets. No breakdown is available for FTTH and FTTB. Rural areas are defined as square kilometres with a population of less than 100 inhabitants.

HSPA) exceed the rural coverage of fixed technologies in general. NGA remains very low in rural areas with 12.4% availability.

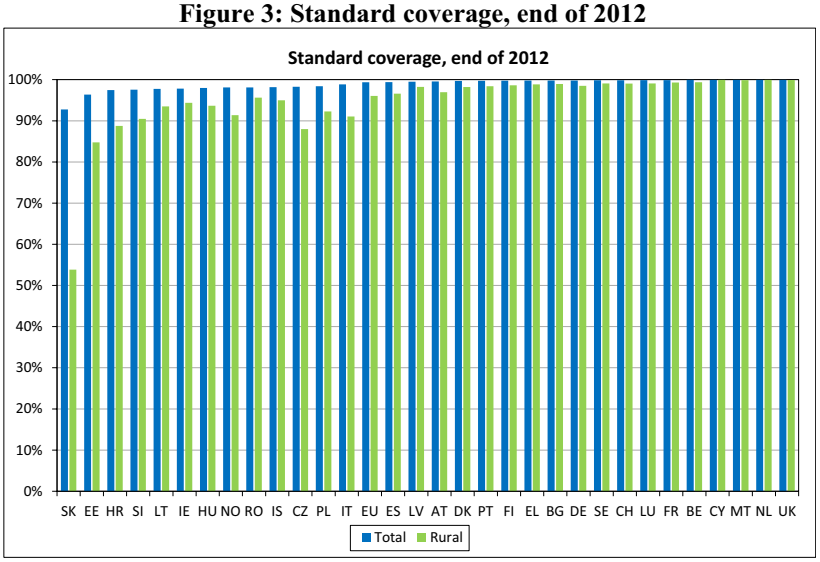
Figure 2: Rural coverage by technology at EU level, 2011-2012



Source: Point Topic

Standard broadband coverage exceeds 99% in 18 Member States. Countries with the lowest coverage are Slovakia, Estonia and Slovenia; of which Slovakia and Slovenia are fully covered by satellite broadband.[3]

Figure 3: Standard coverage, end of 2012

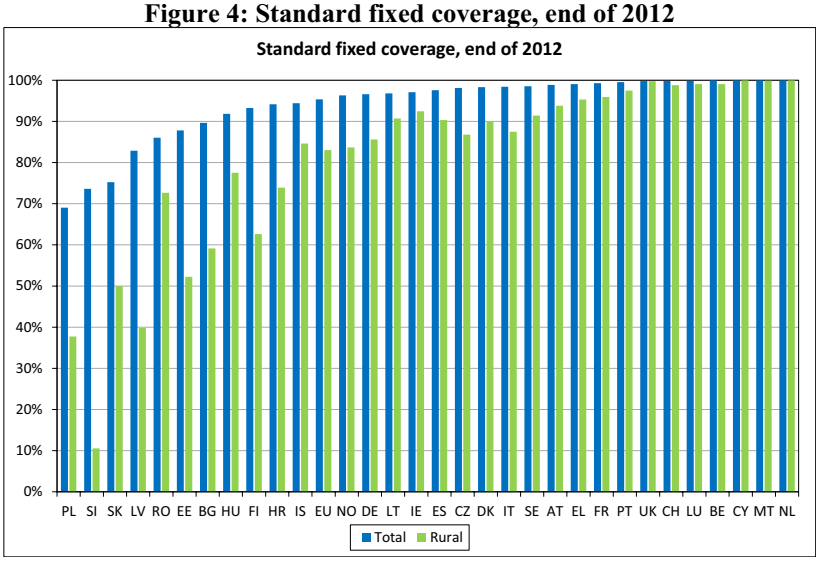


Source: Point Topic

In standard fixed broadband, only 10 Member States are really close (>99%) to full coverage. Standard fixed broadband coverage is lower in Eastern Europe, especially in Poland, Slovenia Slovakia and Latvia.

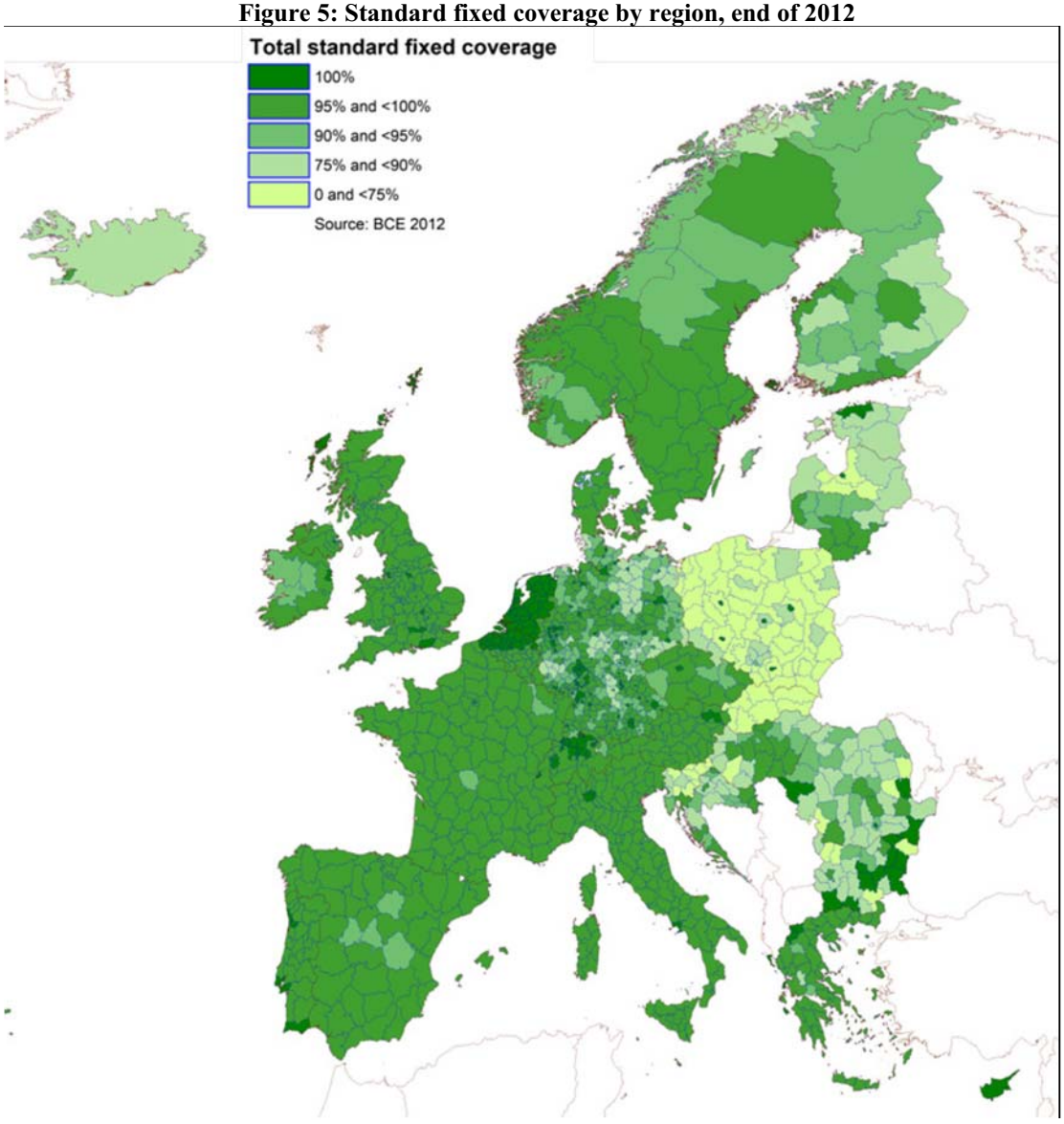
[3] The reason for presenting broadband coverage also with and without satellite technology is that currently the take-up of satellite broadband is marginal, which may partly be caused by the novelty of high-speed KA-band satellite technology.

Figure 4: Standard fixed coverage, end of 2012



Source: Point Topic

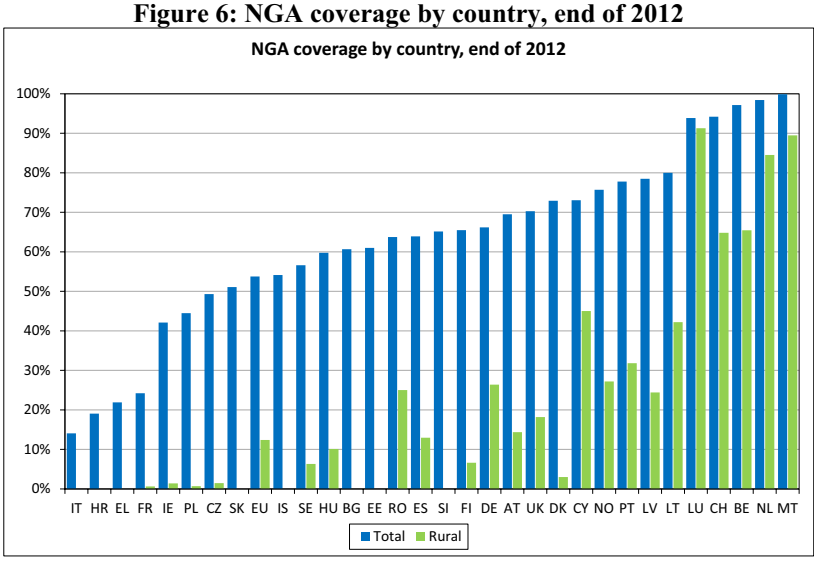
Figure 5: Standard fixed coverage by region, end of 2012



Source: Point Topic

In NGA, the best performing Member States are Malta, the Netherlands, Belgium and Luxembourg having more than 90% of homes covered. On the other hand, Italy, Croatia and Greece are lagging behind in fast broadband deployment.

Figure 6: NGA coverage by country, end of 2012

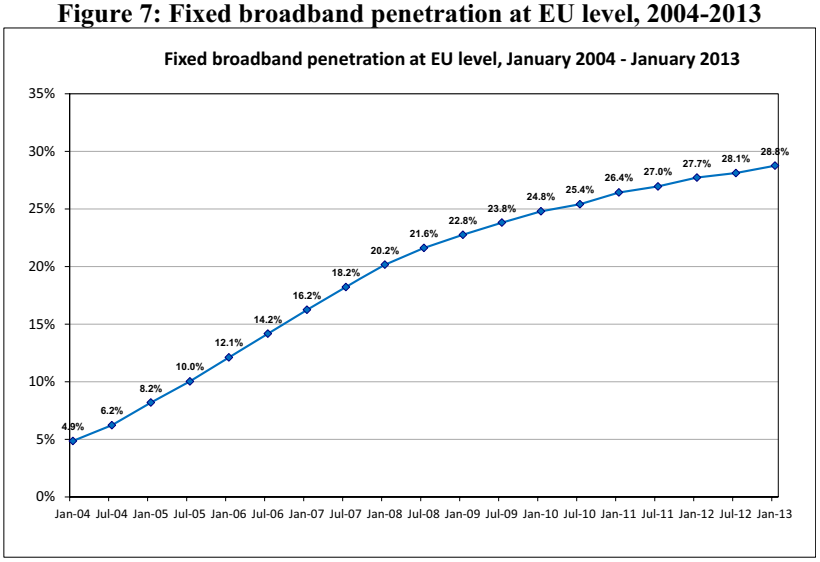


Source: Point Topic

2.2.2. Fixed broadband take-up

As of January 2013, there were 144.8 million fixed broadband lines in the EU, which corresponds to 28.8 lines per 100 inhabitants. Although the annual growth has been continuously slowing down since 2007, the fixed broadband market grew by 5.5 million lines in 2012. There is still potential for further growth in the market, as 24% of EU homes do not have an internet subscription.

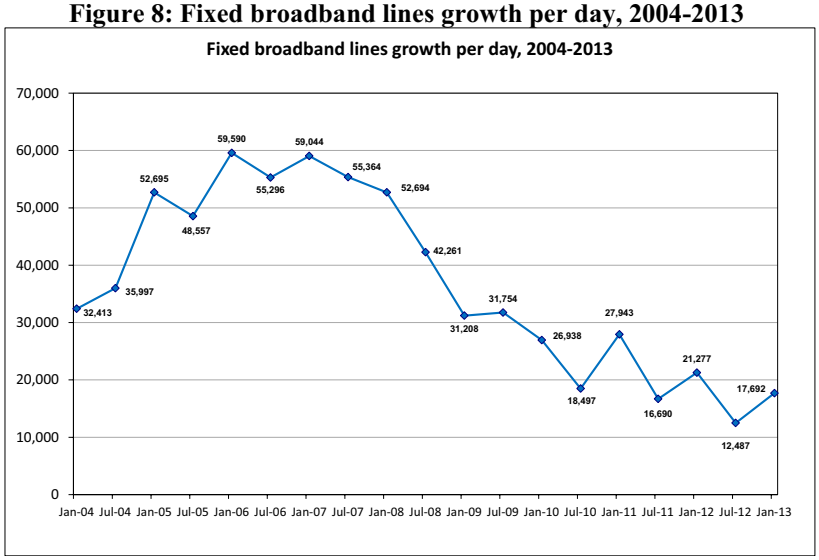
Figure 7: Fixed broadband penetration at EU level, 2004-2013



Source: Communications Committee

Over 17 000 new lines were connected per day in the second half of 2012, which is less than one third of the highest observed growth. Growth in new lines has declined sharply especially in 2008 and 2009, and seems to have largely stabilized in 2011 and 2012. The second halves of the year are generally stronger due to the promotional offers at end of the year.

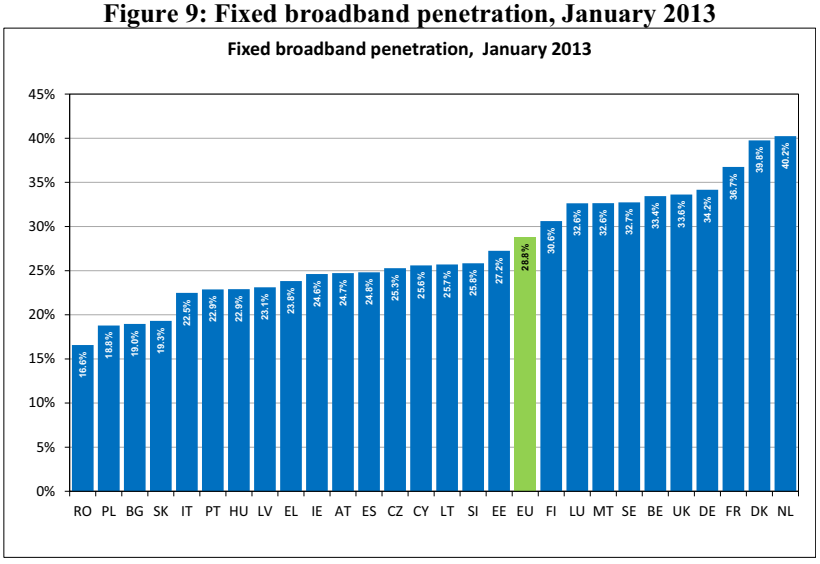
Figure 8: Fixed broadband lines growth per day, 2004-2013



Source: Communications Committee

Very large differences can be observed when comparing Member States. The Netherlands and Denmark compete for the first position with around 40 lines per 100 inhabitants followed by France, Germany and the UK. At the bottom of the list, four Eastern European Member States (Romania, Poland, Bulgaria and Slovakia) have lower than 20% penetration.

Figure 9: Fixed broadband penetration, January 2013

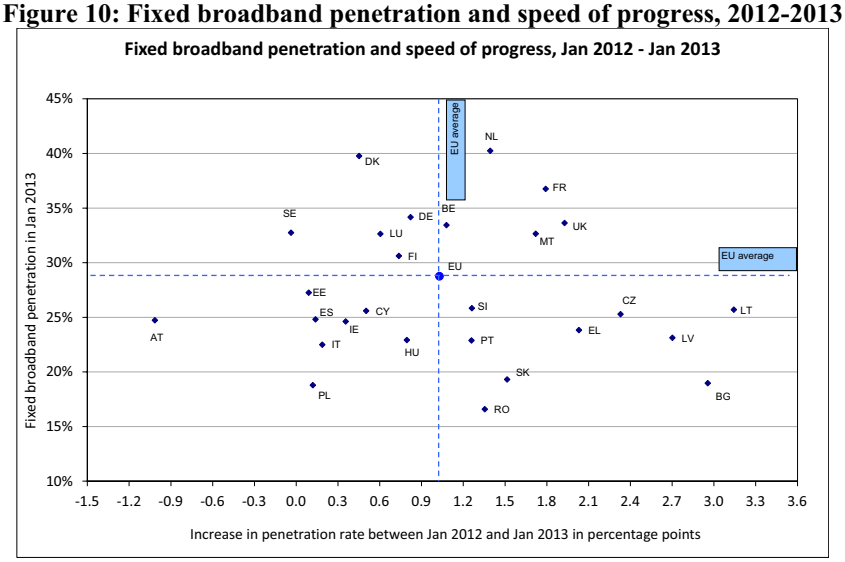


Source: Communications Committee

Penetration increased by 1 p.p. in the EU in the last twelve months, with marked differences among the Member States. No strong correlation can be observed, when looking at broadband penetration

and the penetration rate growth during 2012, i.e. it cannot be concluded that those Member States with lower penetration progress more quickly than those with relatively mature fixed broadband markets. Nevertheless, the highest growth rates were recorded in Lithuania, Bulgaria, Latvia and the Czech Republic; these Member States managed to reduce their broadband penetration gaps by 1-2p.p. On the other hand, in eight Member States (Austria, Spain, Estonia, Italy, Poland, Ireland, Cyprus and Hungary) with lower than average penetration rates, the gap widened in 2012. At the same time, in the UK, France, Malta and the Netherlands, the growth was above the EU average despite their already high penetration rates.

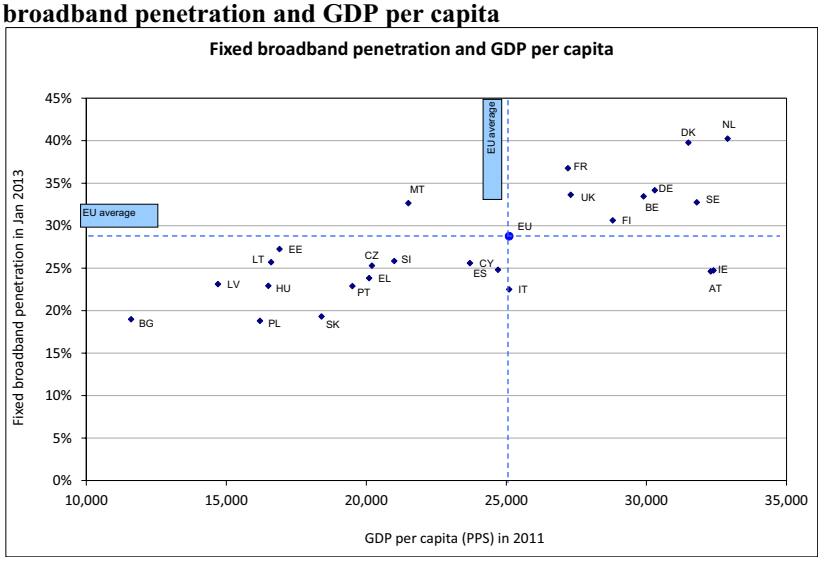
Figure 10: Fixed broadband penetration and speed of progress, 2012-2013



Source: Communications Committee

Fixed broadband penetration correlates with GDP per capita (R^2=0.5419), as more wealthy Member States have generally higher penetration. Two remarkable exceptions are Austria and Ireland, where GDP per capita is relatively high, but fixed broadband take-up is below the average. This may be partly caused by the fact that mobile broadband use on large screens is above the average in these countries and substitute for fixed access. In Malta, despite lower GDP per capita, fixed broadband penetration is above the EU average.

Figure 11: Fixed broadband penetration and GDP per capita

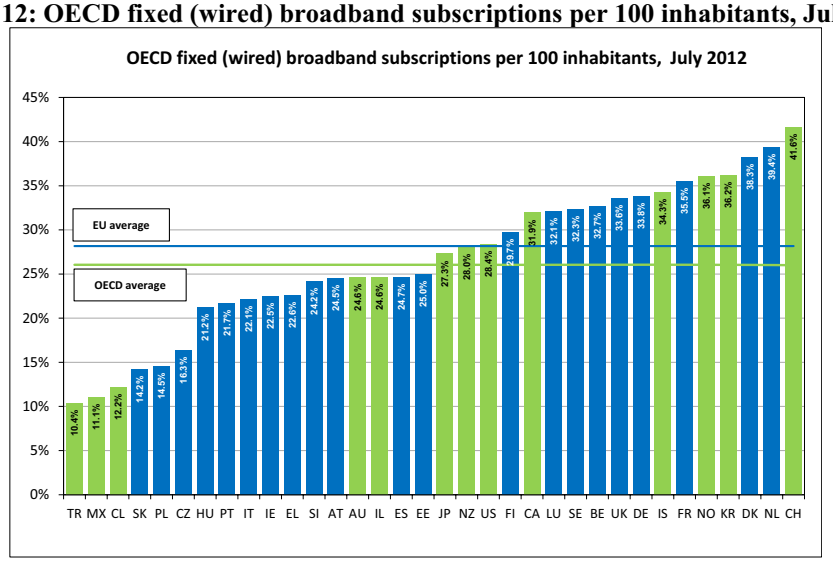


Source: EC services based on Communications Committee

2.2.3. An international comparison of broadband penetration

Fixed broadband penetration in the EU was slightly higher than in Japan and just below that of the US as of July 2012. The EU fixed broadband market has grown faster than those of Japan and the US over the past few years. Four European countries (Switzerland, the Netherlands, Denmark and Norway) are among the five best performing countries in the world in fixed broadband penetration.

Figure 12: OECD fixed (wired) broadband subscriptions per 100 inhabitants, July 2012



Source: Commission services based on the Communications Committee and OECD figures[4]

[4] The OECD applies a slightly different definition of fixed broadband by excluding fixed-wireless and satellite access.

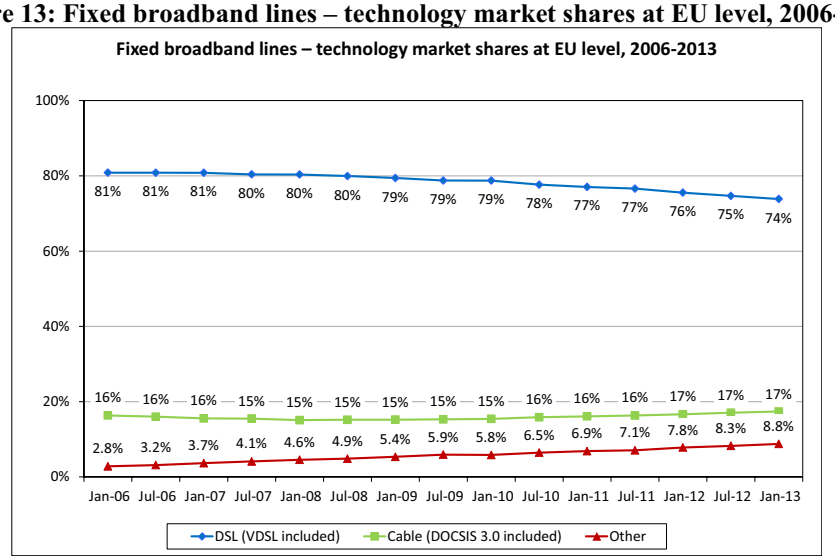
2.2.4. Fixed broadband technologies

xDSL continues to be the predominant technology in the EU broadband market despite the decrease of its share from 80.9% of all fixed broadband lines in January 2006 to 73.8% in January 2013. Nevertheless, the number of xDSL lines increased by 1.7 million in 2012. All this increase can be attributed to VDSL lines, which currently represent a mere 3.9% of xDSL lines.

Cable, being the second most widespread fixed technology, has slightly increased its market share from 15.4% to 17.4% since 2010. The number of cable lines increased by 2 million, slightly surpassing xDSL in growth in 2012. NGA cable based on DOCSIS 3.0 doubled in 2012, as it expanded by 8.4 million lines making cable the most widely used NGA technology in the EU. By now, the vast majority of European cable networks have been upgraded to DOCSIS 3.0, and two thirds of cable subscriptions have already been migrated to this standard.

As for the other technologies, fibre lines (FTTH and FTTB) went up by 31% in the last 12 months, but still represent only 5.1% of all fixed broadband lines.

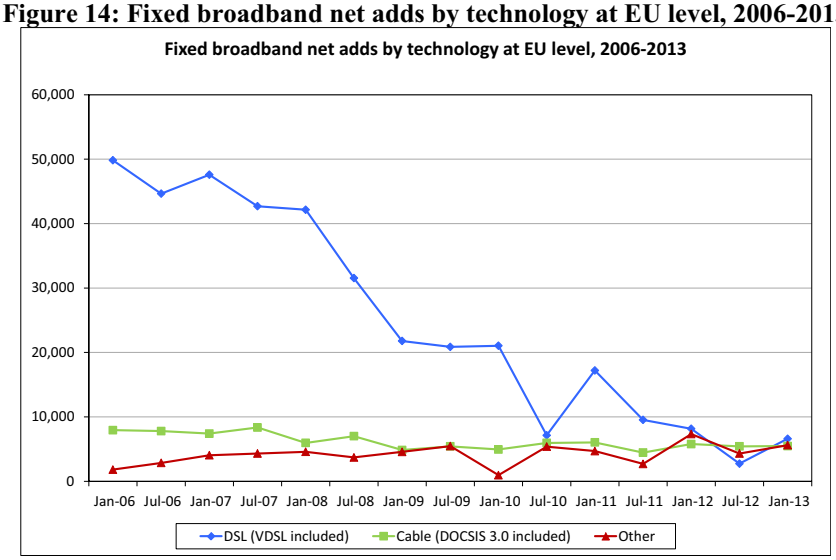
Figure 13: Fixed broadband lines – technology market shares at EU level, 2006-2013



Source: Communications Committee

Growth in xDSL has significantly declined since 2006, and the growth stands currently at comparable levels with cable. The growth rates in cable have been more stable over the last years. Nevertheless, the penetration over coverage ratio is still much higher for xDSL than for cable suggesting that there is still a high potential for cable operators to expand their customer base.

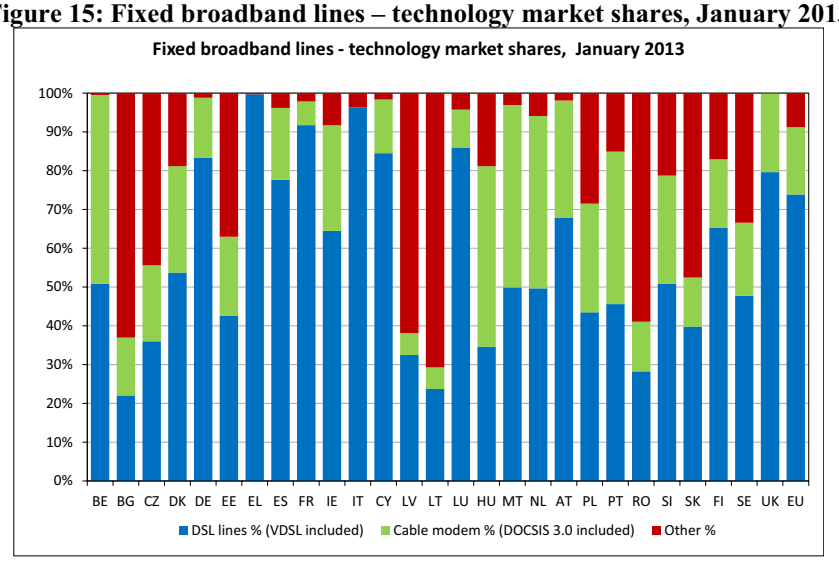
Figure 14: Fixed broadband net adds by technology at EU level, 2006-2013



Source: Communications Committee

xDSL is the dominant technology in most of the Member States, with really high market shares in Greece (100%), Italy (96%) and France (92%). In these Member States, the access to the incumbents` DSL infrastructure is of particular importance, as far as competition is concerned. xDSL has a substantially lower share in Eastern European Member States, where the legacy PSTN networks have not been deployed so widely than in Western Europe. xDSL has a relatively low share also in Belgium, the Netherlands and Malta, where cable provides strong platform competition. Cable is present in all but two countries (Italy and Greece), and plays a major role also in Portugal and Hungary.

Figure 15: Fixed broadband lines – technology market shares, January 2013

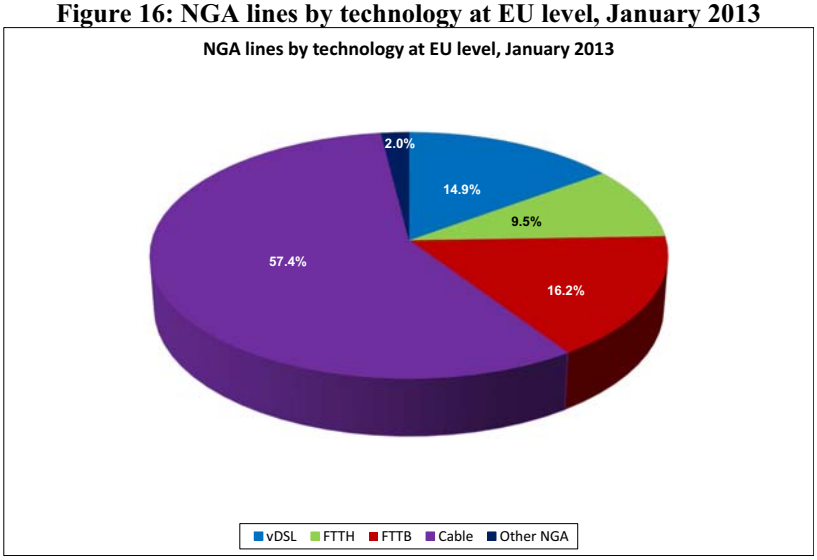


Source: Communications Committee

In terms of NGA technologies, cable is by far the market leader having 57.4% of high-speed lines. Over 90% of European cable networks have been upgraded to Docsis 3.0 capable of download speeds well above 30 Mbps. Furthermore, cable operators have also migrated the majority of their customer base to NGA. VDSL has been progressing much more slowly, as only a fraction of xDSL lines have been upgraded to VDSL. FTTH and FTTB have a combined share of 25.8% within NGA lines, and

only 5.1% of all fixed broadband lines as opposed to 42% in Japan, 58% in South Korea and 9% in the US[5]. NGA lines in total account for 20.3% of EU fixed broadband lines as opposed to 12.2% a year ago.

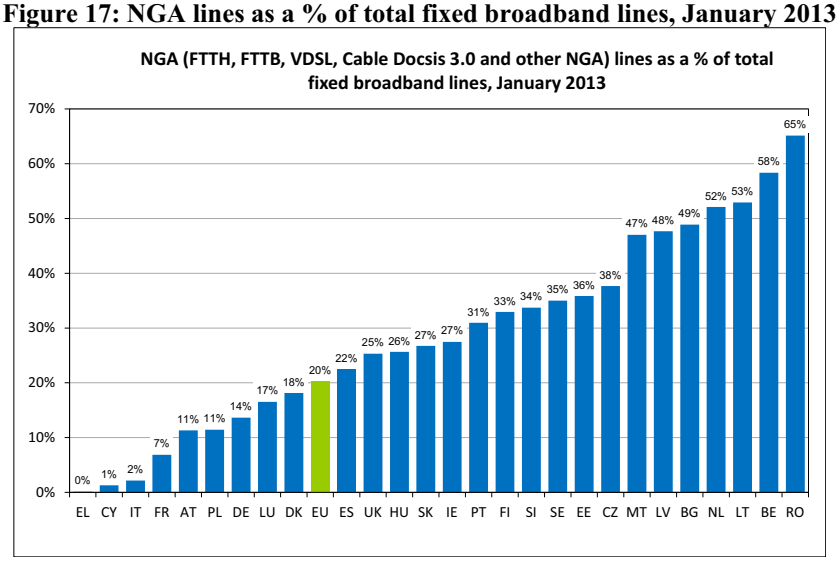
Figure 16: NGA lines by technology at EU level, January 2013



Source: Communications Committee

NGA technologies are most widespread in Romania, Belgium, Lithuania and the Netherlands, where over 50% of lines are high-speed. NGA lines are mainly based on cable in the Netherlands and fibre (FTTH and/or FTTB) in Romania and Lithuania. In Belgium, both VDSL and cable are important. Greece, Cyprus and Italy are similar in terms of weak platform competition and for lacking a significant presence of VDSL.

Figure 17: NGA lines as a % of total fixed broadband lines, January 2013

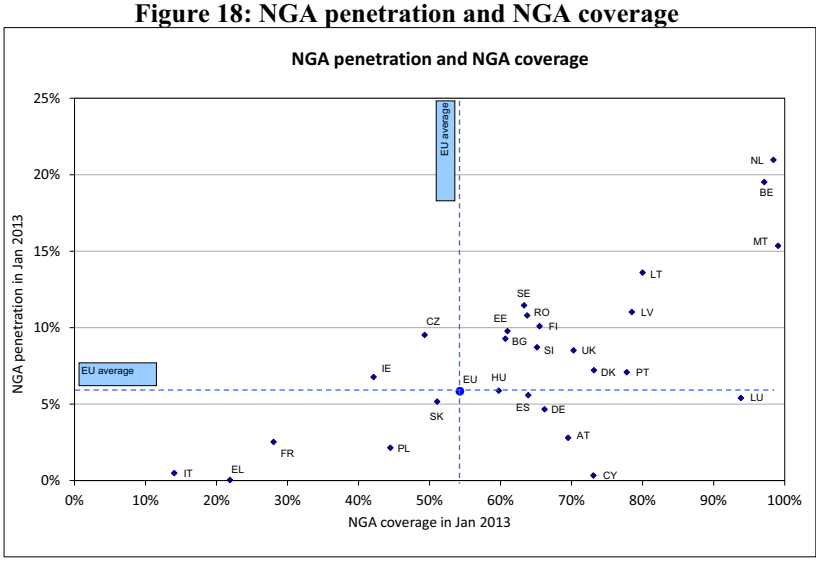


Source: Communications Committee

[5] Source: FTTH Council

The correlation between NGA penetration and coverage is positive (R^2= 0.5193). There is, however a large difference between coverage and penetration: NGA is available to 54% of EU homes, but take-up is only ~12% of homes.

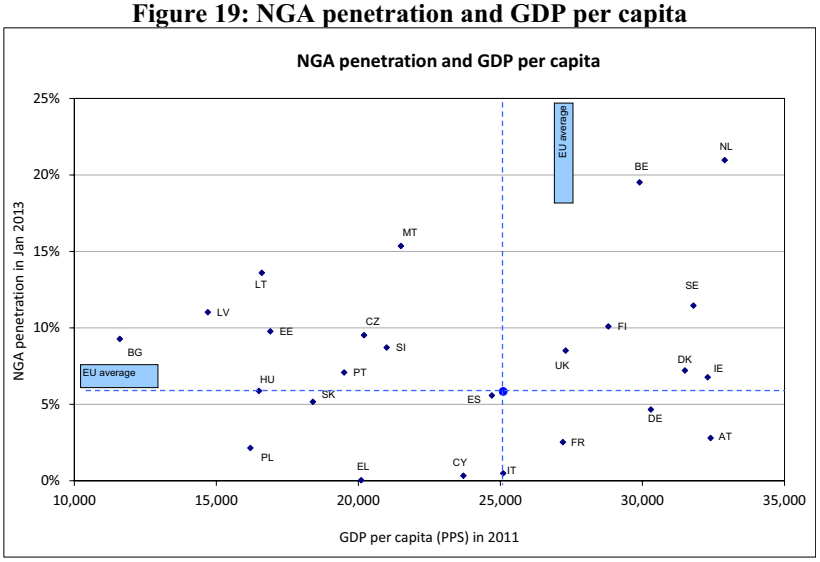
Figure 18: NGA penetration and NGA coverage



Source: EC services based on Communications Committee

On the other hand, there is no correlation between NGA penetration and GDP per capita (R^2=0.0012). This is because NGA deployments are more dependent on the state and coverage of legacy DSL infrastructure and the existence of infrastructure competition. This is the reason why Eastern European countries have higher than average NGA penetration despite the lower GDP figures. In Belgium and the Netherlands, strong infrastructure competition between xDSL and cable brings high NGA availability and penetration.

Figure 19: NGA penetration and GDP per capita



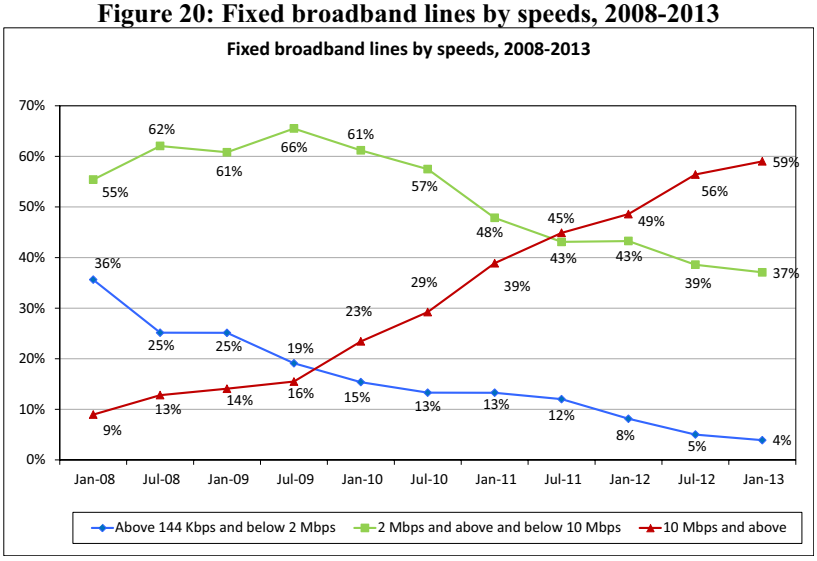
Source: EC services based on Communications Committee

2.2.5. *Fixed broadband speeds*

The Digital Agenda calls for fast and ultrafast broadband. Although a lot of progress has been made in improving broadband speeds, fast (at least 30 Mbps) and especially ultrafast (at least 100 Mbps) broadband are still rare in Europe.

The progress is more significant when considering lower speed brackets. Five years ago only 9% of fixed broadband lines provided at least 10 Mbps, in January 2013 it was 59%. Furthermore, currently only 3.9% of lines are below 2 Mbps as opposed to 35.6% in January 2008.

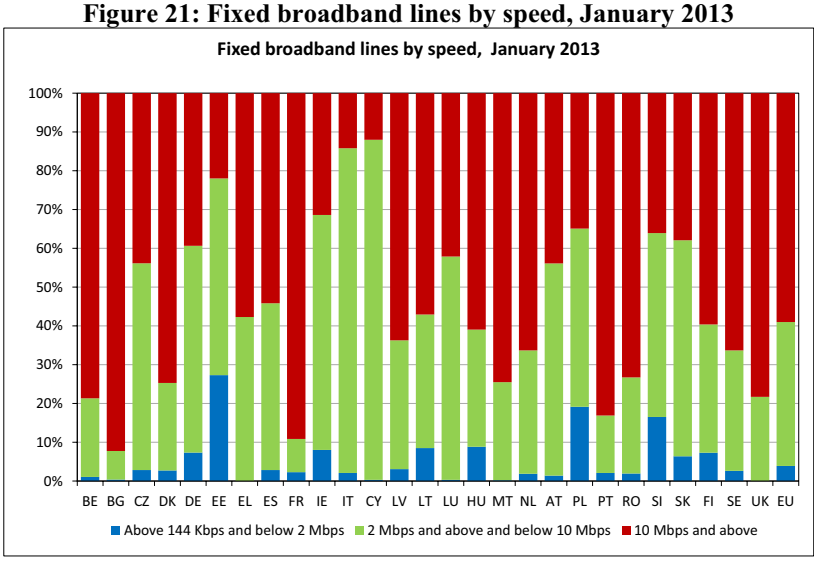
Figure 20: Fixed broadband lines by speeds, 2008-2013



Source: Communications Committee

There are only three Member States (Estonia, Poland and Slovenia), where more than 10% of lines are below 2Mbps. In Bulgaria and France, already roughly 90% of lines are at least 10 Mbps.

Figure 21: Fixed broadband lines by speed, January 2013

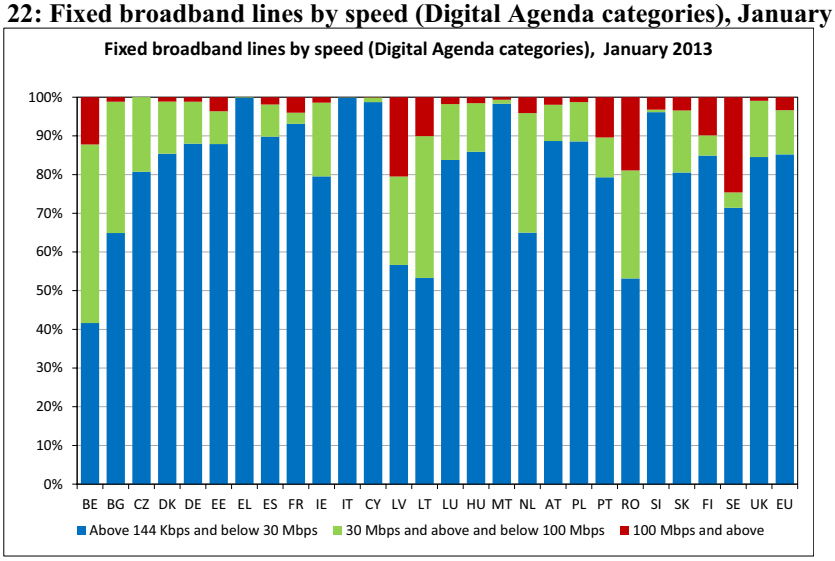


Source: Communications Committee

14.8% of European fixed broadband lines provide a headline download speed of at least 30 Mbps up from 9% a year ago, mainly thanks to the expansion of cable DOCSIS 3.0 lines. Belgium is the most advanced in NGA, as close to 60% of fixed broadband lines are at least 30 Mbps download as a result of fierce platform competition between cable and VDSL. Belgium is followed by Romania, Lithuania, Latvia, Bulgaria and the Netherlands with rates between 35-50%. At the same time, less than 5% of fixed broadband lines are at least 30 Mbps in Greece, Italy, Cyprus, Malta and Slovenia.

The share of lines with at least 30 Mbps (14.8%) falls below the share of lines of NGA technologies (20.3%), which are actually capable of delivering 30 Mbps. This is due to the fact that especially in VDSL but also in cable DOCSIS 3.0 offers start from lower speeds in several Member States, and many customers buy the cheaper entry products instead of the high-speed products.

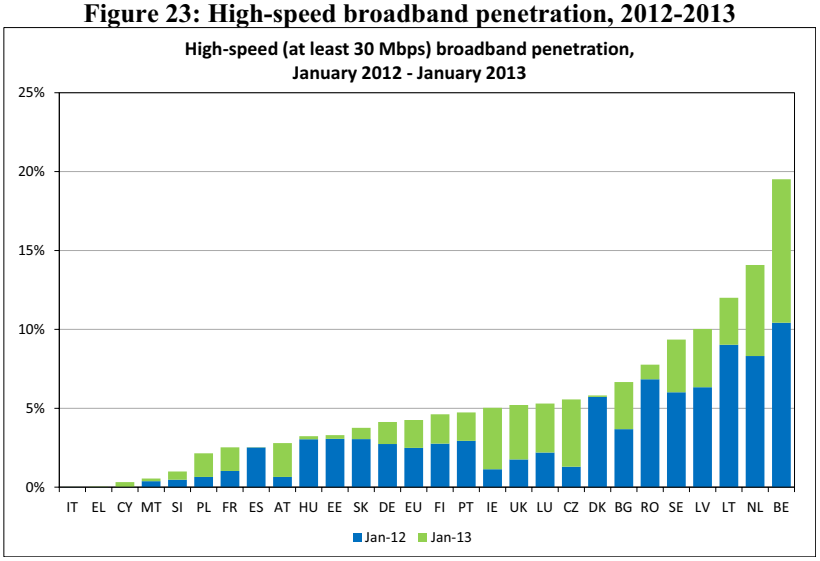
Figure 22: Fixed broadband lines by speed (Digital Agenda categories), January 2013



Source: Communications Committee

The number of high-speed lines (at least 30 Mbps) as a percentage of population is shown in Figure 38. Belgium is on the lead strengthened by a remarkable increase in the last twelve months.

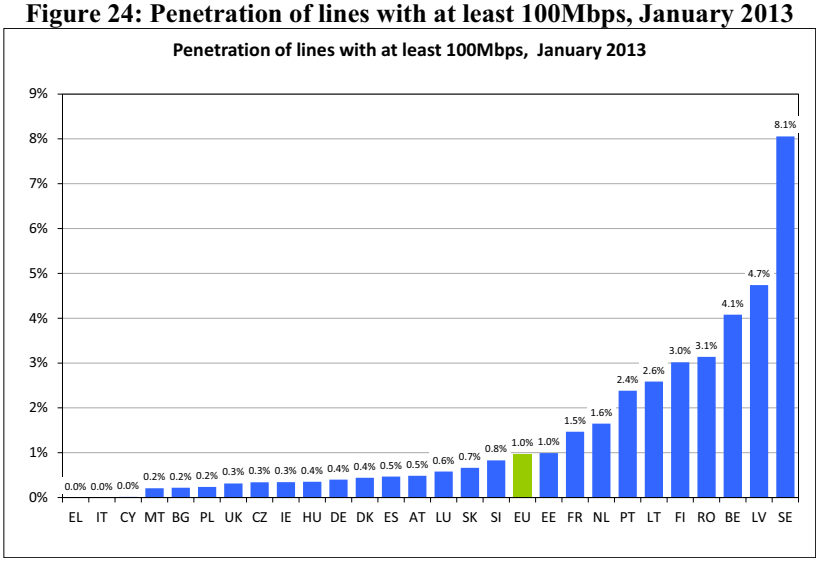
Figure 23: High-speed broadband penetration, 2012-2013



Source: Communications Committee

The Digital Agenda for Europe sets the ambitious target that at least 50% of European homes should subscribe to 100Mbps and above by 2020. Currently, 100Mbps lines are really scarce in Europe; there is one line per 100 inhabitants, which translates to around 2% of homes. Sweden scores best in this indicator in Europe followed by Latvia, Belgium, Romania and Finland. The performance of Romania is even more striking given that it has the lowest overall fixed broadband penetration rate.

Figure 24: Penetration of lines with at least 100Mbps, January 2013



Source: Communications Committee

2.2.6. Actual versus nominal fixed broadband speeds

Several studies[6] have shown that the effective speed of fixed broadband connections is typically less than the headline or advertised speed. In 2012 the Commission launched a study[7] to obtain reliable and accurate statistics of broadband performance across the different EU Member States.

[6] Ofcom, Bundesnetzagentur.
[7] Available at http://ec.europa.eu/digital-agenda/en/scoreboard

Measurements were taken from 9,104 measurement devices in March 2012 spread across all EU countries.

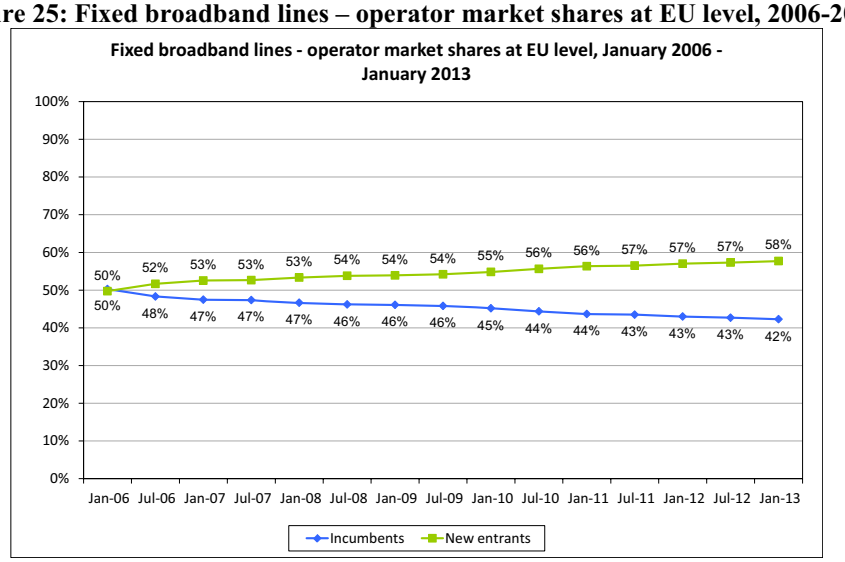
The average download speed across all countries was 19.47 Mbps during peak hours, and this increased slightly to 20.12 Mbps when all hours were considered. This figure represents 74% of the advertised headline speed. These are the overall results of the sample, and do not refer to the actual composition of the broadband market across each country.

The study showed that there is significant variation in the performance of different technologies. xDSL based services achieved 63.3% of the headline download speed, whilst cable and FTTx services, including VDSL, achieved 91.4% and 84.4% respectively.

2.2.7. Competition dynamics

The market share of the incumbent operators has followed a slight downward trend, going down from 50.3% in January 2006 to 42.3% in January 2013. New entrant operators increased their market share by 0.8p.p. last year.

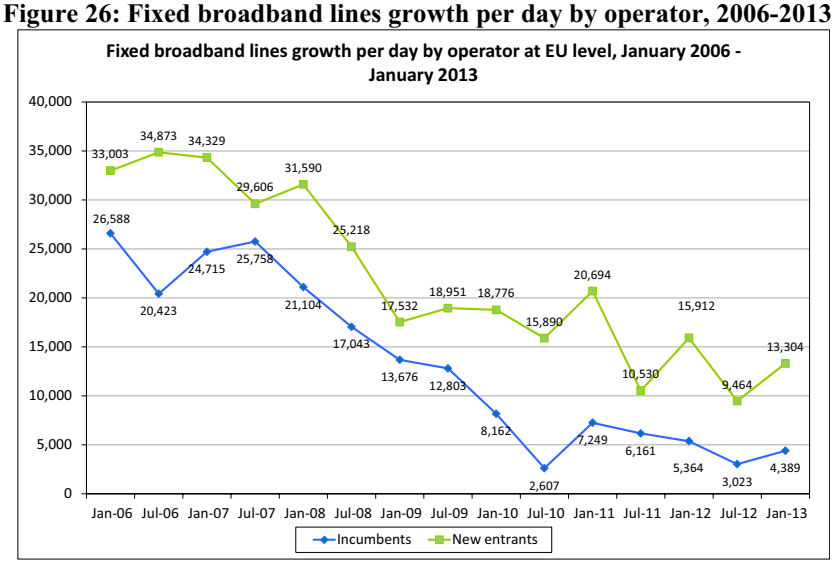
Figure 25: Fixed broadband lines – operator market shares at EU level, 2006-2013



Source: Communications Committee

The net gains of new entrants were much above those of incumbents in the last 7 years. In the second half of 2012, new entrants added 13k new lines per day, which is more than three times the daily increase in incumbent lines. New entrants were more active also in selling NGA lines.

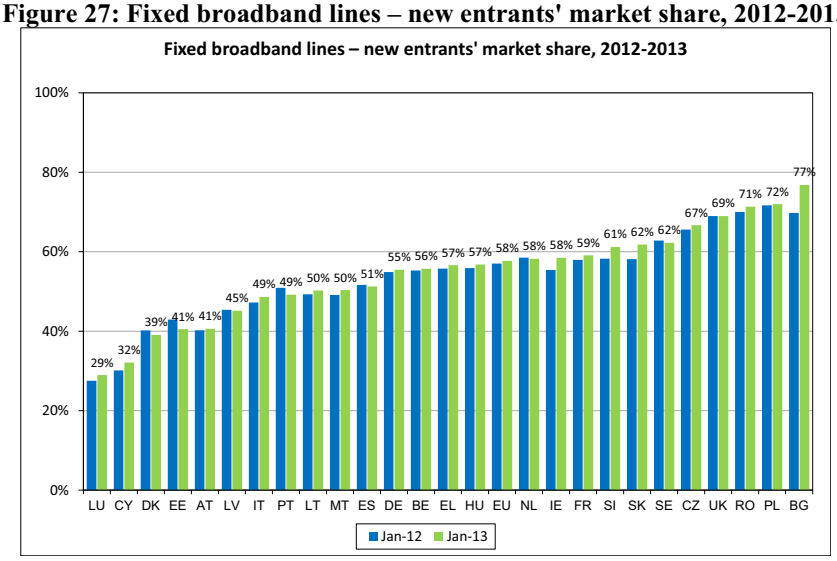
Figure 26: Fixed broadband lines growth per day by operator, 2006-2013[8]



Source: Communications Committee

The market power of incumbents varies greatly across Member State. In Bulgaria, Romania, Poland and the Czech Republic there is strong platform competition, while in the UK new entrants have gained a substantial share on the incumbents xDSL network. On the other hand, incumbents remained very strong in Luxembourg, Cyprus and Denmark. In Luxembourg and Cyprus, the share of xDSL lines is above the average, while in Denmark, the incumbent also plays a key role in the cable market. Despite the general decline of incumbent market shares in the EU, in seven Member States (Denmark, Estonia, Latvia, Portugal, Spain, the Netherlands and Sweden) the incumbents managed to regain market share in 2012.

Figure 27: Fixed broadband lines – new entrants' market share, 2012-2013

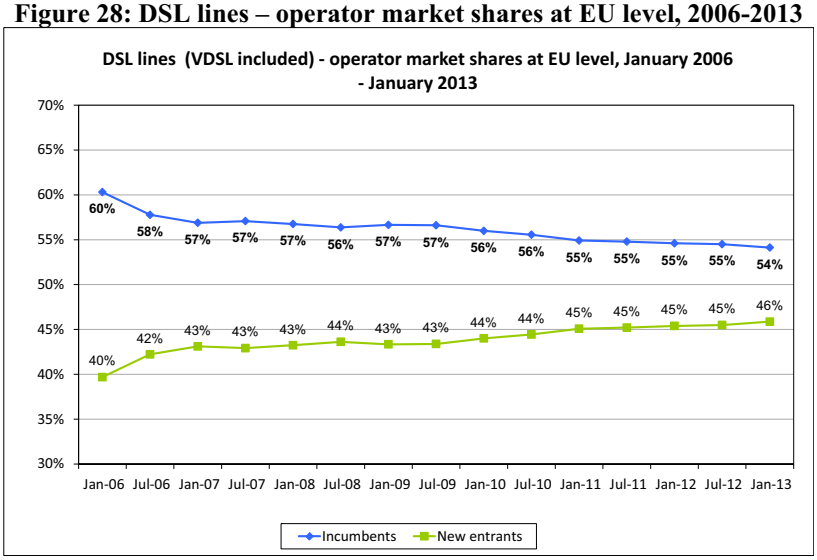


Source: Communications Committee

[8] The July 2010 figures are influenced by some adjustments in certain Member States

As far as the xDSL market is concerned, the market share of incumbents shows a similar pattern exhibiting a continuous but slight decline, although in this segment incumbents still control over half of the lines. The incumbents share in the xDSL market went down by 0.5 p.p. last year.

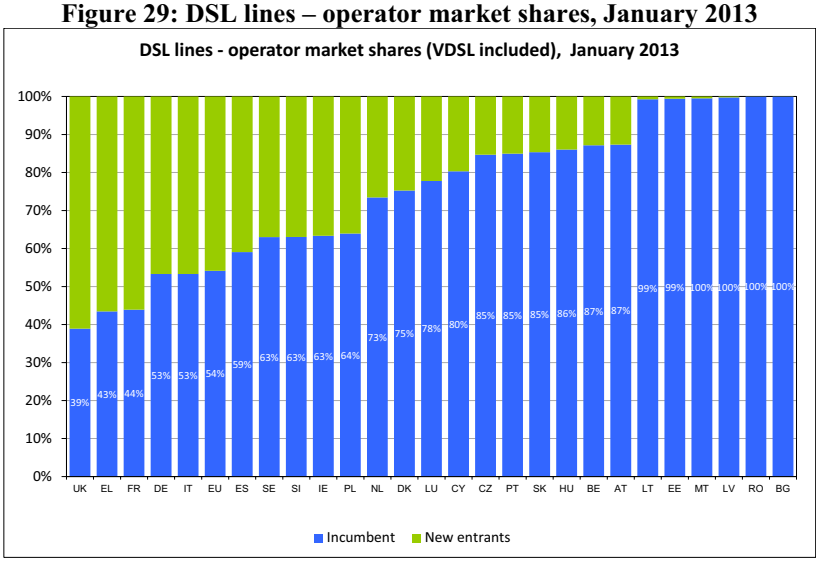
Figure 28: DSL lines – operator market shares at EU level, 2006-2013



Source: Communications Committee

In six Member States (Bulgaria, Romania, Latvia, Malta, Estonia and Lithuania), the incumbents control almost the whole xDSL market, but all these countries have strong alternative platforms (cable or FTTH/B). New entrants are the strongest in the xDSL market in the UK, Greece, France, Germany and Italy. In all these Member States, xDSL lines represent more than 80% of all fixed broadband lines. On the other hand, in Cyprus and Luxembourg, both the share of xDSL lines and the market share of the incumbents in the xDSL market are above the average.

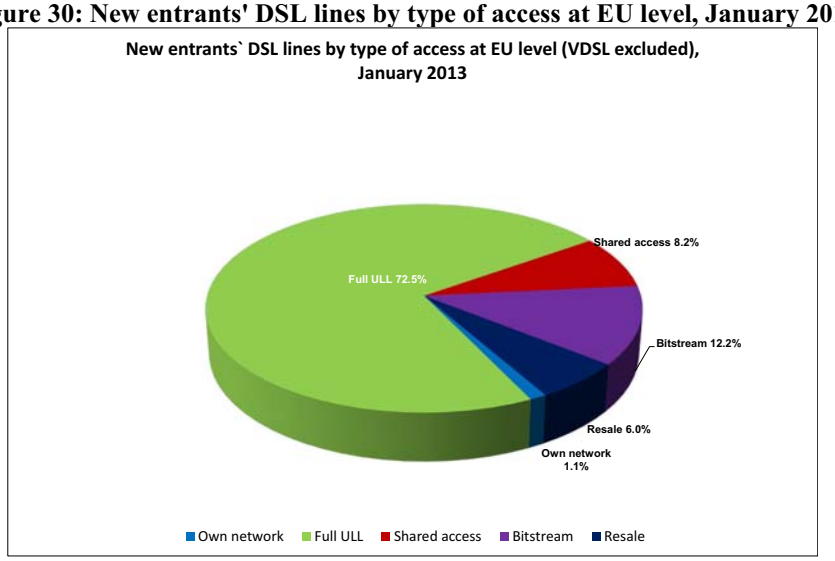
Figure 29: DSL lines – operator market shares, January 2013



Source: Communications Committee

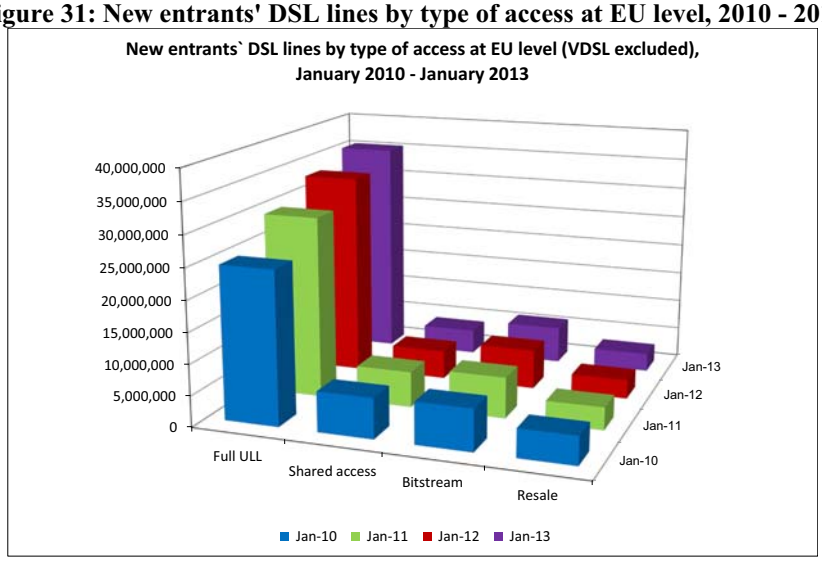
New entrants use local loop unbundling (fully unbundled lines and shared access) as the main option to access the incumbent network. There is a continuous migration towards full LLU, all other types of access to the incumbent network is going down. Fully unbundled lines are the most popular in Greece, Cyprus, Austria, Portugal, Sweden, Germany, France, Spain, Italy, Romania, the Netherlands, Luxembourg, Denmark and the UK. However, in Belgium resale is the most popular access type, while in the Czech Republic, Hungary, Slovenia and Ireland bitstream is the most widely used.

Figure 30: New entrants' DSL lines by type of access at EU level, January 2013



Source: Communications Committee

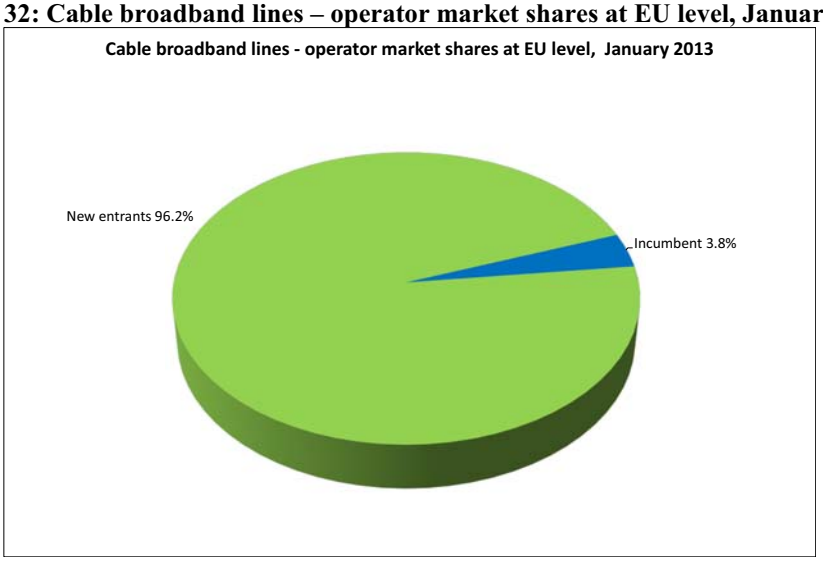
Figure 31: New entrants' DSL lines by type of access at EU level, 2010 - 2013



Source: Communications Committee

Incumbents have no major presence in the cable market with the exception of Denmark and Hungary.

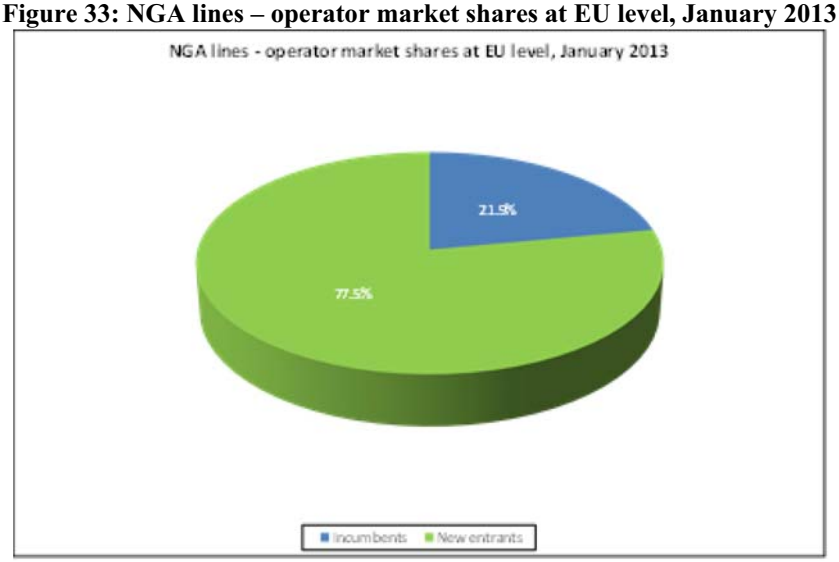
Figure 32: Cable broadband lines – operator market shares at EU level, January 2013



Source: Communications Committee

The NGA market is currently dominated by new entrants, mainly cable operators. This is mainly due to the much faster spreading of cable NGA lines than VDSL. FTTH and FTTB are also mainly provided on new entrants' networks.

Figure 33: NGA lines – operator market shares at EU level, January 2013



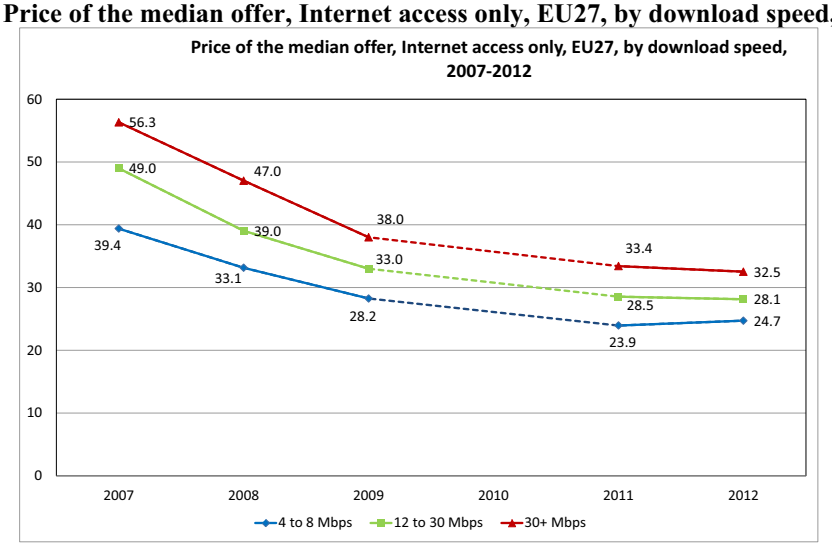
Source: Communications Committee

2.2.8. Prices of fixed broadband access

The analysis of retail broadband prices for fixed access networks is based on available offers because information about the most popular packages in the market is not available. To analyse trends in broadband retail prices, we differentiate available offers according to speed brackets and bundling solutions (standalone internet, internet + telephone, internet + telephone + television). Median

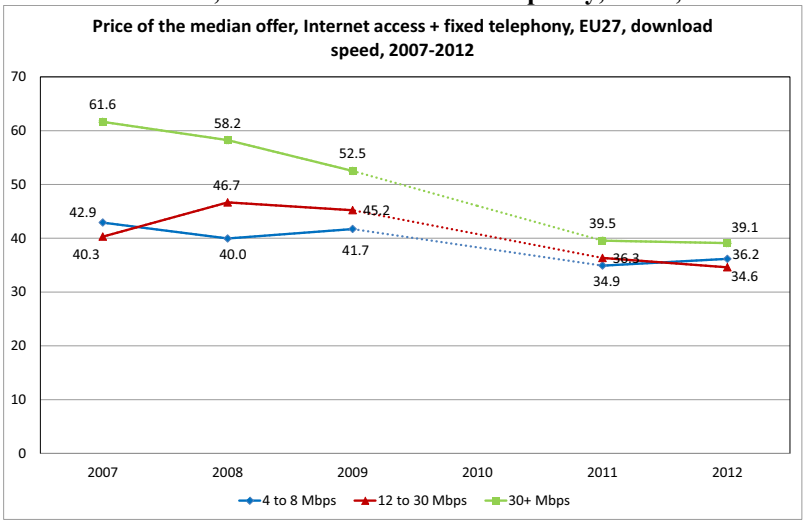
prices are used to compare the price levels in 2009 to 2012. The sample includes around 3,700 commercial offers[9] and reveals a pattern of price reduction over the last six years.

Figure 34: Price of the median offer, Internet access only, EU27, by download speed, 2007-2012



Source: Broadband Internet Access Cost (BIAC) Reports by Van Dijk

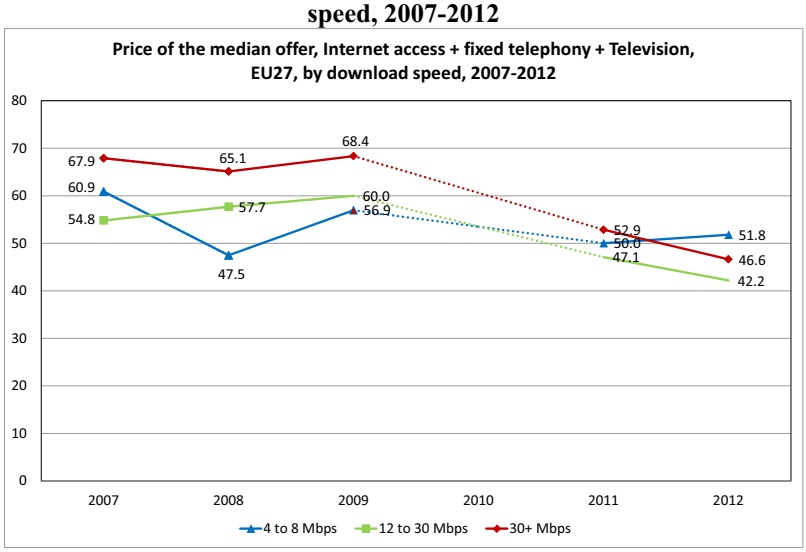
Figure 35: Price of the median offer, Internet access + fixed telephony, EU27, download speed, 2007-2012



Source: Broadband Internet Access Cost (BIAC) Reports by Van Dijk

[9] Broadband Internet Access Cost (BIAC). Report August, 2011. Van Dijk-Management Consultants

Figure 36: Price of the median offer, Internet access + fixed telephony + Television, EU27, by download speed, 2007-2012

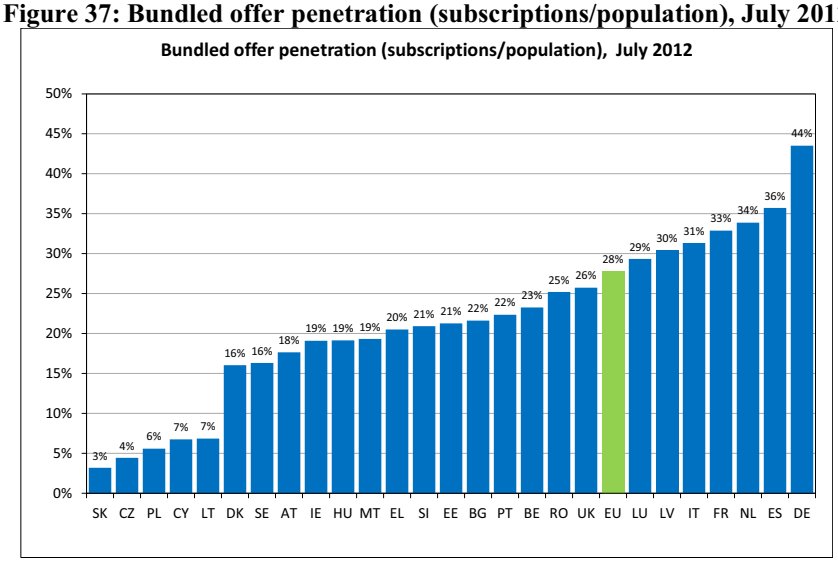


Source: Broadband Internet Access Cost (BIAC) Reports by Van Dijk

Broadband services are more and more provided through bundled packages which may include services such as fixed/mobile telephony and pay TV. In July 2012 there were 27 bundled subscriptions per 100 inhabitants on average in the EU, up from 23 a year ago. 71% of bundled subscriptions include two services (double pay), telephony and internet services.

Bundled service packages are the most common way for consumers to get electronic communications services in Germany, Spain, the Netherlands, France and Italy. On the other hand, in Slovakia, the Czech Republic, Poland, Cyprus and Lithuania, telecom services are sold mainly as standalone products.

Figure 37: Bundled offer penetration (subscriptions/population), July 2012



Source: Communications Committee