



COMISIÓN NACIONAL DE LOS
MERCADOS Y LA COMPETENCIA



Telecommunications
and Audiovisual
Sector Economic Report
2016

Telecommunications and Audiovisual Sector Economic Report 2016

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2015 HIGHLIGHTS

The Telecommunications and Audiovisual Sector

Total sector revenue amounted to EUR 30,821 million, practically identical to 2014, breaking the downward trend recorded since 2009

Revenue from end services, which fell by 0.7% year-on-year, totalled EUR 25,358 million, while wholesale services -those provided between operators- grew by 2.3%, to total EUR 5,463 million.

Revenue from broadband services, both fixed and mobile, and audiovisual communication services rose again in 2015, with year-on-year rates higher than in 2014

Audiovisual communication services recorded the highest growth, at a year-on-year rate of 11.4%, followed by mobile broadband at 10.9%.

The penetration of all end services increased

Penetration of mobile broadband grew to 84 subscriptions per 100 inhabitants, while that of fixed broadband grew to 29.2 lines per 100 inhabitants. Penetration of the pay television service grew 9.5%, compared to 31% in 2014, while voice services, both fixed and mobile, saw moderate growth.

Consumer spending fell to a lesser extent than in 2014 due to the increase in the price of bundles combining fixed and mobile services

The average cost for households that subscribe to the quintuple-play bundle was EUR 53.4 per month, 4.8% less than in 2014, while the average expenditure on quadruple-play bundles was EUR 39 per month, nearly EUR 1 more than the previous year.

Quintuple-play bundles, which add pay television to voice services and broadband over both fixed and mobile networks, continue to grow

Once again, quintuple-play bundles grew very significantly, with 1.4 million new subscriptions, totalling 3.6 million, while quadruple-play bundles grew more moderately from 5.8 to 6.1 million.

Higher degree of service bundling

Pay television stands out with 78.7% of its subscribers purchasing it bundled with other services, i.e. 17 percentage points more than in 2014. Fixed telephony and broadband bundles showed more moderate growth, with 67.2% and 96% of bundled lines.

Investment in the sector exceeded EUR 5,600 million

Investment, the net of the amount allocated to gaining spectrum rights in the 800 MHz and 900 MHz bands, was practically the same as in 2014. The deployment of fibre-optic networks by the leading telecommunications operators and also the deployment by mobile operators of their fourth-generation network (Long Term Evolution) continued.

More extensive roll-out of next generation access networks (NGA)

At year end, NGA (next generation access networks) connections totalled 34 million, of which 23.6 million were fibre connections and 10.3 million were HFC DOCSIS 3.0. These figures represented nearly 8 million new connections compared to the previous year. They were almost all fibre connections.

Consolidation process in the sector

In 2015 various acquisitions took place: DTS by Movistar and Jazztel by Orange which were approved subject to conditions, and also the acquisition of R by Euskaltel at the end of the year. This, in addition to the 2014 acquisition of Ono by Vodafone results in 78.2% of the annual sectoral revenue being generated by the three main operators (Movistar, Vodafone and Orange).

Fixed communications

FIXED TELEPHONY

The total number of fixed lines increased after six years of falls

There was an increase in the number of lines in the residential segment and a decrease in the business segment, although less so than in other years. Penetration grew slightly to 41.9 lines per 100 inhabitants.

In 2015 average traffic per line fell significantly

Traffic originated on fixed networks fell by 12.9%, compared to the increase in traffic originated on mobile networks. In light of the increased presence of flat-rate voice tariffs for calls originated on both types of networks, users opted for using mobile phones instead of landlines.

Increase in the number of fixed lines bundled with mobile services

Nearly half of fixed telephone lines were included in a quadruple- or quintuple-play bundle, compared to 17.4% in double- and triple-play bundles.

Market share by lines of the three main operators reached 92.5%

Alternative operators continued to gain ground and achieved a fixed-line share of 48.3%, while Movistar lost 2.9 percentage points in the year.

BROADBAND OVER FIXED NETWORKS

Broadband connections exceeded 13.5 million lines

Fixed network broadband connections grew by 4.1% in the last year, exceeding 13.5 million. This volume of lines took penetration to 29.2 lines per 100 inhabitants.

Significant increase in the number of FTTH lines, which doubled in one year

xDSL technology fell for the second consecutive year and more sharply, by 14.7%, while FTTH connections doubled in 2015 to reach 3.2 million.

5.5 million lines with a connection speed of 30 Mbps or higher

The improvement in access networks was reflected in the higher speeds of subscribed broadband lines. Some 40.6% of lines had a speed equal to or higher than 30 Mbps, that is, 82% more than in 2014.

The main operators increased their total number of lines in absolute terms

Despite winning nearly 70 thousand lines, Movistar lost market share to alternative operators, although to a lesser extent than in previous years, closing the year with 43.1% of lines. The three leading operators accounted for 92.6% of total fixed broadband lines.

Intensification of bundled products including fixed and mobile services

Nearly 96% of broadband lines were bundled with another service. It should be noted that, in 2015, 71.6% of lines were bundled with fixed and mobile services, up 10 percentage points on 2014.

For the first time, the wholesale loop unbundling service recorded a fall

The loop unbundling service fell by 440,000 units to below 4 million after recording increases year after year. As their FTTH network roll-out progresses, the main alternative operators use this wholesale service to a lesser degree to provide service to their end customers.

The NEBA wholesale indirect access service grew significantly

The demand for the wholesale Ethernet broadband indirect access service (NEBA) intensified its presence and ended the year with 177,834 lines, compared to 18,544 lines in 2014.

Mobile communications

The total number of mobile lines rose slightly to 51.1 million

The total number of mobile lines increased by 261 thousand, as a result of the gain of 1.4 million postpaid lines, which offset the loss of 1.2 million prepaid lines. At year end, penetration reached 109.9 lines per 100 inhabitants.

Revenue from mobile telephony end services fell once again, by 15.7% in one year

Revenue from mobile telephony end services – which include voice and messaging services– fell significantly to EUR 5,194.9 million, despite the fact that voice traffic volume grew by 4.6%.

More than half of mobile lines were bundled

In three years, the percentage of mobile lines bundled with some other service, fixed or mobile, has gone from 17.7% to 54.3%.

The price of mobile calls fell by 20.2%

Average revenue from all voice services fell once again; in 2015 it fell by 20.2% overall, with a bigger fall in the postpaid segment, situating average revenue at 5.6 euro cents per minute of conversation.

Growth in mobile broadband services slowed in 2015

In 2015, a total of 39 million mobile lines accessed the Internet over mobile communications networks, 2.3 million more than in 2014. Most of those lines, 37.4 million, connected to the Internet via a mobile phone. For its part, revenue grew 10.9%.

The wholesale mobile network access service provided by MVNOs recorded a year-on-year increase of 26.4%

Wholesale market revenue totalled EUR 1,628.2 million, up 16% on the previous year. The mobile network access service provided by third-party operators, mainly MVNO operators, was the main reason for the 26.4% increase in turnover compared to 2014, particularly due to revenue associated with data traffic.

Audiovisual communication services

Revenue (excluding subsidies) obtained by radio and television operators grew 11.5% to EUR 4,222.4 million.

The recovery in advertising revenue, which grew 5.8% in the year, together with the increase in pay television revenue, were the main causes of the revenue growth.

If the subsidies received by operators from public authorities are added to that figure, sector revenue totalled EUR 5,940.4 million.

In October, the Spanish Ministry awarded six new TDT licences.

As a result, the national open audiovisual offering had three new high-definition channels and three new standard definition channels.

Of the six channels, two were awarded to Mediaset and to Atresmedia and the other four to Grupo Secuoya, 13TV, Kiss TV and Real Madrid TV.

Audiovisual content has consolidated itself as the differentiating element in telecommunications operator offerings

The commercial strategy of the telecommunications operators focused on audiovisual content as a differentiating element. That, together with the ever-increasing predominance of bundles combining fixed and mobile services, pushed quintuple-play bundles (which adds pay television to both fixed and mobile voice and broadband services) to centre stage in 2015, with 1.4 million new subscriptions in the year, totalling 3.6 million bundles.

Pay television service subscriptions exceeded 5.6 million

The total number of pay television subscribers in Spain exceeded 5.6 million customers, with nearly half a million more subscribers than the previous year.

Movistar, through its Fusión bundled offering and the acquisition of DTS, became the leading operator in the pay television market in 2015. It ended the year with 3.9 million subscribers, which represented 69% of the total.

Pay television bundling

Some 78.7% of pay television subscriptions were bundled with some other service, compared to 61.4% the previous year. It should be noted that 64% of total subscriptions included quintuple-play bundles, compared to 17.5% in 2013.

1. THE TELECOMMUNICATIONS AND AUDIOVISUAL SECTOR

1.1. The Spanish sector in the European context

Year-on-year growth of 1.9% in EU (28) real GDP in 2015 and the prospect of this indicator stabilising in 2016 herald a better outlook for the European telecommunications sector after years of crisis-induced declines. Business opportunities for connectivity and the value-added services provided through it, the sector consolidation process and the improving economy could make improvements in revenue possible.

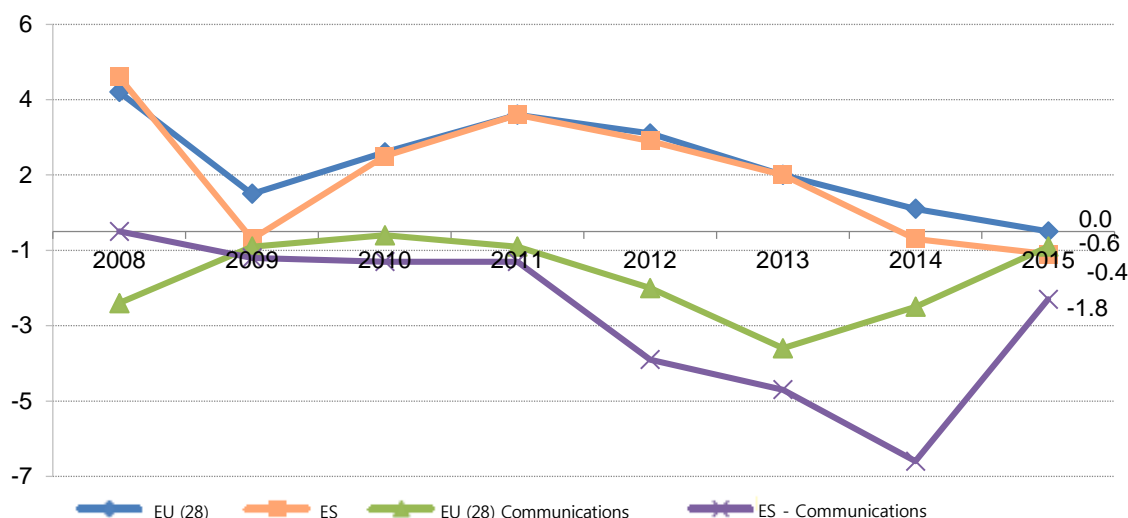
In fact, worldwide telecommunications revenue grew by 1.1% and fell by 1.2% in the EU, less than in 2014 (-3%) and in 2015 (-4.9%) (IDATE data¹). Some of the major European operators, such as Deutsche Telekom, Orange and Movistar, were therefore able to mitigate or reverse the fall in their business volumes in European markets and in their countries of origin and also increase their overall revenue (10.5%, 2% and 8.6%, respectively).

In Spain, where real year-on-year GDP grew 3.2% in 2015, sector revenue practically did not change compared to 2014, whereas in previous years it fell around 7% year on year. Prices fell by 1.8% (year-on-year rate of change of communications CPI), less than in 2014, year sectoral CPI fell by 6.1%. In spring 2015, various operators raised the prices of some of their mobile offerings and of their convergent bundle offering (i.e. those that include fixed and mobile services). In winter 2016, the same happened again. We will have to wait and see whether the low reached in 2014 by the Spanish communications CPI represents a trend reversal.

Price changes in Europe follow a similar pattern, although in the last two years the magnitude of the change in prices in Spain has been greater. Both in Spain and in the EU (28) prices of communications fell, while other prices remained stable in Europe or fell less sharply than in Spain. In Europe, the CPI for communications increased from 2013, although in 2015 it remained in negative territory.

¹ World Telecom Services Market, IDATE, 2015

GENERAL PRICE INDEX AND SUBINDEX FOR COMMUNICATIONS PRICES IN THE EU (28) AND IN SPAIN (RATE OF ANNUAL CHANGE)



Source: Eurostat

With reference to the different activities, voice communications services experienced a chronic crisis for years, with a sustained drop in revenue from the different telephony activities: fixed and mobile. Competition in telephony markets, their maturity, with the universalisation of the use of mobile phones and the appearance of over-the-top (OTT) communications, have undermined the capacity to generate revenue from certain types of telephony traffic. In contrast, services associated with both mobile and fixed broadband connectivity, particularly value-added services, have yielded improved operator revenue.

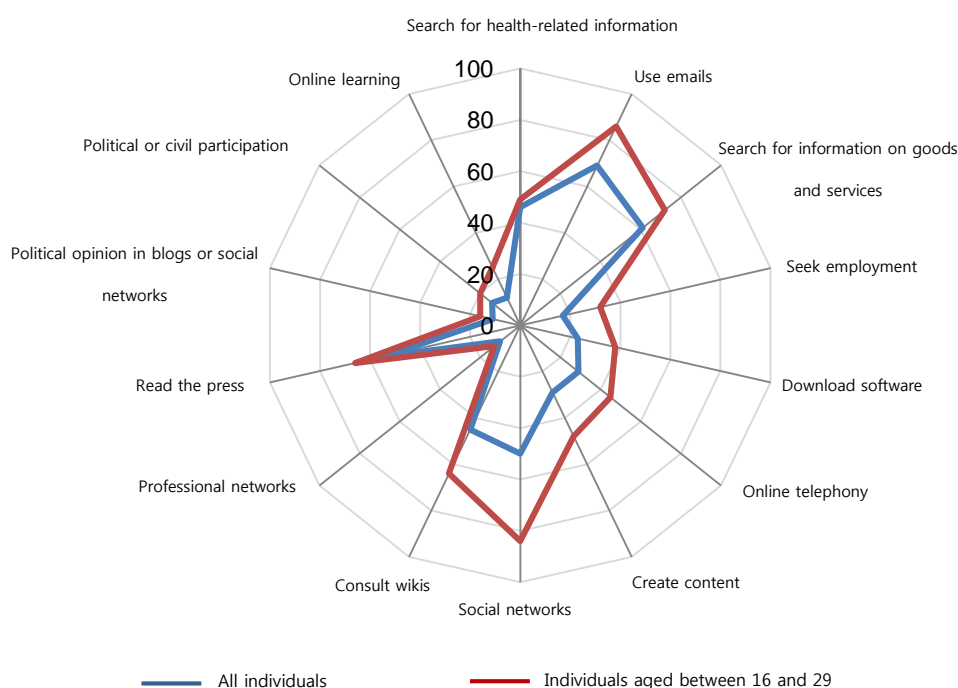
Operators have made significant investments in next generation networks and are now looking for ways to capitalise on that investment. According to EC data, in the first six months of 2015, coverage of the LTE network in the EU (28) grew by 8.1% and NGA fixed networks by 4.1%. Currently, many European operators have intensified their efforts to supplement their traditional connectivity offering with other services valued by consumers and which allow them to differentiate their offering, such as television and entertainment, connected home and cloud services. For example, in Spain investment in acquisitions of audiovisual content grew by 11.5% in 2015, whereas they fell by 1.6% in 2014.

At the same time, various European operators are planning the sale of some infrastructure assets which to date were regarded as strategic assets to raise funds to reduce their debts and to finance other activities considered more attractive. This approach was initiated by Telecom Italia, which in 2015 listed 40% of Inwit, its mobile telecommunications tower subsidiary. In February 2016, Telefónica created Telxius, whose assets include 15,000 Telefónica telecommunications towers in Spain and in other countries and the group's international network of 31,000 km of submarine optical fibre. Deutsche Telecom is also considering the option of splitting off and selling some of its infrastructure assets. All of these events could strengthen a vertically disintegrated European infrastructure sector.

Broadband

Access to broadband and particularly high- and very high-speed broadband, is one of the elements driving European economic recovery. The current technological disruption process and the transformation it implies in citizens' lives is unparalleled. According to Eurostat, 67% of European citizens connect to the Internet on a daily basis. Approximately, half of Europeans search for health-related information on the Internet, use social networks, read the press or consult wikis, two out of every ten seek employment and three out of every ten make online calls. All these percentages increase significantly among digital native youths.

DIFFERENT USES OF THE INTERNET BY YOUNG INDIVIDUALS OF THE EU (28), USE IN THE LAST THREE MONTHS (PERCENTAGE), 2015



Source: Eurostat

With the arrival of 3D printing, cloud computing, virtual and augmented reality, the Internet of things and all the usable information generated by the online activity of people and objects, we are on the threshold of the fourth industrial revolution. For example, a study commissioned by the EC envisages that by 2020 there will be 6 billion IoT connections in Europe and that this will generate revenue of EUR 1,180 million. Given this situation, Europe faces major technological challenges, for example, in the field of standardisation and interoperability and, also, training people in the necessary professional skills, avoiding the professional digital gap and also educating citizens in order to enable them to benefit from these new realities in an informed manner. This must be accompanied by legislative changes, both resulting from the review of current legislation, to prevent it from hindering the development of new activities, and from creating new laws that protect the activity and digital life of companies and citizens.

The European Digital Strategy, published in May 2015, is one of the EC's main tools for promoting an integrated digital market and enabling the emergence of a European Internet ecosystem. One of its pillars is to drive connectivity: achieving the extensive deployment of new telecommunications networks that will provide users with quality connections and at reasonable prices. In fact, the fourth industrial revolution would not be possible without adequate operator investment in new networks and an effective communications regulatory policy that will safeguard the interests of both current and future consumers. In fact, in the public consultation on the need for a fast and high-quality Internet (2015-2016), the EC identified that agents perceive the need to improve access connectivity and that, although download speed seems to be the most highly valued feature, other properties such as upload speed, latency and reliability of the connection will become increasingly important in the future.

In September 2016 the EC proposed ambitious connectivity objectives for Europe that extend those envisaged in the Digital Agenda for Europe. The Communication on "Connectivity for a Competitive Digital Single Market - Towards a European Gigabit Society" states that by 2025 there must be symmetric connectivity at a speed of 1 gigabit per second in strategic places such as public infrastructure or certain industrial zones and uninterrupted 5G in urban centres and major transport arteries and, lastly, that all households must have Internet access at a speed of at least 100 Mbps, in both rural and urban areas. Accompanying this Communication, the EC proposes a major reform of the electronic communications regulatory framework and envisages the launch of a fund for European broadband in 2016, as well as exploring different financing options to prepare for Community budgets after 2020. It is significant that the promotion of high-connectivity broadband access and demand is explicitly recognised as an objective in the proposed legislative framework, when in the current framework the objective is to promote investment and innovation in general.

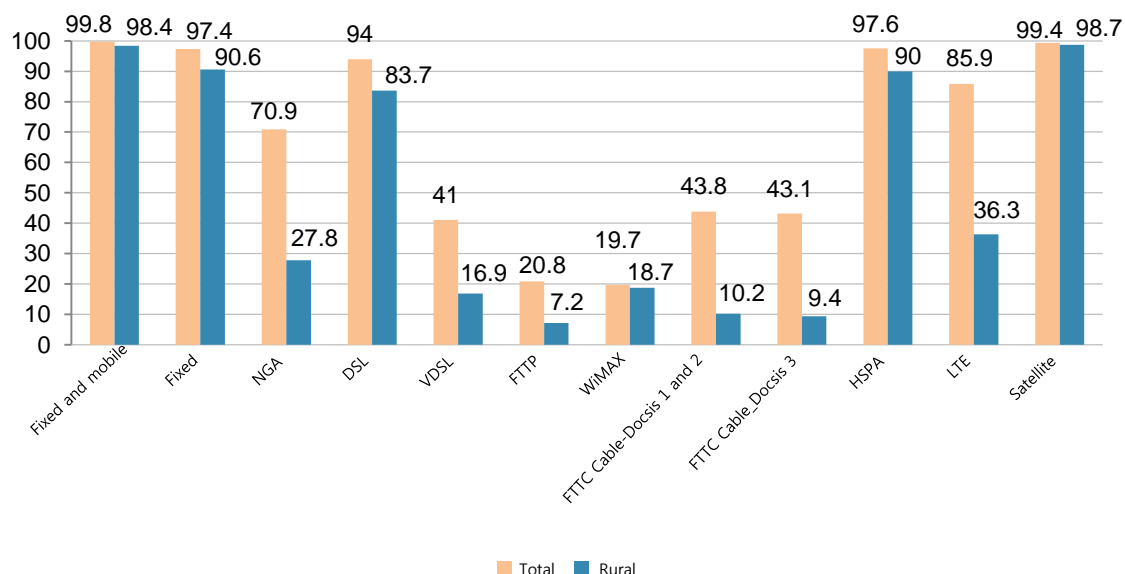
Broadband network coverage

In Europe, old-generation fixed and wireless networks with practically universal coverage, such as copper pair and the HSPA mobile network, coexist with other, next generation networks, both fixed and mobile, which enable users to enjoy higher connection speeds, fast broadband (with a speed higher than 30 Mbps) or ultra-fast broadband (with a speed higher than 100 Mbps). These new networks far from offer similar coverage to traditional coverages, such as the copper network with DSL technology which, in July 2015, reached coverage of 94% of EU (28) households or the 3G HSDPA network, which reached 97.6% of households. For example, 70.9% of EU households were covered by at least one NGA network and 85.9% of households by a 4G or LTE network.

- Fixed networks

Since 2012, in the EU (28) growth in the coverage of fixed NGA networks has been 32% and the coverage of the LTE network in 2015 was three times greater than at the end of 2012. It should be recalled that one of the objectives of the Digital Agenda for Europe is to universalise the coverage of networks that allow speeds of 30 Mbps or higher by 2020.

COVERAGE OF THE DIFFERENT FIXED AND WIRELESS NETWORKS IN RELATION TO EU (28)
HOUSEHOLDS (PERCENTAGE), JULY 2015



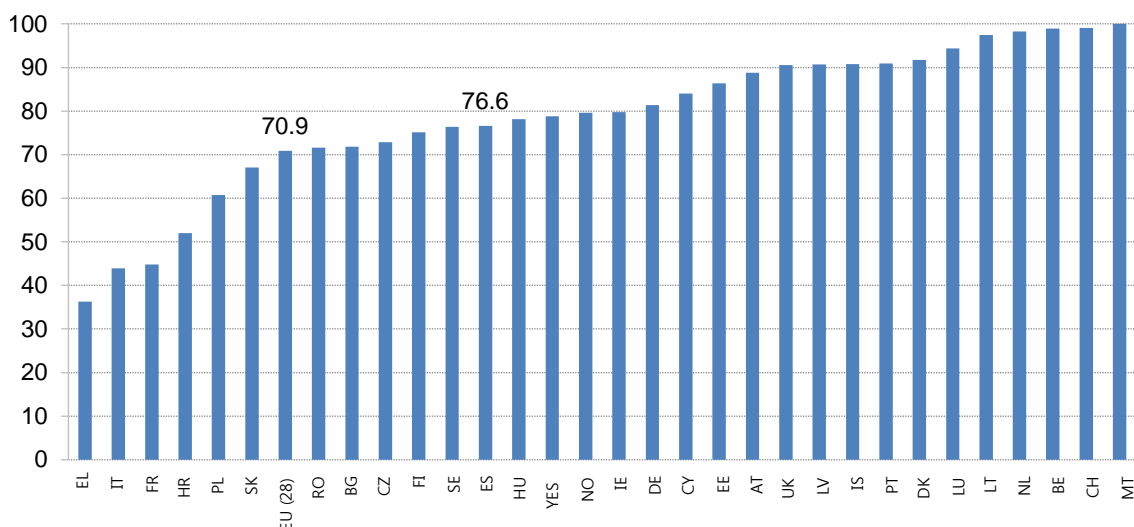
Source: European Digital Agenda Scoreboard, European Commission

There are significant differences between the different networks deployed. The VDSL standard used in Germany and the UK uses traditional copper networks and is cheaper and quicker to roll out than an FTTH network, which involves connecting a fibre cable directly to the end user's home or location. However, an FTTH network, which is more expensive to roll out, guarantees higher speeds and less latency than VDSL and it therefore represents a long-term investment. Cable networks, which were initially developed to offer television services, completed their upgrade to the DOCSIS 3.0 standard, which made it possible to offer fast and ultra-fast broadband services before 2014. These networks are widespread in Belgium and the Netherlands, with practically universal coverage, while in other countries they do not exist or are less significant.

In July 2015, the coverage of fixed NGA networks in Spain reached 76.6% of households (European Digital Agenda Scoreboard), 19.9% more than at the end of 2012. In Spain, the next generation fixed networks deployed are FTTH networks and in 2015 there were 22.8 million FTTH connections installed and 2.7 million in service. Investment in this type of network was significant and by all large operators. In March 2016, Telefónica's network had installed 14.3 connections, Orange had 6.8 and Vodafone 1.4, although this operator also maintains 1.1 cable connections associated with nodes with DOCSIS 3.

It should be recalled that networks and technology evolve over time and that, at present, technologies are being developed that could enhance the performance of currently known networks.

COVERAGE OF NGA FIXED NETWORKS IN RELATION TO EU (28) HOUSEHOLDS (PERCENTAGE), JULY 2015



Source: European Digital Agenda Scoreboard, European Commission

An important characteristic of broadband markets is that in Spanish urban areas where there are better business opportunities, competition is based on infrastructure. In February 2016, the CNMC reviewed its regulation of wholesale broadband services and identified 66 Spanish municipalities where, together with a high level of competition, there were at least three next generation networks deployed simultaneously, each with a minimum coverage of 20% in at least one competitive centre of the municipality. The CNMC decided not to impose access obligations on Telefónica's optical fibre network in these areas. In the other municipalities (an area covering 65% of the population), the CNMC considered it necessary to oblige Telefónica to provide third parties with virtual unbundled access to its fibre network (local NEBA). The resolution of the CNMC also maintains the obligations in relation to the copper network throughout the territory and in relation to Telefónica's civil infrastructure. Lastly, the regulation of wholesale indirect access introduces a significant change: in geographical areas regarded as non-competitive the maximum access speed limit of 30 Mbps for Telefónica's network is eliminated.

Also, in Spain, various regulatory actions facilitate the deployment of these networks. Since 2009, the CNMC's MARco reference offering has allowed other operators to access Telefónica's ducts and pipes in order to facilitate the roll out of their optical fibre networks using the same civil infrastructure as that of the incumbent operator. There are also vertical infrastructure access obligations in relation to buildings which apply to all operators.

Also, in the past operators entered into voluntary infrastructure sharing and co-investment agreements that facilitated investment, although after recent consolidations some of these agreements have been redefined. For example, after the acquisition of Ono by Vodafone, that operator and Orange reviewed their infrastructure sharing agreement and Vodafone agreed to introduce a wholesale service whereby

Orange can access Vodafone's fibre network to offer ultra-fast broadband services to its customers in a maximum of one million property units.

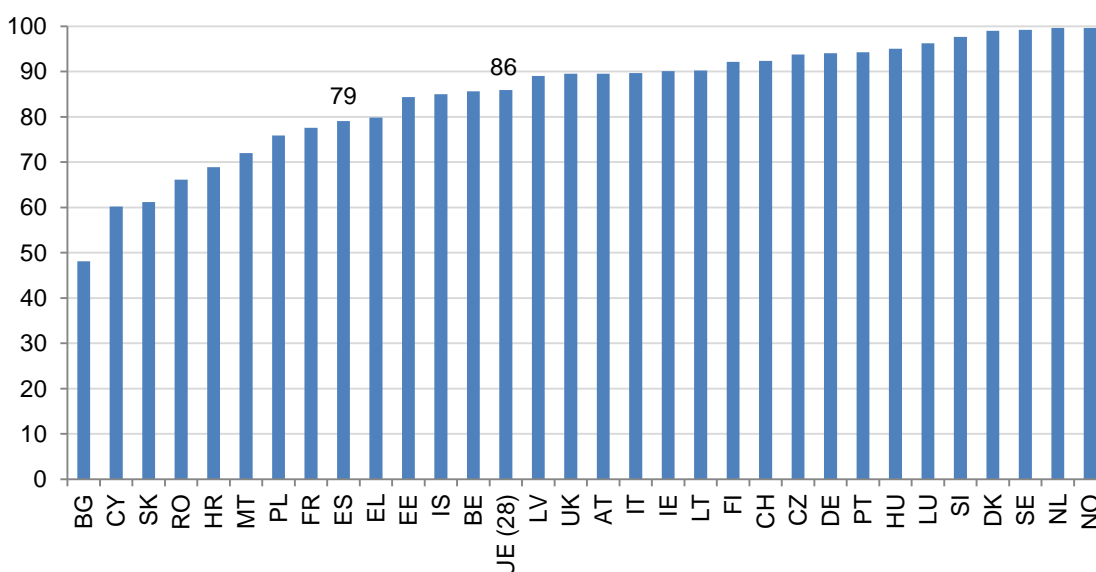
Lastly, in September 2016, Royal Decree 330/2016 relating to measures to reduce the cost of the roll-out of high-speed electronic communications networks was approved, transposing some provisions of Directive 2014/61/EU. In particular, it includes measures for reducing the cost of civil construction work arising from network deployment, such as, for example, the regulation of access rights of operators of public electronic communications networks to some physical infrastructure and the establishment of tools to improve information on current infrastructure, civil construction work planned and procedures applicable to the granting of permits.

- Mobile networks

As regards mobile networks, 3G/HSDPA networks, which enable mobile broadband, have practically universal coverage, but next generation LTE or 4G mobile networks have less coverage: 86% of EU (28) households and 76.6% in Spain. However, LTE coverage has multiplied by 3.2 since the end of 2012 in Europe and by 6.2 in Spain. The Nordic countries had the greatest LTE coverage, with penetrations of more than 95%. Conversely, there are countries where the availability of this service is still very low.

According to operator data, in the first quarter of 2016 Vodafone's 4G network in Spain covered 94% of the population, that of Orange 86.7% and that of Telefónica 83%. In July 2015, 4G services began to be provided over the 800 MHz band, occupied until April by TDT. This band allows greater signal range and significantly increases download and data transmission speed, in addition to improving coverage inside buildings.

COVERAGE OF THE LTE MOBILE NETWORK IN RELATION TO HOUSEHOLDS (PERCENTAGE), JULY 2015



Source: European Digital Agenda Scoreboard, European Commission

One of the pillars of the EC's connectivity plans published in September 2016 is the availability of 5G mobile connections in strategic places such as educational and research centres, hospitals, communications nodes and places where digitally intensive companies are located. In order to avoid delays and differences in the rate of deployment of these connections in European countries, the EC recommends greater coordination of national decisions through the establishment of a common deployment schedule, the availability of common standards and the introduction of measures relating to the allocation of the spectrum aimed at improving the predictability of investor remuneration. These include: establishing transnational spectrum allocation principles, for example, the early identification of bands that will be made available for launches in different phases; instituting a review process between pairs of the national allocation plans; harmonisation of coverage obligations; and, lastly, measures aimed at facilitating the sharing of this scarce resource. As an intermediate target for this ambitious connectivity plan, the EC expects there to be at least one large city in each country with 5G infrastructures.

- Coverage in rural areas

Lastly, the roll-out of the new networks is expensive, particularly fixed networks, due to the high cost required to build and install the civil infrastructure. The amount of the investment made by operators depends on network capillarity, i.e. the proximity of the technology to the end user connection point. Therefore, the new networks are not located throughout Spain, but rather are concentrated in areas where the cost of deployment is less and where there is greater potential demand such as, for example, large or medium-sized cities, with greater population density, a young population and where there is greater economic activity. In rural areas, there is less coverage by new networks. For example, in the EU (28) only 25.1% of households are located in rural areas.

In fact, one of the EC's legislative proposals in September 2016 is partially aimed at favouring the identification of digital exclusion zones or white zones, those in which no operator or public administration even has plans for deploying high-capacity networks in three years' time. To that end, the EC stipulates that national regulators must define coverage maps and investment forecasts, which will allow authorities to carry out calls for expressions of interest in investing in those areas.

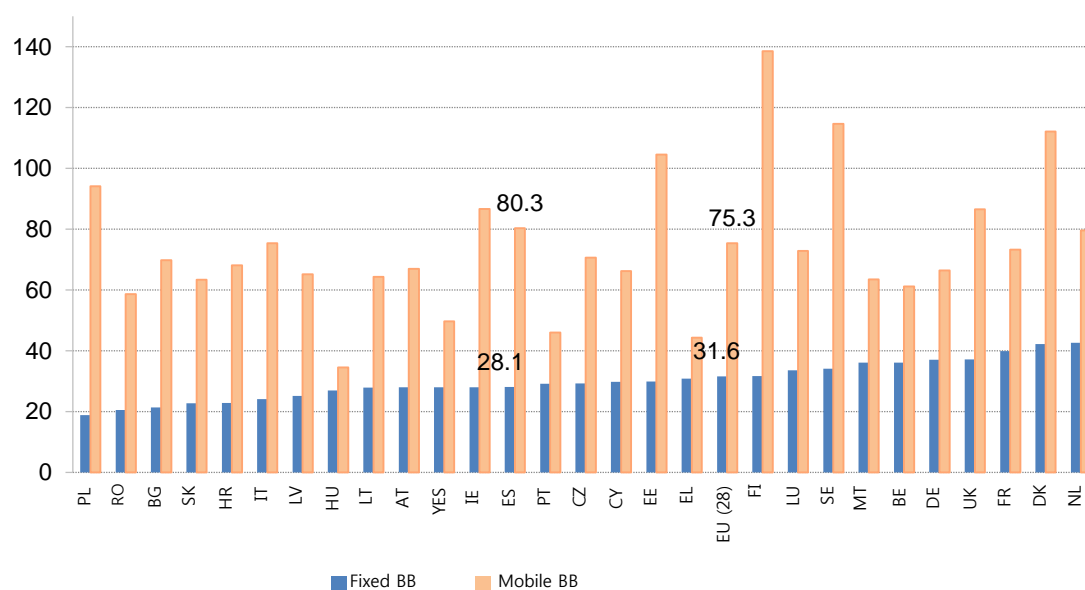
The Digital Agenda for Spain includes a plan with measures for reducing deployment costs and financial aid for telecommunications and fixed and mobile high-speed networks in white zones. In the 2014-2020 period, actions were co-financed with ERDF under the framework of the Intelligent Growth Operational Programme to a value of approximately EUR 277 million. In 2015, 100 of these were favourably decided, projects presented by 39 operators with total investment eligible for funding of approximately EUR 164 million, with aid amounting to EUR 7.3 million in grants and EUR 50.5 million in ERDF advances. Some 94.9% of the aid was granted to FTTH network deployment projects and 3.2% to LTE. Telefónica, with approximately half of the projects financed, received 74% of the aid. The autonomous regions allocated the most aid were: Andalusia, with 26.2% of the total; Catalonia, with 19.8%; and the Autonomous Region of Valencia, with 16.6%.

Also, the European Rural Development Fund supports the deployment of broadband in rural areas and, lastly, a Spanish project for deploying high-speed networks via wireless connections, "Guifi.net", received the European Broadband Prize 2015, in the "financing, negotiation and investment innovator model" category.

Broadband penetration

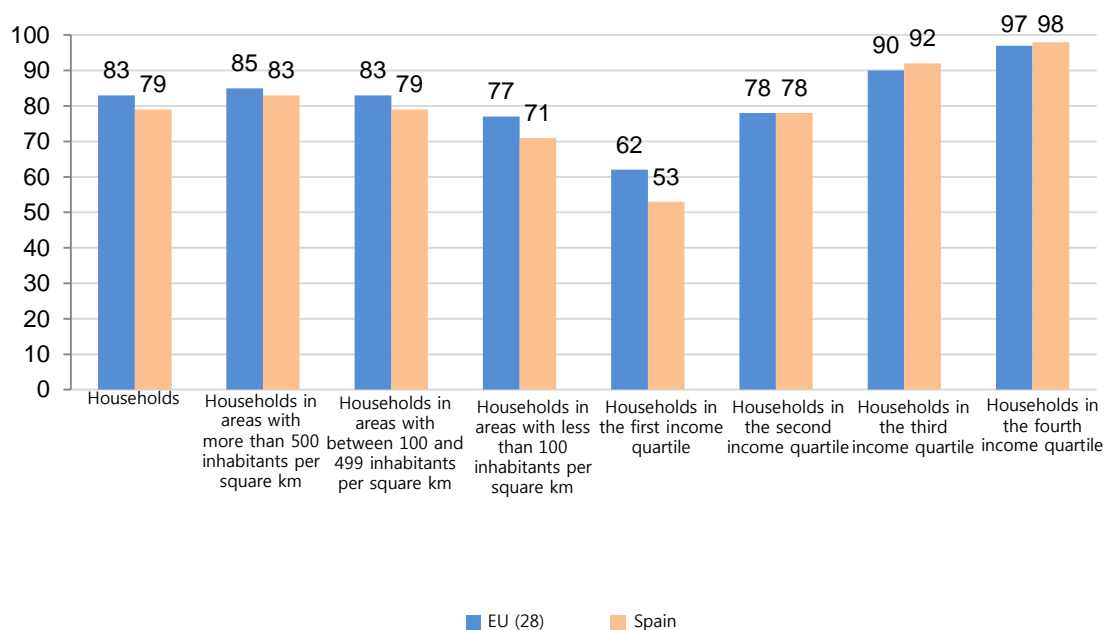
In 2015, the penetration of broadband in the EU (28) continued to rise, that of mobile broadband very significantly, at a year-on-year rate of 12.9%, but also fixed broadband, at a year-on-year rate of 3.7%. In Spain, both services grew at a slower rate, 11.3% and 4.3%, respectively.

PENETRATION OF FIXED AND MOBILE BROADBAND (LINES/100 INHABITANTS), JULY 2015



Source: European Digital Agenda Scoreboard, European Commission

However, according to Eurostat data, there are still segments of the population that do not enjoy the benefits of the network, particularly households with less disposable income. While 83% of European households had access to the service in 2015, only 62% had access in the case of households in the lowest income quartile (in Spain: 53%). Even so, according to the same source, the price of services and hardware is not the main reason for households lacking Internet access. In the EU (28) only 4% of households did not have the service due to its price or 5% due to the cost of hardware. The most frequently mentioned reasons for not having Internet access are that some European households do not consider it necessary (14%) or do not have the necessary skills to use it (7%). In Spain, the situation is similar: 4% and 6% do not have it due to the price of the service and the hardware, respectively, and 8% do not consider it necessary or do not have the necessary skills.

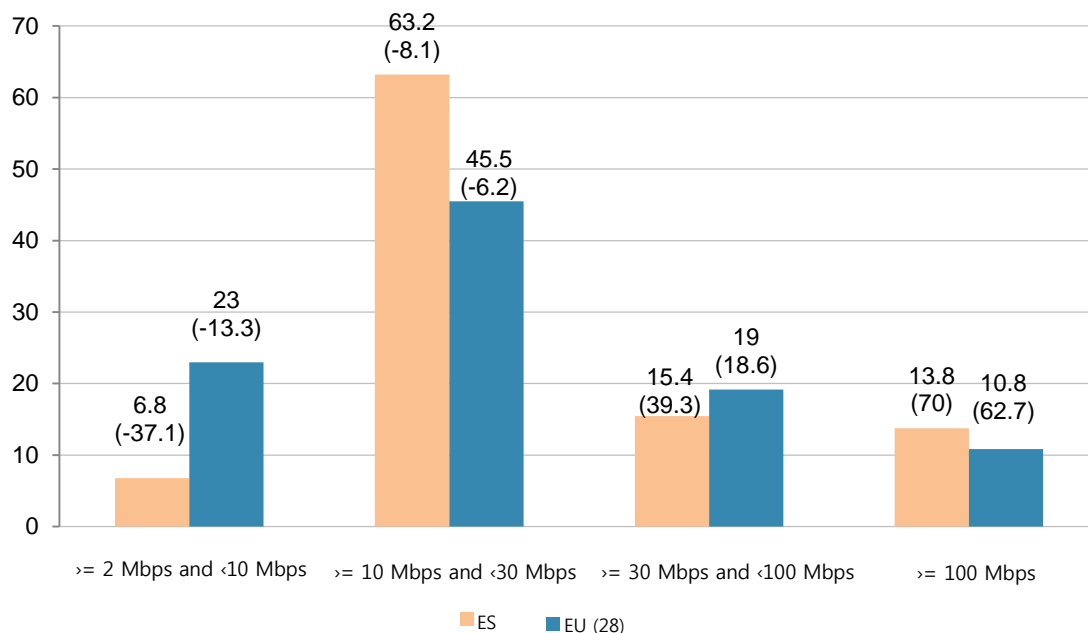
HOUSEHOLDS WITH INTERNET ACCESS BY TYPE OF HOUSEHOLD (PERCENTAGE),
2015

Source: Eurostat

One of the objectives of the Digital Agenda for Europe is that 50% of households will have a speed equal to or greater than 100 Mbps in 2020. Five years away from the target date, the percentage of lines with a speed equal to or higher than 100 Mbps in Spain was 13.8%, a figure 1.7 times higher than that recorded in 2014. In Europe the percentage of lines whose speed exceeded 100 Mbps was 10.8%.

The roll-out of fixed next generation access networks, which allow speeds of over 30 Mbps, has gradually enabled the marketing of higher-speed services. It should be noted that the main operators present in Spain offer maximum speeds at residential level of 300 symmetric Mbps, compared to other countries where NGA networks are based on VDSL technologies, where connections are offered with lower and asymmetric maximum speeds. In Spain, 29.2% of fixed broadband lines had speeds of over 30 Mbps, while in the EU (28) that percentage was slightly higher: 29.8%.

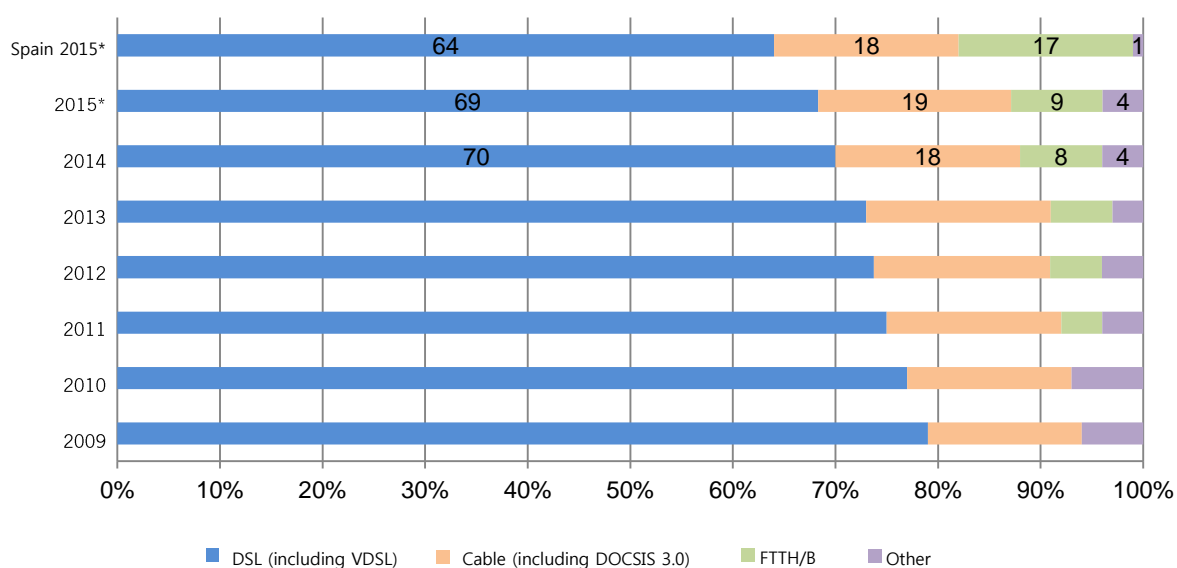
DISTRIBUTION OF FIXED BROADBAND LINES ACCORDING TO DOWNLOAD SPEEDS IN THE EU (28) AND IN SPAIN (PERCENTAGE OF TOTAL LINES AND YEAR-ON-YEAR GROWTH RATE IN PARENTHESES), JULY 2015



Source: European Digital Agenda Scoreboard, European Commission

Most fixed broadband services are provided over three different networks. Firstly, the traditional copper network (xDSL standards), which supports 69% of broadband lines in the EU (28) and 64% in Spain. Secondly, different networks that allow the user to enjoy high speeds, such as, for example, cable networks, nearly all with the DOCSIS 3.0 standard, which represent 19% of European broadband lines (18% in Spain) and, thirdly, fibre networks (FTTH and FTTN/C), which in mid-2015 accounted for 9% of active broadband lines in the EU, but nearly double in Spain (17%).

FIXED BROADBAND LINES BY TECHNOLOGY IN THE EU (28) AND IN SPAIN (PERCENTAGE OF TOTAL LINES), JULY 2015

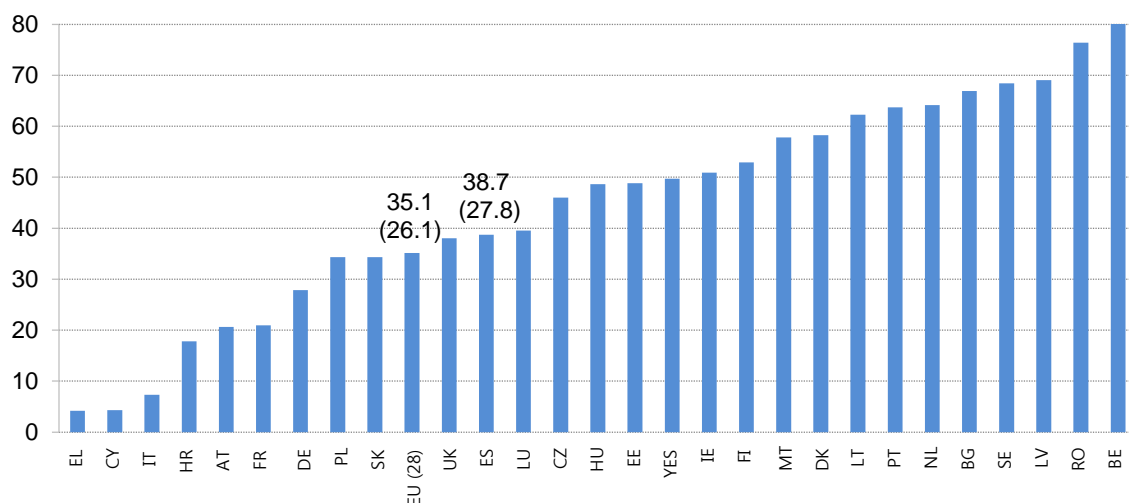


Source: European Digital Agenda Scoreboard, European Commission

In the first few months of 2015, the proportion of DSL and cable networks decreased in Europe, whereas FTTH networks increased by one point by lines. The total number of xDSL lines is gradually falling as customers opt for higher-speed products, or simply because the operating cost for operators is lower with these networks and therefore some prefer to migrate their customers to the new networks. In Spain, most operators are opting for offering similar rates for broadband connections provided using xDSL and NGA technologies at 30 or 50 Mbps. Therefore, as the coverage of NGA networks increases, a very significant migration of xDSL customers to NGA connections is taking place.

In summary, in July 2015 in the EU (28), 35.1% of fixed broadband lines were active NGA lines, despite the fact that their coverage reached 70.9% of households. Some 29.8% of the lines had a subscribed speed higher than 30 Mbps. In Spain, the respective figures are as follows: 38.7% (NGA lines in relation to the total), 76.6% (NGA coverage in relation to households) and 29.2% (lines with a speed higher than 30 Mbps).

ACTIVE NGA LINES IN RELATION TO THE TOTAL NUMBER OF FIXED BROADBAND LINES
(PERCENTAGE AND YEAR-ON-YEAR GROWTH RATE IN PARENTHESES), JULY 2015



Source: European Digital Agenda Scoreboard, European Commission

Lastly, mobile broadband continued its upward trend. In the EU (28), 75.3 data subscriptions per each 100 inhabitants were recorded, five less than in Spain. These data include both active subscriptions from *smartphones* and dedicated connections that use a SIM data card in tablets, PCs or USB connectors for computers. According to Eurostat, 42.8% of individuals used their mobile telephone to connect to the Internet, up approximately five points from 2014. In Spain, 60% of individuals connected to the Internet through their mobile phone.

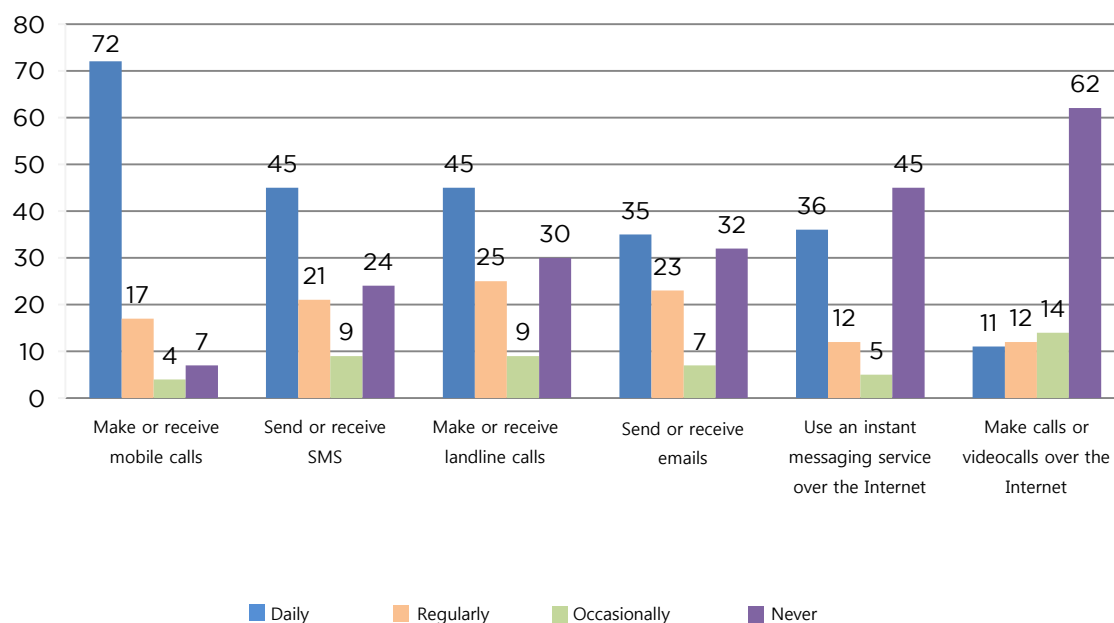
OTT communication services

OTT (over-the-top) services are services offered over the Internet with no control or specific management by network operators. They are, therefore, services that require the end user to have an Internet connection and challenge the IP services provided and managed by electronic communications operators, using different channels and with guaranteed quality. The Body of

European Regulators for Electronic Communications (BEREC) defined them in 2015 as the content, services and applications provided to the end user over the open Internet.

A relevant aspect is that some of these services are services with similar features to those of traditional electronic communication services and that, therefore, it is important to analyse the interrelationship between the two groups. For example, messaging applications continue to win users and are popular because they are free and enable communication between various individuals and the transfer of all types of files, such as photographs or videos, at no extra cost to the consumer. In Spain, these services are widely used. According to data from the Communications Eurobarometer, 57% of Spaniards used this type of application on a daily basis, more than those who made or received landline calls and sent or received SMSs or emails. In Europe, the percentage of daily users of online messaging is lower, 36%, while 11% of individuals make calls or video calls over the Internet daily.

FREQUENCY OF USE OF DIFFERENT COMMUNICATION SERVICES IN THE EU (28)
(PERCENTAGE OF TOTAL INDIVIDUALS), 2015

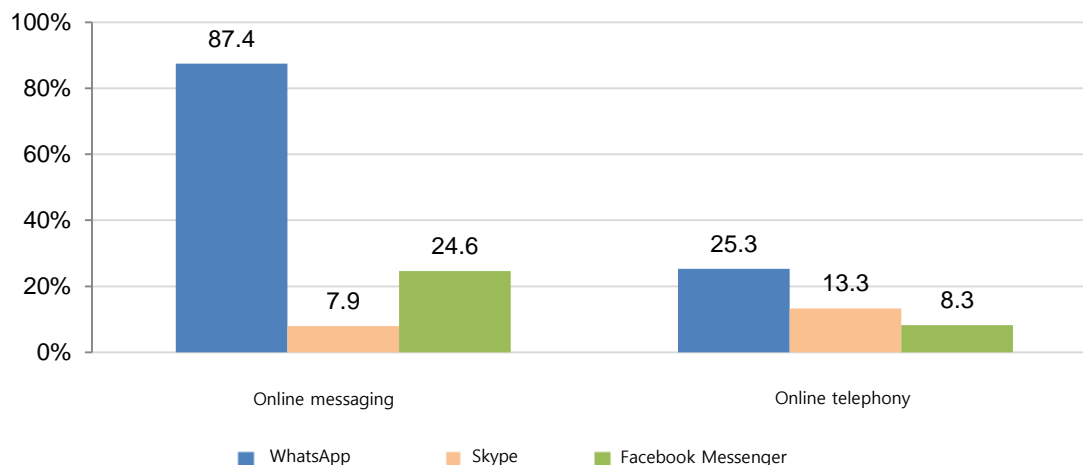


Source: Communications Eurobarometer

In fact, CNMC Household Panel data for the end of 2015 corroborate the success of these new forms of communication: 90.8% of Internet users used instant messaging platforms regularly, 77.8% used social networks and 39.2% used Internet telephony. Additionally, OTT communication services were used frequently by users on their mobile phones. Therefore, nearly eight out of every ten individuals with a smartphone reported that they used an online messaging service several times a day.

In Spain, the most popular communication services provider was WhatsApp. Some 87.4% of Internet users reported that they used their online messaging service regularly and 25.3% their online telephony service.

SPANIARDS REPORTING THAT THEY REGULARLY USE THE MAIN ONLINE COMMUNICATION PLATFORMS (PERCENTAGE OF TOTAL INTERNET USERS) *, 2015



*This graph analyses multiple responses

Source: CNMC Household Panel

Lastly, the following table summarises the experience of Spanish users who used OTT communication services the most and how they changed their consumption of traditional services when they started to use the new services. For example, OTT messaging service users reported that since they started using these applications, 75% no longer send SMSs and 21% no longer make landline calls. The trend is similar in online telephony, although the magnitude of the effects is smaller. Mobile telephony is the service where consumption was least affected by the use of online communication services.

ONLINE MESSAGING AND TELEPHONY USERS ACCORDING TO HOW THEIR CONSUMPTION OF TRADITIONAL SERVICES CHANGED (PERCENTAGE OF TOTAL USERS OF ONLINE COMMUNICATION SERVICES IN SPAIN), 2015

	Stating "I don't use it"			Stating "I use less than half"		
	SMS	Mobile telephony	Fixed telephony	SMS	Mobile telephony	Fixed telephony
Individuals who use online messaging various times a day or nearly every day	75.1	5.2	21.3	17.2	49	39.2
Individuals who use online telephony various times a day or nearly every day	66.2	6	20.8	16.7	44	35.1

Source: CNMC Household Panel

In recent years, there has been significant reflection and debate about whether the current regulatory framework guarantees an adequate balance between operators, given the appearance of OTT services,

whose functionalities are very similar to those of electronic communications and which, to date, are not subject to the same obligations. The legislative reforms suggested by the EC in September 2016 and which must be debated in 2017 include new obligations for OTT service providers, who should comply with some of the telecommunications sector regulations.

Consolidation of the sector in Europe

In 2014 the EC authorised merger transactions between Hutchinson 3G UK and Telefónica (United Kingdom), between Telefónica Deutschland and E-Plus (Germany), between Liberty Global and Ziggo (the Netherlands) and the acquisition of Ono by Vodafone (Spain). This consolidation process within the European telecommunications sector, which began in 2013, continues in 2016. This tendency is motivated by the need to finance heavy investment in their networks and reduce the capital costs of operators. In 2015 the two main European consolidation transactions analysed by the EC were the strategic alliance between two Scandinavian operators TeliaSonera and Telenor (this transaction involved the merger of their activities in the Danish mobile services market) and the acquisition of Jazztel by Orange in Spain.

TeliaSonera and Telenor are the second- and third-largest operators by mobile services customers in Denmark. The alliance between these operators would have involved the creation of an operator with approximately a 40% share of the Danish market (lines) and reduced the number of mobile operators from four to three. The EC decided that these events adversely affected competition in this market and made authorisation of the transaction conditional on significant divestment. Finally, at the end of the year, the companies gave up on their attempt.

The Spanish case raised the suspicions of the EC because it involved the combination of the third- and fourth-largest operators by market share in terms of lines in fixed broadband services. The EC considered that these two operators exerted significant competitive pressure and observed that they were the operators that had recorded the greatest increase in market share in recent years. Although the EC admitted that there were clear efficiencies that had been generated by the transaction, it mainly considered that the incentives of the merged operator to compete would be reduced and that this would adversely affect competition in the market. It therefore made the transaction conditional on the following divestments by Orange, through which it intended to enable the entry of a fourth company that could compete in the Spanish market, which is currently characterised by strong convergence, evident in the high fixed-mobile bundle sales figures.

Orange undertook to give up an independent fibre to the home network that includes between 700,000 and 800,000 property units and covers 13 urban municipalities in five Spanish provinces: Madrid, Barcelona, Valencia, Seville and Malaga. It also undertook to offer wholesale access to Jazztel's national ADSL network to the purchaser of the FTTH network for a period of up to eight years. According to the EC, these commitments allowed the purchaser to compete immediately in 78% of Spain. In October 2015, the telephone operator MásMóvil obtained the EC's authorisation to acquire the optical fibre network deployed by Jazztel and to obtain wholesale access for four years (renewable for four additional years), at a preferential price, to Jazztel's entire copper network (1,123 exchanges with access to 18.6 million homes).

The acquisitions are also motivated by the operators' need to diversify their service portfolio, adding those that generate greater added value and retain customers with greater willingness to spend. For example, in 2015, the CNMC attached conditions to the acquisition of DTS by Movistar, a transaction through which Movistar consolidated its audiovisual content offering. Also in 2015, the EC approved the acquisition of De Vijver Media NC by Liberty Global which, through its subsidiary Telenet, is one of the main pay television operators in Flanders. Given the risk of such vertical integration hindering access to television content in Flemish by other operators, the EC made the transaction conditional on the provision of various guarantees offered by the operator. In 2016, Italian group Mediaset and French group Vivendi, the leading pay television operator in France (Canal+ is its flagship brand), entered into a "strategic agreement" to create a worldwide Internet television platform.

Lastly, in May 2016, the EC announced that it would block the acquisition of O2, Telefónica's British subsidiary with mobile service businesses, by Hutchinson Whampoa on the basis that it represented a threat to competition in the mobile market and that it would raise prices in the British market. The transaction, announced in March, involved the sale of the business to a Hong Kong group for EUR 10,250 million. Through the acquisition, the number of network operators in the market would have gone from four to three and Hutchinson (which operates under the Three brand) would have become the market leader with a market share of approximately 42%.

In September 2016, the EC conditionally approved the authorisation of the alliance between Hutchinson Whampoa and VimpelCom, which involves the merger of the activities of its subsidiaries H3G and Wind in Italy. The situation is similar to that described in Great Britain: the transaction implies a reduction in the number of mobile network operators from four to three and a company becoming the market leader, with 31 million customers, accounting for more than one third of the market. In order to facilitate the approval of the merger, the operators had proposed to facilitate the entry of French operator Iliad into the Italian market. The remedies proposed by the EC include significant divestment of both radio spectrum and base stations in favour of Iliad, in addition to the obligation of temporarily enabling this operator to access H3G and Wind's Italian network.

Likewise, Vodafone and Liberty Global have obtained the EC's approval to combine their operations in Holland, which would have given rise to the second largest operator in both the fixed and mobile segment. The commitment made by these operators has been the sale of Vodafone's entire fixed-line business in the Dutch market.

Regulatory perspectives

In May 2015, the EC published its Digital Single Market (DSM) Strategy. In a Digital Single Market, European companies and citizens must have unfettered access to all online services, without it depending on their location or nationality, under fair conditions in terms of competition and protected by measures that adequately guarantee the protection of consumers and their personal data. With the proposal for a Digital Single Market, the EC aims to transfer the free movement of goods, services and people of the European Single Market to the digital environment.

The Strategy is considered a key factor for economic growth, job creation and improvement in the provision of European public services. It is a cross-cutting Communication that affects various activities and sectors, such as, for example: e-Commerce, the postal sector and telecommunications. The Strategy addresses a wide variety of matters, from reviewing the regulatory frameworks for electronic communications and the audiovisual sector to harmonising value added tax, data protection and intellectual property. The Strategy consists of 16 initiatives that the EC intends to adopt before the end of 2016. These initiatives are structured around three pillars:

i. Improved access to digital goods and services for consumers and companies

This pillar includes actions for favouring e-Commerce between European countries. To this end, the regulations on consumer rights and contracts must be harmonised, promoting the transparency and regulatory control of cross-border courier services. It also addresses unjustified differentiation in relation to access to services offered over the Internet based on the consumer's geographical location (geo-blocking) and the elimination of difficulties in accessing services arising from lack of coordination of national intellectual property regulations and the existence of various indirect taxes.

ii. Establishment of the necessary conditions for promoting digital networks and services

Communications networks enable the emergence of all manner of Internet-based services and activities and, in order to ensure the successful execution of the strategy, the proper functioning of electronic communications markets, with high-quality access and adequate prices, is essential. It is also considered necessary to review the suitability of European regulations on audiovisual services in light of the emergence of new providers and Internet-based services.

Also, online platforms will be analysed to guarantee the quick elimination of illegal content and data protection rules will be reinforced to boost the public's trust in online services.

iii. Maximising the potential growth of the digital economy

In this area, the measures necessary to ensure the development of cloud computing and big data will be addressed, taking into account both the benefits they may bring to the economy and the challenges they pose in areas such as intellectual property and data protection. It is also considered important to promote the adoption of common standards in Europe and the interoperability of new electronic services in order to promote more competitive markets favourable to consumers. Lastly, the establishment of an inclusive electronic society will be promoted through the adoption of new technologies by the industry, the development of society's digital skills and cross-border harmonisation of public services and sharing of data between the authorities of the different Member States.

- **Electronic Communications**

The Digital Single Market defines the principles and objectives to which the review of the Electronic Communications Regulatory Framework aspires, initiated in mid-2015 with various meetings within BEREC and the EC to identify European regulatory challenges. In December, BEREC approved an Opinion which, in addition to evaluating the application of the current framework, identified various proposed amendments. Also, in 2015 and 2016, the EC completed a public consultation on the review of the framework and another on broadband needs after 2020. It also commissioned various studies on

relevant topics such as: access regulation, interoperability of services, management of the radio spectrum, investment models, universal service regulations, OTT services, institutional design and, lastly, a general review of the current framework.

As a result and as part of the whole process, in September 2016 the EC published the Communication "Connectivity for a Competitive Digital Single Market - Towards a European Gigabit Society" in which it proposes ambitious deployment objectives for the continent: symmetric connectivity at a speed of 1 gigabit per second in places considered strategic, such as public infrastructure or some industrial zones, uninterrupted 5G coverage in urban centres and major transport arteries, and Internet access at a speed of at least 100 Mbps in all households, both in rural and urban areas. Also, another initiative which was made public in September is the WIFI4EU project, which allocates EUR 120 million to municipalities to expand Wi-Fi areas.

Accompanying the connectivity Communication, the EC proposes a major review of the electronic communications regulatory framework, which countries must agree on before 2018. The proposal unites its four main directives (namely, the Framework Directive, the Authorisation Directive, the Access Directive and Universal Service Directive) in a single regulation: the European Electronic Communications Code. With this Directive, the EC aims to create an environment of greater regulatory uncertainty and integration of national regulations, to favour economies of scale and reduce the risk associated with investment in new networks. As a result, the EC expects to facilitate the necessary investment to meet its connectivity objectives, which is expected to require an investment of EUR 500 billion.

The regulatory initiatives proposed by the EC include increasing the review period for regulated markets from three to five years and new tools and considerations in relation to access regulations. In particular, the proposal gives greater importance to the definition of subnational markets and to promoting access to passive infrastructures as a means of facilitating deployment and it focuses on promoting co-investment with operators. The EC also suggests centralising some functions in supranational bodies such as BEREC or the EC itself (for example, the management of maximum termination prices or the identification of transnational demands and markets) and increasing the ability of these bodies to influence national regulatory measures. Furthermore, the project is also finalising a review of the services that make up the universal service and proposes that it should be funded out of general state budgets and it is reviewing consumer protection regulations. Lastly, it establishes different measures for reinforcing the independence of national regulatory authorities.

Prior to these events, in November 2015 the EC adopted Regulation 2120/2015 on measures concerning open Internet access, which amends Roaming Regulation 531/2012. Firstly, Regulation 2120/2015 addresses the proposals relating to network neutrality and provides for the right of users to open Internet access. According to the Regulation, in 2016 BEREC must prepare directives on the application of network neutrality measures.

Secondly, in relation to roaming, the Regulation establishes that, from June 2017, rates for calls, SMS/MMS messages and data traffic within the EU, while roaming, must be the same as domestic prices for reasonable consumption (Roam Like At Home). In addition, in June 2016 the EC published

a proposal for a Regulation to review the wholesale roaming market with a view to eliminating retail roaming surcharges in June 2017 and requested an opinion from BEREC regarding the application of policies relating to reasonable use of the roaming service and the sustainability of eliminating retail roaming surcharges. In September 2016 the EC was evaluating all the information and deciding how to specify the regulatory measures.

Lastly, in 2016, the EC initiated the review procedure of the termination rate recommendation.

- **Audiovisual Sector**

In the audiovisual field, the most important initiatives of the Strategy have been: (i) the review of the Audiovisual Communication Services Directive and (ii) the reform of the European copyright framework within the EU.

Reform of the Audiovisual Communication Services Directive

On 25 May 2015 the EC published its review proposal, whose main difference was the extension of most of the regulation to include video-sharing platforms (such as, for example, YouTube or Daily Motion). These platforms, as they do not have editorial responsibility for the content published on them, were traditionally regulated by the e-Commerce Directive. The extension of regulatory obligations also affected other activities in which there was editorial responsibility, such as the videos section of digital newspapers and the services that traditional audiovisual services published on video-sharing platforms. Through the extension of the scope of the Directive, the EC aims to ensure that most its key elements (for example, measures for the protection of minors) also apply to the operators since, given their growing demand, their poor conduct could be as detrimental to citizens as that of traditional services.

In order to achieve an effective extension of the Directive, the EC reviews some of its articles so that the new wording ensures a greater balance between the different operators, particularly between traditional radio broadcasters and on-demand operators.

Thus, for example, one development in the area of the protection of minors is to make the regulations on the protection of minors applicable to radio broadcasters and to on-demand operators the same. The broadcasting of "detrimental" content by both radio broadcasters and on-demand operators would, therefore, be allowed, provided that the existence of tools that prevent minors accessing that content is guaranteed, such as age verification or other preventive measures. Additionally, providers must use descriptors to inform consumers. According to the proposal, content that could cause "very serious harm" would be subject to stricter measures such as parental control and encryption.

As regards supporting European production, the EC proposes obliging on-demand service operators with sufficient size and revenue to reserve at least 20% of their catalogues for European works and also to allow the Member States to impose investment obligations in relation to production or acquisition rights on on-demand operators located in another country if they aim their programmes at that Member State and have sufficient turnover. The Directive currently in force only requires the

promotion of European audiovisual production, provided that it is viable, due to which the proposal implies strengthening protection.

The proposal also proposes some changes in the wording relating to the accessibility of services and relaxes the rules on commercial communications, establishing a new balance between competitiveness and consumer protection. For example, it proposes replacing the limit of 20% per clock hour applicable to telesales broadcasting time and television advertising with a daily time limit (also 20%) and, in relation to the television broadcasting of films, reducing the time between advertising breaks from 30 to 20 minutes.

Lastly, the proposal also aims to change the institutional design of the audiovisual sector. Firstly, it introduces the legal requirement for countries to establish regulatory authorities which are legally distinct and independent of the industry and the Government. The proposal draws on the Recommendations of the European Council (2000)23 193 and on the suggestions of ERGA on the principles that should sustain the operations of the national regulatory authorities: legal independence, delimitation of functions by law, the establishment of appropriate grounds for the dismissal of the chairman and members of the board, financial and resource sufficiency, the right of users and providers to appeal to national regulatory authorities and the impartiality and transparency of their actions. Secondly, if the proposal is approved, the EC would give strong backing to ERGA, whose role would be reinforced as the main European coordination group for the audiovisual sector. In particular, its powers would be strengthened in the area of determining jurisdiction, derogation procedures and the development of European self-regulation and co-regulation codes.

The legislative proposal must be forwarded to the European Parliament and Council to be processed through the Parliament. The EC has called upon the Member States to "quickly approve the text" so that it can be adopted at the beginning of summer 2017. After its approval, the Member States would have one year in which to transpose it into national law.

Reform of the European intellectual property framework

The Digital Single Market Strategy also includes a proposal to reform the European copyright framework. The objective of the proposal is to ensure that European consumers have more and better access to all the content generated in the EU and to combat piracy.

In line with this roadmap, in September 2015 the EC launched a public consultation for the Review of the Cable and Satellite Directive. Adopted in 1993, the Directive establishes a cross-border copyright management system for the then new distribution media.

In the EC's public consultation on copyright, which concluded in 2014, consumers criticised the impossibility of accessing programme and film catalogues through on-demand services such as Netflix or iPlayer in the different Member States. Many radio broadcasters pointed out that a possible solution for eliminating these differences could be to extend the Cable and Satellite Directive to include the new types of online services.

Also within the Single Market Strategy, at the end of 2015 the EC presented the Regulation relating to the cross-border portability of online content, aimed at guaranteeing that European citizens who had purchased a content-related service, such as video or music, could continue enjoying that service while travelling around the European Union. The EC expects this new EU consumer right to become a reality in 2017.

At the same time as the Regulation, the EC presented its Action Plan for implementing a modern copyright framework within the EU. This plan will translate into legislative proposals and political initiatives in 2016.

The EC's proposal is structured around four complementary pillars of equal importance:

- Increasing access to content throughout the EU.
- Exceptions to copyright regulations for an innovative and inclusive society.
- Creation of a fairer market where the online use of works protected by copyright is duly authorised and remunerated through licences.
- Combating piracy.

1.2. The sector in Spain

In 2015 the sector concentration process initiated in 2014 with the acquisition of Ono by Vodafone continued. In April, Movistar, after the acquisition of DTS, consolidated its market position, particularly in terms of audiovisual content, and Orange, after the acquisition of Jazztel, reached a level of revenue very similar to that of Vodafone. Both operators also opted for pay television and quintuple-play bundles, following Movistar's lead since 2014.

Revenue

Total sector revenue in 2015 was practically identical to 2014, breaking the downward trend that had been seen since 2009. Revenue stood at EUR 30,821 million, representing a fall of less than 1% compared to 2014, as opposed to the negative rates of around 6% recorded in recent years.

EVOLUTION OF TOTAL SECTOR REVENUE (MILLIONS OF EUROS)



Source: CNMC

As in 2014, three of the main retail services grew in terms of revenue: fixed broadband, mobile broadband and audiovisual communication services.

REVENUE FROM END SERVICES 2014-2015 (MILLIONS OF EUROS AND PERCENTAGE)

	2014	2015	Variation 2014/2015
<i>Fixed communications</i>	8,574.11	8,279.17	-3.4%
Fixed telephony	3,471.77	3,077.75	-11.3%
Fixed broadband	3,641.08	3,799.63	4.4%
Business communications	1,429.89	1,376.36	-3.7%
Telephone info.	31.38	25.44	-18.9%
<i>Mobile communications</i>	9,778.35	9,206.15	-5.9%
Mobile telephony	6,162.63	5,194.88	-15.7%
Mobile broadband	3,615.73	4,011.27	10.9%
<i>Audiovisual services</i>	3,786.41	4,222.39	11.5%
<i>Other</i>	3,409.63	3,650.04	7.1%
Total	25,548.50	25,357.75	-0.7%

Source: CNMC

Continuing the downward trend of recent years, voice services, on both fixed and mobile networks², declined. However, they still represent the largest source of retail revenue – 32.6% of the total in 2015 (5.1 percentage points less than in 2014). Revenue from fixed or mobile voice services fell, although at lower rates than in 2014 and despite the fact that the total number of both types of lines grew.

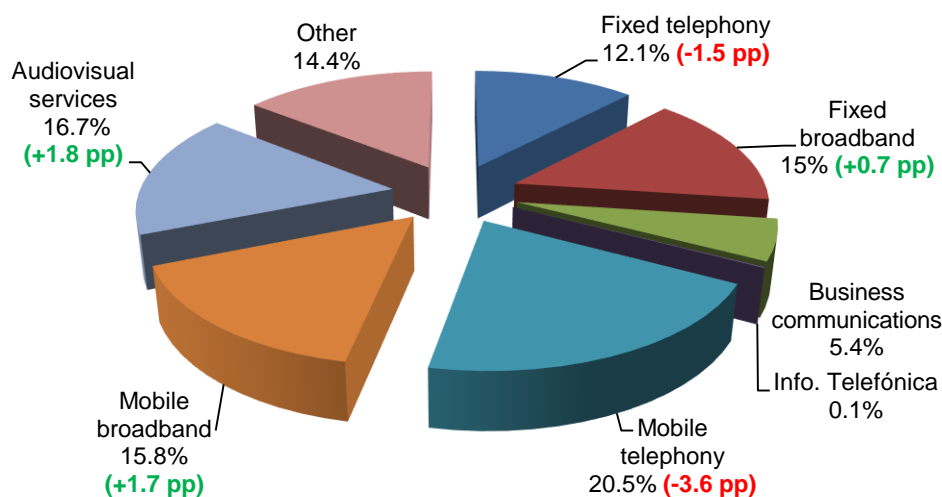
The opposite is true of fixed and mobile broadband services, which continued to gain importance in terms of retail services, representing 30.8% of revenues in 2015 compared to 28.4% in 2014. Once again, mobile broadband recorded double-digit growth, as it did between 2011 and 2013, and, for the first time, revenue exceeded that of fixed broadband.

Audiovisual communication services grew for the second consecutive year, at a rate of 11.5%, more than double that of the previous year. This revenue, which had declined since 2008, began to grow from the second quarter of 2014 and continued its upward trend throughout 2015. The main reason

² Messaging services were included.

was, above all, the recovery of advertising revenue and the success of the pay television service subscribed to jointly with fixed and mobile services in quintuple-play bundles.

DISTRIBUTION BY REVENUE FROM END SERVICES IN 2015 AND ANNUAL VARIATION RATES (PERCENTAGE)



Source: CNMC

In addition, turnover from wholesale services grew by 2.3%. The interconnection service, which accounts for half of this revenue, fell by less in relative terms than in 2014 – 3.7% compared to 8.8%. The fixed network interconnection service fell by 22.5%, in part attributable to the effect of the new fixed network termination price, applicable throughout the year after coming into force in November 2014. This was a consequence of the review of the fixed termination market, and also to the drop in wholesale traffic as a result of less retail traffic from the fixed telephony service. In contrast, revenue from mobile network interconnection grew 16%, above all due to the growth in the access service provided by network operators to virtual mobile operators.

As regards income from wholesale broadband services, their growth rate slowed, recording 1.4% in 2015 compared to 6.9% in 2014. For one thing, the NEBA indirect access service grew but did not offset the lower demand in the loop unbundling service from alternative operators, as their fibre optic access network roll-out advances³.

³ The acquisition of Ono by Vodafone, which was formalised in July 2014, and that of Jazztel by Orange, does not affect revenue from these wholesale services, since in 2015 the four operators still reported data separately and, therefore, reported the revenue relating to the wholesale services provided between them.

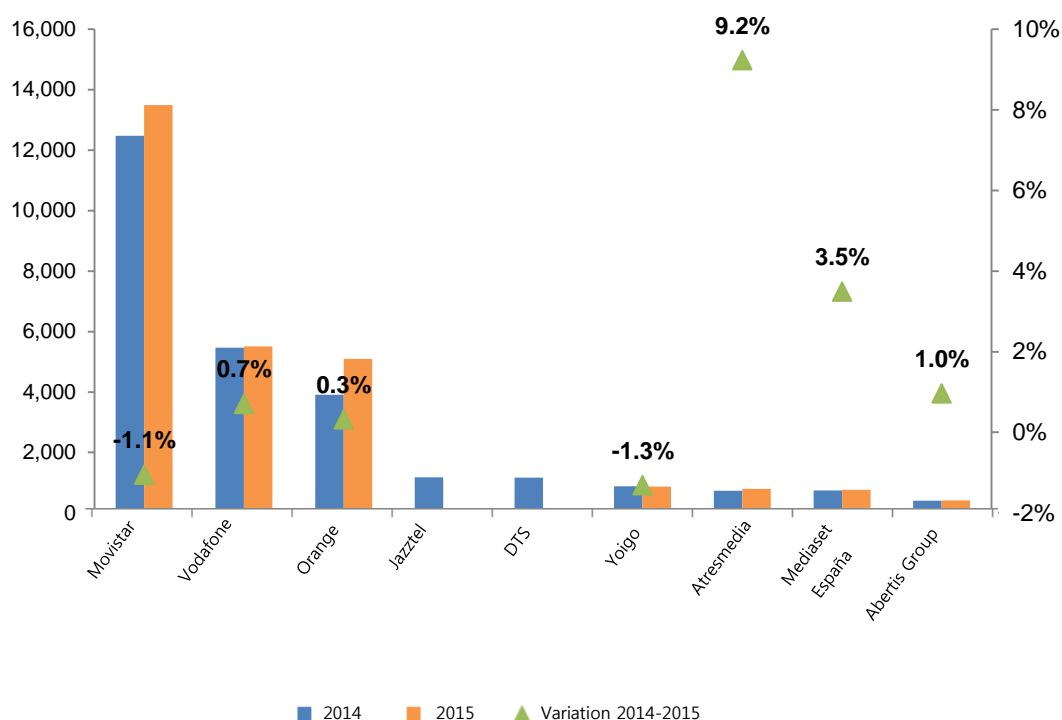
REVENUE FROM WHOLESALE SERVICES 2014-2015 (MILLIONS OF EUROS AND PERCENTAGE)

	2014	2015	Variation 2014/2015
Interconnection	2,878.56	2,771.08	-3.7%
Circuit rental	677.08	809.22	19.5%
Data transmission	50.01	51.44	2.9%
ADSL services	699.22	709.19	1.4%
Transport and broadcasting	357.64	333.43	-6.8%
Other services	678.91	788.49	16.1%
Total	5,341.42	5,462.85	2.3%

Source: CNMC

Among the operators with the most revenue in 2015, that⁴ of the telecommunications operators remained stable or fell very slightly compared to the previous year, which was also true in the case of Orange after acquiring Jazztel. Movistar, after the acquisition of DTS, fell by 1%, although it is true that the fall recorded by the main operator was due mainly to the drop in revenue from the mobile business. In contrast, the two main free-to-air television operators, Mediaset and Atresmedia, increased their revenue thanks to the recovery in advertising revenue, which in both cases accounted for more than 95% of their total revenue.

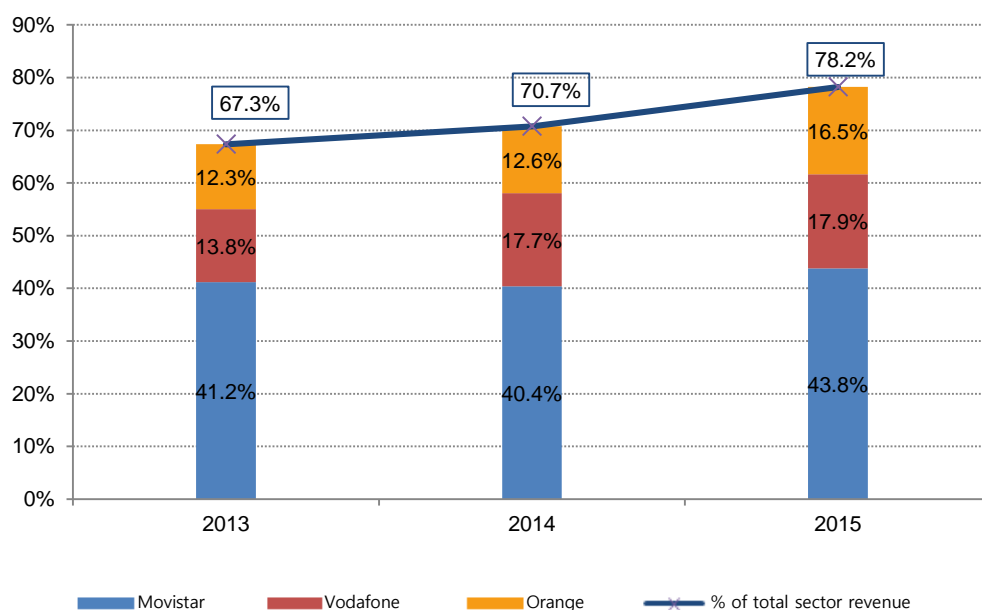
⁴ In this report, the figures reported by Orange for 2015 include those for Jazztel for the whole year, despite the fact that the acquisition was formalised in August 2015 and, similarly, Movistar's data include those for DTS for the whole year, despite the fact that the acquisition was formalised in April 2015. Movistar includes fixed and mobile business data for all years.

TOTAL REVENUE BY OPERATOR AND ANNUAL VARIATION RATE
(MILLIONS OF EUROS AND PERCENTAGE)⁵

Source: CNMC

The concentration process under way in the sector has led to a situation in which the three main operators account for most of the revenue; specifically, in 2015 they accounted for 78.2% of the total, up 11 percentage points on 2013. In 2014, the acquisition of Ono by Vodafone allowed the latter to gain four points of market share, reinforcing its market position and widening the gap with Orange. However, in 2015, after purchasing Jazztel, Orange obtained similar market share to that of Vodafone, while Movistar consolidated its leading position after acquiring DTS. Regional cable operators also underwent changes in 2015. In mid-2015, Zegona, a British company acquiring businesses in the European telecommunications, media and technology sector, acquired TeleCable and, at the end of the year, Euskaltel acquired R.

⁵ Orange's annual variation rate is calculated by adding Jazztel's annual revenue for both 2014 and 2015 and, similarly, Movistar's annual variation rate is calculated by adding DTS's annual revenue for both 2014 and 2015, despite the fact that the acquisition transactions took place in the third and second quarters of 2015, respectively. Revenue recorded by mobile network operators includes revenue from virtual mobile operators owned by them:

MARKET SHARE BY REVENUE OF THE THREE MAIN OPERATORS AND % OF TOTAL SECTOR REVENUE (PERCENTAGE)⁶

Source: CNMC

Penetration of end services

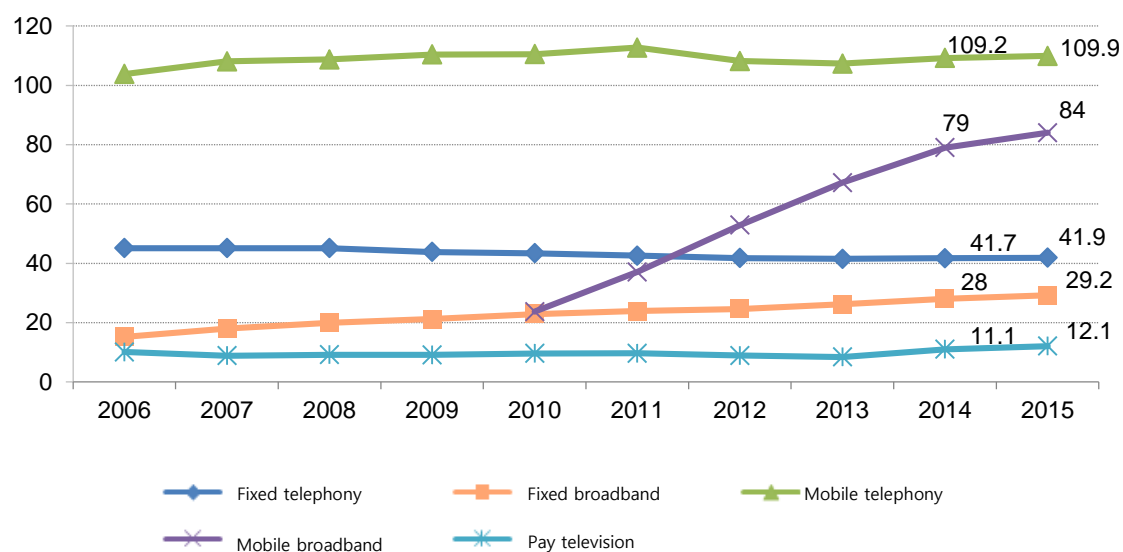
All end services increased their penetration in 2015. The highest growth was seen in pay television services (not including mobile television), with a year-on-year rate of 9.5%, and in mobile broadband, with 6.3%. However, these growth rates were much lower than those of 2014, at 31.1% and 17.6%, respectively.

Although the upward trend in mobile broadband connections has been sustained over time, the growth in this service slowed slightly in 2015, reaching a penetration of 84 lines per each 100 inhabitants. The year ended with 37.4 million mobile voice lines associated with a mobile broadband service.

The growth in pay television was due both to IP television and cable television. After the merger between Movistar and DTS, the former has progressively replaced its customers' satellite pay television connections with fixed network connections and, consequently, satellite connections fell by 28.5%. However, the growth in cable and IP television connections has exceeded the decrease in satellite connections.

⁶ In 2014, Vodafone's revenue included that of Ono for the entire year. In 2015, Orange included Jazztel and Movistar included DTS for the entire year, despite the fact that the purchase transactions took place in the third and second quarters of 2015, respectively.

EVOLUTION OF PENETRATION OF THE MAIN SERVICES (LINES/100 INHABITANTS)

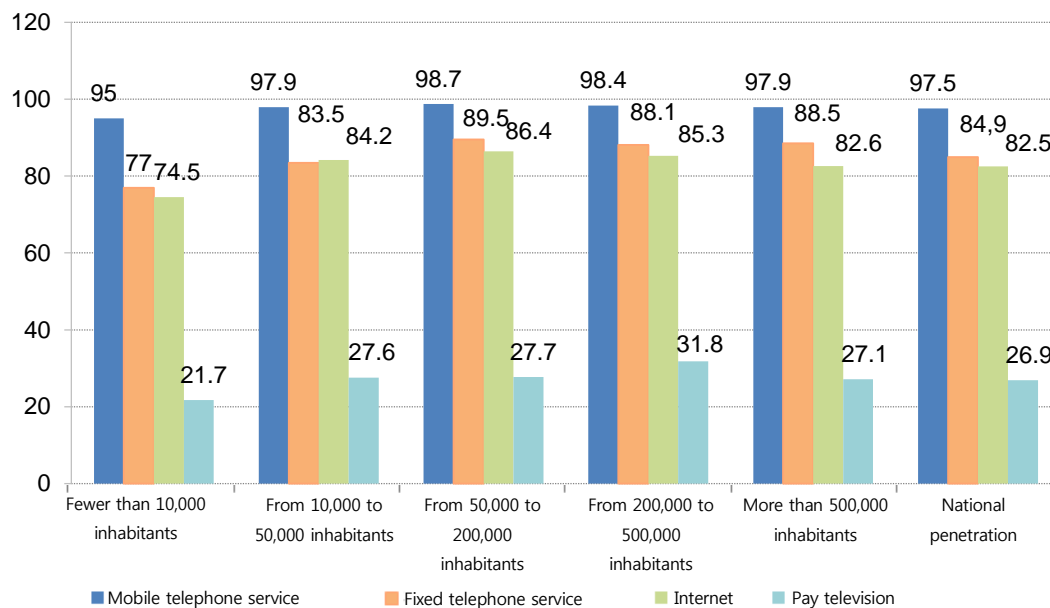


Source: CNMC

According to CNMC Household Panel data, 26.9% of households had pay television and 82.5% had Internet access. Penetration of fixed broadband was 73.4% of households. Also, 84.9% of households had the fixed telephony service and 97.5% had the mobile telephony service.

Furthermore, in the last two years the differences in terms of Internet service penetration in the different municipality geo-types decreased substantially. Data recorded at the end of 2015 indicate that in municipalities with fewer than 10 thousand inhabitants, Internet penetration is 74.5%, 11 points less than the national penetration rate. At the beginning of 2014, this difference was approximately 15 points. The growth of mobile broadband has made it possible to narrow this digital gap.

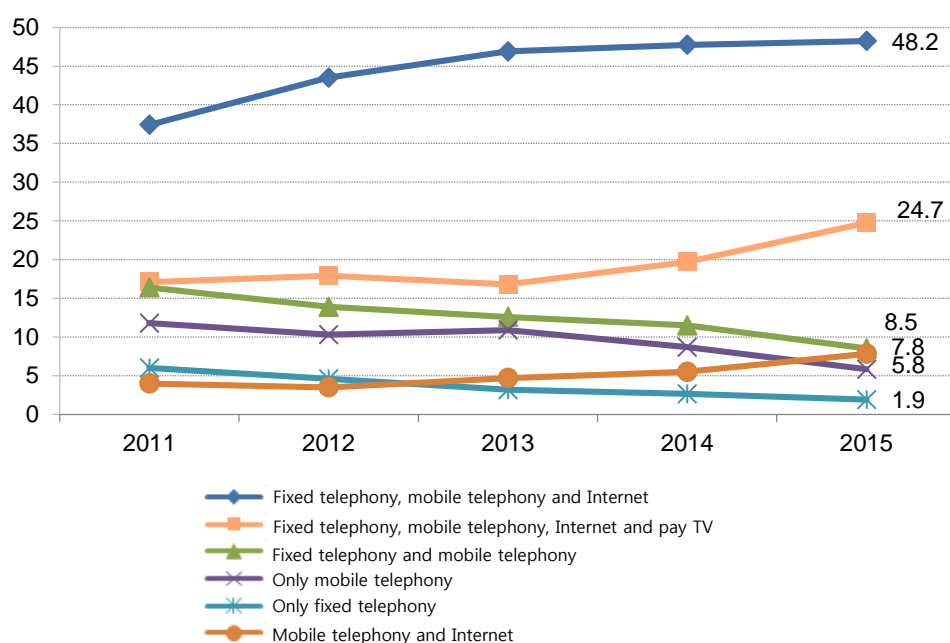
PENETRATION OF THE MAIN SERVICES IN HOUSEHOLDS BY SIZE OF MUNICIPALITY
(PERCENTAGE OF HOUSEHOLDS WITH THE SERVICE)



Source: CNMC Household Panel

Lastly, given the growth of broadband, in 2015 those households that only subscribed to telephone services accounted for 16.3% of the total, while in 2014 this indicator stood at almost 23%. In 2015, nearly half of Spanish households subscribed to fixed telephony, mobile telephony and Internet services and a quarter also subscribed to a pay television service.

MAIN TYPES OF HOUSEHOLDS BY SERVICES SUBSCRIBED (% OF HOUSEHOLDS)



Source: CNMC Household Panel and CNMC-Red.es Household Panel

Prices

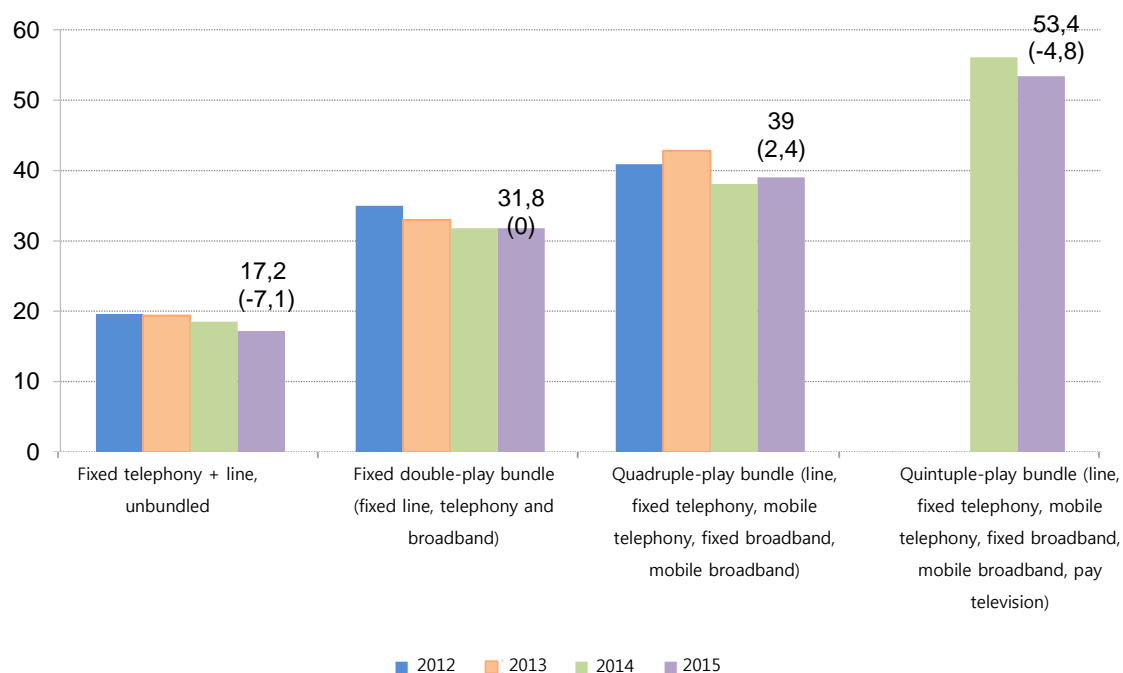
In the second quarter of 2015 some of the leading Spanish operators increased the prices of their bundles and mobile services. In April, Vodafone announced an increase in its mobile charges and, in May, Movistar increased the price of its Fusión convergent products by EUR 5 a month⁷. The prices of other products and of other operators rose during the course of the quarter.

These events were reflected in the CNMC Household Panel data, causing a change in the downward trend of the average rates of the main fixed services bundles. In particular, the average cost of a quadruple-play bundle, that is, including fixed access, a fixed-broadband connection and, also, flat-rate or semi-flat-rate fixed telephony, mobile telephony and mobile broadband, increased. At the end of 2015 there were 6.1 million fixed lines associated with this bundle, approximately half of all fixed lines and, in 2015, its average cost recorded year-on-year growth of 2.4%.

The average cost of the quintuple-play bundle also increased in the third quarter of 2015, but at the end of the year it recorded a year-on-year fall of -4.8%. This bundle accounts for approximately one out of every five fixed lines. Total expenditure on the fixed telephony service subscribed to unbundled fell to EUR 17.2.

⁷ These price increases were accompanied by an increase in the functionality of the services included in the bundle. The speed of the fixed broadband component tripled, from 10 to 30 Mbps and from 100 to 300 Mbps in lower- and higher-speed NGA bundles, respectively. Also, the mobile broadband download limit increased from 500 MB to 1 GB and from 1 GB to 2 GB.

AVERAGE EXPENDITURE PER HOUSEHOLD ON THE MAIN FIXED SERVICES BUNDLES AND
TOTAL AVERAGE EXPENDITURE ON THE FIXED SERVICE SUBSCRIBED TO UNBUNDLED
(EUROS/MONTH AND YEAR-ON-YEAR GROWTH IN PARENTHESES)⁸

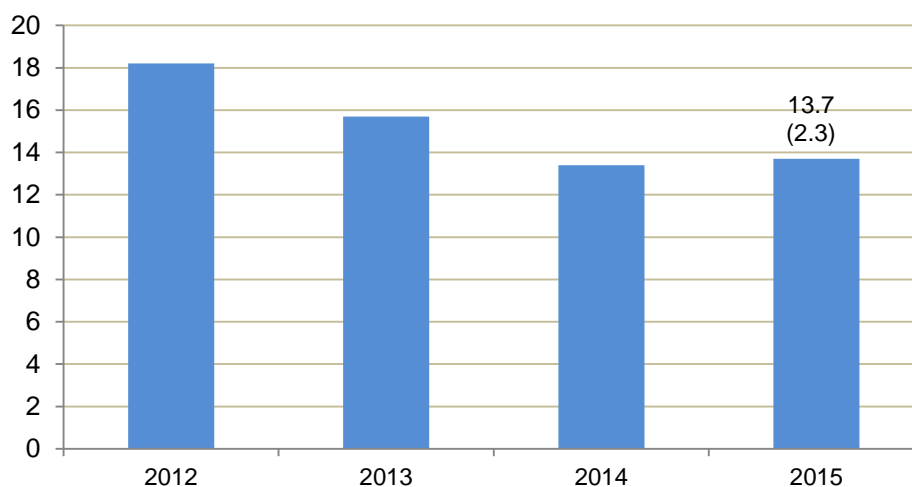


Source: CNMC Household Panel and CNMC-Red.es Household Panel

The price increases also led to year-on-year growth of 2.3% in the average expenditure by individuals on unbundled mobile telephony. Some 71.8% of this expenditure is due to the recurring monthly fee, associated with flat and semi-flat voice and/or data rates. The second component is the mobile voice service priced on a time basis, which accounts for 16.3% of expenditure on that service.

⁸ In the case of quadruple-play and quintuple-play bundles, only those bundles with a mobile line are considered.

AVERAGE EXPENDITURE PER INDIVIDUAL ON MOBILE POSTPAID UNBUNDLED SERVICES
(EUROS/MONTH AND YEAR-ON-YEAR GROWTH IN PARENTHESES)



Source: CNMC Household Panel

The following table shows total expenditure on telecommunications services by different types of households. The expenditure reported includes both bundle rates and all costs relating to services billed separately from them. This includes: total expenditure billed by the operator providing the bundle, (which may include other billable items in addition to the bundle price) and expenditure incurred from invoices for other services or operators. In December 2015, households with quadruple-play bundles spent EUR 53.7 per month on average and subscribed to two postpaid mobile lines on average, of which 1.7 were billed jointly with the bundle. Furthermore, households with a quintuple-play bundle subscribed to 1.7 postpaid mobile lines and, on average, spent a total of EUR 68.5 per month on all the services.

TOTAL EXPENDITURE AND NUMBER OF MOBILE LINES SUBSCRIBED BY DIFFERENT TYPES OF HOUSEHOLDS (2015)

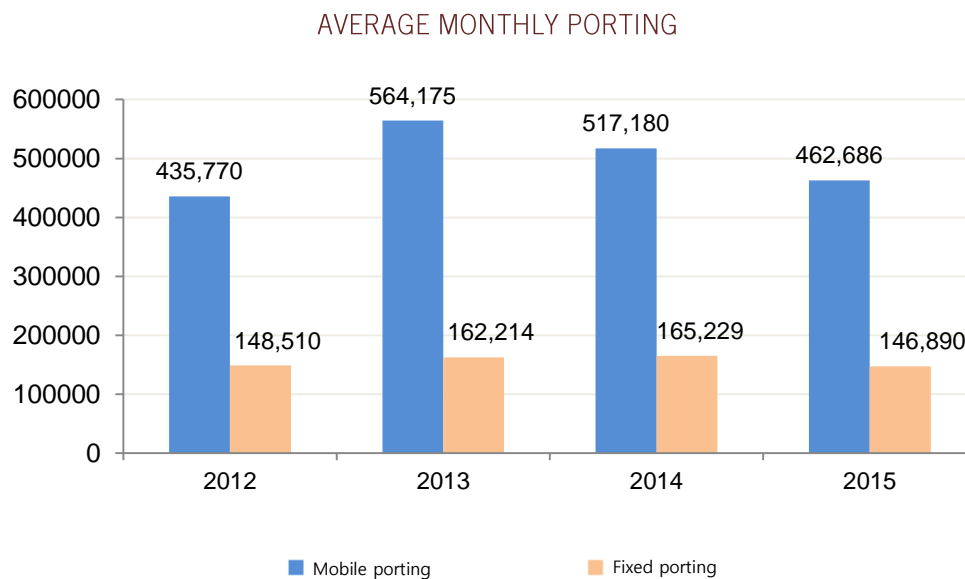
	Total expenditure (euros/month)	Number of postpaid mobile lines	Postpaid mobile lines included in the bundle bill	Postpaid mobile lines not billed with the bundle
Household with quadruple-play bundle	53.7	2	1.7	0.3
Household with quintuple-play bundle	68.5	1.7	1.4	0.3
Household with only mobile	25.3	1.6	NA	1.5

Source: CNMC Household Panel

Lastly, in the first half of 2016 operators also raised the prices of some of their products. For example, some of Orange Canguro's products saw price increases of around 5%, as did Vodafone's ONE products. Movistar also raised the price of some of its Fusión products by a similar order of magnitude.

Portability and changing operator

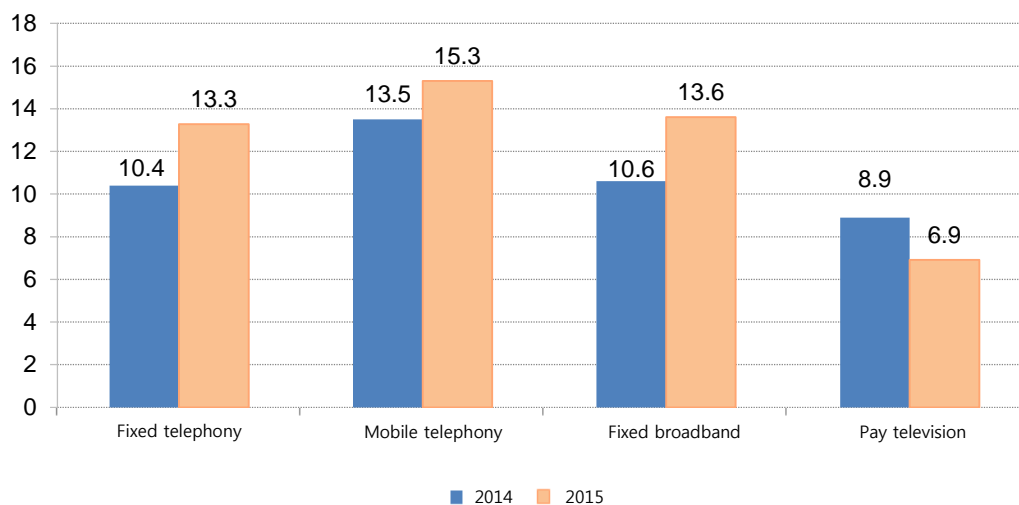
Portability allows a user to change their service provider without having to change their telephone number. This possibility, which eliminates the drawbacks that users would otherwise encounter, makes it easier to change operator and Spain is traditionally one of the EU countries with the highest portability rates. In the last year, average monthly portability figures for mobile and fixed-line numbers were 462,696 and 146,890 numbers, respectively, approximately 10% less than in 2014.



Source: CNMC

The graph below shows the operator switching percentages for services. In line with the trend in portability, nearly all the percentages were lower at the end of 2015 compared to the previous figures available for the first quarter of 2014. Pay television is an exception, recording a higher rate of change in 2015. This was due to the fact that, in 2015, nearly 80% of pay television connections were subscribed to jointly with other services, while in 2014 that percentage was 61%. On increasing the number of bundled services, the rate of switching between pay television operators moves closer to that of fixed broadband and voice services.

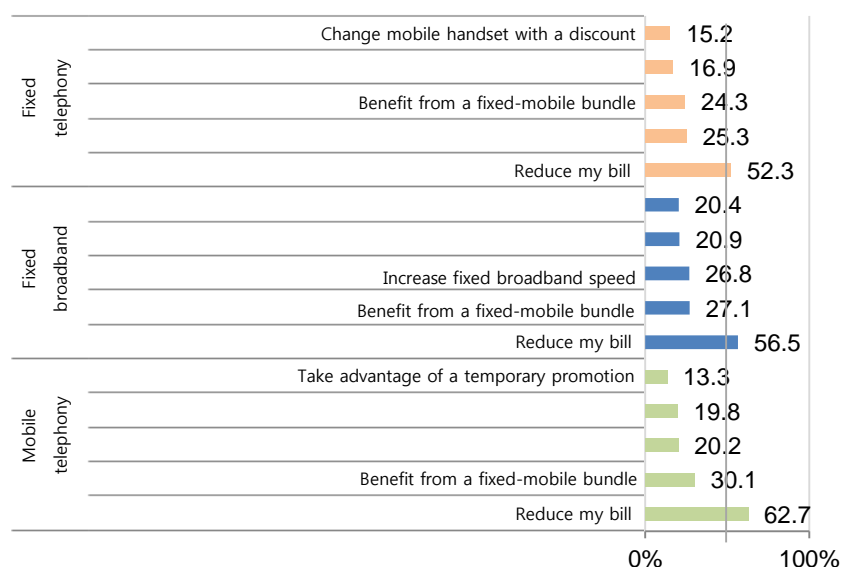
CHANGE OF OPERATOR BY SERVICE (PERCENTAGE OF HOUSEHOLDS/INDIVIDUALS THAT SWITCHED OPERATOR)



Source: CNMC Household Panel and CNMC-Red.es Household Panel

The main reason for users switching operator was to reduce expenditure. Between 50% and 60% of households that switched operator cited that reason. In the case of fixed telephony and broadband, the second reason was to benefit from a convergent product or bundle that included fixed and mobile services. However, in the case of mobile telephony, that was the third reason, after dissatisfaction with the quality of the service. Changing handset, taking advantage of a promotion, is mentioned by 15.2% of individuals who switched mobile operator and increasing connection speed is mentioned by 26.8% of individuals who switched fixed broadband.

MAIN REASONS FOR SWITCHING OPERATOR BY SERVICE (PERCENTAGE OF HOUSEHOLDS/INDIVIDUALS WHO SWITCHED OPERATOR AND MENTION THE REASON, 2015)



Source: CNMC Household Panel

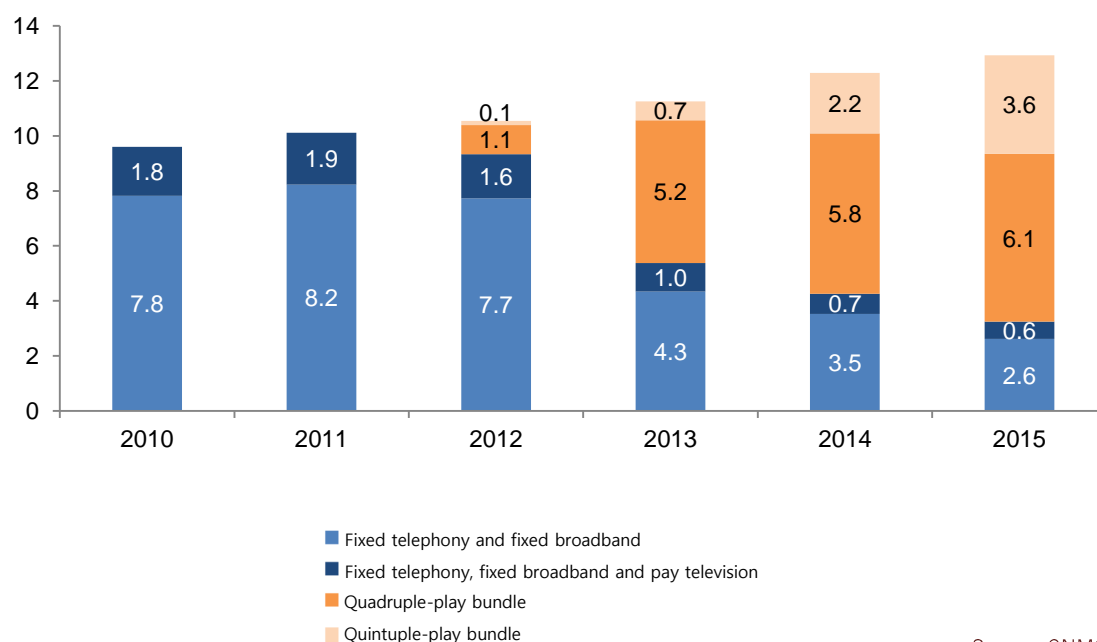
Lastly, a very common practice among operators is the use of minimum contract periods, which establish a financial penalty for the user if they decide to cancel the operator's service before a predetermined point in time. These contractual conditions, agreed between operators and customers, indemnify operators for any losses arising from their customers ending the contract early, such as, for example, when the operator subsidises the purchase of a terminal or other pieces of equipment. Some 45.9% of households with fixed telecommunications said that their contract stipulated a minimum contract period. In the postpaid mobile telephony service, the percentage of individuals with a minimum contract period was 42.9%.

However, it should be noted that, under the framework of the Movistar/DTS merger transaction, one of the commitments made by Movistar was to remove minimum contract periods from bundles with audiovisual content. Vodafone and Orange also removed some minimum contract periods and, consequently, in 2016, the percentage of users with a minimum contract period should be lower.

Bundles

The total number of bundles that combine fixed and mobile services was 9.7 million at the end of 2015, compared to 8 million at the end of the previous year. The quintuple-play bundle grew the most for the second consecutive year, although to a lesser extent, 63% compared to 219% in 2014. This type of bundle – which jointly markets telephony and broadband services, both fixed and mobile, plus pay television – added 1.4 million new subscriptions, ending the year with 3.6 million. Also, quadruple-play bundles, with 6.1 million, grew discretely at a rate of 4.7%.

EVOLUTION OF BUNDLES MOST FREQUENTLY SUBSCRIBED TO (MILLIONS OF BUNDLES)

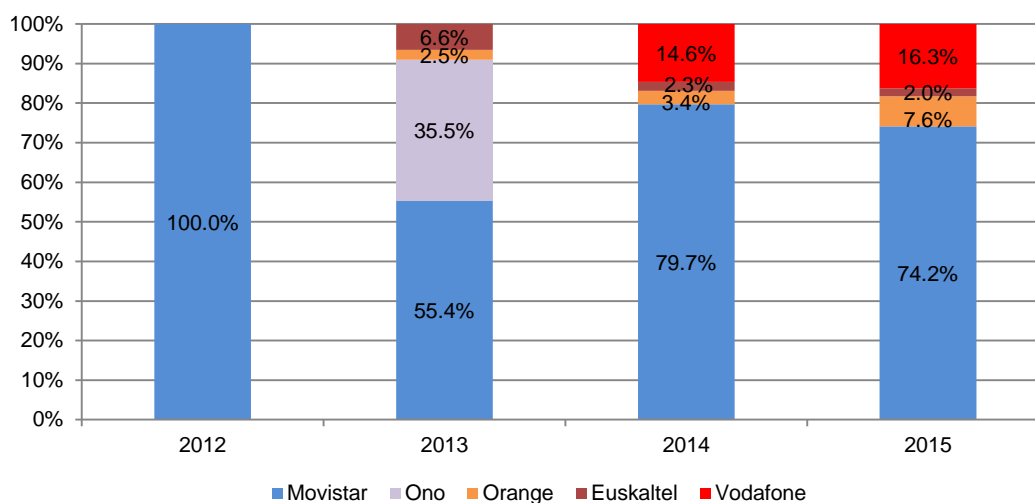


Source: CNMC

In 2015, double-play bundles (fixed telephony and broadband) and triple-play bundles (adding pay television), fell by 25% and by 15%, respectively, continuing the trend initiated in 2012, when quadruple-play and quintuple-play products appeared in the market. The growth in the latter bundles is due mainly to the migration of customers who had subscribed to double-play or triple-play bundles and explains the loss of 6 million customers in the last three years for these two types of products.

The commitment to quintuple-play bundles, initiated by Movistar with its Fusión offering, has also spread to other operators with proprietary networks, particularly Orange and Vodafone. This has led these last two operators to focus on their pay television service and they are the operators with the highest growth in subscriber numbers in relative terms. On the one hand, Orange tripled its number of subscribers, with over 300 thousand subscribers at the end of 2015, and on the other, Vodafone launched its new television over FTTH, after withdrawing its IP television offering at the end of 2012, and, above all, has continued to grow with Ono's cable television, to reach a total of nearly one million subscribers.

In fact, the three main operators jointly account for 98% of all quintuple-play bundles. In relative terms, the operators that grew the most were Orange and Vodafone, in that order, in keeping with the increase of their pay television subscriber numbers. After the acquisition of DTS Movistar doubled its total number of subscribers compared to 2014 and, at the end of 2015, accounted for 69% of all pay television subscribers, with 3.9 subscribers, of which 2.7 million were quintuple-play bundles.

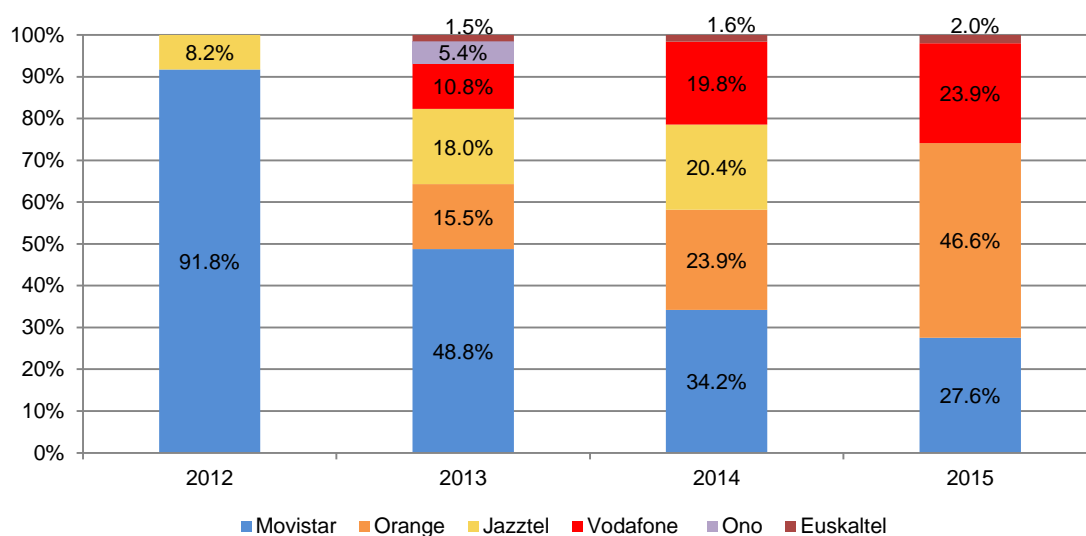
DISTRIBUTION OF QUINTUPLE BUNDLES BY OPERATOR⁹

Source: CNMC

A different situation can be observed in the case of quadruple-play bundles, which do not include the pay television service, where the equitable distribution of 2014 among the four main operators gave way to a scenario where Orange currently accounts for nearly half of the bundles, after the acquisition of Jazztel, and the rest are distributed in a fairly even manner between Vodafone and Movistar. The latter continued to concentrate its commercial strategy on quintuple-play bundles and was the only operator that decreased the number of quadruple play bundles for the second consecutive year, losing 6.6 percentage points of market share in the last year.

⁹ In 2012, Movistar was the only operator that offered quintuple-play bundles. In 2014, Vodafone's data relates exclusively to those of Ono, since Vodafone stopped providing the xDSL pay television service in December 2012.

DISTRIBUTION OF QUADRUPLE-PLAY BUNDLES BY OPERATOR (%)



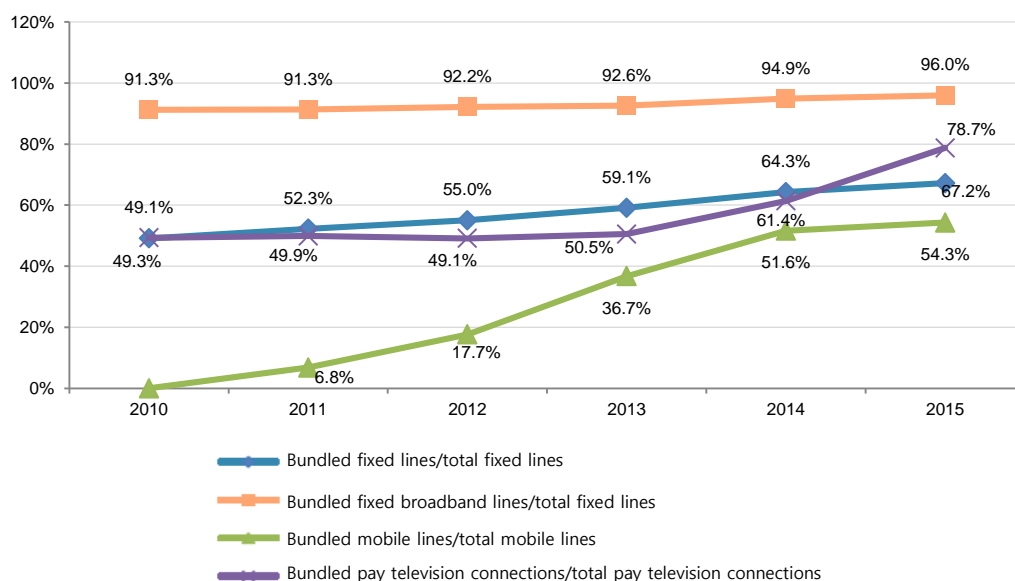
Source: CNMC

As a result of this increasing trend in service bundling, the number of lines sold unbundled fell, even though in Spain there are still a significant number of customers who subscribe only to fixed-line services and only to mobile telephone services. The former are usually households inhabited by elderly people who do not subscribe to fixed broadband services and the latter are individuals who subscribe to prepaid mobile telephone services.

Pay television was the service where the bundling percentage grew the most, with an annual gain of 17 percentage points, reaching 78.7% of total subscribers with a bundled service, compared to 61.4% at the end of 2014. Therefore, of the 5.6 million subscribers to pay television, 4.4 million were included in a bundle. The ratio of pay TV bundling may continue to increase, since unbundled subscribers are those subscribed to DTS satellite technology. After the acquisition of this operator by Movistar, it is logical for the operator to gradually migrate its satellite service subscribers to its bundled IP television service.

More than half of mobile lines were bundled, either with a mobile broadband service or also with fixed network services. In 2011, only 3.6 million mobile lines were bundled with a single service, which was also exclusively mobile broadband, while, four years later, 27.7 million lines – 54.3% of the total – are subscribed to jointly with one or more services.

PERCENTAGE OF BUNDLED LINES / TOTAL LINES BY SERVICE



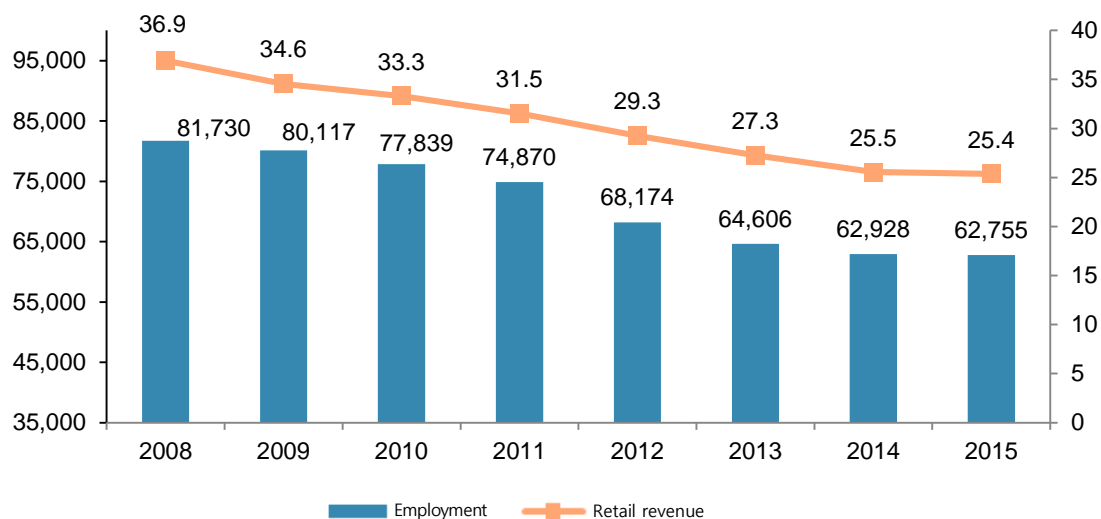
Source: CNMC

With more moderate growth, fixed telephony and fixed broadband were increasingly subscribed to jointly with other services. Therefore, the same number of telephony lines and broadband lines – 13 million – were bundled, which, in relative terms, was 67.2% of all fixed telephony lines and 96% of fixed broadband lines. The latter service was characterised by the fact that it was bundled in most cases, until 2012, together with the fixed telephony service and, from that year on, with mobile services as well.

Employment

The number of employees in the sector, including those of the audiovisual segment, was nearly identical to that of 2014, halting the downward trend of recent years, which was very sharp in 2012 and which, since then, has moderated, in a fairly similar way to retail revenue. At the end of 2015, the sector employed a total of 62,755 people, only 173 less than the previous year. Despite the sector concentration, their staff were not excessively affected, although it may foreseeably affect employment in the coming years.

EVOLUTION OF SECTOR EMPLOYMENT AND REVENUE BY END SERVICES
(NUMBER OF EMPLOYEES AND BILLIONS OF EUROS)



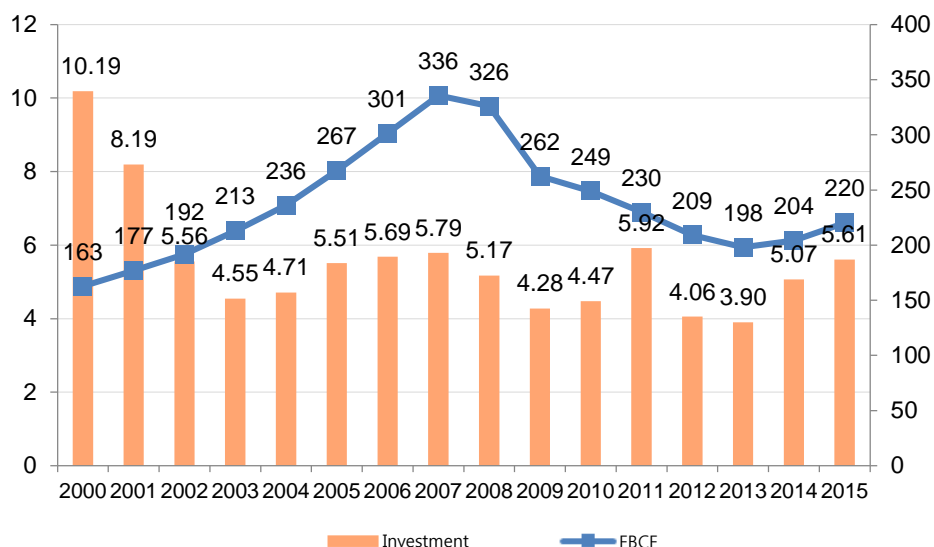
Source: CNMC

Investment

Total investment in the sector for 2015 amounted to EUR 5,607.7 million, including that corresponding to the audiovisual segment. It should be borne in mind that this figure includes investment in spectrum rights, which in 2015 amounted to EUR 569 million, of which EUR 492 million are Vodafone's for the 800 MHz band licence, which became operational in April 2015. The rest corresponds to the payment of spectrum, which were made by various operators for the 800 MHz and 900 MHz bands. Considering the investment without including the sum allocated to spectrum, the investment effort was practically the same as in 2014.

The principal driver for investment was the roll-out of next generation and 4G access networks by the main operators. Although Movistar deployed less FTTH connections than in 2014, Vodafone and Orange increased their number of fibre connections by more than 70%.

TOTAL INVESTMENT IN THE SECTOR AND GROSS FIXED CAPITAL FORMATION
(BILLIONS OF EUROS)

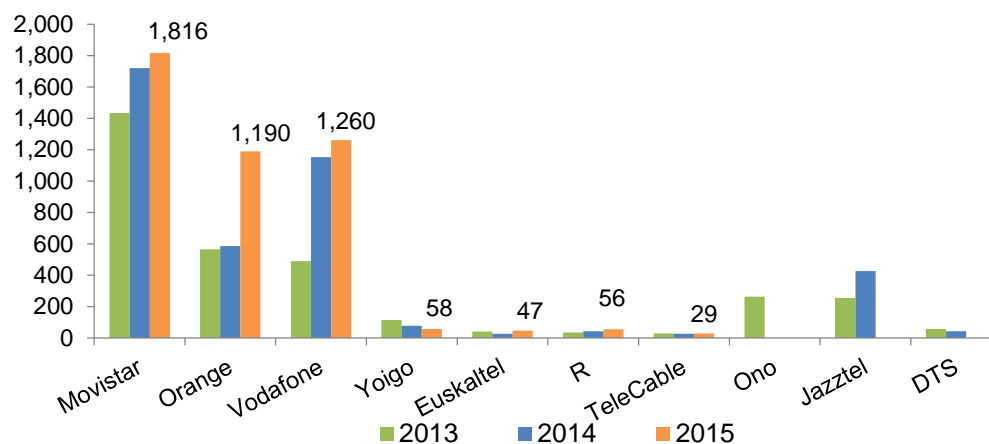


Source: CNMC and INE

Individual investment data reveal that the three main operators increased their investment in 2015¹⁰. Orange (including Jazztel) increased its investment to the greatest extent, by 17.4%, compared to the figure for the previous year resulting from the sum of the two operators. Vodafone occupied second place, investing 9.3% more than in 2014, and, lastly, Movistar (including DTS), grew 3%. As opposed to what happened in 2014, investment in the mobile business, which increased 36.2%, offset the decrease of 3.4% in its other lines of business, resulting mainly from the slowdown in the roll-out of its optical fibre access network in 2015 compared to previous years.

¹⁰ The rate of change per operator was calculated without taking into account investment in spectrum. The change in 2015 versus 2014 for Orange was calculated by adding the investment made by Orange and Jazztel for the two years. Likewise, for Movistar, the investment made by the fixed business (Telefónica de España) was added to that made by the mobile business (Telefónica Móviles) plus that of DTS. The investment made by the mobile network operators includes that of virtual mobile operators owned by them.

EVOLUTION OF INVESTMENT IN THE SECTOR BY OPERATOR, EXCLUDING SPECTRUM
(MILLIONS OF EUROS)



Source: CNMC

Infrastructure

Fixed network infrastructure

In 2015, operators continued their investment in the roll-out of fibre to the home (FTTH) networks. In addition to Movistar, which has an extensive FTTH access network, alternative operators made significant progress in the deployment of this technology; this allowed operators to offer their services through optical fibre connections instead of traditional xDSL connections. The largest municipalities saw the most extensive deployment of optical fibre networks, which translated into higher levels of competition.

Specifically, Movistar was able to end the year with a total of 14.32 million FTTH connections installed. It was followed by Orange (which includes Jazztel's connections), with nearly 6.8 million connections. Vodafone (through the acquisition of Ono) achieved more than 1.45 million FTTH connections. Overall, FTTH connections installed exceeded 22.86 million¹¹ compared to 15.13 million in 2014.

HFC connections (connections with fibre to a node and coaxial cable to the subscriber), remained stable. In the last year, the number of HFC connections installed grew by 1%, reaching 10.36 million connections. Practically all these connections are installed in nodes with DOCSIS 3.0 technology, which allows speeds of over 100 Mbps.

For the first time, the total volume of connections installed over copper fell below FTTH connections. At 2015 year-end, connections installed over copper pair totalled 15.15 million lines¹². These connections continued to be the most commonly used to offer voice and data services, both by the

¹¹ This figure relates to the number of Property Units (PU) covered by the connections. The PUs include dwellings and commercial premises. Also, this figure is the sum of operators' connections; in this regard, it should be noted that there is a percentage of overlap between these connections, since, in a single building, one or more operators may have installed connections and, therefore, cover the same population.

¹² The figure does not include vacant pairs.

incumbent operator and by the alternative operators that do not use HFC connections, through the local loop unbundling service.

These traditional copper connections—from a subscriber to an exchange—do not constitute the only manner of reaching users by means of xDSL technology. In addition to conventional exchanges, there are other network elements, called remote nodes, connected to the exchange by optical fibre and that provide service to a few hundred loops. There may be multiple remote nodes within the area of an exchange. Given that the quality of the xDSL service is very sensitive to the distance from the loop, the objective of these remote nodes is to reduce that distance through the installation of a network element halfway. These elements are deployed either to improve broadband services in certain areas of an exchange or to provide services to new urban areas. Broadband connection services based on the use of remote nodes therefore substantially improve speed compared to that which would be obtained providing the service from the exchange. In October 2015 there were a total of 6,111 remote nodes in the network, with 1.20 million copper loops dependent on them.

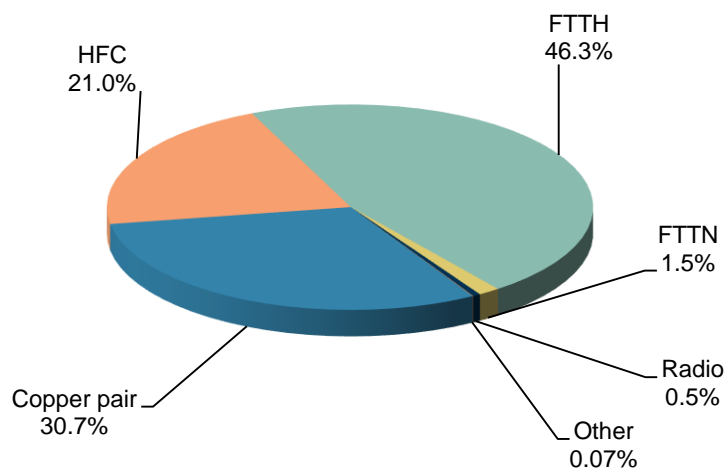
EVOLUTION OF INSTALLED CONNECTIONS

	2011	2012	2013	2014	2015
Copper pair	16,065,690	15,740,106	15,539,052	15,435,440	15,154,659
HFC	9,497,692	9,773,825	9,943,515	10,258,742	10,363,432
FTTH	1,607,108	3,250,556	6,244,313	15,134,930	22,861,673
FTTN	691,435	700,495	709,946	716,744	717,539
Radio	236,807	219,532	262,030	234,445	243,825
Other	14,207	19,322	19,167	40,467	34,790

Source: CNMC

The following graph shows the percentages for the different technologies as a proportion of installed connections. The significant rise in FTTH connections in the last year placed the percentage of installed connections using this technology above that of copper pair. Thus, the copper pair percentage fell by 6.2 percentage points in one year to 30.7%. Fibre to the home (FTTH) connections increased their share by more than ten points in the last year to 46.3%. Installed HFC connections occupied third place with a share that fell to 21%. Lastly, the other less significant access modalities ended the year with similar figures to those of previous years.

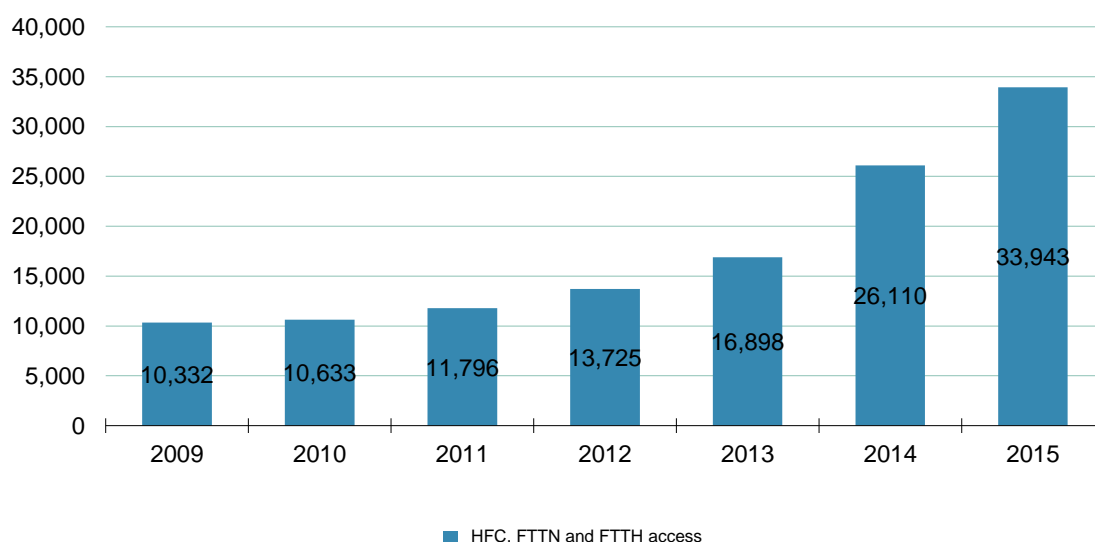
CONNECTIONS INSTALLED BY NETWORK (THOUSANDS OF CONNECTIONS)



Source: CNMC

The evolution of installed HFC and optical fibre connections (FTTH and FTTN) reveals the exponential growth in the number of these connections in the last four years. At year end 2015 there were a total of 33.94 million connections installed using these media, representing growth of nearly 30% compared to 2014, driven by the rise in FTTH connections.

EVOLUTION OF INSTALLED HFC AND FIBRE CONNECTIONS (THOUSANDS OF CONNECTIONS)



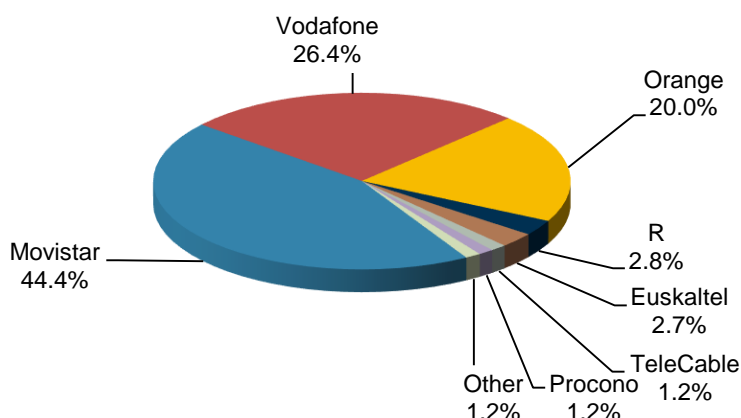
Source: CNMC

The breakdown of installed HFC DOCSIS 3.0 and optical fibre (FTTN and FTTH) connections by operator reveals that Movistar obtained the highest share of connections installed; specifically, it

obtained a share percentage of 44.4% combining, where applicable, the fibre to the node (FTTN) and fibre to the home (FTTH) modalities. Vodafone, which acquired the operator Ono in mid-2014, occupied second position with 26.4% of connections, taking into account the HFC and FTTH connections resulting from the combination of the two companies.

Lastly, one should mention the investment in the roll-out of FTTH connections by alternative operators that mainly use xDSL, as in the case of Orange. This operator (which acquired Jazztel in mid-2015) achieved a percentage of 20% of the market fibre connections

SHARE OF INSTALLED HFC AND FIBRE CONNECTIONS BY OPERATOR



Source: CNMC

The following table shows the evolution of the volume of installed HFC DOCSIS 3.0 and optical fibre connections in recent years by operator. In the last year, there has been a remarkable progress made by Movistar and Orange (including Jazztel) with their FTTH fibre roll-out.

INSTALLED NGA CONNECTIONS BY OPERATOR (DOCSIS 3.0, FTTH and FTTN)

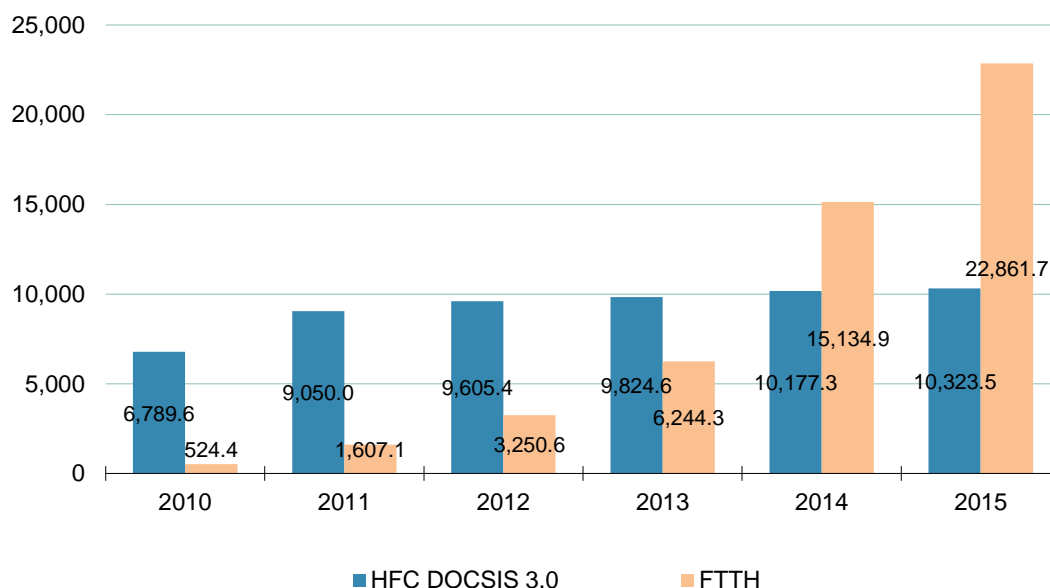
	2012	2013	2014	2015
Movistar	3,907,699	5,935,292	11,062,959	15,043,307
Vodafone		1,868	8,242,122	8,942,691
Orange		67,377	826,689	6,797,254
Jazztel		868,500	3,008,881	-
R	838,255	900,250	945,702	964,106
Euskaltel	904,263	909,260	913,473	924,077
TeleCable	417,515	422,899	426,855	422,844
Procono	282,747	322,226	363,079	399,144
Ono	7,063,153	7,171,267		
Other	142,860	179,935	239,223	409,329
Total	13,556,492	16,778,874	26,028,983	33,902,752

Source: CNMC

The following figure shows the evolution of installed NGA connections (HFC DOCSIS 3.0 and FTTH). As indicated in previous sections, fibre to the home (FTTH) connections were the NGA connections

with the highest growth in 2015. They reached nearly 22.9 million, with a year-on-year growth of 51.2%. By contrast, HFC DOCSIS 3.0 connections only grew by 1.4%, to total 10.32 million.

EVOLUTION OF INSTALLED NGA CONNECTIONS (THOUSANDS OF CONNECTIONS)

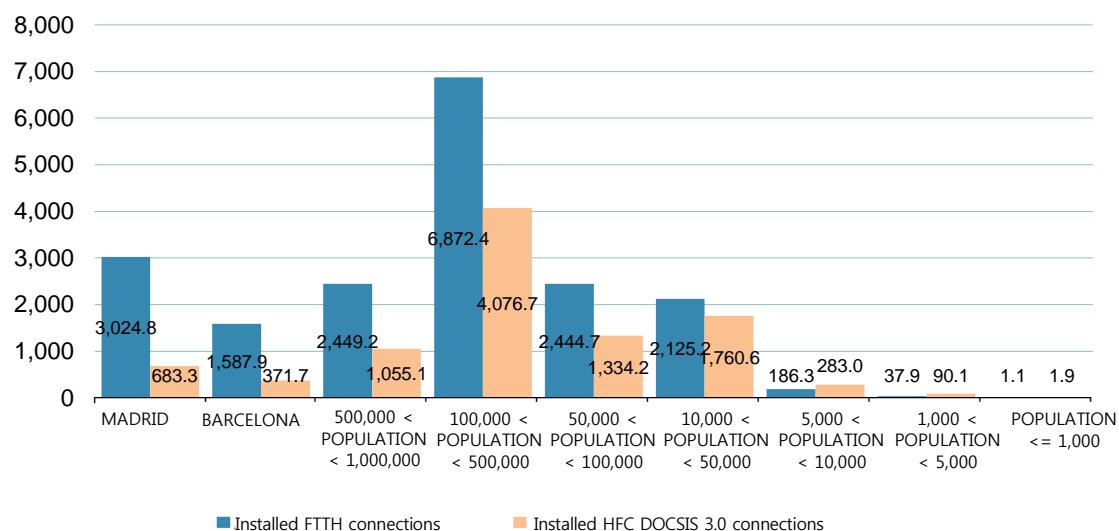


Source: CNMC

The presence of NGA connections differs considerably among the different Spanish towns and cities. The following graph shows the distribution of NGA connections based on FTTH and HFC DOCSIS 3.0 by size of municipality, based on data for June 2015. The most significant roll-out of FTTH connections focused on municipalities with a population of over 500,000.

As regards HFC DOCSIS 3.0 connections, the most significant deployment was observed in municipalities with populations of between 10 thousand and 1 million inhabitants.

DISTRIBUTION OF INSTALLED NGA CONNECTIONS BY TYPE OF MUNICIPALITY (THOUSANDS OF CONNECTIONS)

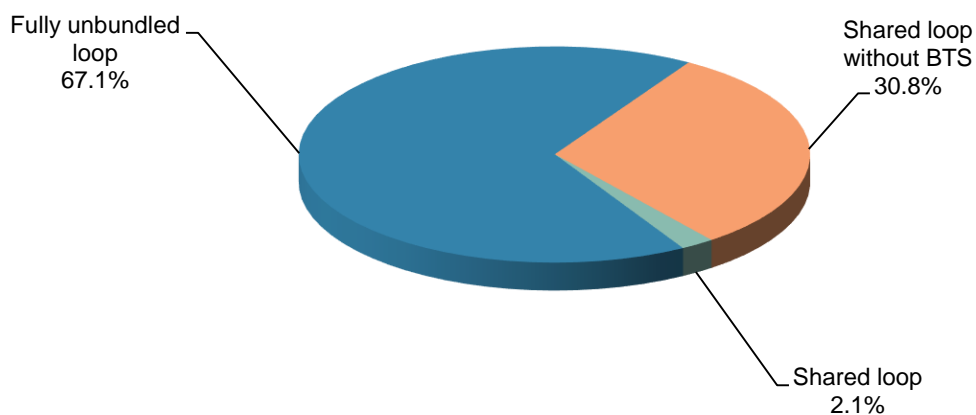


Source: CNMC

As regards the use of wholesale local loop unbundling, 2015 saw the addition of 33 new exchanges with at least one co-located operator, reaching a total of 1,561 exchanges with the presence of alternative xDSL operators. The total number of unbundled local loops reached 3.65 million loops, down 10.8% on 2014.

The following graph shows the percentage of local loops by unbundling modality. All unbundling modalities saw declines. Specifically, fully unbundled and shared loops without basic telephone services (BTS) totalled nearly 3.56 million loops with a 10.6% drop and account for nearly 98% of all the unbundled loops. The operators that made use of this modality bundled the different voice and data services over copper pair without making use of Movistar's fixed telephony service. Lastly, shared local loops followed the downward trend of recent years, recording a fall of 17.2% and representing only 2.1% of all unbundled local loops.

DISTRIBUTION OF UNBUNDLED LOOP MODALITIES (PERCENTAGE)



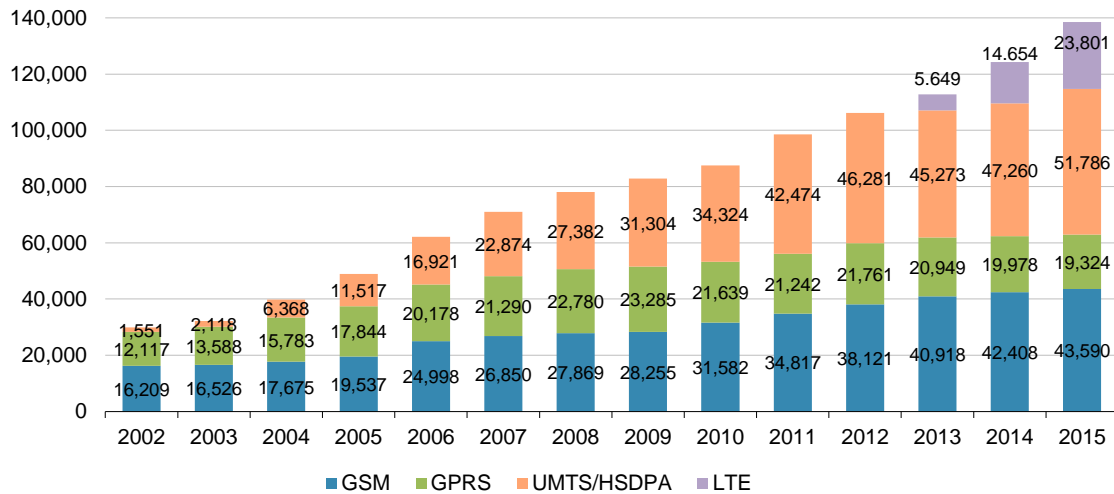
Source: CNMC

Mobile network infrastructure

In 2015, for the third consecutive year, mobile communications operators rolled out technology platforms based on Long Term Evolution (LTE), that is, the fourth generation of the mobile communications standard, also known as 4G technology. It should be noted that network access using LTE technology makes it possible to reach data transmission speeds which can be in excess of 100 Mbps.

In 2015 mobile network operators installed a total of 23,801 LTE base stations. Despite the fact that initially operators focused on deploying LTE networks in the country's main cities, a more generalised roll-out has been progressively observed in the rest of the country. Operators also continued to invest in other mobile technologies. An example of this was the number of UMTS/HSDPA base stations reported in 2015 – 51,786 active stations – representing year-on-year growth of 9.6% compared to those reported the previous year.

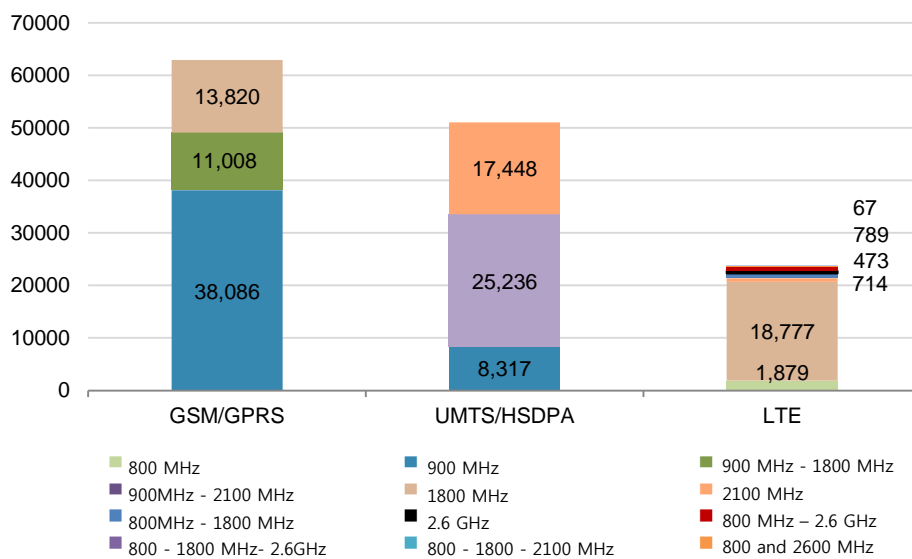
EVOLUTION OF THE NUMBER OF BASE STATIONS BY TECHNOLOGY



Source: CNMC

It should be noted that Royal Decree-Law 17/2014, of 26 December, on financial sustainability measures for the autonomous regions and local entities and other economic measures, set the final 800 MHz band release date as 31 March 2015, which allowed operators to begin to offer mobile services over that frequency band from that date. The use of that band made it possible to extend the coverage of LTE networks. The following graph shows, for 2015, the distribution of base stations according to their technology and frequency band used.

NUMBER OF BASE STATIONS BY TECHNOLOGY AND FREQUENCY BAND IN 2015



Source: CNMC

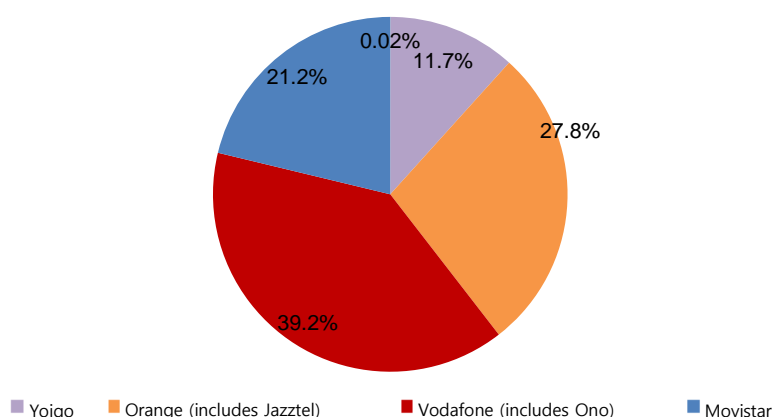
The development of radio electric equipment has enabled a single telecommunications site associated with mobile technology to transmit the signal at numerous frequencies. Thus, in the previous graph it can be observed that part of the equipment deployed by mobile operators incorporated this possibility, thereby enabling better coverage and a clear saving on the cost of rolling out new mobile technologies. By way of example, in 2015, 25,236 base stations with UMTS/HSDPA technology transmitted simultaneously in 900 MHz and 2100 MHz frequency bands. In fact, this form of transmission became the most widely used when rolling out UMTS/HSDPA technology in Spain.

In turn, the graph also shows that the roll-out of 4G technology was carried out mainly in the 1800 MHz frequency band and also, to a lesser extent, in the 2.6 GHz band. This model –combining the 1800 MHz frequency band with the 2.6 GHz band– was the most widely implemented in other European countries. As mentioned earlier, in 2015 mobile operators were able to begin to offer access to the LTE network in the 800 MHz frequency band. Therefore, in 2015 more than 3,800 mobile stations were installed that used the 800 MHz frequency band to provide LTE technology coverage.

The following graph details the total number of LTE base stations according to the network operators that installed them. We can observe that Yoigo, the network operator with the smallest market share, has proportionally deployed a greater number of LTE stations than operators with a substantially larger market share. This can partly be explained by the fact that, in May 2013, Yoigo became the first Spanish operator to announce its intention to offer its customers commercial products with 4G speeds. Subsequently, the other network operators started announcing their fourth-generation technology roll-out plans until, in September of that year, the four 4G technology networks that currently offer high-speed mobile connectivity began to operate.

It should be noted that the 'Other' category refers to the operator Consorcio de Telecomunicaciones Avanzadas (COTA) which, despite being a local initiative focused on the province of Murcia, became, at the end of 2012, the first operator to officially offer LTE connectivity in Spain.

DISTRIBUTION OF LTE BASE STATIONS BY OPERATOR
(PERCENTAGE)

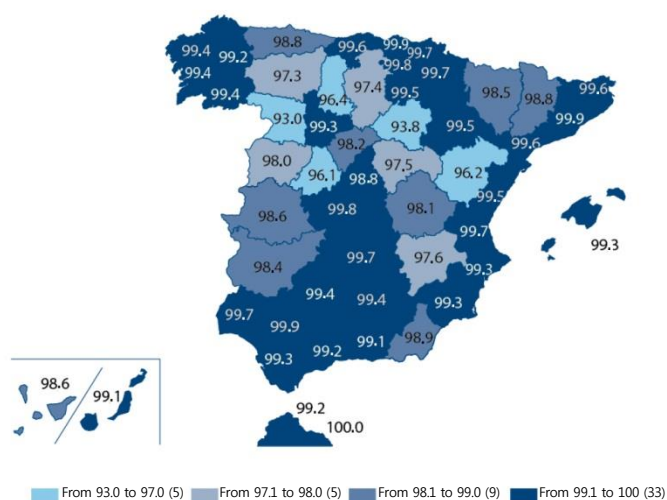


Source: CNMC

The main consequence of the growth in 3.5G base stations was the increase in population covered by this type of technology. The following graph represents, at provincial level, the mobile network with the

highest degree of 3.5G service coverage, in accordance with the minimum required quality standards¹³. The figures indicate that, currently, most of the population already has access to this technology, although it is true that provinces with the highest concentrations of urban population, in general, had the greatest coverage.

POPULATION WITH ACCESS TO NEXT GENERATION NETWORKS (UMTS/HSDPA) (PERCENTAGE)

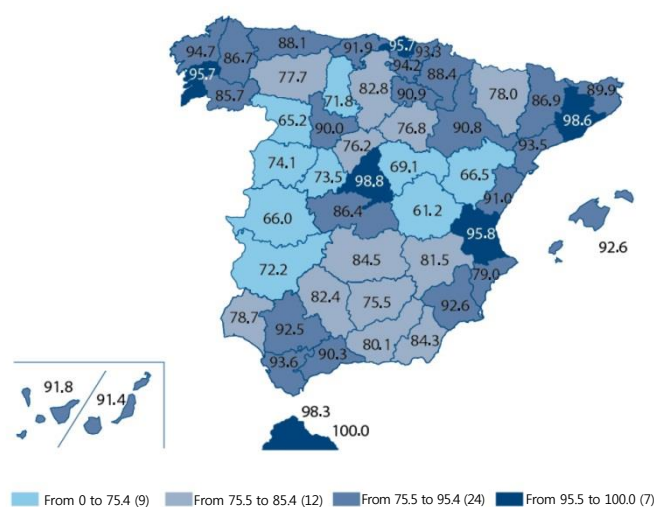


Source: CNMC

In the case of coverage with 4G platforms, greater differences were observed between the provinces analysed. Thus, Madrid and Barcelona had coverage greater than that of the rest of the country. These differences are expected to level out progressively as operators broaden their base station network.

¹³ The 3G service coverage reported ensures a data traffic speed higher than 300 Kbps.

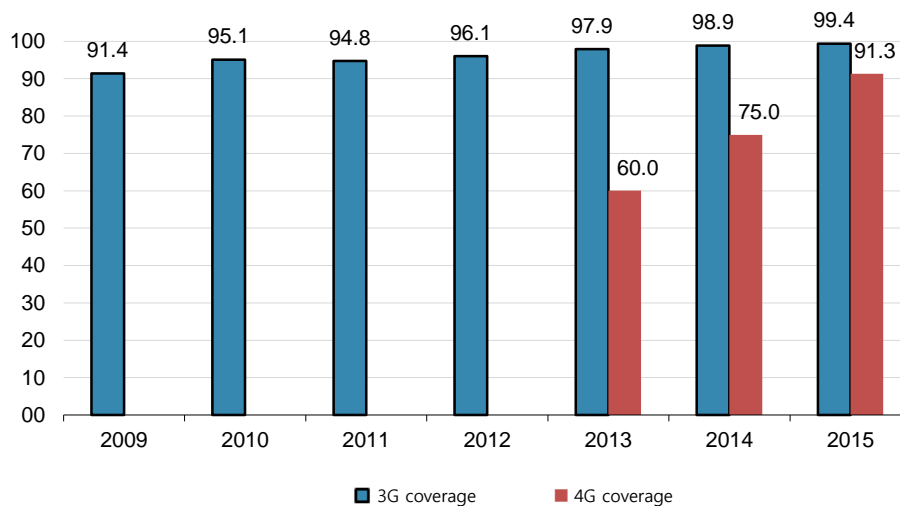
POPULATION WITH ACCESS TO FOURTH-GENERATION NETWORKS (LTE) (PERCENTAGE)



Source: CNMC

According to the data reported by the four mobile operators with proprietary networks, 99.4% of the Spanish population was covered by at least one next-generation network, whether using UMTS or HSDPA technology. Furthermore, the data reported by network operators also show that, initially, 90% of the population would have the option of connecting to at least a fourth-generation network (LTE).

POPULATION COVERED BY AT LEAST ONE 3G OR 4G NETWORK (PERCENTAGE)



Source: CNMC

- Sharing of mobile infrastructure

In recent years, mobile operators have set various infrastructure sharing agreements with the aim of reducing the high financing needs related to the roll-out of mobile networks throughout the country.

The data reported by operators reveal that 35.5% of the sites installed¹⁴ to provide mobile coverage through the different technologies would currently be shared between two or more mobile operators. This strategy has undoubtedly enabled savings in mobile communications coverage costs – in both financial and environmental terms – and, consequently, has represented an increase in the efficiency of the provision of mobile services.

In this regard, it should be noted that the sharing of physical infrastructure with the aim of reducing its high implementation costs was intensified as a result of the high investment needs required by the deployment of 4G technology.

Conversely, 32.9% of active mobile sites in 2015 were the property of a mobile operator that exclusively operated that infrastructure without sharing it with any other operator in the market.

Lastly, it should also be noted that 31.6% of the sites used to offer coverage for mobile services were owned by a company that did not offer mobile services in the retail market. The case in point is Cellnex, an operator that, whilst not offering mobile services in the retail market, nevertheless owned more than 22 thousand mobile sites in 2015.

2. ANALYSIS OF THE SECTOR IN SPAIN

2.1. Retail fixed communications

2.1.1 Fixed telephony

Once again, the development of this market was marked by the concentration process. The acquisition of Ono by Vodafone in July 2014 was followed by that of Jazztel by Orange in August 2015 and that of R by Euskaltel at the end of the year.

In 2015, the total number of fixed telephony lines reversed the downward trend of recent years, growing on the back of gains by alternative operators, which offset the more than 500,000 lines lost by Movistar. However, revenue and fixed telephony traffic continued to fall, although less sharply than in the previous year. Despite the growth in the number of lines recorded in 2015, total traffic originating from fixed networks fell by 12.9% year on year as a consequence of lower average consumption per line. However, the reduction in total traffic volume was substantially lower than the 17% recorded in 2014.

Once again, traffic originating from fixed networks lost ground to that originating from mobile networks in relation to total voice traffic. In an environment where flat fees for fixed voice and mobile voice¹⁵ are a very frequent choice among users, those users opted to use mobile rather than landline phones to make calls.

¹⁴ A mobile site may include equipment using different technologies which, in turn, distribute the signal over multiple frequencies. Therefore, the number of mobile sites does not match the number of stations reported by technology.

¹⁵ Most bundled tariffs include a certain number of fixed-to-mobile minutes.

Also, it is becoming increasingly common for users to make calls over the Internet; to be precise, according to the CNMC Household Panel, 39% of Internet users reported using the Internet to make voice or videoconference calls, which affects the use of the traditional fixed telephony service.

Since the appearance of quadruple-play bundles at the end of 2012, the tendency to subscribe to the fixed telephony service bundled with mobile telephony has intensified. At the end of 2015, only 33% of fixed telephony lines had been subscribed to separately and practically half of the fixed telephony lines related to bundles that combined fixed and mobile services in a single product. Also worth noting was the growth of quintuple-play bundles – made up of fixed telephony, fixed broadband, mobile voice and mobile broadband plus pay television as a fifth service – to represent 18.5% of fixed lines, seven percentage points more than in 2014.

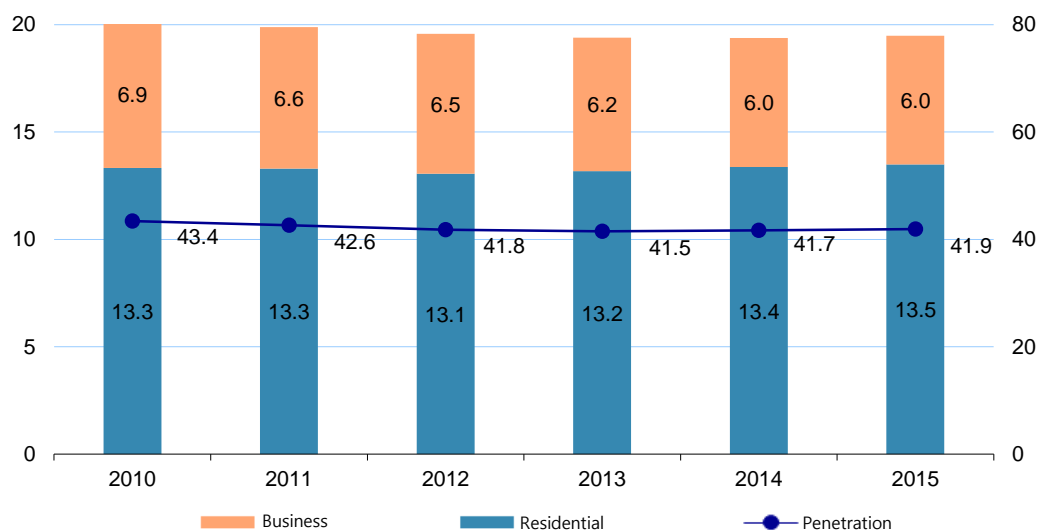
The merger transactions gave rise to a market dominated by three operators which accounted for 92.5% of total fixed lines. Movistar continued to lose market share to represent 51.7% of total fixed telephony lines. Vodafone and Orange (including Ono and Jazztel, respectively), jointly accounted for 41% of total lines, divided between the two almost equally.

Porting of fixed numbers decreased in 2015, after two years of figures close to 2 million transactions.

Lines

The number of active fixed telephone lines stood at 19.5 million, approximately 97 thousand lines more than the previous year. The total number of lines had fallen since 2009, as a consequence of the reduction in the subscription of lines in the business segment, but in 2015 the trend was reversed, with 123 thousand more lines in the residential segment, which offset 26 thousand lines less in the business segment.

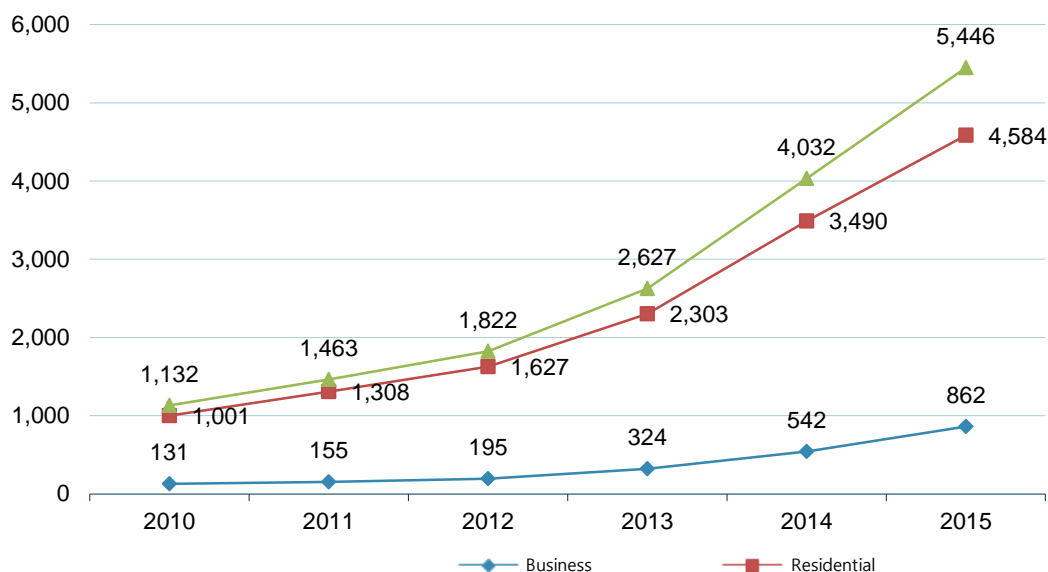
LINES AND PENETRATION OF FIXED TELEPHONY (MILLIONS OF LINES AND LINES/100 INHABITANTS)



Source: CNMC

The progressive increase in FTTH lines to provide fixed services has led to an increase in the number of lines that offer IP voice. At the end of 2015, the number of fixed lines supported by this technology exceeded 5.4 million, 35% more than in 2014. This figure implies that 28% of the total number of fixed telephony lines benefits from IP voice.

Movistar ended the year with more than 2 million IP voice lines, in keeping with its total number of active FTTH lines. The IP voice lines of the other operators are mostly offered to the market using two wholesale services regulated by the CNMC (some alternative operators also offer fixed lines over their FTTH network). In particular, Orange offers voice over the high-frequency band through the unbundled loop modality without basic telephone services (BTS). Vodafone uses another wholesale service, naked indirect access, to provide Internet and voice services to its customers without them having to subscribe to a fixed line with Movistar in areas where the alternative operator does not have co-located equipment allowing it to unbundle the local loop. In both cases, the consumer is fully dissociated from Movistar.

FIXED TELEPHONE LINES IN RELATION TO IP VOICE¹⁶ (THOUSANDS OF LINES)

Source: CNMC

Fixed telephony penetration, defined as the total number of active fixed lines per 100 inhabitants, stood at 41.9%¹⁷, slightly higher than that recorded in 2014, which was 41.7%.

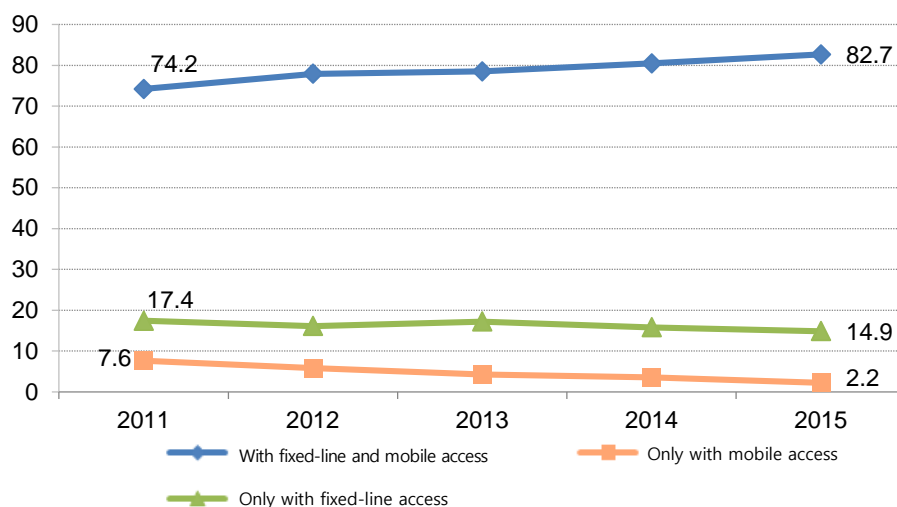
According to the data provided by the CNMC Household Panel, in 2015, 84.9% of Spanish households had a fixed telephony service, practically the same percentage as a year earlier. Of these, 97.4% had fixed and mobile access (two percentage points more than in 2014), while 2.6% had only fixed access.

Also, 14.9% of households had only mobile access. This last percentage has dropped 2.5 percentage points since 2011 and the percentage of households that only have fixed access has also fallen, even more sharply. Over the same period, households with both types of access have increased year after year and their percentage has increased 8.5 percentage points since 2011.

¹⁶ This figure does not include the use of applications that make it possible to make telephone calls over the Internet.

¹⁷ Penetration is calculated based on the total number of fixed telephony lines and on the population figure obtained from the 2011 census update by the INE (National Statistics Institute). The figure for 2015 is 46,449,565 inhabitants.

HOUSEHOLDS BY TELEPHONE CONNECTION TYPE (PERCENTAGE OF HOUSEHOLDS IN RELATION TO THE TOTAL)



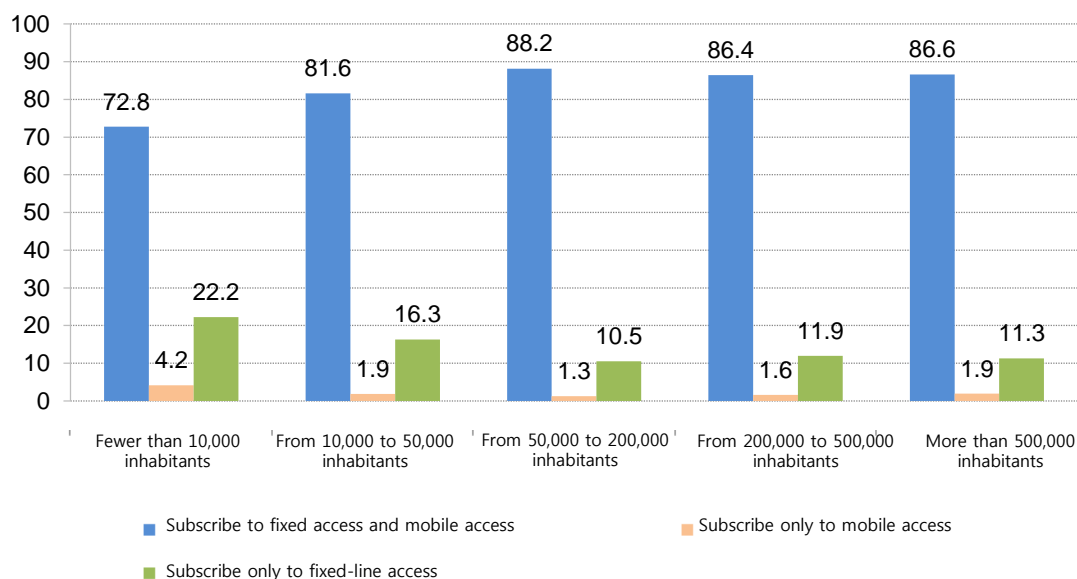
Source: CNMC Household Panel

According to the CNMC Household Panel, the main reason for households not having a fixed connection is that mobile access is cheaper (47.6%), followed by not wanting to pay fixed monthly charges (27.8%).

Lastly, the data also show that in smaller municipalities a greater proportion of households subscribe only to mobile access. For example, in municipalities with less than 10 thousand inhabitants, 22.2% only subscribe to mobile access compared to a value of around 11% in municipalities with more than 50 thousand inhabitants. Conversely, the proportion of households with fixed and mobile access grew in line with the size of the municipality. In the case of municipalities with a population of more than 50 thousand inhabitants, that proportion was around 87%.

These households with two types of access also have mostly fixed broadband and represent the most common household profile in Spain, characterised by higher voice consumption than the others. Quadruple-play and quintuple-play offers are aimed mainly at this target audience and have given rise to an increase in the percentage of households with both types of access in the last two years, given that in some cases they offer households with only fixed-line services the possibility of enjoying a mobile line at no extra cost. In fact, these convergent bundles reduce the substitution effect between fixed and mobile access, as shown by the fact that there is an ever-increasing number of households that have both.

SUBSCRIPTION TO TELEPHONE CONNECTIONS BY SIZE OF MUNICIPALITY (PERCENTAGE OF HOUSEHOLDS IN RELATION TO TOTAL HOUSEHOLDS IN EACH TYPE OF MUNICIPALITY)



Source: CNMC Household Panel

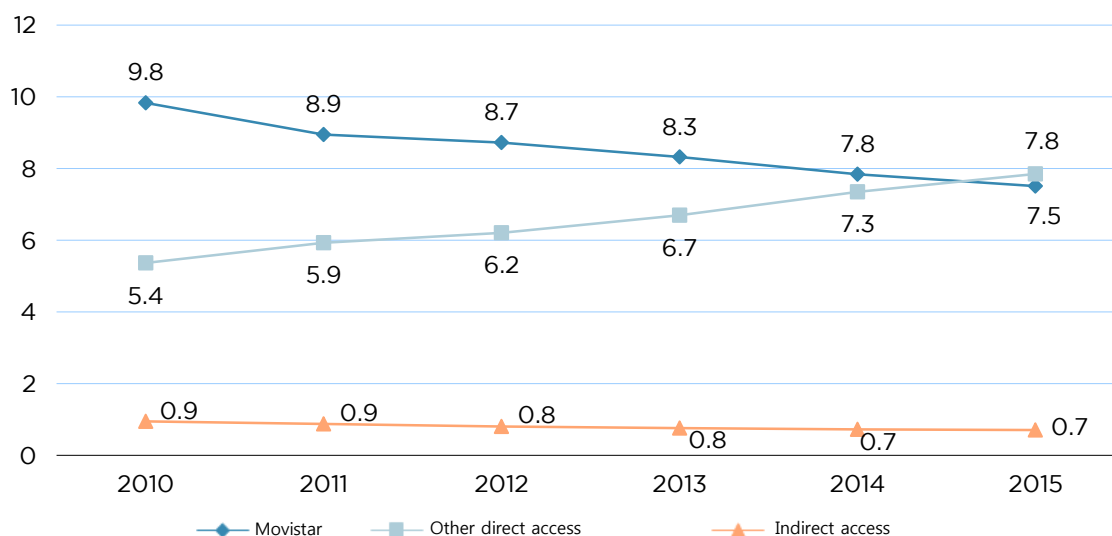
Customers

At the end of the year, there were a total of 16.1 million fixed-line telephone customers, of which 15.4 million had direct access and the rest indirect access. Direct access customers showed the same trend as lines, with a decrease in Movistar customers, while the rest of the main alternative operators continued to increase their share.

The competition for fixed communications services has led operators to opt mainly for the direct access service, competing in terms of infrastructure, whether proprietary – mainly HFC or FTTH networks – or owned by Movistar, making use of the wholesale local loop unbundling service. In all of these cases, the alternative operator needs to make investments, although of a different magnitude. If the alternative operator decides to use Movistar's fixed network to offer direct access services, it must invest in the co-location of its equipment at this operator's exchanges in order to unbundle and connect the local loop – or last mile – to its own network. An advantage of this option is that the alternative operator may configure its own differentiated service offering in the areas covered by the exchanges where it is co-located.

As mentioned earlier, alternative operators that did not have proprietary infrastructure began to offer direct access services to their end customers using wholesale local loop unbundling services, that is, using Movistar's fixed network. However, since the end of 2013, alternative operators who had been using these wholesale services have opted for deploying their own fibre networks. The incipient roll-out in 2014 did not affect the demand for loop unbundling services by alternative operators. Specifically, the fully unbundled modality achieved an additional 270,000 units in 2014. But the situation changed in 2015, when that modality, the most widely used until then, saw a fall of 151,000 units.

EVOLUTION OF DIRECT AND INDIRECT ACCESS CUSTOMERS (MILLIONS)



Source: CNMC

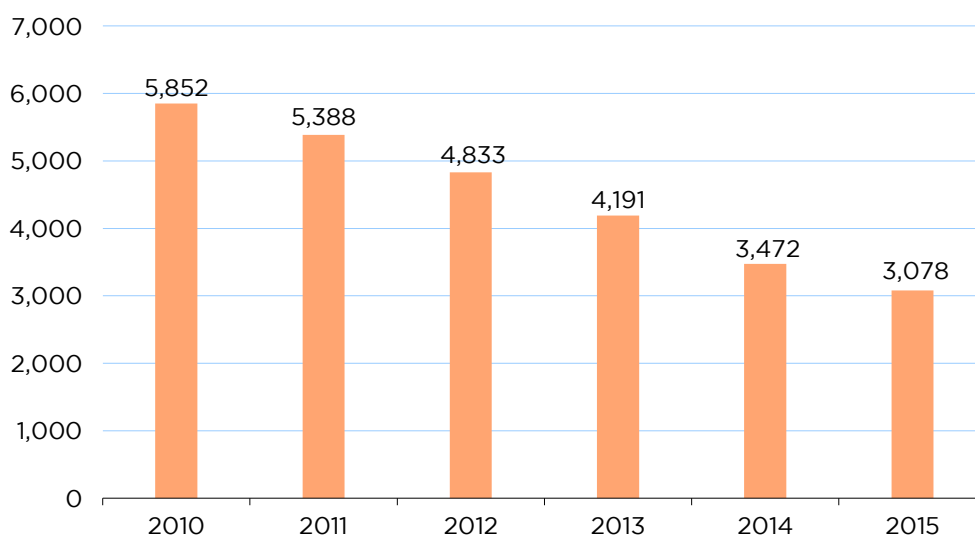
Furthermore, the indirect access modality has declined in recent years. This service allows the operator to provide fixed-line telephone services over Movistar's physical access through an operator selection code. This modality, while currently residual, continues to allow operators to offer the service to customers in areas not covered by their own network or where they are not co-located. In 2015 the number of indirect access customers was 706,903, 2% lower than in 2014.

The most significant tool for providing the indirect access is the Wholesale Line Rental (WLR) service. WLR enables alternative operators who do not have direct access to their customers to provide an access service. That is, alternative operators bill their end customers for both the telephone traffic service and retail access service and, in turn, pay Telefónica a rental fee for the wholesale access service. In 2015, there were a total of 578,879 WTLA lines, 1% more than the figure recorded the previous year.

Revenue and traffic

The revenue relating to the fixed telephony retail service – EUR 3,078 million – was 11.3% less than the previous year.

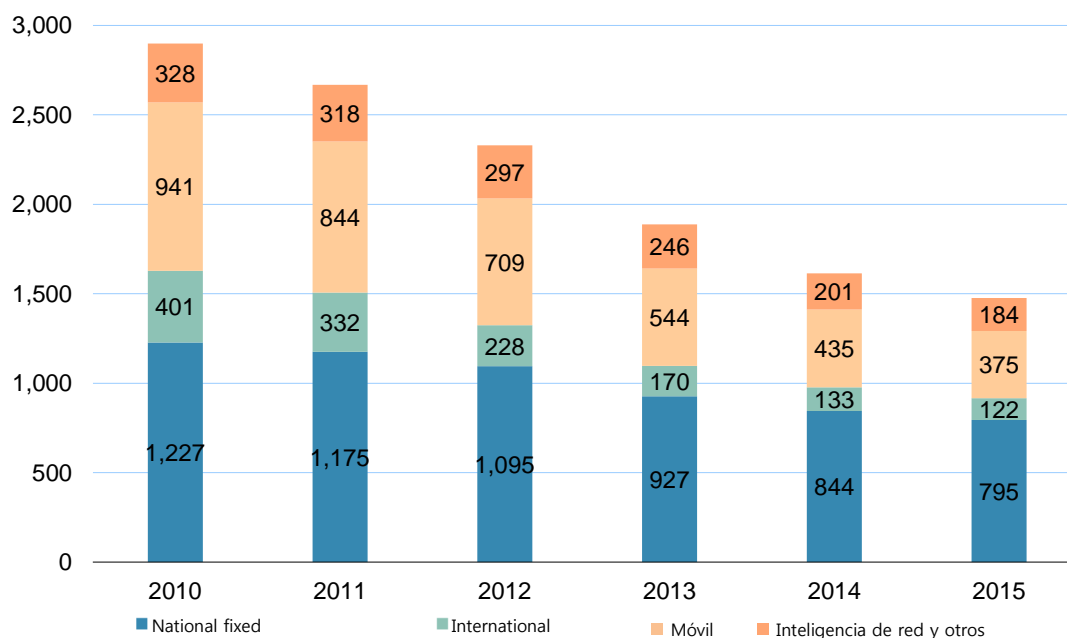
EVOLUTION OF TOTAL FIXED TELEPHONY REVENUE (MILLIONS OF EUROS)



Source: CNMC

The decline in revenue was nearly in line with that of traffic. Despite the rise in lines, traffic continued to decline, although less sharply than the previous year, to be precise, 12.8% compared to the 17% recorded in 2014¹⁸.

EVOLUTION OF REVENUE BY TRAFFIC TYPE (MILLIONS OF EUROS)



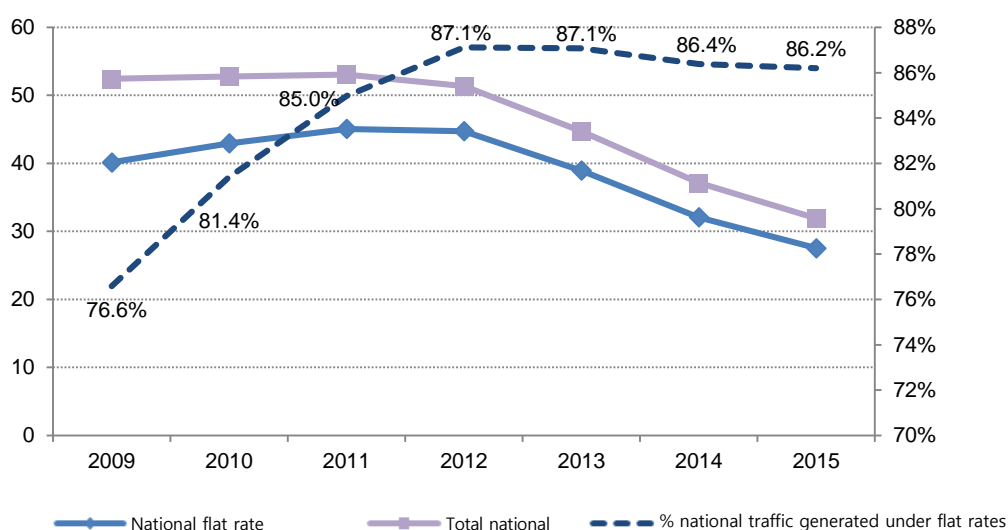
Source: CNMC

¹⁸ Internet access traffic is not considered when calculating the year-on-year rate of change for traffic.

This decline occurred for all types of traffic, both that generated mainly under flat-rate tariffs and traffic billed by minutes consumed. In fact, the decline was greater for traffic included in flat rates, with a fall of 13.9% compared to 9.7% recorded in traffic billed by time. Flat rates correspond basically to national traffic and, to a lesser extent, to fixed-to-mobile traffic. As regards the proportion of minutes consumed under flat rates in relation to total traffic¹⁹, it remained similar to that of previous years, at around 75%, despite the fact that the fixed telephony lines associated with flat rates continued to grow, driven by the surge in bundles.

The proportion of traffic to national destinations generated under flat rates increased until 2012, but the appearance of bundles with fixed and mobile services has triggered a reduction in national traffic originating on a fixed network, since end users have opted for using their mobile phones to make most of their calls both to fixed and mobile destinations. Specifically, national traffic, 86.2% of which is generated under flat-rate tariffs, fell by 14%. Traffic to mobile destinations, with a proportion of 39.7% under the flat rate modality, fell by 5.2%.

TOTAL NATIONAL TRAFFIC AND TRAFFIC BILLED PER MINUTE AND FLAT RATE PERCENTAGE
(BILLIONS OF MINUTES AND PERCENTAGE)

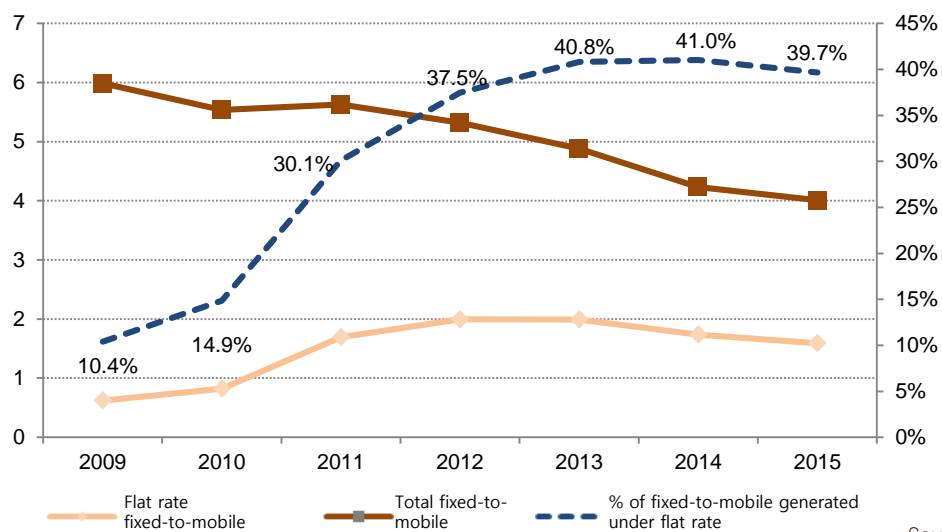


Source: CNMC

The behaviour of fixed-to-mobile traffic was similar. Prior to the appearance of quadruple-play products in 2013 there were already bundled products that included a certain number of free minutes to mobiles, which led to a gradual increase in this type of traffic. However, the proliferation of flat rates for mobile traffic and the increase in bundles combining fixed and mobile services led users to mainly use mobile phones to make any type of call. Consequently, a progressive decline in total fixed-to-mobile traffic can be observed and a stagnation in the percentage of traffic generated under fixed flat rates.

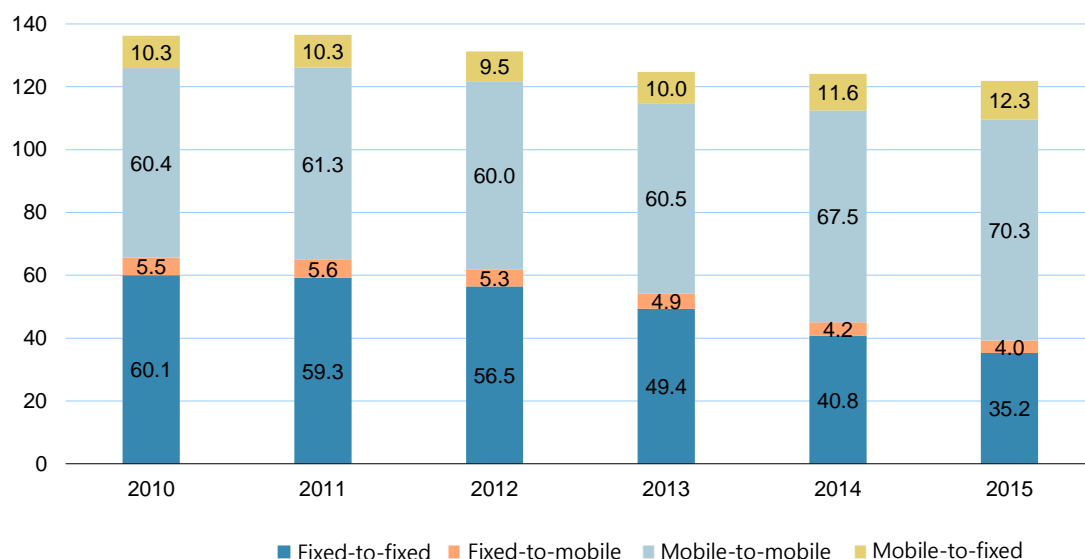
¹⁹ It is calculated without taking intelligent network and other traffic into account.

TOTAL FIXED-TO-MOBILE TRAFFIC AND FLAT RATE PERCENTAGE (BILLIONS OF MINUTES AND PERCENTAGE)



Source: CNMC

Upon analysing total voice traffic, whether originating on a fixed or mobile network, it can be observed that since 2013 total traffic has remained practically stable, but traffic originating on mobile networks has continued to grow.

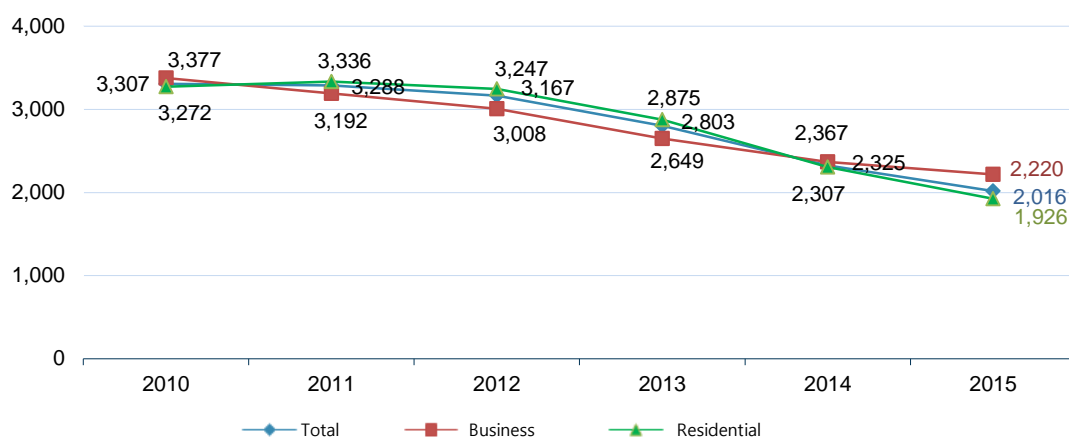
EVOLUTION OF VOICE TRAFFIC BY ORIGIN AND DESTINATION²⁰ (BILLIONS OF MINUTES)

Source: CNMC

While in 2015 traffic originating from mobile networks recorded year-on-year growth of 4.5%, traffic originating from fixed networks fell by 12.8%. Nevertheless, total traffic originating from both networks remained nearly stable with respect to the previous year, of which only 32.3% was traffic originating from fixed networks, compared to the 47% it represented in 2012.

Consumption per fixed line fell by 13.3% in 2015 with respect to the previous year, particularly in the residential segment, with a decline of nearly 16.5%, while for business lines it fell by 6.2%. On the other hand, the growth recorded in traffic originating from mobile networks was due to greater traffic per line, given that the total number of lines only grew by 0.5% compared to 2014.

²⁰ Fixed-to-fixed traffic does not include local calls to narrowband Internet. Traffic from mobiles is calculated in airtime minutes and does not include roaming.

MINUTES PER FIXED LINE AND YEAR²¹ (MINUTES/LINE)

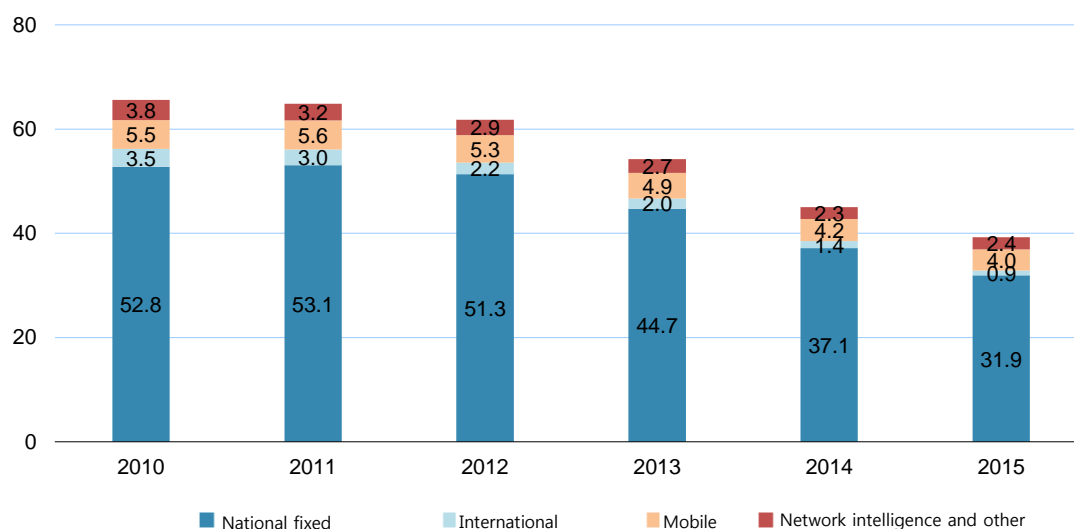
Source: CNMC

Additionally, according to CNMC Household Panel data, 60.5% of those who use online messaging apps at least weekly reported having reduced their consumption of the traditional voice service by a half or more since starting to use those services. The same was reported by 55.9% of the most regular online telephony users. Despite the fact that these are reported data and could be subject to the human errors of assessment, their magnitude shows that, for certain uses, the new online communication services could become an alternative to the fixed telephony service.

Lastly, international traffic, billed almost entirely on the basis of minutes consumed, fell by 31.2%. This fall may be attributable, on the one hand, to the increasingly frequent use of OTT services and, on the other, to the existence of increasingly attractive mobile-to-international destination tariffs offered by both mobile virtual operators focused on these niche markets and by some mobile network operators that include a certain number of minutes to certain international destinations in return for the payment of a monthly fee.

²¹ The fixed telephony traffic included in this report relates to that recorded by telecommunications operators as a whole and, therefore, does not include that managed by over-the-top operators, which allow users to make calls to any destination using Internet applications.

EVOLUTION OF TRAFFIC ORIGINATING FROM FIXED NETWORKS (BILLIONS OF MINUTES)



Source: CNMC

Competition

After the acquisition of Jazztel by Orange, the state of the fixed telephony market has led to a situation where the three main operators account for 92.5% of lines and 89.8% of traffic. Both Vodafone and Orange have focused their investment on the deployment of proprietary FTTH networks, progressively ceasing to use Movistar's fixed network by means of the different wholesale loop unbundling services.

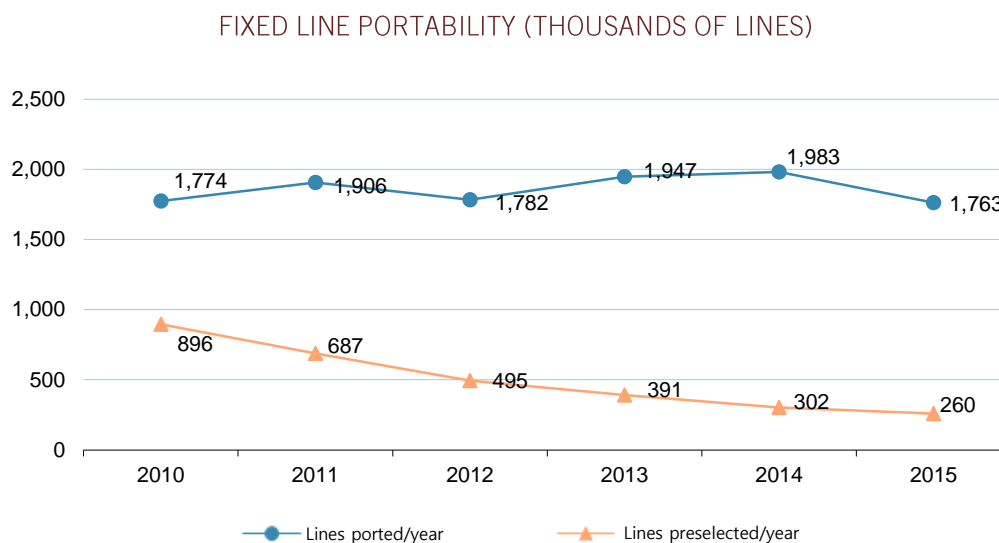
Portability

Portability enables consumers to switch operator while keeping their fixed-line number, thereby reducing the cost to the user of changing providers. Portability statistics are a good indicator of the degree of competition in the market.

Despite the fact that the fixed telephony market is a mature market, in recent years there have been very high rates of fixed-line portability, although in the last year the total fell. While the monthly average in 2014 was 165,229, in 2015 it stood at 146,890. According to the periodic survey conducted by the CNMC, 10.7% of households reported having switched fixed-line service provider in 2015, approximately 20% less than in 2014.

Additionally, in most cases these changes of operator would relate to customers who subscribed to bundled services. Customers who subscribe to the fixed telephony service separately – most of them with Movistar – are less inclined to switch operator and are also less profitable, making them less attractive to other operators.

Lastly, the preselection service is declining year after year and, in 2015, there were only 260 thousand preselected lines²².



Source: CNMC

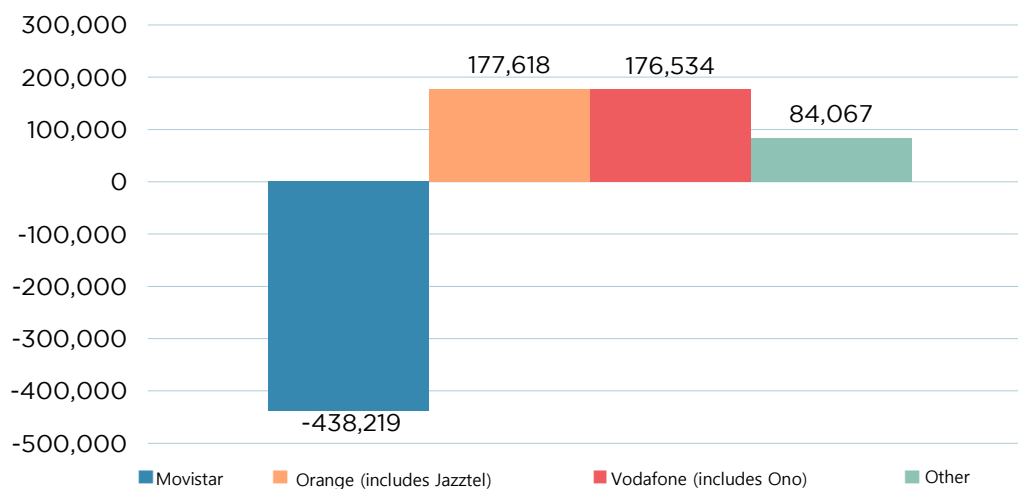
Movistar was the only operator who presented a negative net balance of ported fixed lines, although smaller than in 2014, while the other operators imported a greater number of lines than those lost to other operators. Therefore, there was a transfer of lines from Movistar to the other operators, linked mainly to broadband services.

Orange²³, after acquiring Jazztel, and Vodafone recorded a very similar positive net balance, in line with the number of fixed lines gained.

²² This does not include WLR lines.

²³ Orange's figures include those of Jazztel for all of 2015, even though the acquisition was formalised in August 2015.

NET PORTABILITY BALANCE BY OPERATOR IN 2015 (LINES)

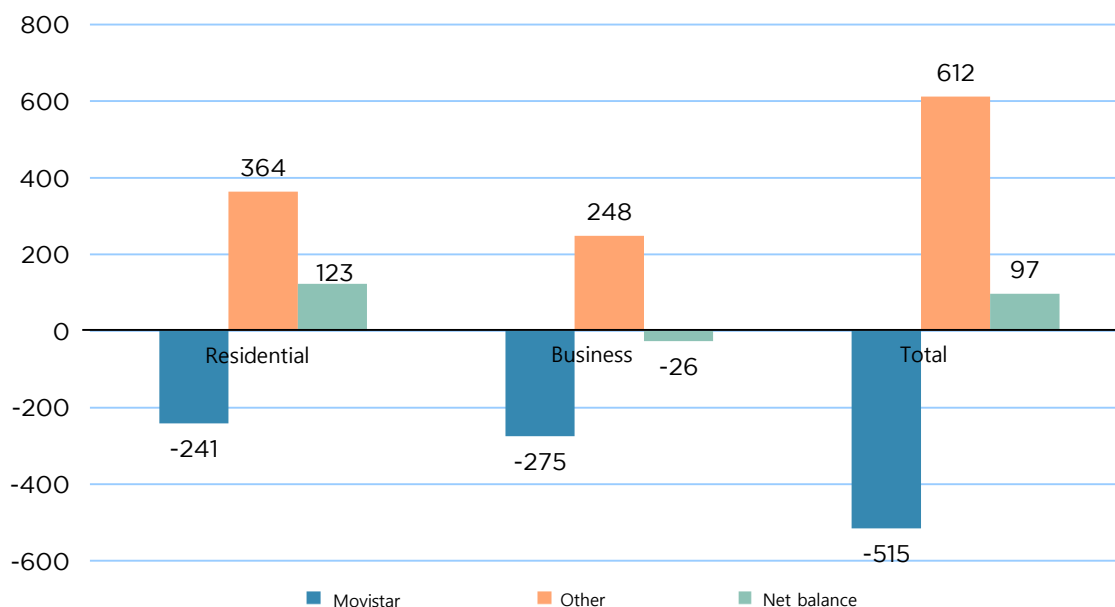


Source: Portability Operators Association - CNMC

Gain and loss of lines

Overall, the total number of fixed lines grew in 2015 after seven consecutive years of falls or remaining stable, as occurred in 2014. The gain of more than 600 thousand lines by other operators offset the loss of lines by the main operator – Movistar – and led to an increase of 97 thousand lines.

GAIN AND LOSS OF LINES BY SEGMENT IN 2015 (THOUSANDS OF LINES)



Source: CNMC

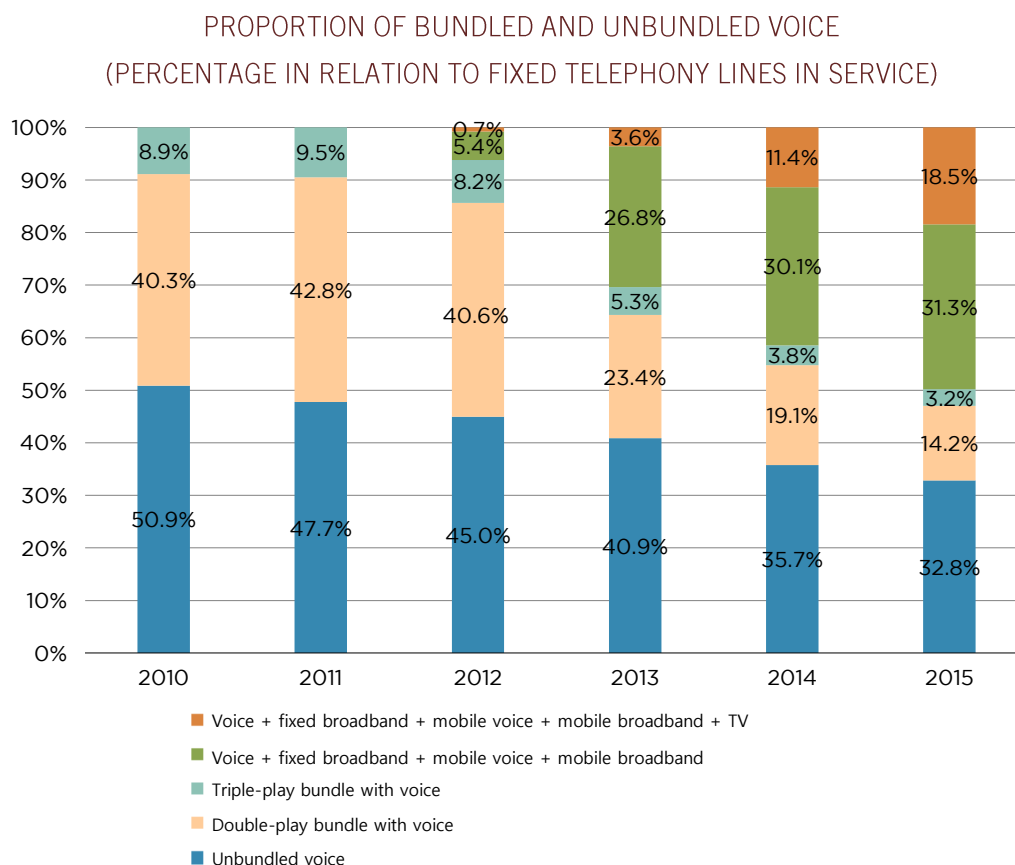
Vodafone and Orange – including the net gains of Ono and Jazztel, respectively – gained around 230,000 lines each.

Voice bundling

In 2015, the trend of marketing fixed voice together with mobile services and, particularly, with pay television service continued. The main operators focused their strategies on marketing products including four or five services and tried to retain their dual-play package customers by adding mobile services and pay television to their products.

The percentage of fixed lines subscribed to unbundled offers in 2015 was only 32.8%, nearly three percentage points less than the previous year. This situation contrasts with the situation in 2012, when convergent packages including mobile and fixed services appeared in the market. In 2012, 40.6% of fixed lines were offered as part of a double-play fixed voice and broadband bundle, while in 2015 the percentage of lines in this type of bundle only reached 14.2%.

In 2015, 74% of bundled fixed telephony lines were bundled with mobile services (10 percentage points more than in 2014) and only 20% consisted of fixed voice and fixed broadband bundles.



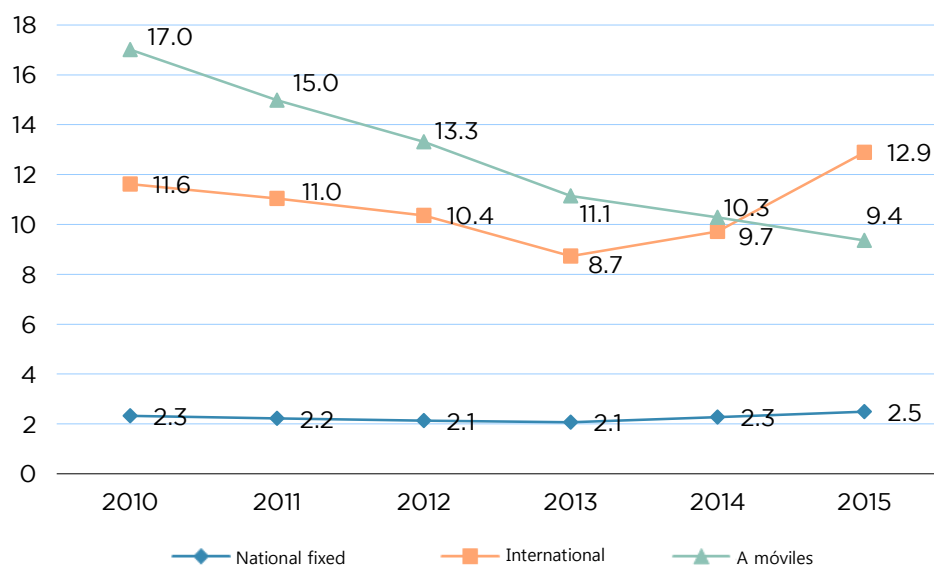
Source: CNMC

Prices

In order to analyse how prices of the different types of fixed telephony traffic have changed over time, average revenue can be used as an approximation. It should be noted that the increasing presence of bundles complicates price analysis, particularly in the case of national traffic and traffic to mobiles, since flat-rate voice tariffs include an unlimited number of minutes to national fixed-line numbers and, with increasing frequency, flat or semi-flat rates for fixed-to-mobile minutes. In any case, some services are mainly billed by time, such as calls to international destinations or calls to intelligent network services.

Average revenue per call from fixed to mobile networks fell by 9% to 9.4 euro cents per minute. This drop in retail prices has slowed in the last three years. The very favourable evolution of retail prices prior to 2013 was due, inter alia, to the gradual reduction in the wholesale price of termination on mobile networks, as determined by the glide path defined by the now defunct WCL. After July 2013, the wholesale mobile termination price was set and remained constant at 1.09 euro cents per minute, which explains that the drop experienced in 2015 was less sharp than that observed in previous years.

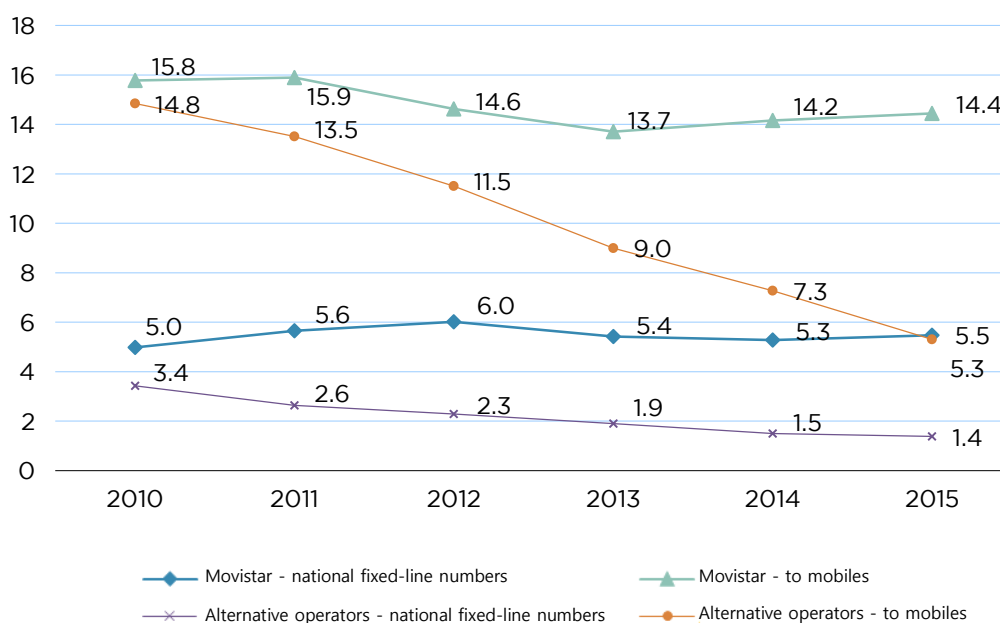
AVERAGE REVENUE FROM TRAFFIC TO NATIONAL FIXED-LINE, INTERNATIONAL AND MOBILE NUMBERS (EURO CENTS/MINUTE)



Source: CNMC

The analysis of average revenue from traffic billed per minute consumed, is more representative. In fact, 60% of fixed-to-mobile network traffic is billed by time, in contrast with the same indicator of traffic to national destinations, which only reached 14%. In the case of both types of traffic, the difference between the average revenue obtained by Movistar and that of the other operators increased slightly. Average revenue from traffic to mobiles obtained by Movistar remained practically stable, while falling 27% in the case of the other operators.

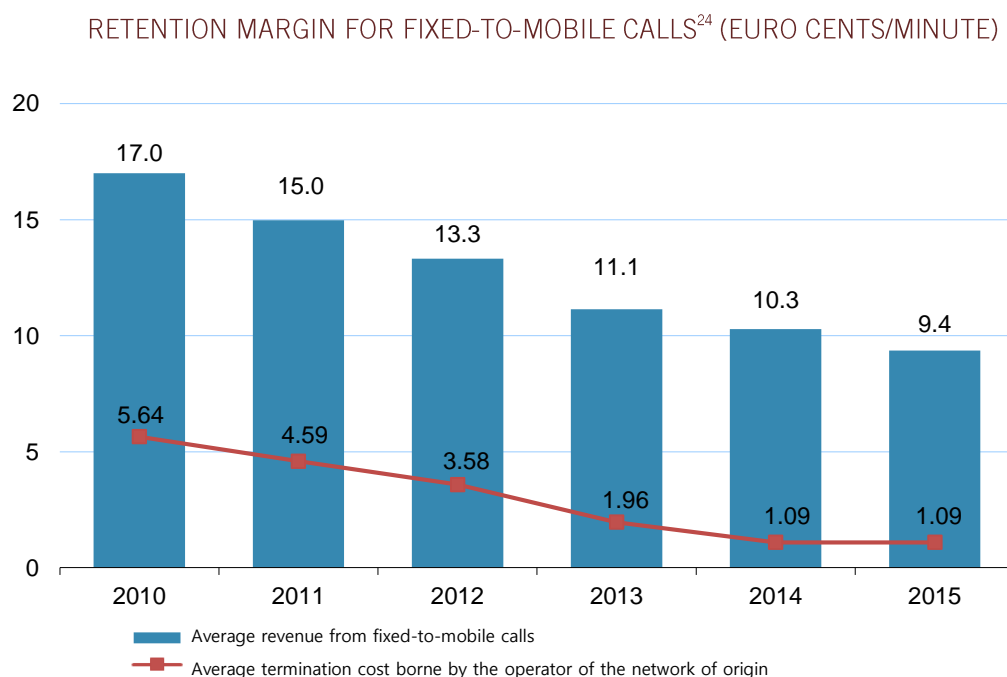
AVERAGE REVENUE FROM TRAFFIC MEASURED BY TIME TO NATIONAL DESTINATIONS AND MOBILES FOR MOVISTAR AND OTHER OPERATORS (EURO CENTS/MINUTE)



Source: CNMC

Lastly, it is of interest to analyse together the average revenue from calls to mobiles and the wholesale termination price borne by the fixed-line operator. Since 2006, falls in wholesale prices of termination on mobile networks have facilitated the inclusion of fixed-to-mobile minutes in flat voice rates and have lowered the prices charged to end users.

In the last six years, the mobile termination price paid by operators for terminating a call on a mobile network has fallen 4.55 euro cents per minute in absolute terms (80.7% in relative terms), while the price paid by customers for fixed-to-mobile calls has fallen by 7.6 euro cents per minute (44.7% in relative terms). It should be borne in mind that the price of termination on mobile networks is only one of the cost components of fixed-to-mobile calls and that, with the drop in this regulated price, this cost has less and less impact on end prices.



Source: CNMC

Market share²⁵

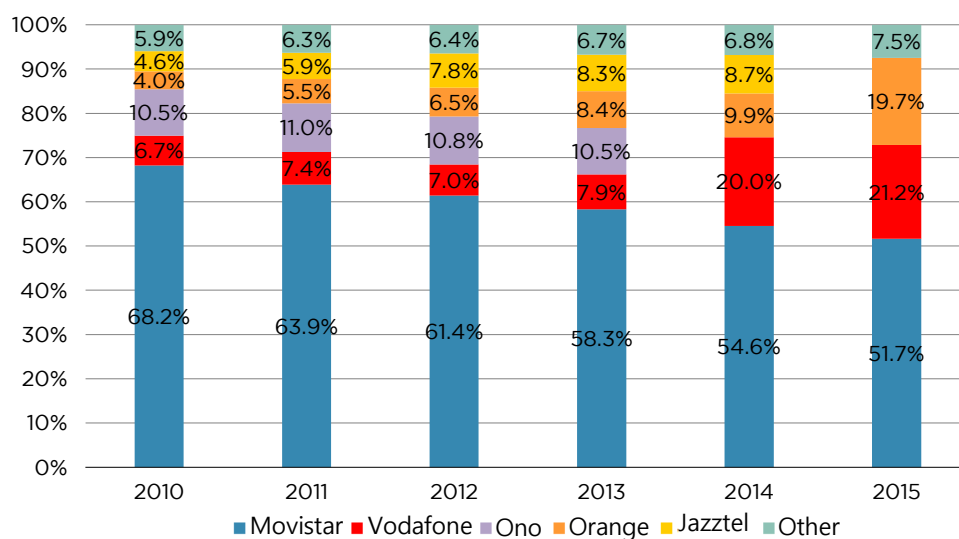
In 2015, with the two concentration processes between the most important operators completed, 92.5% of the lines are in the hands of the three main operators.

Movistar's share by lines fell by 2.9 percentage points in the last year, to account for 51.7% of lines. Vodafone, after the acquisition of Ono in 2014, consolidated its position as the second largest operator, with 21.2% of lines, and Orange, after the acquisition of Jazztel in 2015, reached a share of nearly 20%.

²⁴ It does not include all the relevant costs relating to the provision of the service, since only one type of cost is broken down: that charged by other operators for the wholesale service implicit in the service.

²⁵ Vodafone's different indicators include those of Ono for all of 2014, even though the acquisition was formalised in 2014.

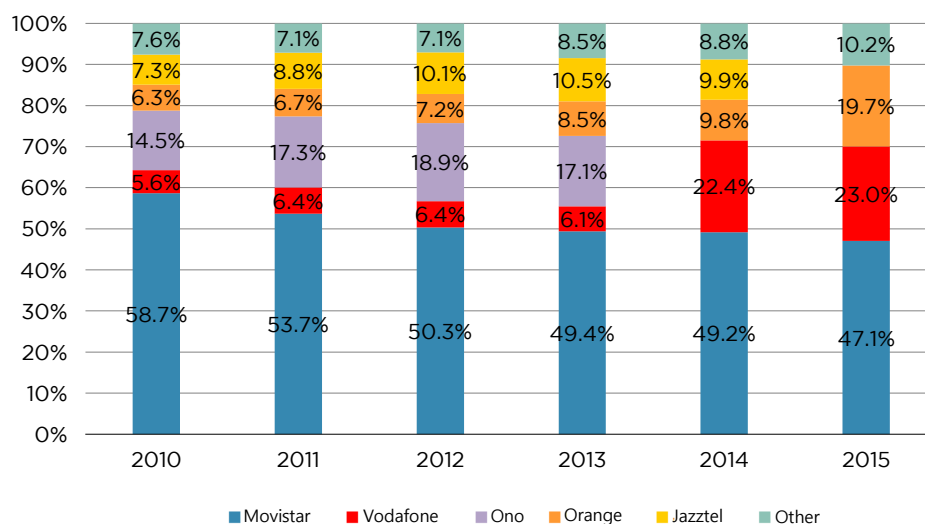
MARKET SHARE BY FIXED TELEPHONY LINES (PERCENTAGE)



Source: CNMC

In 2015, Movistar's market share by traffic fell by 2.1 percentage points to 47.1%, despite having lost more than 500 thousand lines. Vodafone and Orange, after the acquisition of Jazztel, maintained their shares nearly the same as in 2014. These three operators accounted for 89.8% of total fixed telephony traffic.

MARKET SHARE BY FIXED TELEPHONY TRAFFIC (PERCENTAGE)

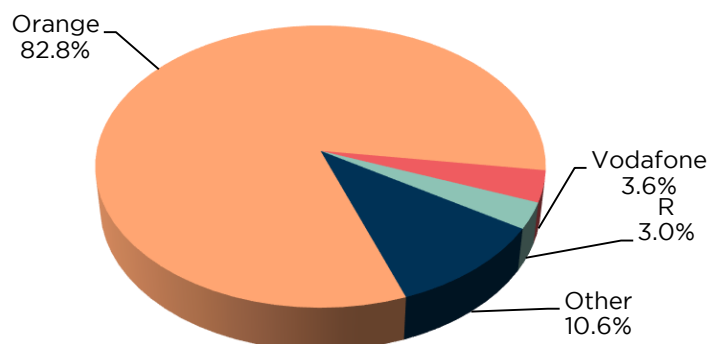


Source: CNMC

The indirect access modality continued to fall, to stand at 706,903 customers in 2014. Orange, after the acquisition of Jazztel, became the main indirect access operator with a share of 82.8%, compared to 54.4% in 2014. Vodafone and R recorded 3.6% and 3%, respectively. These three operators used

the WTLA wholesale service mainly to offer the indirect access service to their customers and represented 85% of total WTLA lines (particularly Orange with 79.7%).

MARKET SHARE BY INDIRECT ACCESS CUSTOMERS IN 2015 (PERCENTAGE)



Source: CNMC

2.1.2. Fixed broadband

In 2015, revenue from retail fixed broadband services continued the recovery observed in 2014. Thus, turnover grew 6.8% to EUR 3,344.8 million. This revenue, added to that associated with switched access and other services, totals EUR 3,799.6 million, 4.4% higher than the previous year.

As regards fixed broadband lines, the trend was similar to recent years with significant growth. In the last year the volume of connections grew by 4.1% to 13.54 million. Orange (with the acquisition of Jazztel, which took place in mid-2015) and Vodafone (with the acquisition of the operator Ono in mid-2014), were the operators which gained the most customers, due to their broadband offerings, provided, chiefly, through the regulated wholesale loop unbundling service and the deployment of NGA proprietary networks, fibre to the home (FTTH) or HFC.

As regards next generation access networks (NGA), which allow very high-speed connections, significant progress was made with the roll-out of fibre to the home (FTTH), such that, at year end, FTTH connections installed totalled 22.9 million, up 51.1% on the previous year. Also, the number of hybrid fibre and coaxial connections (HFC DOCSIS 3.0) installed reached 10.36 million, slightly more than in 2014.

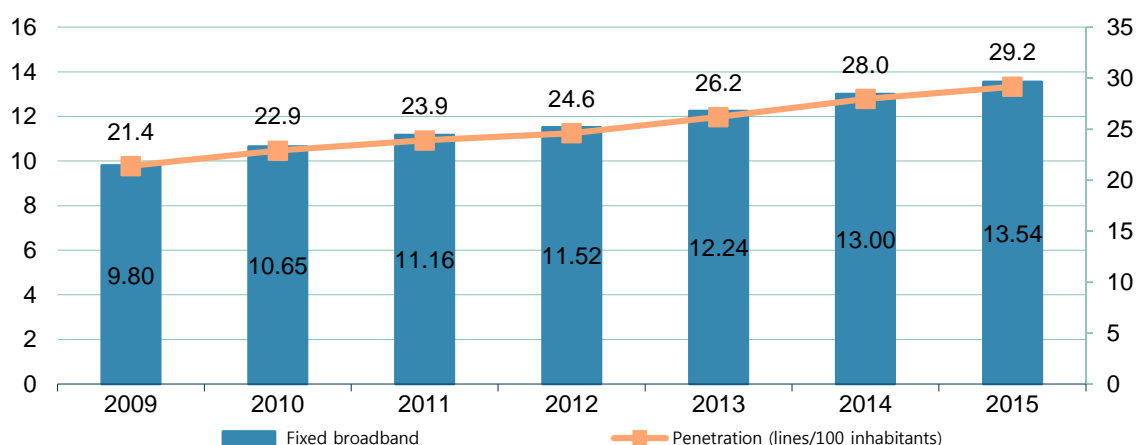
This introduction of next-generation access networks enabled operators to configure broadband offerings with higher connection speeds. The year ended with 92.7% of lines with a subscribed speed of 10 Mbps or higher. In addition, lines with speeds of 30 Mbps or higher totalled almost 5.5 million, accounting for 40.6% of total connections, up 23.3% on 2014.

Lines and penetration

Fixed broadband connections grew 4.1% in the last year, a figure similar to that of the previous year, in which they grew 6.2%.

This situated the total number of lines at 13.54 million, raising penetration to 29.2 lines per 100 inhabitants, which represented an increase of 1.2 lines per 100 inhabitants in the last year.

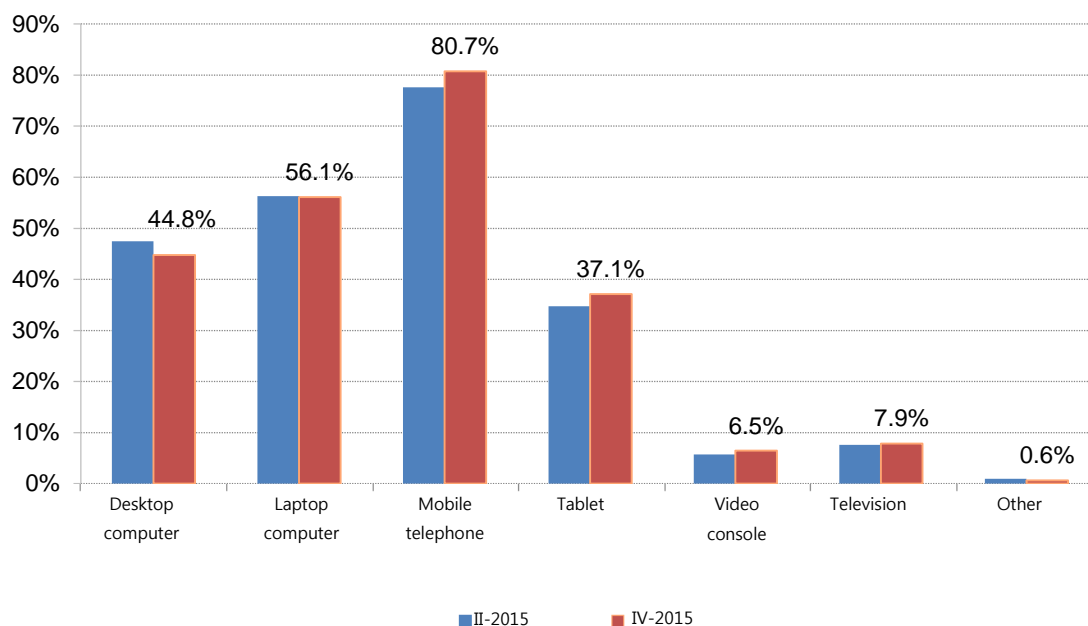
EVOLUTION OF BROADBAND LINES AND PENETRATION (MILLIONS OF LINES AND LINES/100 INHABITANTS)



Source: CNMC

The CNMC Household Panel makes it possible to follow the percentage of users according to the devices which they usually use to access the Internet. As can be observed in the following graph, at the end of 2015, 80.7% of users who accessed the Internet did so via a mobile phone. Laptop and desktop computers were the second most used devices when accessing the Internet, with percentages of 56.1% and 44.8%, respectively. Lastly, access via tablets stood at 37.1%.

DEVICES WITH WHICH USERS NORMALLY CONNECT TO THE INTERNET (PERCENTAGE)



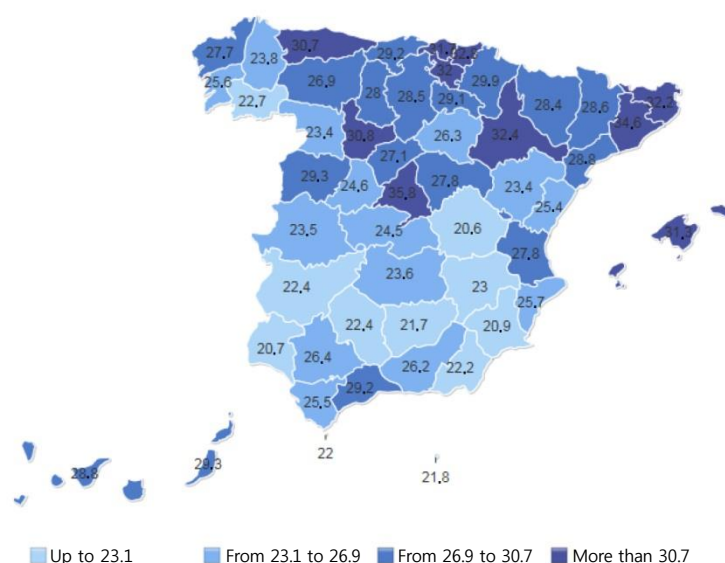
Source: CNMC Household Panel

There were significant differences in fixed broadband penetration from a geographical viewpoint. These differences can be explained, inter alia, because operators invested more heavily in rolling out networks in more densely populated regions which offer a higher return on their investment. Additionally, in these regions users have a wider range of offerings and services to choose from.

The geographical differences in broadband penetration are shown and analysed below, considering different geographic units such as autonomous regions, provinces and municipalities.

The following map shows the penetration of broadband connections at provincial level. A total of 15 provinces ended the year with a penetration rate equal to or higher than the national average, which stood at 29.2²⁶ lines per 100 inhabitants. Most of those provinces also recorded a penetration rate higher than the average penetration rate in 2014. Likewise, mention should be made of the significant rise in some provinces which, for the first time, had penetration rates higher than the average, as in the case of Las Palmas and Ávila. Madrid, Barcelona, Guipúzcoa, Zaragoza and Gerona were the most outstanding provinces, exceeding 32 lines per 100 inhabitants.

²⁶ Penetration calculated taking into account the total number of broadband lines.

BROADBAND PENETRATION BY PROVINCES (LINES/100 INHABITANTS)²⁷

Source: CNMC

The following graph shows the penetration of the broadband connections according to size of municipality in June 2015. A clear downward trend in penetration can be observed in keeping with the reduction in number of inhabitants in the municipality.

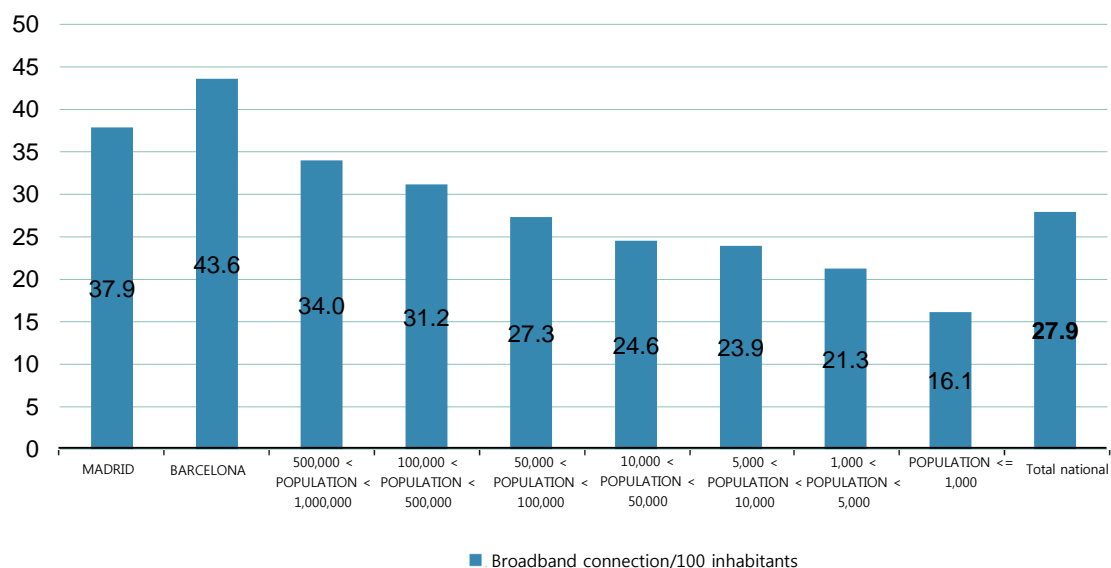
On average, municipalities with a population of more than 100 thousand inhabitants showed a penetration rate equal to or higher than 31.2²⁸ lines per 100 inhabitants, a figure close to the national average for June 2015, which stood at 27.9 lines per 100 inhabitants. Once again, the municipalities of Barcelona and Madrid recorded the highest penetration rates for the year.

At the other end of the scale, municipalities with a population of less than 5,000 inhabitants did not exceed 21.3 lines per 100 inhabitants. However, penetration in these municipalities with a lower population density grew due to the increase in lines belonging to the incumbent operator, Movistar, and to the progressive increase in the presence of alternative operators, who gained access through the unbundled local loop and indirect broadband access.

²⁷ The intervals have been established based on the average \pm the standard deviation. The lower and upper thresholds are determined by the minimum and maximum values, respectively.

²⁸ The figure given at municipal level differs from that given in preceding points, since the number of operators required to report the geographical information is significantly lower than the sample in the sectoral economic report. Likewise, the data refer to June 2015.

BROADBAND PENETRATION BY TYPE OF MUNICIPALITY²⁹, JUNE 2015
(LINES/100 INHABITANTS)



Source: CNMC

Technologies

Broadband access services can be provided using many different alternative technologies. In the case of fixed network broadband access, the following classification can be applied:

- Technologies supported over fixed-line networks: xDSL technologies over copper pair; technologies over cable networks, such as HFC networks by means of a mixed optical fibre and coaxial cable medium with DOCSIS technology; and, lastly, technologies over optical fibre networks, such as FTTH connections using GPON passive technology.
- Technologies over wireless networks: LMDS, WiMAX (wide-area coverage) and Wi-Fi (smaller coverage environment).
- Networks supported by satellite systems such as VSAT.

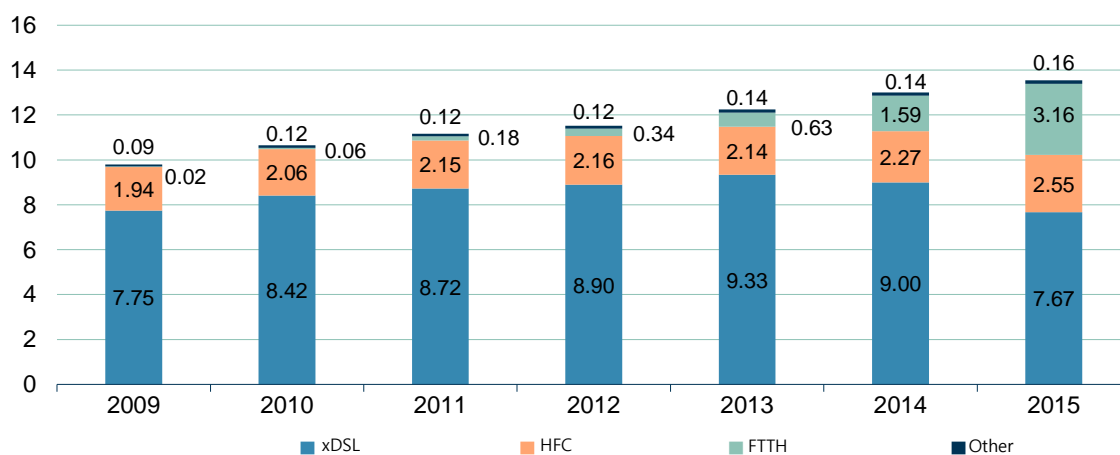
In 2015, the decline in the use of copper pair in access networks intensified. The progress in the roll-out of FTTH connections by Movistar and alternative operators translated into a significant decline in active xDSL connections, which was offset by the increase in subscriptions to FTTH broadband connections. Thus, for the first time the volume of FTTH connections exceeded active connections using HFC technology. Despite the drop in xDSL connections, this technology remained the main means of accessing the end user.

²⁹ June 2015 data relating to the geographical requirement established by the CNMC.

Specifically, active broadband lines based on xDSL represented 56.7% of the total compared to 69.2% the previous year. This drop contrasts with the increase in the number of FTTH lines, which accounted for 23.3% of total broadband compared to 12.2% in 2014. For their part, HFC connections accounted for 18.8% of broadband lines as a whole. Lastly, other technologies accounted for around 1% of total broadband lines.

In absolute terms, active xDSL connections reached 7.67 million, representing a drop of 14.7% in the last year. The number of broadband connections over HFC networks rose sharply (12%) compared to 2014. Active FTTH connections saw the most growth, practically doubling to a total of 3.16 million lines.

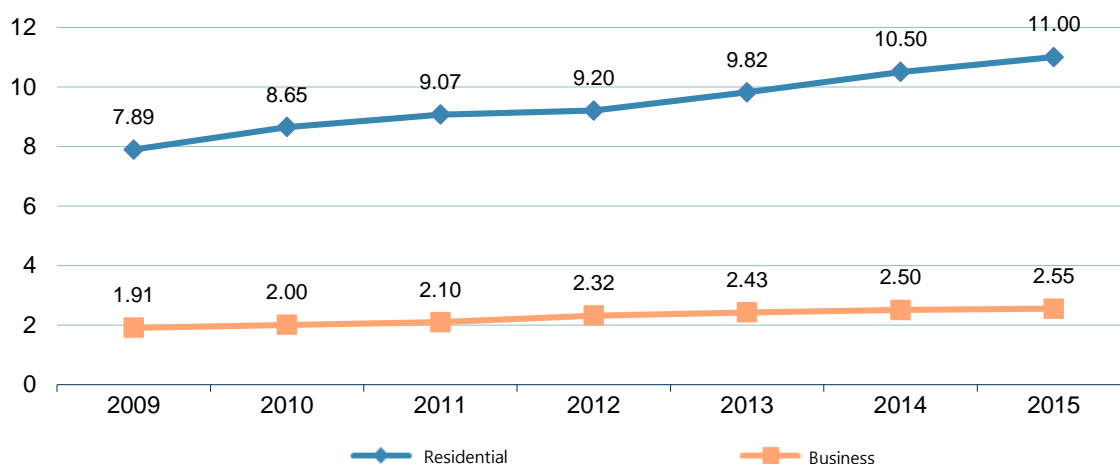
EVOLUTION OF BROADBAND BY TECHNOLOGY (MILLIONS OF LINES)



Source: CNMC

In the distribution of broadband lines by segments it can be observed that, at year end, there was a total of 11 million lines in the residential segment. The business segment ended the year with 2.55 million lines. The percentages of residential and business lines in relation to total lines were similar to those recorded in previous years, at approximately 81.2% and 18.8%, respectively.

EVOLUTION OF BROADBAND PER SEGMENT (MILLIONS OF LINES)

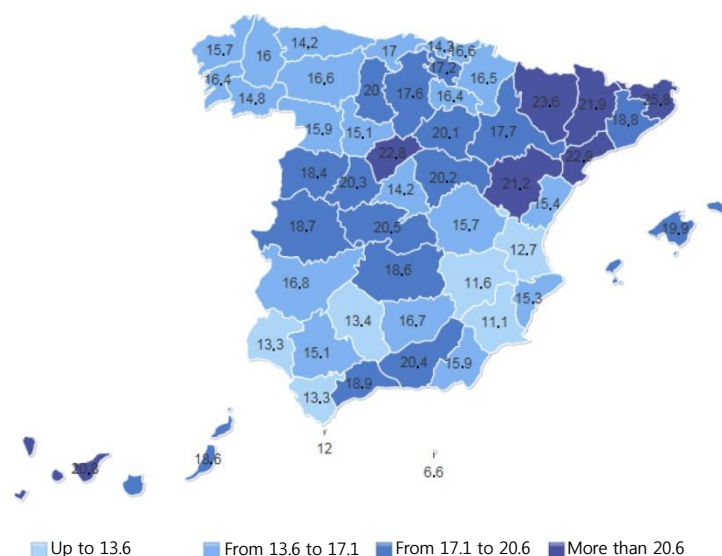


Source: CNMC

In the last year, connections using xDSL technology dropped significantly (14.7%). This trend could already be seen in 2014 due to substitution by and the subscription of new FTTH connections, which enable higher connection speeds and quality than copper pair-based networks.

In 2015, penetration by xDSL lines stood at 16.5 lines per 100 inhabitants (compared to 19.4 lines per 100 inhabitants in 2014); a total of 28 provinces recorded figures that exceeded the national average.

The following map shows the geographical distribution of lines subscribed with xDSL technology. Segovia, Huesca and the Catalanian provinces, excluding Barcelona, are the provinces with the highest penetration rate, with 21.9 or more lines per 100 inhabitants. Conversely, the provinces of Melilla, Murcia and Albacete did not reach 12 lines per 100 inhabitants.

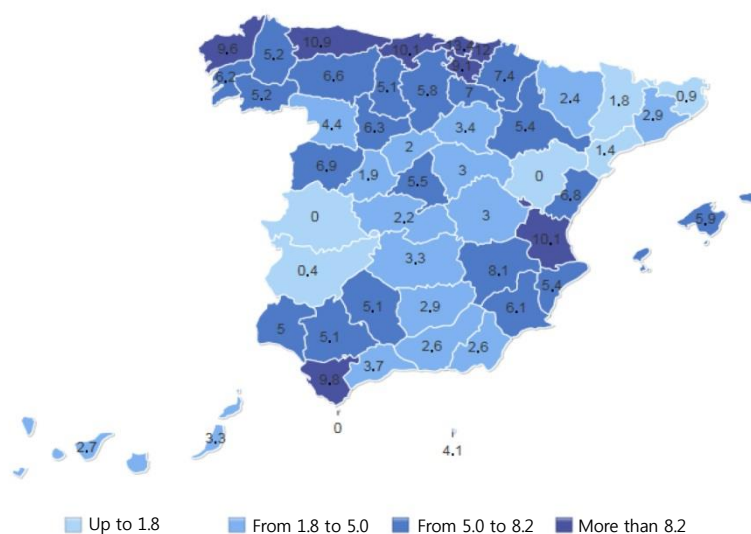
xDSL PENETRATION BY PROVINCE³⁰ (LINES/100 INHABITANTS)

Source: CNMC

As regards active HFC broadband connections, the figure rose by 12%. In absolute terms, the volume of lines with HFC technology rose by 273,000 lines. Thus, the proportion of lines stood at 5.5 lines per 100 inhabitants (0.6 more lines than the previous year). In geographical terms, the majority of provinces recorded an increase in the number of lines.

At year end, HFC penetration in 19 provinces exceeded national penetration. The highest penetration rates were recorded in the Basque Country, with the presence of the cable operator Euskaltel, Galicia, with the presence of R, and the Cantabrian Coast, with TeleCable in Asturias. The high cable penetration figures in the provinces of the Levante coastal region (Valencia, Castellón and Murcia) and in some others (Cadiz, Albacete, Navarre, La Rioja) are due to the presence of Vodafone and other local operators. As in 2014, the provinces that ended the year with the highest penetration rates were Vizcaya, Guipúzcoa and Asturias, regions that exceeded 10.9 HFC lines per 100 inhabitants.

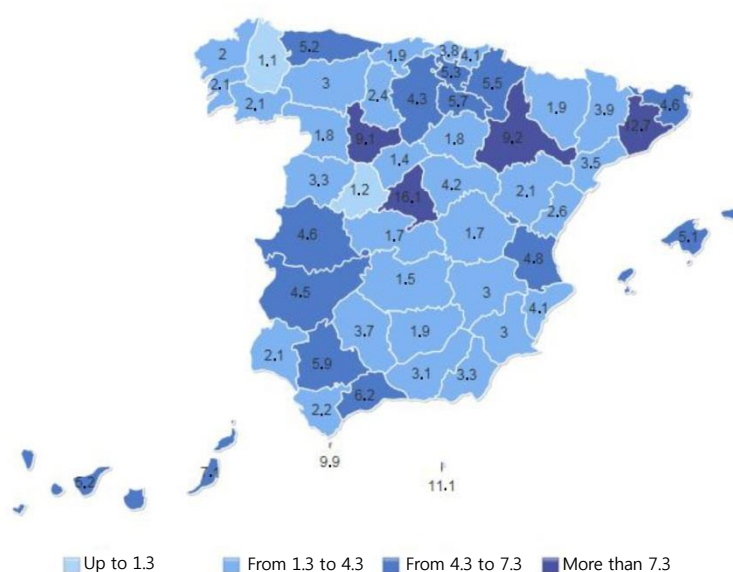
³⁰ The intervals have been set based on the average ± 0.5 the standard deviation. The lower and upper thresholds are determined by the minimum and maximum values, respectively.

HFC PENETRATION BY PROVINCE³¹ (LINES/100 INHABITANTS)

Source: CNMC

In contrast with the drop in penetration by xDSL lines, the volume of FTTH connections grew significantly in the last year, to the extent that the figure practically doubled. The penetration of FTTH lines stood at 6.8 lines per 100 inhabitants. A total of five provinces and the two autonomous cities ended the year with a penetration rate above the national average. Madrid, Barcelona and Melilla were the provinces that recorded the highest penetration rate for this technology, exceeding 11 lines per 100 inhabitants.

³¹ The intervals have been set based on the average ± 0.5 the standard deviation. The lower and upper thresholds are determined by the minimum and maximum values, respectively.

FTTH PENETRATION BY PROVINCE³² (LINES/100 INHABITANTS).

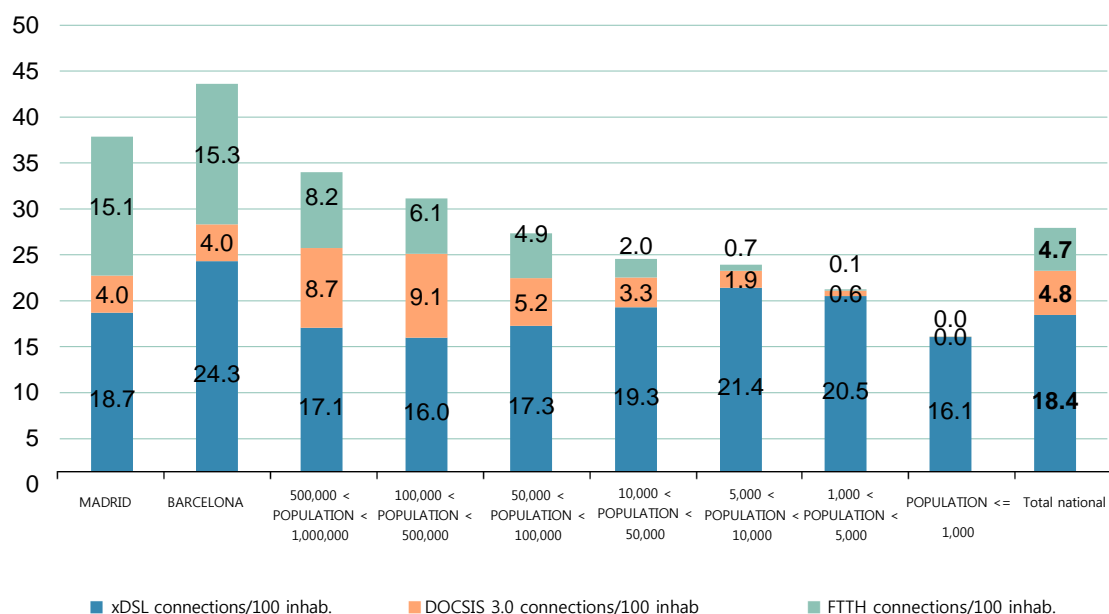
Source: CNMC

The penetration analysis broken down by municipalities shows that, the smaller the size, the lower the penetration rate for broadband connections (xDSL, HFC and FTTH). Therefore, municipalities with a population of more than 100,000 inhabitants recorded penetration rates higher than the national average (27.9 lines per 100 inhabitants in June 2015), while smaller municipalities recorded penetration rates below that average.

By type of technology, penetration of HFC connections fell considerably in municipalities with a lower population. On the other hand, this technology has a greater presence in municipalities with a population of between 100,000 and one million inhabitants, with penetration rates of nearly nine lines per 100 inhabitants. The increase in penetration rate for FTTH connections is worth noting. In the municipalities of Barcelona and Madrid, there were more than 15 lines per 100 inhabitants. Also, in municipalities with a population of more than 50,000, a penetration rate of nearly 5 lines per 100 inhabitants or higher was recorded. In these municipalities with smaller populations, the effect of replacing xDSL connections with NGA connections based on FTTH is notable.

³² The intervals have been set based on the average ± 0.5 the standard deviation. The lower and upper thresholds are determined by the minimum and maximum values, respectively.

xDSL, HFC and FTTH PENETRATION BY TYPE OF MUNICIPALITY, JUNE 2015
(LINES/100 INHABITANTS)



Source: CNMC

Next-generation networks (NGA)

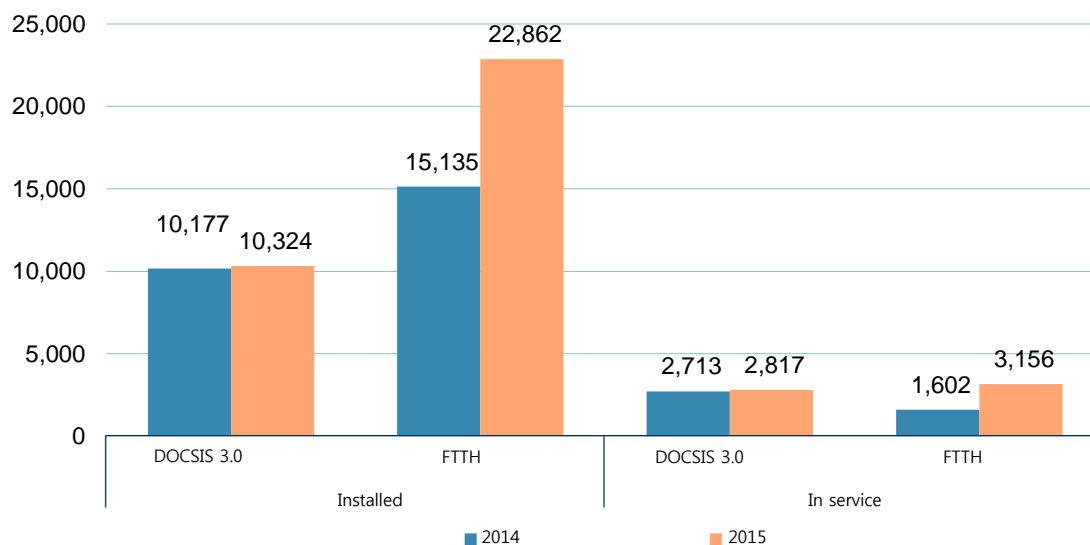
In 2015, operators continued with the roll-out of Next Generation Access Networks (NGA); these networks provide users with high speeds and a better connection, thereby making it possible to offer new services requiring greater bandwidth.

On the one hand, cable operators marketed practically all of their connections as upgraded to HFC DOCSIS 3.0. These connections are provided mainly by Vodafone (which acquired cable operator Ono in mid-2014) with national coverage and by regional operators (Euskaltel, R and TeleCable, mainly).

On the other hand, Movistar, Vodafone and Orange (which completed its acquisition of and merger with Jazztel in mid-2015) which, to date, provided their services basically using xDSL, continued to deploy FTTH connections, enabling the gradual migration of copper connections to the new optical fibre network.

As regards installed connections, those based on HFC DOCSIS 3.0 exceeded 10.32 million, representing an increase of 146,231 connections compared to 2014. For their part, FTTH connections grew 51.1%. Therefore, in the last year the volume of connections installed using this technology reached 22.86 million, compared to 15.13 million the previous year. Active FTTH connections also doubled compared to the previous year.

EVOLUTION OF INSTALLED AND IN SERVICE DOCSIS 3.0 AND FTTH CONNECTIONS
(THOUSANDS)



Source: CNMC

The previous year ended with a total of 2.52 million active fixed broadband lines³³ using HFC DOCSIS 3.0. This figure represented 99.3% of HFC connections. Active FTTH connections totalled 3.16 million. It should be noted that the speed of these connections depends on what is finally subscribed to by customers and that a small proportion of these connections still had a connection speed of less than 30 Mbps.

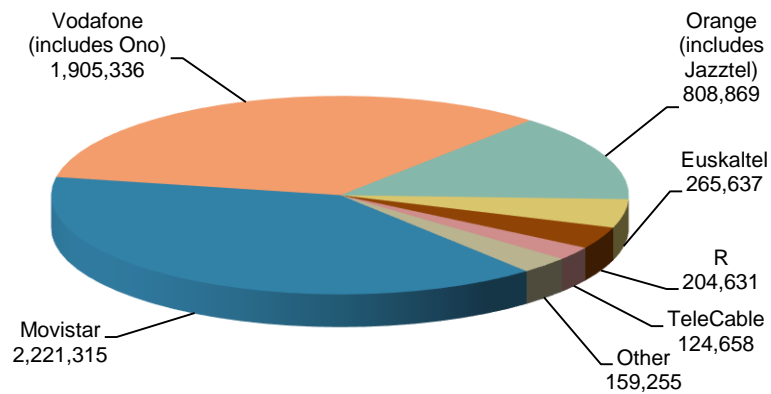
2015 ended with a total of 5.68 million active NGA connections (taking DOCSIS 3.0 and FTTH connections into account). Of these, 39% belonged to Movistar provided over the FTTH network. Vodafone occupied second place with 1.9 million active NGA connections, mainly over the DOCSIS 3.0 network of former operator Ono and, to a lesser extent, over the FTTH network.

For its part, Orange (including Jazztel), obtained 14.2% of active NGA connections with FTTH connections.

Therefore, the presence of alternative operators with FTTH connections grew significantly in the last year.

³³ Active broadband connections over HFC; it differs from the figure of 2.81 thousand active HFC connections in the preceding graph, as it also includes connections solely for voice or other services fixed broadband.

DISTRIBUTION OF ACTIVE NGA LINES (DOCSIS 3.0 AND FTTH) BY OPERATOR



Source: CNMC

Revenue

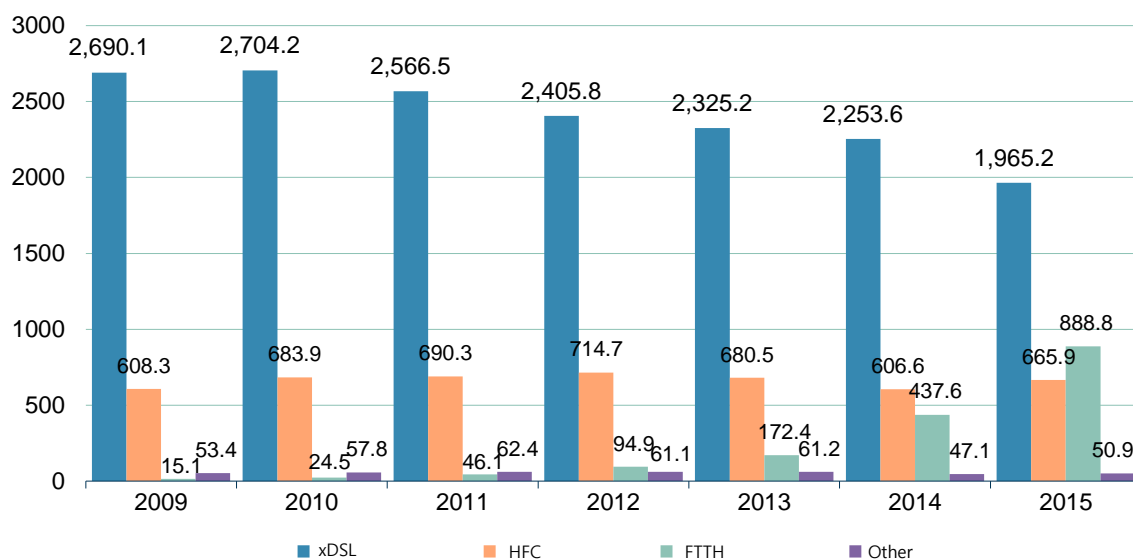
In 2015, revenue from Internet services continued the upward trend it initiated in 2014. The total volume of revenue from Internet services grew 4.4% compared to the previous year, standing at EUR 3,799.6 million.

As regards broadband, revenue totalled EUR 3,570.8 million, 6.8% more than in 2014. This increase exceeded the 3.3% recorded in 2014.

The breakdown by technology reflects the sharp drop in xDSL revenue, in line with the aforementioned reduction in lines. This reduction in revenue contrasts with the increase in revenue associated with FTTH connections. Specifically, revenue corresponding to xDSL connections fell by 12.8% to EUR 1,965.2 million. Revenue from FTTH, for its part, doubled compared to 2014, to stand at EUR 888.8 million.

Lastly, revenue from HFC, as opposed to what happened in 2014, grew 9.8% to reach EUR 665.9 million.

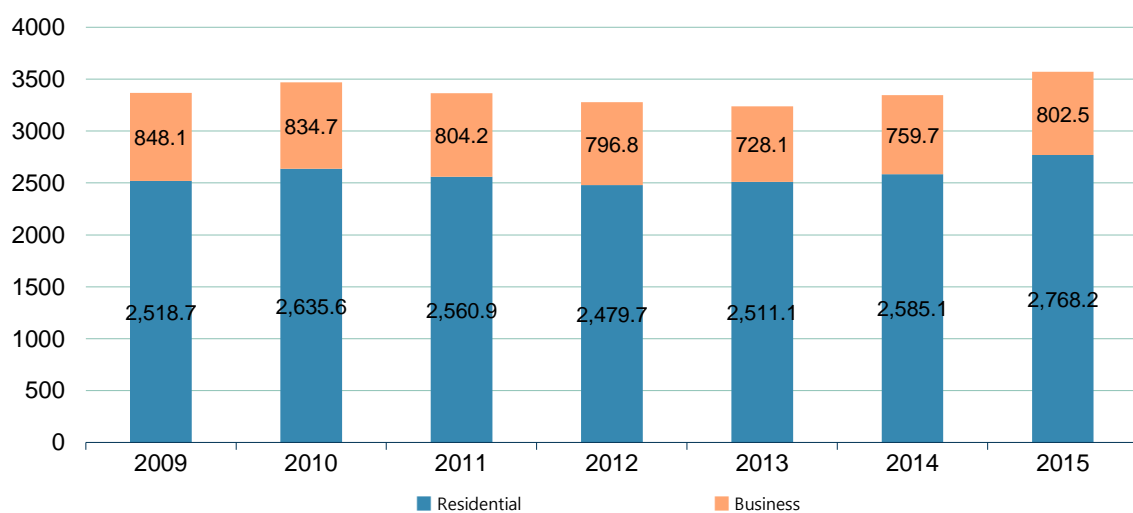
EVOLUTION OF REVENUE FROM BROADBAND BY TECHNOLOGY (MILLIONS OF EUROS)



Source: CNMC

If revenue is analysed by associated segment type, it can be observed that the aforementioned increase in revenue applied to both the residential segment and to the business segment. Thus, revenue from the latter stood at EUR 802.52 million, a figure that represented an increase of 5.6%. Revenue from the residential segment grew 7.1%, to stand at EUR 2,768 million.

EVOLUTION OF REVENUE FROM BROADBAND BY SEGMENT (MILLIONS OF EUROS)

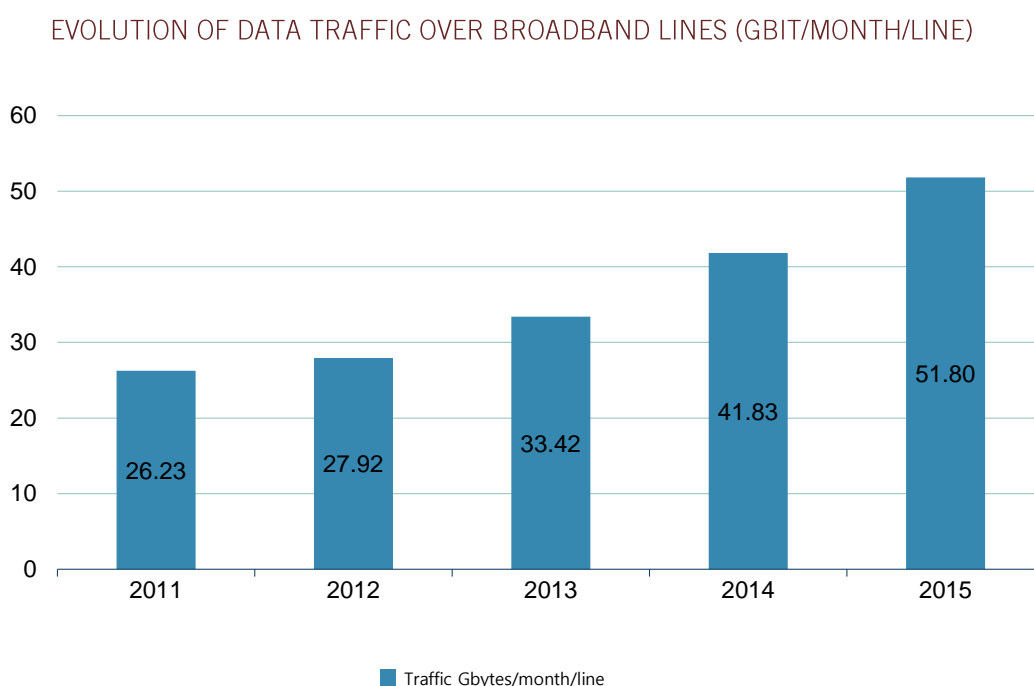


Source: CNMC

Traffic

In recent years, continuous improvement has been observed in broadband access networks and the marketing of products with higher connection speeds. Likewise, widespread and intensive use of Internet-based services by consumers can be observed. This, together with the increase in the number of active broadband connections, was reflected in the growth recorded in data traffic. Thus, at year end, a total traffic of 8.42 million terabytes was recorded, up 29% on 2014.

The following graph shows how average data volume per broadband line has changed in the last five years, in gigabits per month. In the last year, average monthly traffic grew nearly 10 gigabits compared to 2014.



Source: CNMC

Competition

As indicated in 2015, there was significant change in relation to the number of market operators. In this regard, the merger which occurred mid-2014, whereby Vodafone acquired the operator Ono, was followed by the acquisition of the operator Jazztel by Orange in June 2015. Likewise, it should be added that the merger between DTS and Movistar had an impact on the pay television and broadband markets.

These operations have significantly changed market distribution in the last two years, such that the joint market share of the three main operators (Movistar, Vodafone and Orange) in the fixed broadband market stood at 93% in terms of lines, as will be seen in the following sections.

In general, most operators increased their number of broadband connections and continued to invest in the improvement of their access networks. Thus, in preceding sections it has already been pointed out that alternative operators, which traditionally offered their services over xDSL, intensified the deployment and marketing of FTTH connections. Movistar led the migration of xDSL connections to its extensive fibre to the home network. The share of lines and revenue of the other local or regional operators with HFC connections remained stable.

As regards commercial offerings, in 2015 the trend for marketing products with higher connection speeds and a higher degree of bundling with mobile network services (mobile voice and broadband) continued. These convergent bundles represented significant savings for consumers compared to subscribing to the different services individually. Also, the increase in the number of subscriptions, both with Movistar and with alternative operators, for bundles including premium television content stands out. It should be noted that alternative operators are able to acquire premium content through the wholesale offering of Movistar's proprietary premium channels.

Market share

Once again, Vodafone and Orange were the most dynamic alternative operators, increasing their market share in terms of lines. It should be noted that these operators are progressively updating their access network by replacing copper pair-based connections with FTTH and HFC DOCSIS 3.0 connections. Nevertheless, in the case of Orange, unbundled loop was still mainly used to offer broadband services to end users. In the case of Vodafone, xDSL connections accounted for 35.6% of total active lines and the rest were mainly HFC connections over the network acquired from the operator Ono in 2014.

In those areas where these operators are not present in the exchanges to offer the service, they used the regulated broadband indirect access service.

One notable feature of the last year, which began in 2014, was the significant fall in active xDSL connections, both with Movistar and with the main alternative operators (Vodafone and Orange). This reduction was offset by a significant increase in FTTH and HFC DOCSIS 3.0 connections.

As can be observed in the following table, xDSL connections saw a reduction in lines to 7.67 million. This figure accounts for 56.6% of total broadband connections, compared to 69.2% in 2014. This reduction contrasts with the rise in FTTH connections to 3.16 million (23.3% of broadband lines compared to 12.2% the previous year).

EVOLUTION OF BROADBAND LINES BY OPERATOR AND TECHNOLOGY

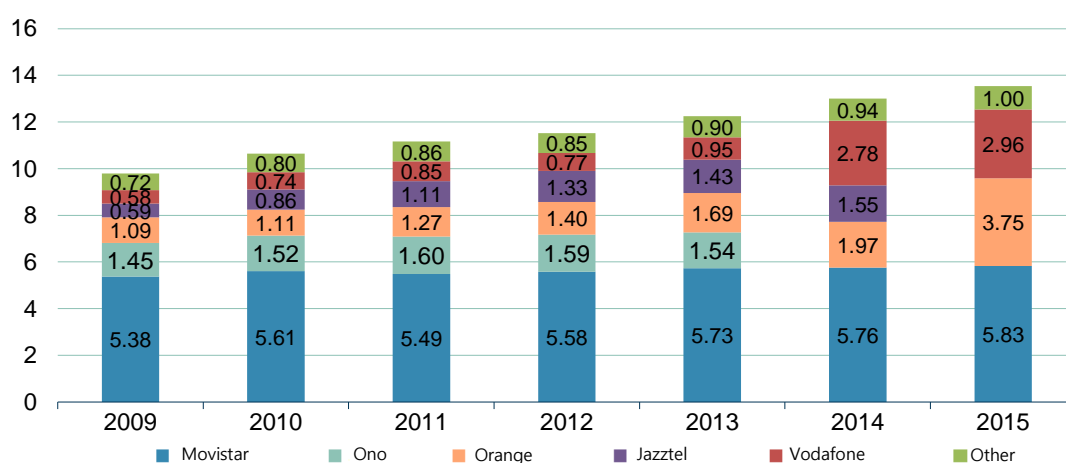
	2014				2015			
	xDSL	HFC	FTTH	Other	xDSL	HFC	FTTH	Other
Movistar	4,432,432	-	1,315,958	13,075	3,588,792	-	2,221,315	20,739
Orange	1,911,874	-	53,277	-	2,943,654	-	808,869	518
Jazztel	1,393,441	-	158,678	-				
Vodafone	1,181,143	1,577,258	23,426	-	1,054,040	1,837,898	67,438	-
Euskaltel	1,862	259,485	-	3,377	1,679	265,637	-	3,600
R	18,788	197,199	1,360	-	17,980	201,434	3,197	-
TeleCable	1,675	115,457	9,456	553	1,755	114,450	10,208	439
Other	59,671	123,463	28,835	123,226	65,696	126,325	50,275	136,968
Total	9,000,886	2,272,862	1,590,990	140,231	7,673,596	2,545,744	3,161,302	162,264

Source: CNMC

As regards the number of connections, 2015 saw the addition of 537,937 new broadband lines to the market, less than the figure recorded in 2014.

Orange and Vodafone were the alternative operators that contributed most to total new connections, capturing 413,320 lines; they were followed by Movistar with 69,381 lines. Lastly, other operators did not record significant changes.

EVOLUTION OF BROADBAND LINES BY OPERATOR (MILLIONS OF LINES)



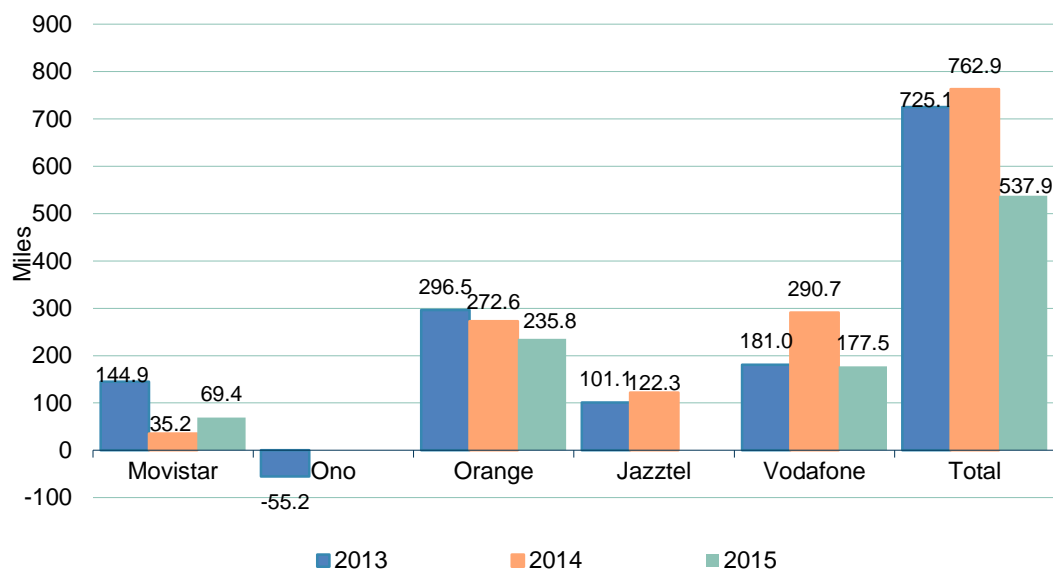
Source: CNMC

The following graph shows the evolution of year-on-year³⁴ growth in the total number of active broadband lines in recent years.

³⁴ The sum of Orange's and Jazztel's lines in 2014 was used to calculate Orange's figure for 2015 (including Jazztel).

As can be observed from the data, Movistar recorded a slight gain compared to 2014. Both Orange and Vodafone saw significant increases, relatively similar to each other.

EVOLUTION OF NET GAINS OF BROADBAND LINES BY OPERATOR



Source: CNMC

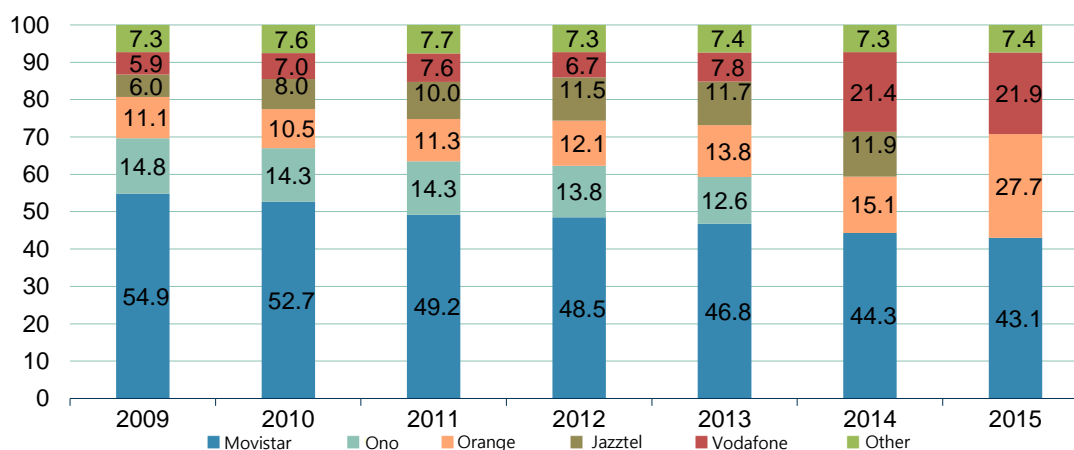
The evolution of market share in terms of lines reflects the fact that Movistar's share continued to fall. Despite a slight increase in the volume of lines (1.2%), its share stood at 43.1%, losing 1.2 percentage points in the last year.

For their part, alternative operators increased their share to a greater or lesser extent. Orange (including Jazztel), together with Vodafone, achieved the highest growth in new connections and its share stood at 27.7%. This operator therefore became the second-largest operator in the market.

Vodafone occupied third place, growing 0.5 percentage points in the last year to achieve a share of 21.9% of the active broadband connections market.

Lastly, significant changes were not recorded in the combined share of the other operators, accounting for 7.4% of total broadband lines.

DISTRIBUTION OF BROADBAND LINES BY OPERATOR (PERCENTAGE)



Source: CNMC

The following table shows that the leading operators ended the year with growth in their total number of lines. In terms of share of lines, Orange went from third place in 2014 to second place with the acquisition of the operator Jazztel. Third place was occupied by Vodafone (which includes the lines of the cable operator Ono, acquired in 2014).

As regards Movistar's share, it remained below 50% with a loss in share of 1.2 percentage points, despite growth in terms of its customer portfolio and number of lines. For their part, Orange and Vodafone increased their market share by 0.7 and 0.5 percentage points, respectively.

MARKET SHARE BY NUMBER OF BROADBAND LINES (LINES AND PERCENTAGE)

	Lines 14	Share 14	Lines 15	Share 15
Movistar	5,761,465	44.3	5,830,846	43.1
Orange	1,965,151	15.1	3,753,041	27.7
Jazztel	1,552,119	11.9		
Vodafone	2,781,827	21.4	2,959,376	21.9
Euskaltel	264,724	2.0	270,916	2.0
R	217,347	1.7	222,611	1.6
TeleCable	127,141	1.0	126,852	0.9
Other	335,195	2.6	379,264	2.8
Total	13,004,969	100	13,542,906	100

Source: CNMC

Looking at the breakdown by segment, Movistar maintained its dominance in the business segment. In the past year, it lost 2.7 percentage points, falling to 64.3%. It was followed by Orange (including Jazztel) as its main competitor, with a 15.1% share of business lines. Vodafone also had a notable presence, reaching a market share of 13.7%, while the other operators maintained a smaller number of business broadband lines.

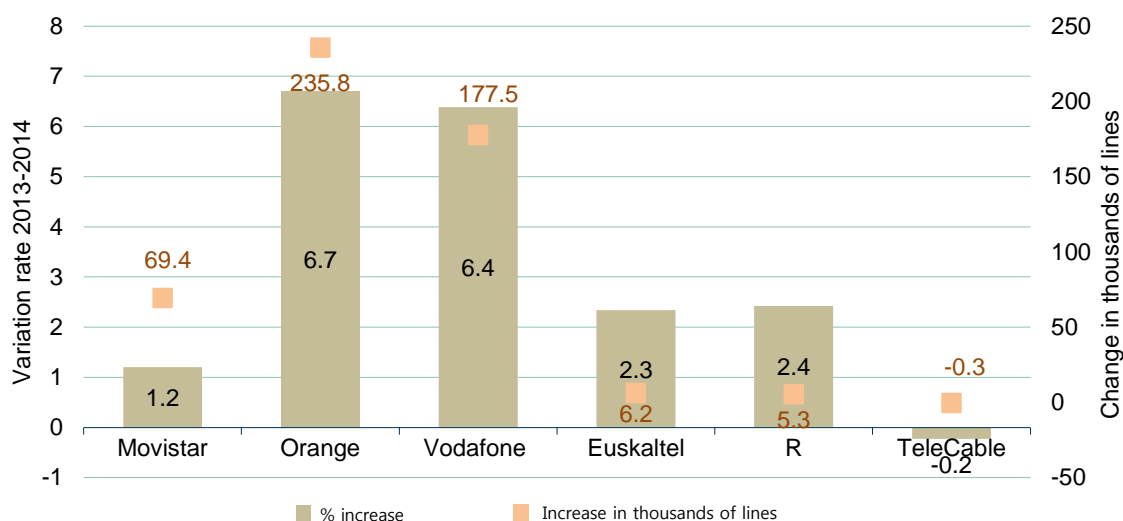
On the other hand, Movistar's decline in the residential segment in 2015 was less pronounced than in previous years. Its share stood at 38.1% compared to 38.9% in 2014. Orange and Vodafone, for their part, recorded slight rises in market share, to 30.6% and 23.7% of total lines in the residential segment.

MARKET SHARE BY NUMBER OF LINES AND SEGMENT (LINES AND PERCENTAGE)

		Residential Lines	Residential Share	Business Lines	Business Share
Movistar		4,195,057	38.1	1,635,789	64.3
Orange (includes Jazztel)		3,369,859	30.6	383,182	15.1
Vodafone (includes Ono)		2,611,520	23.7	347,856	13.7
Euskaltel		221,628	2.0	49,288	1.9
R		174,977	1.6	47,634	1.9
TeleCable		105,579	1.0	21,273	0.8
Other		318,988	2.9	60,276	2.4
Total		10,997,608	100	2,545,298	100

Source: CNMC

In the last year alternative operators achieved the best results in terms of line subscriptions. As can be observed in the graph, Orange and Vodafone stood out with the highest growth in terms of both percentage and net increase in lines. In 2015, these operators added 235,771 and 177,549 new connections to their portfolios, respectively, jointly accounting for nearly 77% of new lines in the year. Movistar recorded year-on-year growth of 1.2% in total number of lines, higher than in 2014. Lastly, regional cable operators recorded growth, with the exception of TeleCable, whose number of connections fell by 0.2%.

NET CHANGE IN BROADBAND LINES PER OPERATOR AND ANNUAL VARIATION RATE
2014-2015 (THOUSANDS OF LINES AND PERCENTAGE)

Source: CNMC

As regards revenue associated with broadband connections, the main operators recorded growth. Movistar recorded the highest growth in revenue – 9.5%, to EUR 1,484.2 million – and a market share of 41.6%. Furthermore, the revenue obtained by Vodafone and Orange (if total revenue obtained by Jazztel in 2014 is taken into account) grew 7.3% and 3.7%, respectively.

Among regional operators, Euskaltel was the only operator that recorded growth in revenue. In the last year, this cable operator obtained EUR 72 million, an increase of 9.4% on its revenue in 2014.

MARKET SHARE BY REVENUE (MILLIONS OF EUROS AND PERCENTAGE)

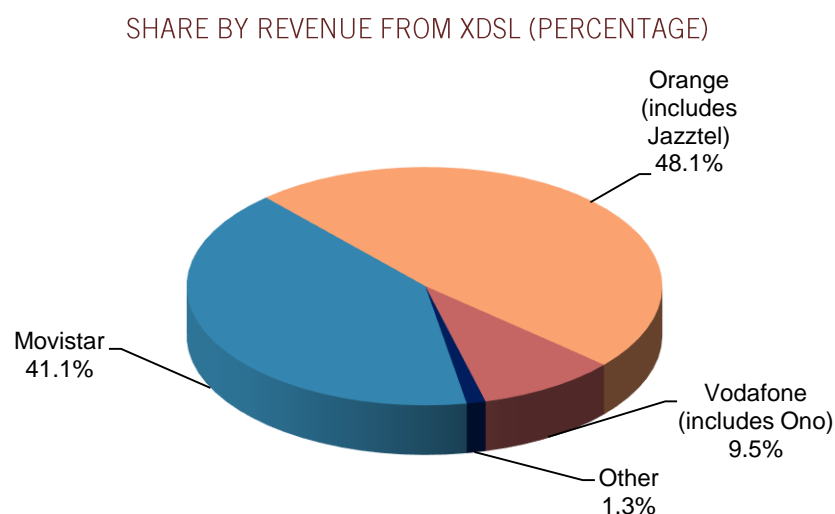
	Revenue 14	Share 14 (%)	Revenue 15	Share 15 (%)
Movistar	1,354.9	40.5	1,484.2	41.6
Orange	573.7	17.2	1,129.8	31.6
Jazztel	515.3	15.4		0.0
Vodafone	661.3	19.8	709.9	19.9
Euskaltel	65.8	2.0	72.0	2.0
TeleCable	42.2	1.3	41.7	1.2
R	35.3	1.1	32.7	0.9
Other	96.3	2.9	100.5	2.8
Total	3,344.8	100	3,570.8	100

Source: CNMC

The analysis of revenue according to the associated technology reflects an outstanding change in 2015: Movistar, which until 2014 had maintained a leadership position in xDSL technology, in the last

year occupied second place behind Orange. It should be noted that, in the case of Orange, the revenue obtained by the operator Jazztel in 2015 is also included. Also, in 2014, the joint share of these operators before the merger already exceeded that of Movistar. Another factor that explains the drop in Movistar's share and revenue from xDSL is the migration of xDSL connections to FTTH.

As can be observed in the following graph, Orange reached a share of 48.1% of revenue from xDSL – up to EUR 946 million – and, in second place, Movistar ended the year with EUR 808.2 million, 41.1% of total revenue from xDSL and 2.2 percentage points down on 2014. Vodafone occupied third place behind Movistar and Orange in terms of revenue from xDSL, with 9.5% (i.e. EUR 185.7 million).

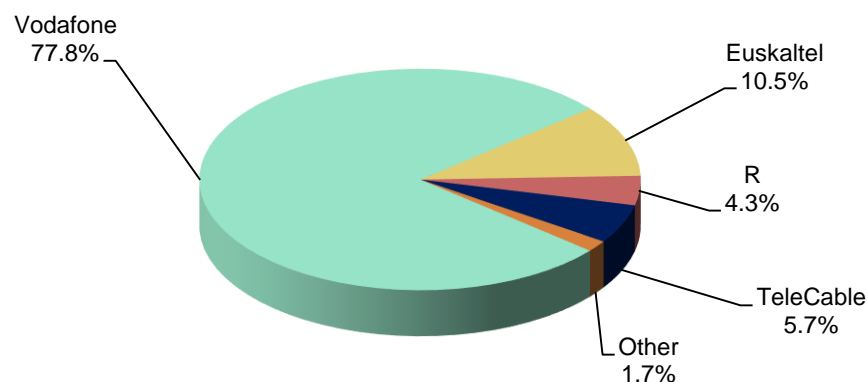


Source: CNMC

Revenue associated with HFC connections rose by 9.8% in the last year to reach almost EUR 666 million. Vodafone recorded total revenue of EUR 518.2 million for HFC, 1.6% more than in 2014. It is worth remembering that, in 2014, this operator acquired the cable operator Ono, which had the largest HFC network.

The other cable operators that provide their services in certain geographical areas ended the year with practically the same overall market share and some falls in revenue.

SHARE BY REVENUE FROM HFC (PERCENTAGE)



Source: CNMC

Lastly, revenue associated with FTTH lines recorded the highest growth. In the last year, revenue from fibre to the home connections doubled to EUR 888.8 million.

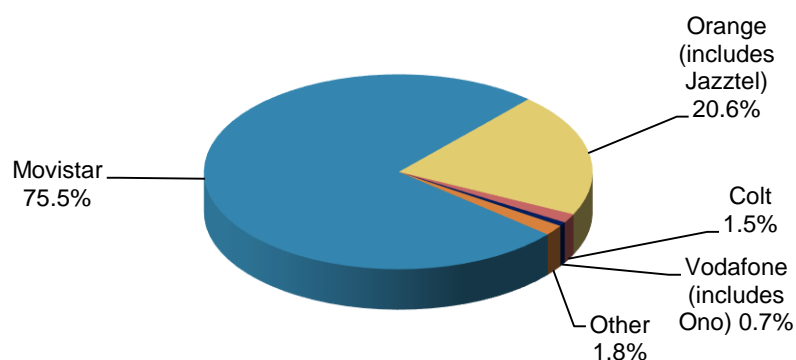
In 2015, Movistar obtained the highest proportion of this revenue, as in the case of lines. Its share stood at 76% compared to 85.9% in 2014. Despite the drop in share, revenue grew 79.7% to EUR 675.7 million. This rise in FTTH revenue enabled Movistar to offset the fall in revenue from xDSL line billings.

The second largest operator in terms of revenue from FTTH was Orange. In 2015, revenue obtained by this operator stood at EUR 183.9 million compared to EUR 37.3 million, when FTTH revenue obtained by Jazztel and Orange in 2014 was taken into account.

Revenue from FTTH obtained by the operator Colt fell by 12.7% to EUR 13.5 million.

Lastly, revenue obtained by Vodafone associated with this technology totalled more than EUR 6 million, compared to EUR 946,000 obtained in 2014.

SHARE BY REVENUE FROM FTTH (PERCENTAGE)



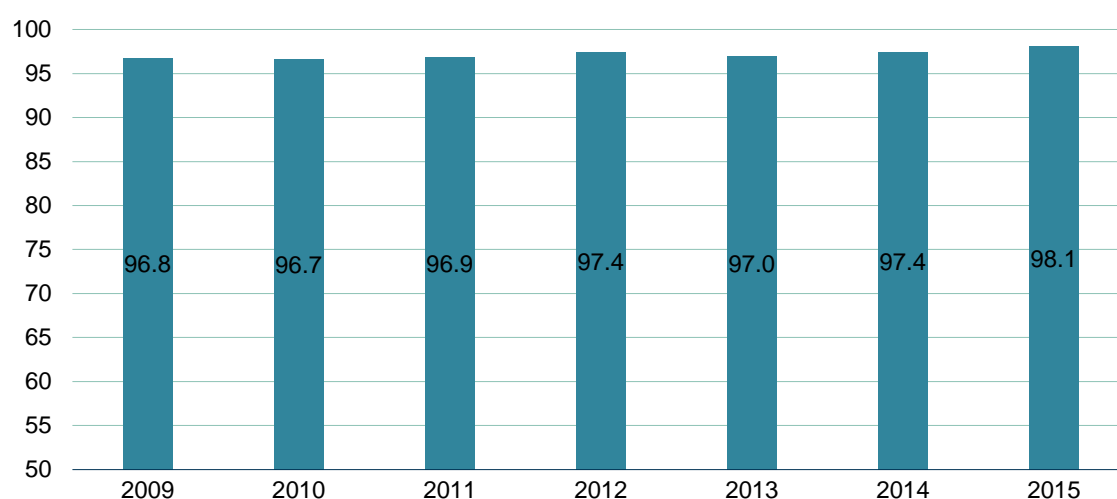
Source: CNMC

Bundling

Subscription of broadband bundled with other services continued to be the primary form of accessing broadband by consumers. In 2015, bundled fixed-line and mobile services, including or excluding pay TV, with the same operator was the most in-demand modality.

In the residential segment, the number of broadband lines subscribed together with another service was 10,788,516, accounting for 98.1% of the total. In the business segment, the percentage of bundling was 86.9% (2.21 million lines) compared to 84.7% in 2014.

BUNDLED BROADBAND LINES IN THE RESIDENTIAL SEGMENT (PERCENTAGE)



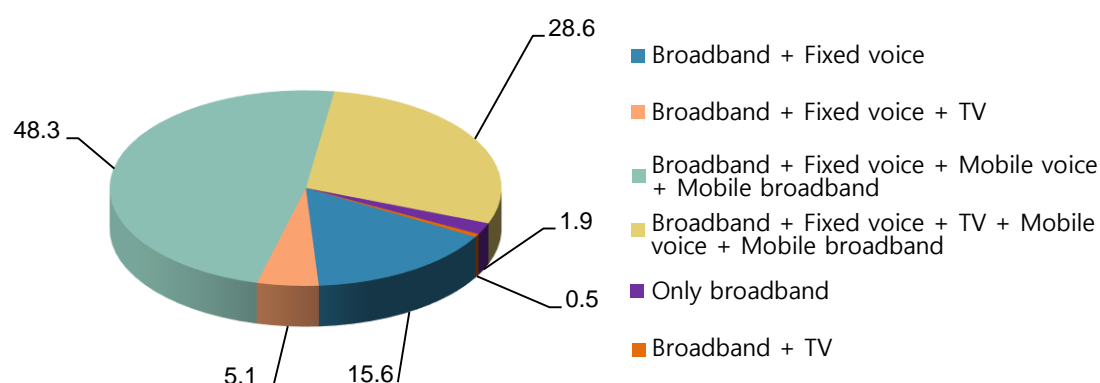
Source: CNMC

As mentioned earlier, in 2015 subscriptions to the fixed broadband service bundled with the fixed telephony service and mobile broadband and mobile voice services (quadruple-play bundle) remained the same as in 2014. This bundled service modality achieved a percentage of 48.3%, compared to 49.1% in 2014. This, therefore, continues to be the most popular kind of bundle.

Additionally, taking into account the bundles that include at least fixed broadband and fixed voice services, the percentage rose to 97.5% of lines compared to 96.8% in 2014.

Triple-play bundles – which include fixed broadband and voice services and television – accounted for 5.1% of lines; if bundles including mobile voice and mobile broadband (quintuple-play bundle) are also included, this percentage rises to 33.6%, compared to 24.9% in 2014.

BROADBAND LINES BY TYPE OF BUNDLE IN THE RESIDENTIAL SEGMENT (PERCENTAGE)



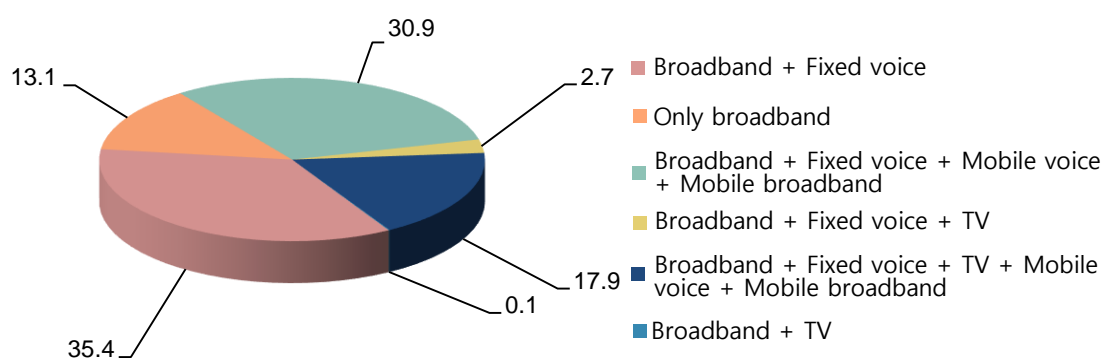
Source: CNMC

In the business segment, the broadband bundle including fixed telephony predominated with 35.4% of lines in this segment. However, this figure is far below that obtained in 2014, when the percentage stood at 45.3% of lines.

Conversely, the quadruple-play bundle, which includes mobile voice and mobile broadband, increased to 30.9%, compared to 26.6% in 2014. When pay television is added to this modality, subscriptions to quintuple-play bundles stood at nearly 18% of business lines.

Lastly, as in previous years, unbundled broadband offerings had a significant presence in the business segment, although that presence was considerably reduced. These products accounted for 13.1%.

BROADBAND LINES BY TYPE OF BUNDLE IN THE BUSINESS SEGMENT (PERCENTAGE)



Source: CNMC

The trend of subscribing to mobile services in fixed services bundles continued in the last year. Subscription levels for this type of convergent bundle (quadruple-play and quintuple-play) in the market as a whole exceeded 78% of total bundles.

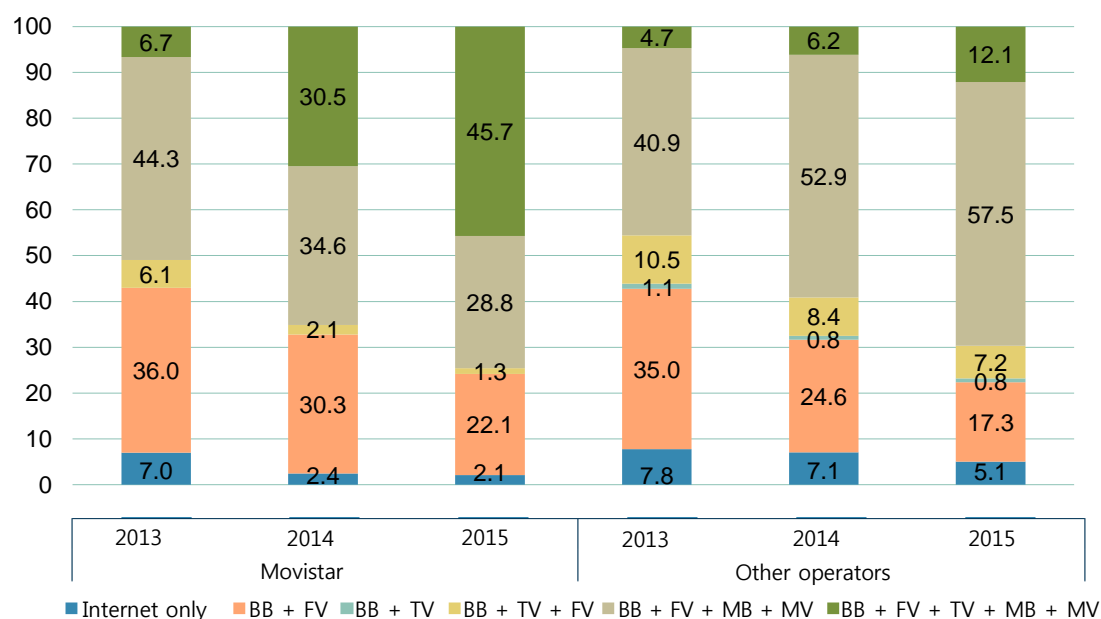
When subscriptions per operator are analysed, it can be observed that, in the case of Movistar, quintuple-play bundles represented 45.7% (2,666,104 bundles); if triple-play bundles are included, the total market share of bundles that include pay television reached 47%. This figure contrasts with the 32.6% achieved in 2014.

Double-play bundles with broadband and voice fell in the last year to accounted for 22.1% of Movistar's total lines. If we add to this percentage the 28.9% represented by the quadruple-play bundle (i.e. fixed broadband, fixed voice, mobile voice and mobile broadband bundles), the percentage totals 51%, compared to 65% the previous year.

The other alternative operators ended the year with 4.42 million lines bundled with fixed broadband, fixed voice, mobile broadband and mobile voice, i.e. 57.5% of quadruple-play bundles. This figure represents an increase of 4.6 percentage points relative to 2014.

Furthermore, the percentage of bundles subscribed to with these operators which included the television service was relatively low, but grew significantly compared to 2014. The total volume of bundles including pay television reached 1.54 million, 20% compared to 15.4% in 2014.

EVOLUTION OF BROADBAND LINES BY TYPE OF BUNDLE AND OPERATOR (PERCENTAGE)



Source: CNMC

Line speed

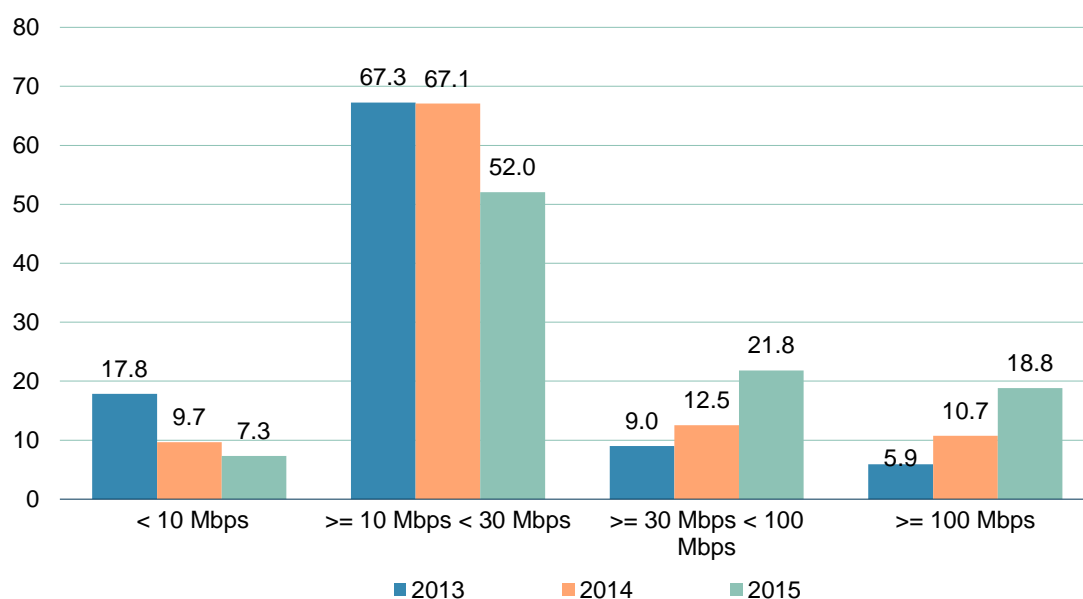
The following graph shows the growing trend in subscriptions to higher-speed broadband products. The main factor contributing to this increase in subscribed speed is the improvement of access networks by operators. Thus, cable operators (by updating their nodes to DOCSIS 3.0) and Movistar and other alternative operators (by rolling out FTTH access) boosted subscription to broadband offerings with higher connection speeds. Likewise, despite the limitations of copper networks, some operators also

launched products offering higher connection speeds (up to 30 Mbps) using VDSL technology (a modality of xDSL which enables higher connection speeds than ADSL).

At year end, 92.7% of broadband line subscriptions had a connection speed of 10 Mbps or higher, compared to 90.3% in 2014. Furthermore, lines with a connection speed higher than 30 Mbps reached 40.6% (in absolute terms, 5.50 million connections).

Lastly, connections with a subscribed speed of 100 Mbps or more accounted for 18.8% of lines (more than 2.55 million connections), compared to 10.7% in 2014.

EVOLUTION OF BROADBAND LINES BY SUBSCRIBED SPEED (PERCENTAGE)

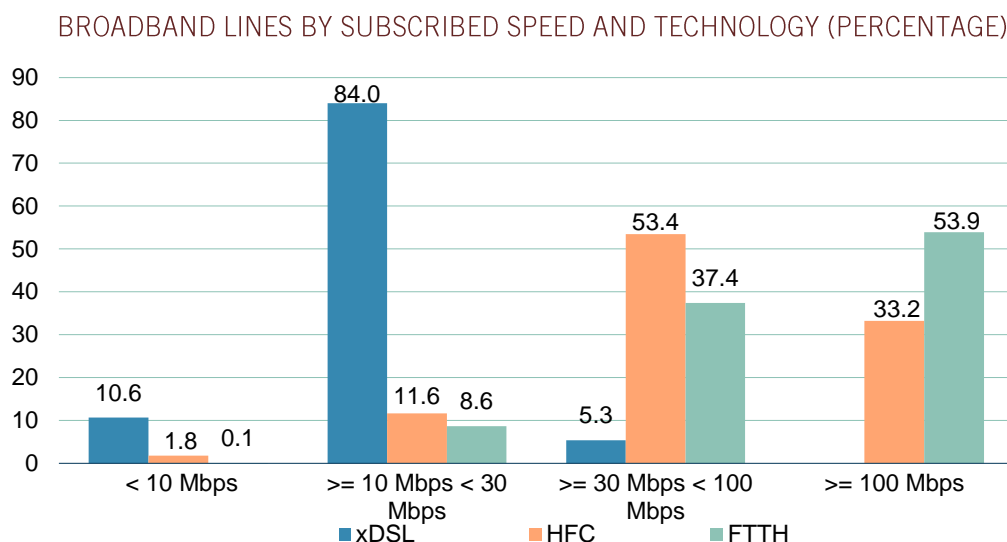


Source: CNMC

The breakdown of subscribed speeds by access technology reveals significant differences in subscribed speed according to the type of access network. The limitations of copper pair-based access networks, as regards service speed and quality, are reflected in the fact that the xDSL line speeds offered and subscribed ranged mainly between 10 and 30 Mbps, with 84% (the same percentage as in 2014).

Optical fibre-based networks, that is, HFC and FTTH connections, were practically the only connections that offered speeds of 30 Mbps or higher, accounting for nearly 91.3% of connections in the case of FTTH. Also, 53.9% of subscribed FTTH connections exceeded 100 Mbps.

Furthermore, nearly 53.4% of HFC lines ranged mainly between 30 Mbps and 100 Mbps.



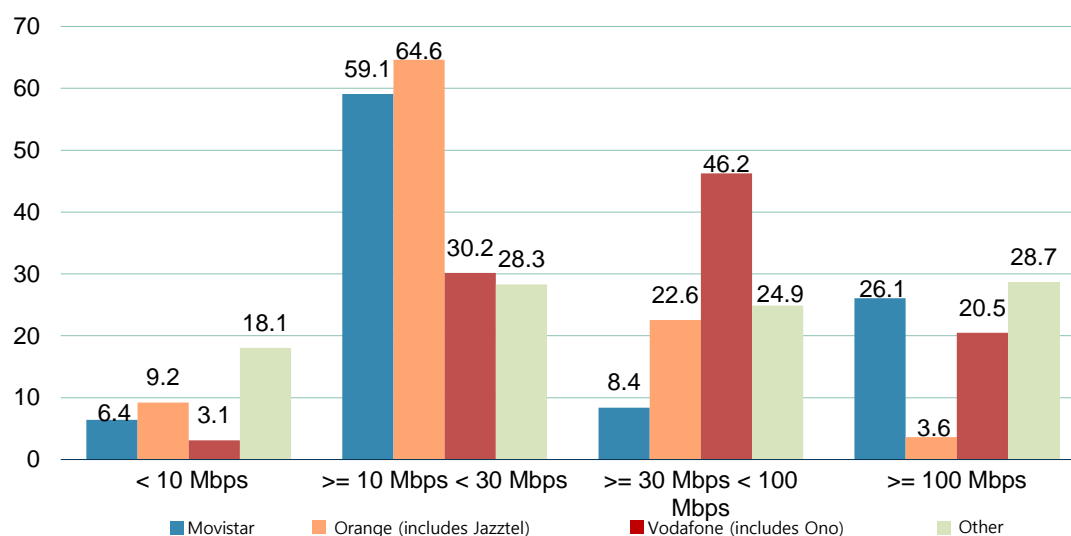
Source: CNMC

The following graph shows the distribution of broadband lines by subscribed speed for the main operators. In the specific case of Movistar, 59.1% of the total 5.83 million lines of this operator had a connection speed of between 10 Mbps and 30 Mbps. It should be noted that this range includes the Fusión commercial product over FTTH with a speed of 10 Mbps. In addition, more than 1.5 million lines had a subscribed speed higher than 100 Mbps over FTTH.

As regards Orange (including the lines of the operator Jazztel), most of the lines relate to xDSL technology and with a subscribed speed of between 10 Mbps and 30 Mbps. In the case of Vodafone, there is a high percentage of connections (66.7%) with a speed higher than 30 Mbps, since it includes the HFC connections of the operator Ono, acquired in 2014.

Lastly, 53.6% of the active lines of the other operators – which include mainly those which access the end market over HFC connections – had speeds equal to or higher than 30 Mbps.

BROADBAND LINES BY SUBSCRIBED SPEED BY OPERATOR (PERCENTAGE)

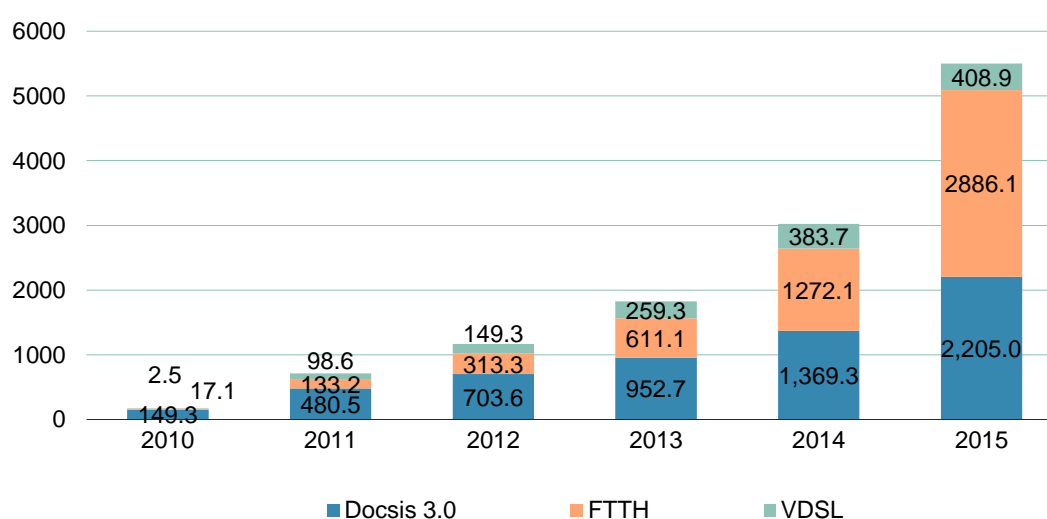


Source: CNMC

The following graph shows the evolution of the volume of lines subscribed with a speed of 30 Mbps or higher. Thus, in 2015, these lines grew 81.8% to reach 5.5 million connections. Of these, lines that use FTTH and HFC DOCSIS 3.0 technologies recorded the most growth.

Lastly, in the last year, VDSL lines with a speed of 30 Mbps, offered by Movistar and other operators such as Orange and Vodafone, grew 6.6%.

NGA BROADBAND LINES WITH A DOWNLOAD SPEED EQUAL TO OR HIGHER THAN 30 MBPS (THOUSANDS)



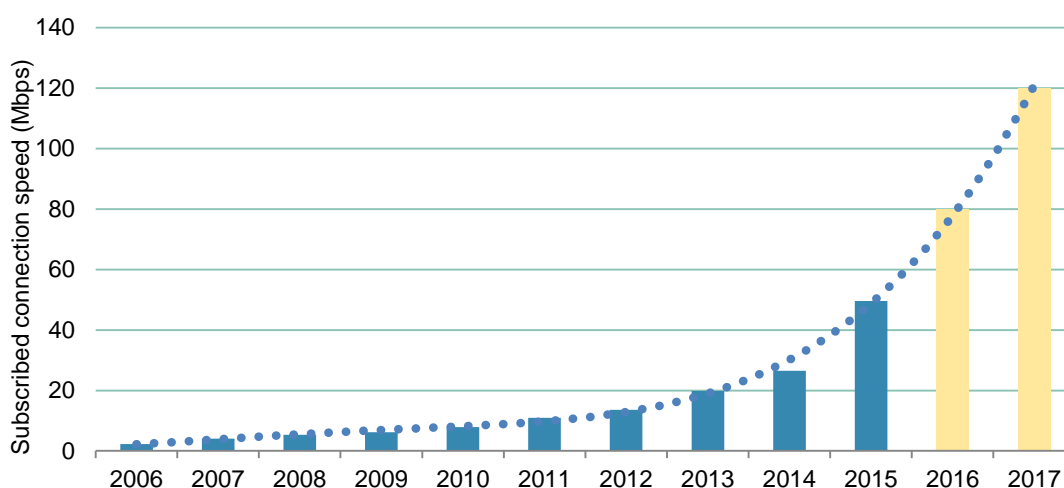
Source: CNMC

The data provided in the preceding sections reflect a progressive increase in the subscribed connection speed. This is the result of the improvement in access networks achieved by updating existing networks, such as HFC networks, or by investing in the roll-out of new fibre to the home (FTTH) networks. In this regard, the progressive implementation of next generation networks (NGA) is expected to drive a growing demand for new services and, therefore, the need for greater bandwidth.

In this regard, it should be noted that the principal operators' star products offer very high speeds. Therefore, the entry-level NGA product usually provides 30 or more Mbps and the fastest product 300 Mbps. Likewise, in addition to peak download speed, symmetrical products, where upload speed is the same as download speed, are becoming widespread in the Spanish market³⁵.

The following graph shows the change in average subscribed speed for broadband lines as a whole and the estimated trend for the next two years. In 2015, this connection speed reached 49.6 Mbps compared to an average of 26.5 Mbps in 2014, representing an increase of nearly 87% in the last year. Looking ahead, average subscribed speed will exceed 100 Mbps in the next two years.

EVOLUTION OF AVERAGE SUBSCRIBED CONNECTION SPEED AND FORECAST (MBPS)



Source: CNMC

Fixed broadband prices

In recent years, fixed broadband services have been marketed and subscribed to jointly with others. In 2015, 96.1% of fixed broadband connections were sold in this manner. Therefore, it is interesting to look at how the prices of the most important bundles that include fixed broadband have changed. These bundles are: fixed double-play (including broadband and fixed voice services) and convergent bundles, which offer all fixed retail services (broadband and flat-rate telephone) at a fixed monthly fee

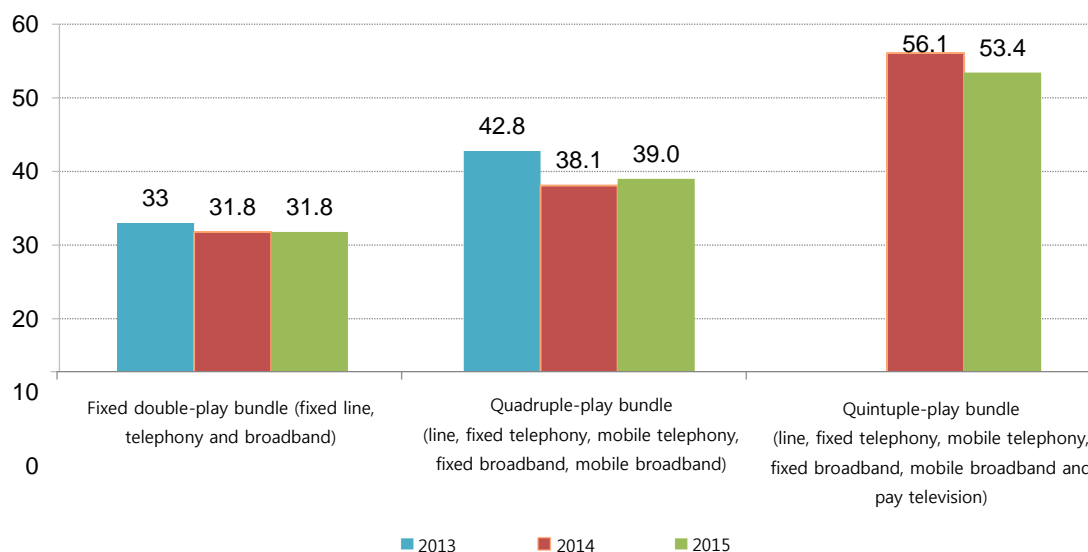
³⁵ At the beginning of 2016, Movistar offered 30 and 300 Mbps symmetrical products, Orange 50 and 300 Mbps symmetrical products and Vodafone 50 and 300 Mbps symmetrical products. These speeds stand out at the European level.

and, at a minimum, postpaid mobile access which includes semi-flat-rate voice and mobile broadband tariffs. In 2015, convergent bundles were the most in-demand bundles, accounting for more than 75% of bundles sold in Spain.

The CNMC Household Panel³⁶ was used for price data relating to these bundles (data for the last quarter of each year). According to this source, average expenditure per household on the broadband and voice bundle was EUR 31.8 per month, unchanged on 2014. With respect to the quadruple-play bundle, which was the bundle most frequently subscribed to by households, expenditure was EUR 39 per month per household, 2.4% higher than the expenditure recorded at the end of 2014.

Lastly, in 2015, the quintuple-play bundle, which involves the joint subscription of fixed, mobile and pay television services, recorded the most significant increase in subscription numbers. This increase was due mainly to the increase in sales of this type of bundle by Movistar. So, 25.8% of households that subscribed to fixed broadband did so through a quintuple-play bundle with an average expenditure of EUR 53.4 per month. This figure represents a drop of 4.8% in relation to average expenditure at the end of 2014.

EVOLUTION OF AVERAGE MONTHLY EXPENDITURE PER HOUSEHOLD ON THE MAIN BUNDLES THAT INCLUDE THE FIXED BROADBAND SERVICE (EUROS/MONTHS)



Source: CNMC Household Panel

³⁶ The CNMC Household Panel periodically gathers information on the prices of bundles subscribed to by a representative sample of households, using bills provided by those households. Those invoices contain information on both the monthly fee for the bundle subscribed to by the household and, where applicable, on any discounts associated with this fee. Those fees (less the discounts), together with the billed cost of the fixed access service when billed separately, yield the indicator of expenditure per bundle.

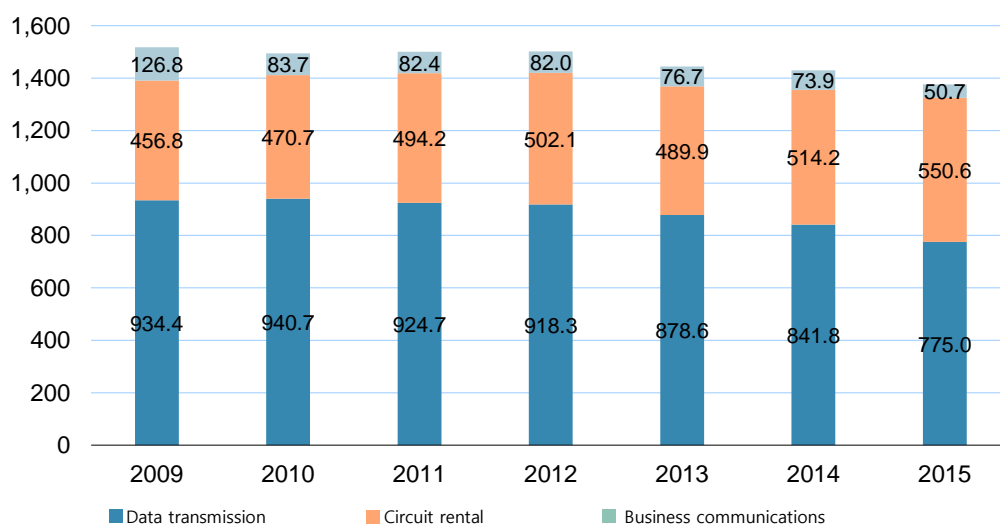
2.1.3. Business communications

Business communications include corporate voice communications and circuit rental and data transmission services aimed at the business segment.

This activity as a whole generated a business volume of EUR 1,376.4 million, which implied a fall of 3.7 percentage points compared to the previous year. In absolute terms, this fall stood at EUR 53.5 million. Below is a brief analysis of the aforementioned services, excluding corporate voice communications.

Rented circuits showed year-on-year growth of 7.1% (which implies a growth in revenue of EUR 36.4 million); this trend was repeated for the second consecutive year, resulting in the highest revenue to date. Conversely, revenue from data transmission and corporate voice communications fell by 7.9% and 31.3%, respectively, which was reflected in losses of EUR 66.8 million and EUR 23.1 million, respectively. The figure for corporate voice communications is the lowest recorded to date, standing at EUR 50.7 million.

REVENUE FROM BUSINESS COMMUNICATIONS SERVICES (MILLIONS OF EUROS)

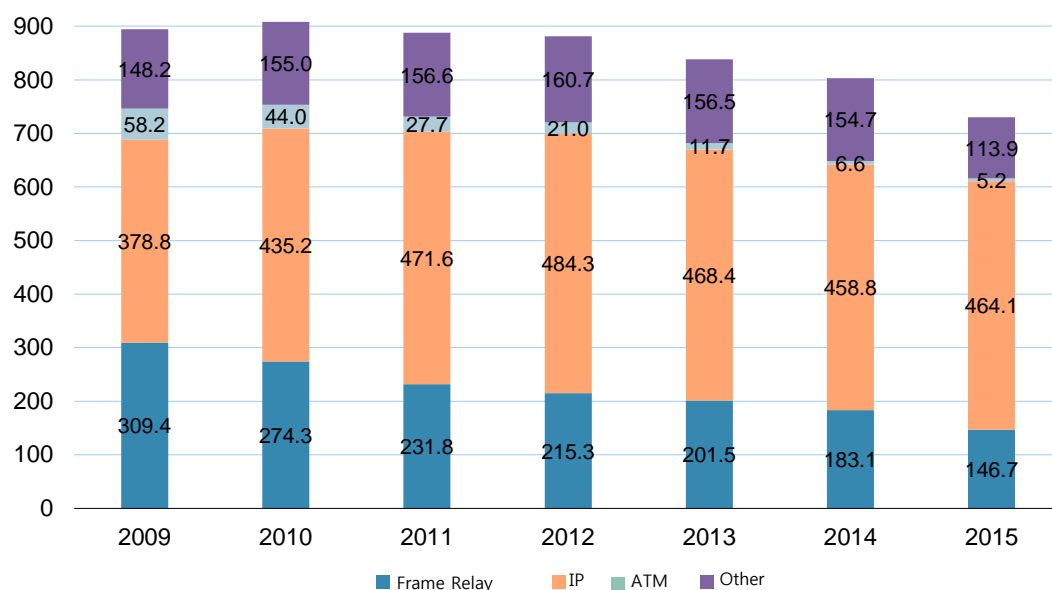


Source: CNMC

Data transmission

In turn, data transmission is divided into two further subsections: data-only lines and information services. Data-only lines represent most of data transmission revenue – accounting for 94.2% of total revenue in 2015 – and fell 9.1% compared to the previous year. Data lines under IP protocol recorded the highest revenue, at EUR 464.1 million, with slight growth of 1.1% compared to the previous year. Information services recorded revenue of EUR 45.1 million, representing year-on-year growth of 17% and the highest value since 2009.

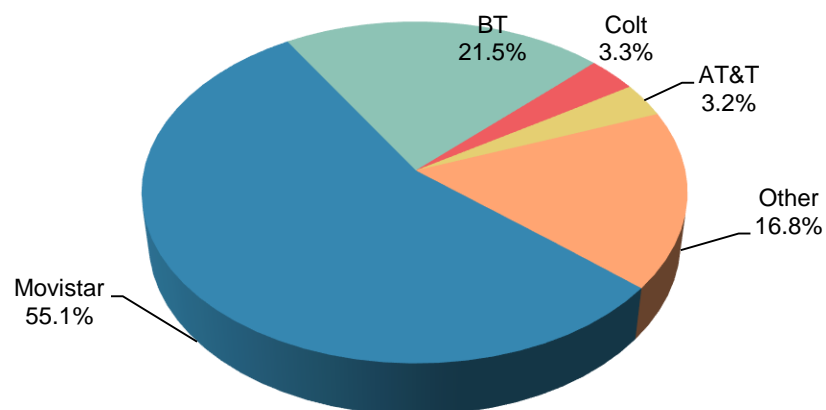
REVENUE FROM DATA-ONLY LINES BY TECHNOLOGY (MILLIONS OF EUROS)



Source: CNMC

If we analyse the market share generated by total revenue from data transmission, as in previous years, Movistar continued to be the main actor in this sector, with EUR 427.1 million and a market share of 55.1%, increasing its share by 2.2 points but reducing its total revenue by EUR 18.1 million. BT occupied second place, with a market share of 21.5% – with EUR 166.6 million – very similar to the figure obtained on previous occasions, but with less revenue. Colt occupied third place, with a share of 3.3% – with EUR 25.9 million – reducing both its market share and its revenue compared to the previous year.

MARKET SHARE BY REVENUE FROM DATA TRANSMISSION (PERCENTAGE)

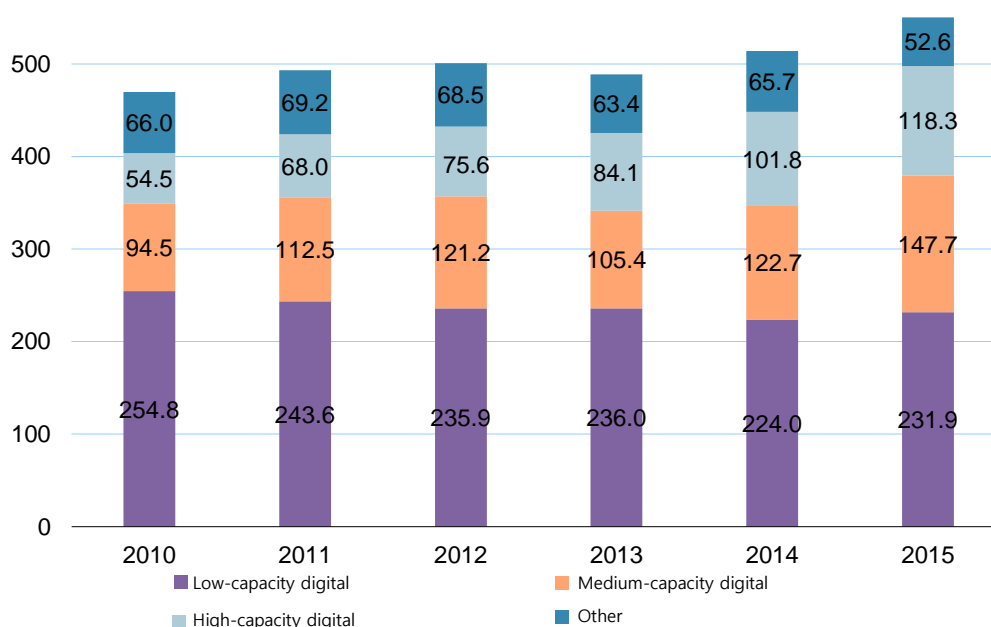


Source: CNMC

Rented circuits

Revenue from rented circuits, as mentioned earlier, recorded year-on-year growth of 7.1%, to stand at EUR 550.6 million, achieving the highest value recorded for this service for the second consecutive year. If we carry out an in-depth analysis by capacity, it can be observed that revenue from low-, medium- and high-capacity circuits³⁷ grew compared to the previous year – 3.5%, 20.4% and 16.2%, respectively. Revenue from medium-capacity digital circuits saw the sharpest growth, rising EUR 25.0 million to stand at EUR 147.7 million, due mainly to 155 Mbps digital circuits and, to a lesser extent, Fast Ethernet circuits. Revenue from high-capacity circuits stood at EUR 118.3 million – EUR 16.5 million more than in 2014 – and Gigabit Ethernet circuits saw the greatest year-on-year growth, with 15.2%.

REVENUE FROM RENTED CIRCUITS (MILLIONS OF EUROS)

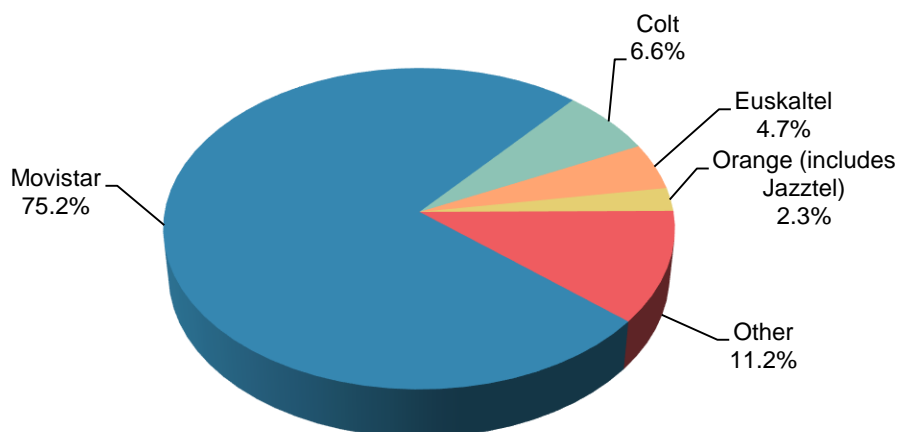


Source: CNMC

Movistar continued to be the main actor in this service, with a market share of 75.2%, a figure below that achieved in previous years – 3.2 points lower – but with higher revenue than in 2014, standing at EUR 413.9 million – EUR 11.0 million more. It was followed by Colt, Euskaltel and Orange, with a market share of 6.6%, 4.7% and 2.3%, respectively.

³⁷ Low-capacity circuits offer transmission speeds below 34 Mbps, medium-capacity circuits offer speeds of between 34 and 622 Mbps, and high-capacity circuits of more than 622 Mbps.

MARKET SHARE BY REVENUE FROM RENTED CIRCUITS (PERCENTAGE)

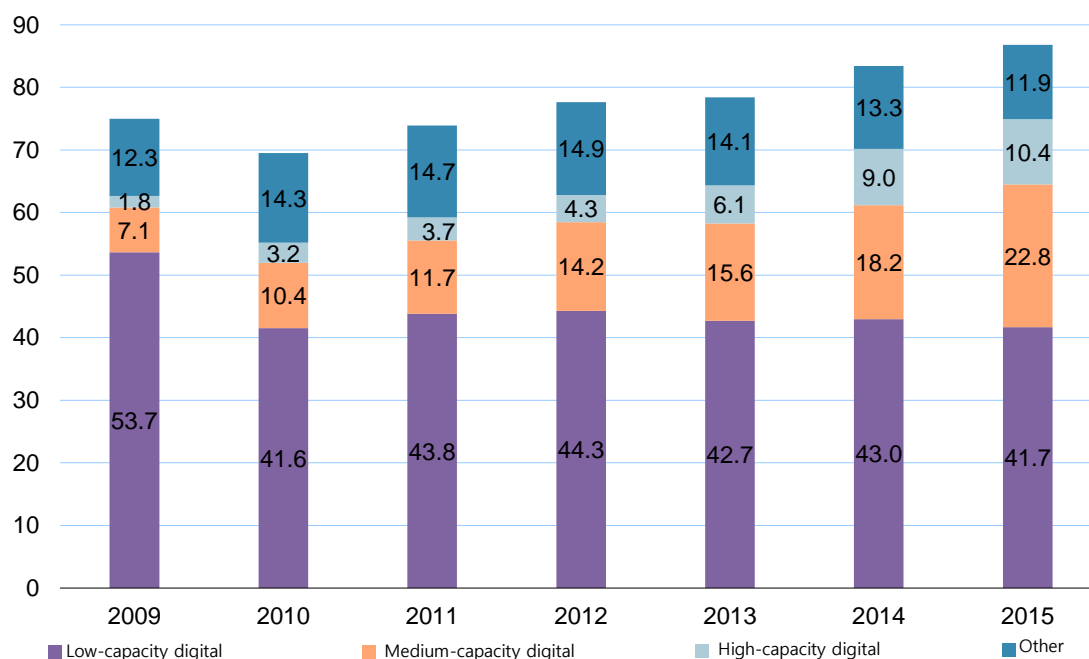


Source: CNMC

In an analysis by number of circuits, it can be observed that these recorded year-on-year growth of 4.0%, similar to that of revenue. The total number of circuits stood at 86,772, exceeding the figure recorded in 2014.

When the number of circuits is analysed by subscribed capacity, it can be observed that low-capacity circuits continued to represent nearly half of subscribed circuits, although this trend seems to be changing, since they account for 48.0% – down 3.5 points on 2014 – and with negative growth of 3.0%. On the other hand, digital medium- and high-capacity circuits increased as a proportion of circuits as a whole to 38.3%, growing from 25.2% and 16.0%, respectively. This was caused by the growth in the number of Fast Ethernet and Gigabit Ethernet and 10 Gbps circuits, with year-on-year growth of 27.4%, 17.7% and 10.1%, respectively.

EVOLUTION OF THE NUMBER OF RENTED CIRCUITS (THOUSANDS OF CIRCUITS)



Source: CNMC

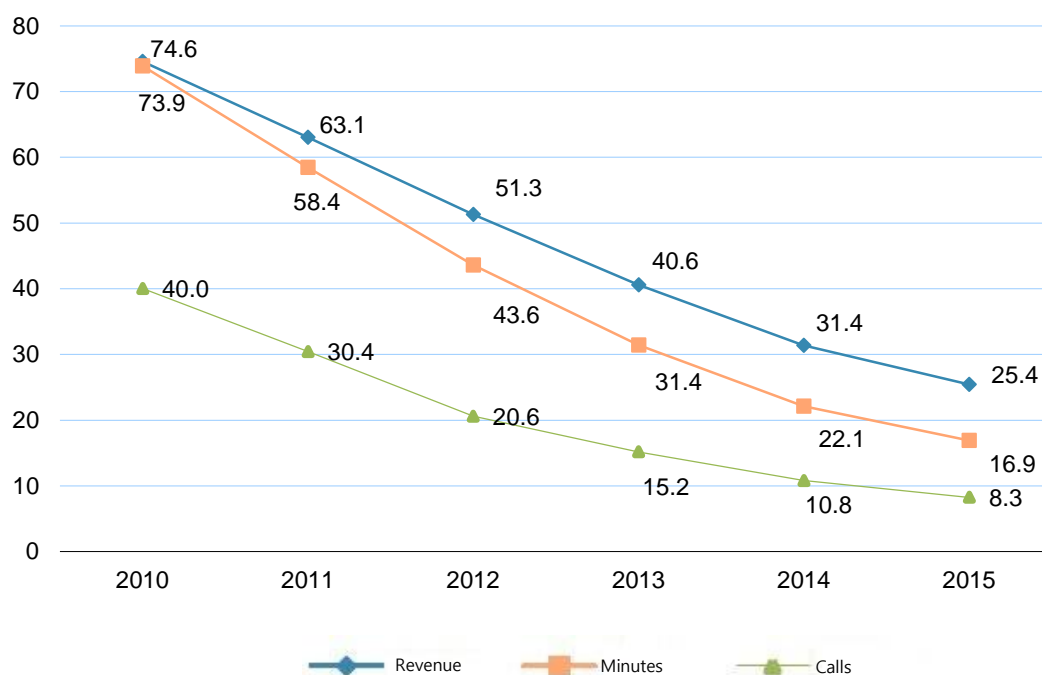
2.1.4. Telephone information services

Telephone information services are offered by different companies to provide end users with information on subscriber telephone numbers. Currently, these services are experiencing a downward trend, since similar services are offered free of charge through various websites. Between 2005 and 2008, the best figures were obtained in terms of both revenue and traffic.

Revenue from these services, with the above proviso, stood at EUR 25.4 million – with a year-on-year fall of 18.9% – which represented a decline of nearly EUR 6.0 million compared to the previous year, which implies that the fall was more moderate than in previous years. Likewise, this service has fallen steadily in terms of revenue in the last eight years.

Traffic and number of calls behaved in a very similar manner to revenue, with 16.9 million minutes used and 8.3 million calls, which translated into falls of 23.6% and 23.7%, respectively.

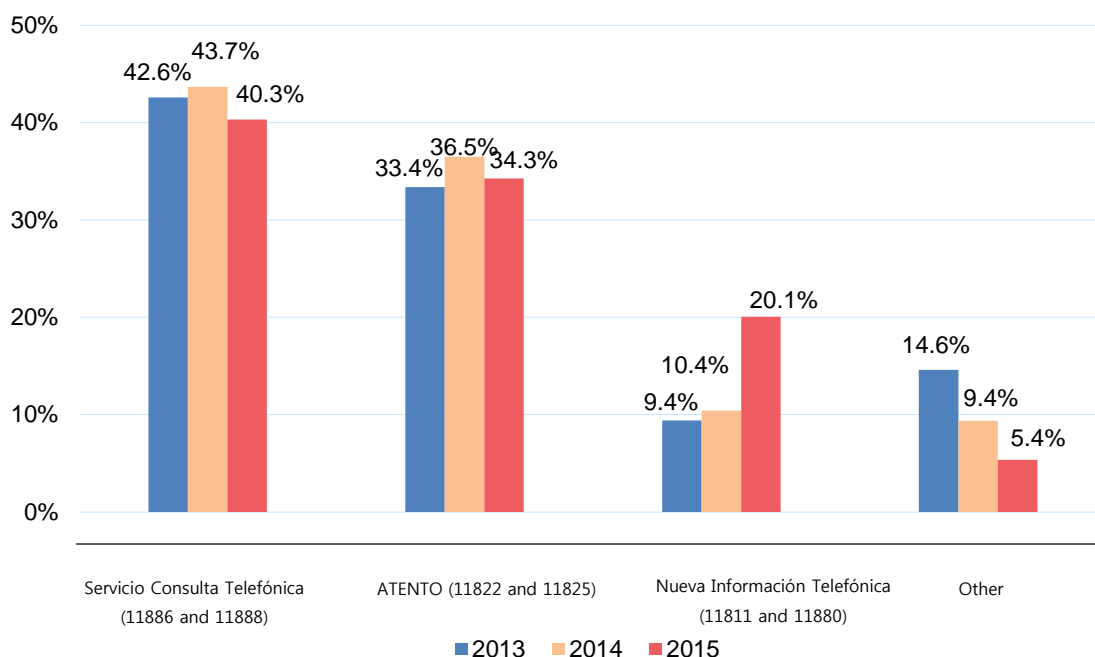
REVENUE, TRAFFIC AND CALLS FROM INFORMATION SERVICE PROVIDERS (EUROS, MINUTES AND CALLS IN MILLIONS)



Source: CNMC

As regards the main market operators by turnover the Servicio de Consulta Telefónica (a telephone information service which uses the number 11888 nationally and 11886 internationally), was in first place with a 40.3% share. In second place was Atento (which uses the number 11822 for national service and the number 11825 for international service), which had a 34.3% market share and, in third place, Nueva Información Telefónica (using the number 11811 for national service and 11880 for international service), with 20.1%. This operator was the only operator that increased its market share, doubling it in only one year. As in recent years, the order of the main operators did not vary, although the difference between the second and third competitors has declined considerably due to the growth of Nueva Información Telefónica.

MARKET SHARE BY REVENUE FROM INFORMATION SERVICE PROVIDERS (PERCENTAGE)



Source: CNMC

2.2. WHOLESALE FIXED COMMUNICATIONS

2.2.1. Wholesale voice services

Interconnection between networks enables the exchange of traffic originated on one operator's network and ending on another operator's network. Various services such as termination, connection and transit, whether national or international, are included. The termination service is a service whereby the operator with a fixed network obtains revenue from calls made to customers in its network originating from a network other than its own, whether fixed or mobile. In the access service – which makes it possible to make indirect access calls –, the operator that supplies the line to the subscriber obtains revenue from delivering, to the interconnected operator, traffic chosen by the operator, short numbers, access to narrowband Internet (909) and the access component of special tariff services (intelligent network) destined for its network. To these two wholesale services we must add the transit service, which enables an operator to deliver calls to another operator with which it is not directly connected through a third operator. The latter, in addition to charging for termination in accordance with the type of call, adds a margin for making the call through its network to deliver it to the destination operator.

During the course of 2015, the new price of termination on a fixed network came into force after the approval in 2014 of the corresponding wholesale market, which is included in the European Commission's recommendation on important markets that are candidates for ex ante regulation³⁸. As a consequence, revenue from this service fell dramatically since, in the market review, the new fixed termination cost for any operator it was calculated aimed at costs based on a LRIC bottom-up model of an efficient³⁹ theoretical operator, resulting in a price of 0,0817 euro cents per minute. This represented a reduction of around 80% compared to the current prices for Telefónica de España, S.A.U.⁴⁰ and for alternative operators the fall was even greater, since they were able to fix a termination price on their network up to 30% higher than that of Telefónica's local termination price.

Interconnection services

The heterogeneous nature of the different services means that total revenue and traffic figures do not reflect the evolution of the market. In fact, transit services, which make up a significant proportion of the total, may record strong fluctuations from one year to the next, depending, to a great extent, on the price offered on the wholesale market and the relative importance of the different types of transit in relation to the total.

Therefore, the following analysis focuses mainly on fixed network access and termination services, which are those regulated by the CNMC, as a result of the obligations established in the corresponding analyses of wholesale origination and termination markets.

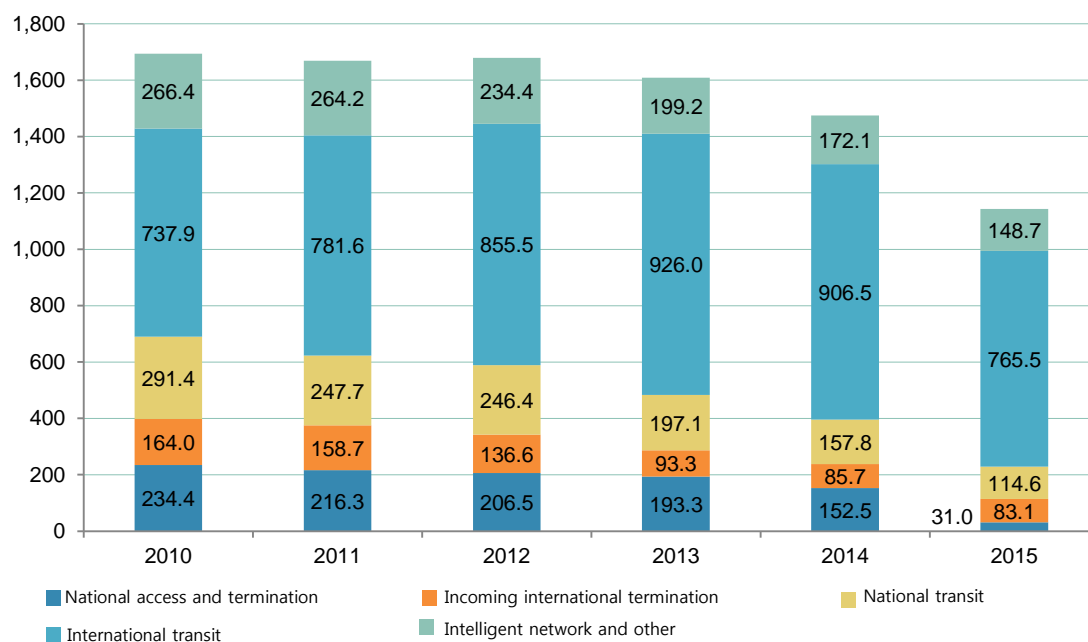
In 2015, total revenue from wholesale interconnection services amounted to EUR 1,142.9 million, down 22.5% on the previous year, while traffic fell by 11.7%, somewhat higher than 2014.

³⁸ Recommendation of the European Commission relating to the relevant products and services markets within the electronic communications sector that could be the object of ex ante regulation (2014/710/EU).

³⁹ As recommended by the European Commission, the price is calculated using a model oriented towards the costs incurred by an efficient operator, applying the long-run average incremental cost (LRIC) methodology through an economic/technical bottom-up network model. The EC considers that the cost model for fixed networks could be based on NGN networks.

⁴⁰ Despite the fact that this report uses the commercial brand to designate operators, in network interconnection services Telefónica is used instead of Movistar, given that the obligations arising from the analyses of wholesale connection markets and termination on fixed networks correspond exclusively to Telefónica de España, S.A.U. Additionally, the revenue reported by Telefónica de España, S.A.U. includes that stemming from Telefónica Móviles España, S.A.U. for the provision of the wholesale services included in this section.

REVENUE FROM INTERCONNECTION SERVICES (MILLIONS OF EUROS)

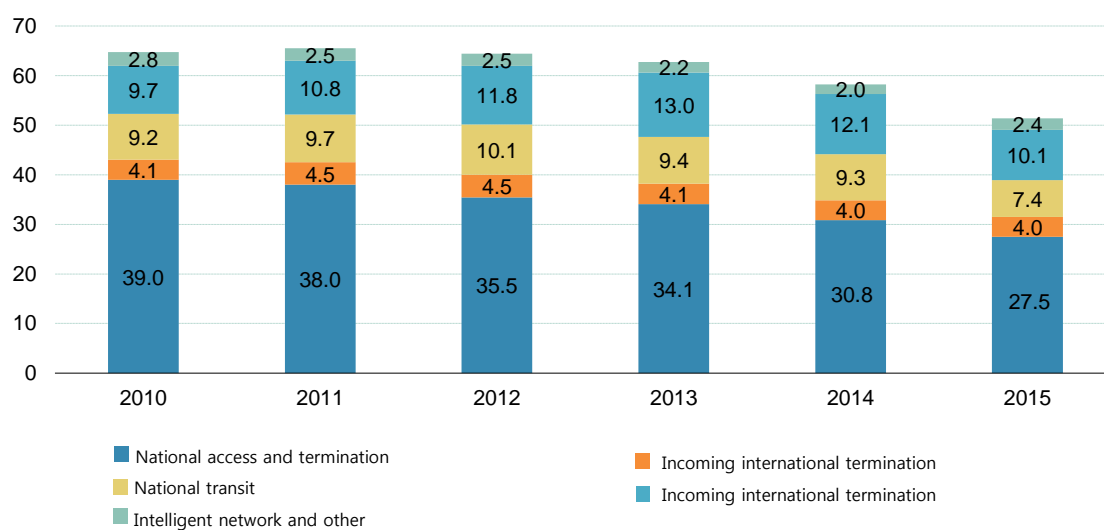


Source: CNMC

Revenue fell for all services, although the decline in revenue for the wholesale termination service on fixed networks stood out.

This service, together with access, were the two leading interconnection services, despite the fact that their total contribution to revenue was not very representative. In 2015, total revenue for these two services fell to EUR 31 million compared to EUR 152.5 million the previous year, due mainly to the sharp fall of more than 80% in revenue for the national termination service.

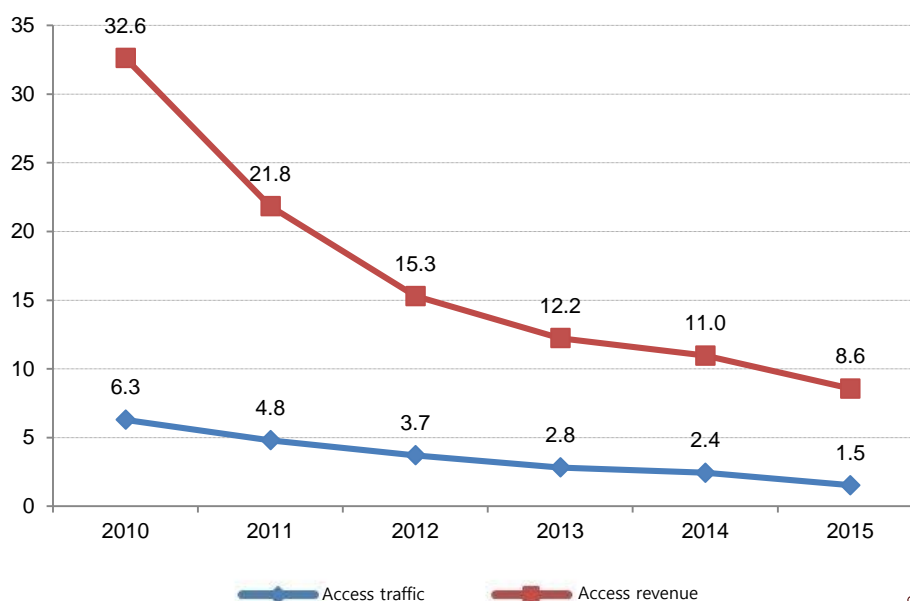
TRAFFIC BY INTERCONNECTION SERVICE (BILLIONS OF MINUTES)



Source: CNMC

The access service declined, as in previous years, in terms of both revenue and traffic. Its revenue fell by 21.8%, exceeding that recorded in the two previous years and the same occurred with access traffic generated, which fell by 37%, the highest rate of decline in recent years. This traffic is directly related to the demand for retail indirect access and, despite the fact that in 2015 the total number of indirect access customers fell very little, the same was not true of the traffic generated by those customers.

EVOLUTION OF ACCESS REVENUE AND TRAFFIC⁴¹ (MILLIONS OF EUROS AND BILLIONS OF MINUTES)

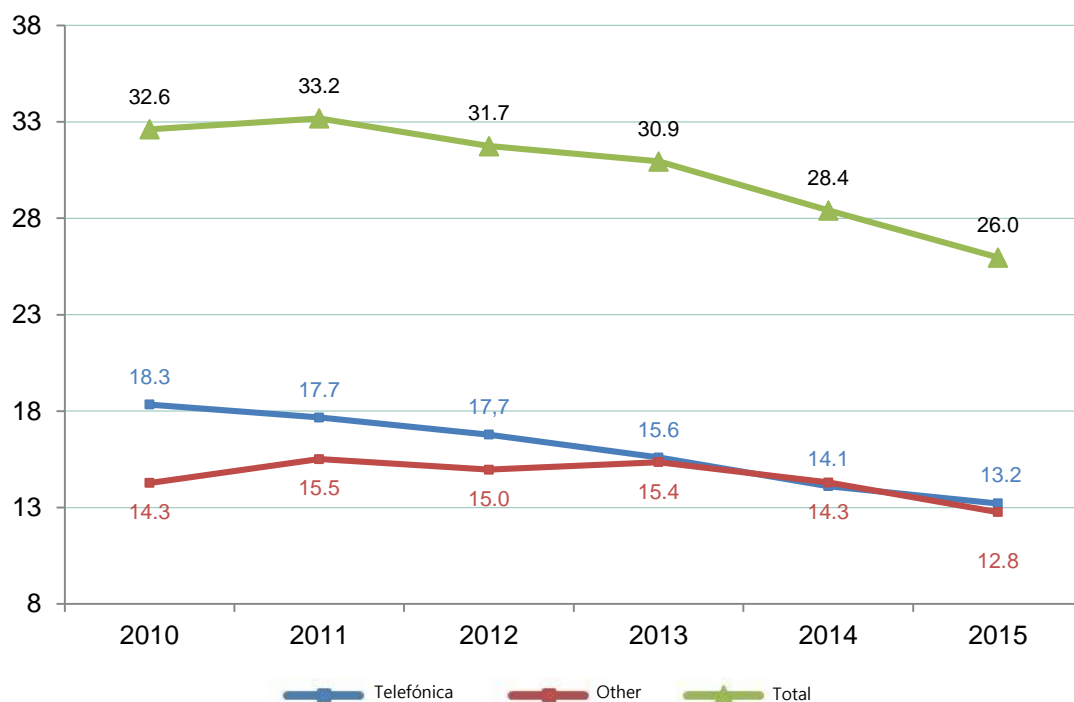


Source: CNMC

As regards the wholesale national termination service, a fall of 8.6% was recorded in traffic, somewhat less than in 2014, while revenue recorded a sharper fall of 84.1% due to the new termination prices that took effect in November 2014. This service is directly related to retail traffic originating on the fixed or mobile network of one operator and terminating on the fixed network of another operator. The decline in termination minutes resulted from the sharp drop of 14% in retail traffic generated by fixed telephony customers to fixed destinations, which was not offset by the increase of nearly 8% recorded in traffic from mobiles to fixed-line national numbers. The effect of the acquisition of Ono by Vodafone and that of Jazztel by Orange was not apparent in the 2014 and 2015 data, since the four operators still reported their data separately and, therefore, reported the wholesale services they provided between each other.

⁴¹ It includes voice and Internet.

EVOLUTION OF NATIONAL VOICE TERMINATION MINUTES FOR TELEFÓNICA AND THE OTHER FIXED NETWORK OPERATORS (BILLIONS OF MINUTES)



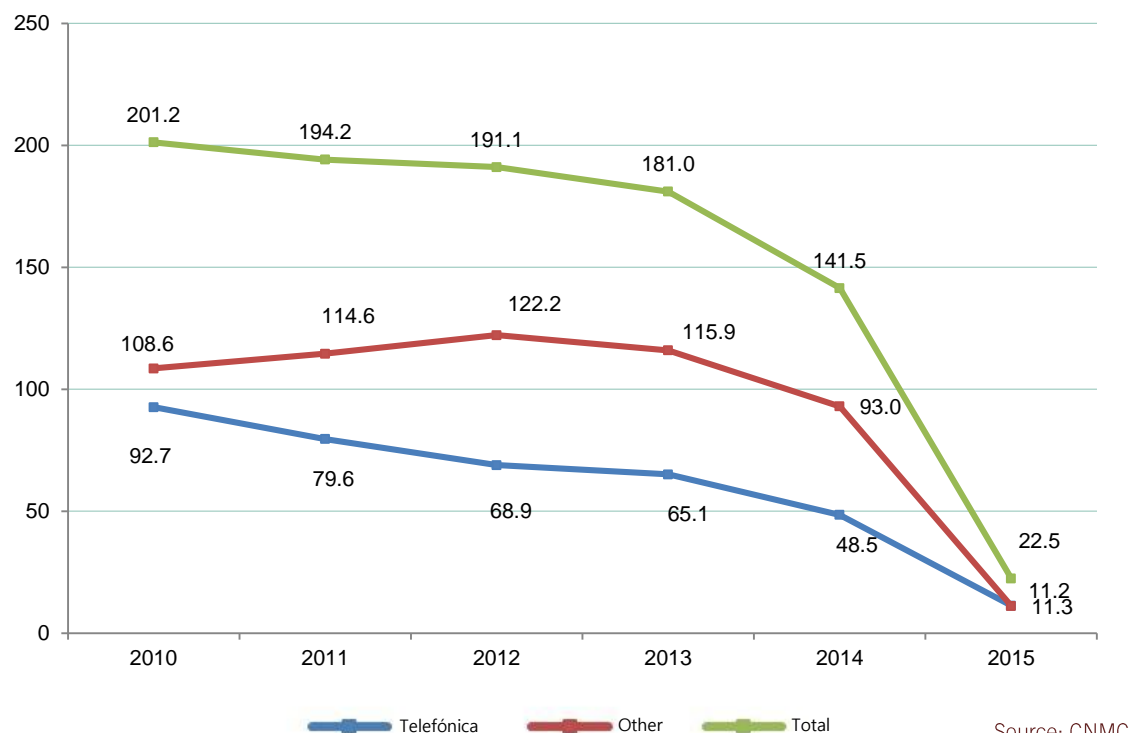
Both Telefónica and the other operators recorded less voice termination traffic in 2015. The traffic handled by each direct access operator is closely related to its number of fixed telephone lines. Thus, the evolution of Telefónica's traffic in recent years partly reflects the loss of fixed lines recorded the operator year after year. However, in 2015, the traffic of the other operators declined to a greater extent than that of the incumbent operator, 10.8% compared to the 6.4% recorded by Telefónica, despite the loss of fixed lines recorded by Telefónica and the increase in the number of alternative operators.

It should be borne in mind that, after the concentration process undergone by the sector, wholesale termination traffic will tend to decline, since operators that previously exchanged traffic will cease to do so when the merger becomes effective⁴².

The decline in revenue from voice termination stood at around 80% both for Telefónica and for the other operators, a fall directly proportional to the reduction introduced by the new wholesale termination price established by the CNMC for all fixed network operators.

⁴² This assertion is subject to operators' decisions regarding the corporate structure resulting from the acquisition. Vodafone and Ono reported their data separately in 2014 and 2015 and therefore the impact of the acquisition of Ono by Vodafone is not reflected in the data in this section. This is also the case of Orange and Jazztel in 2015.

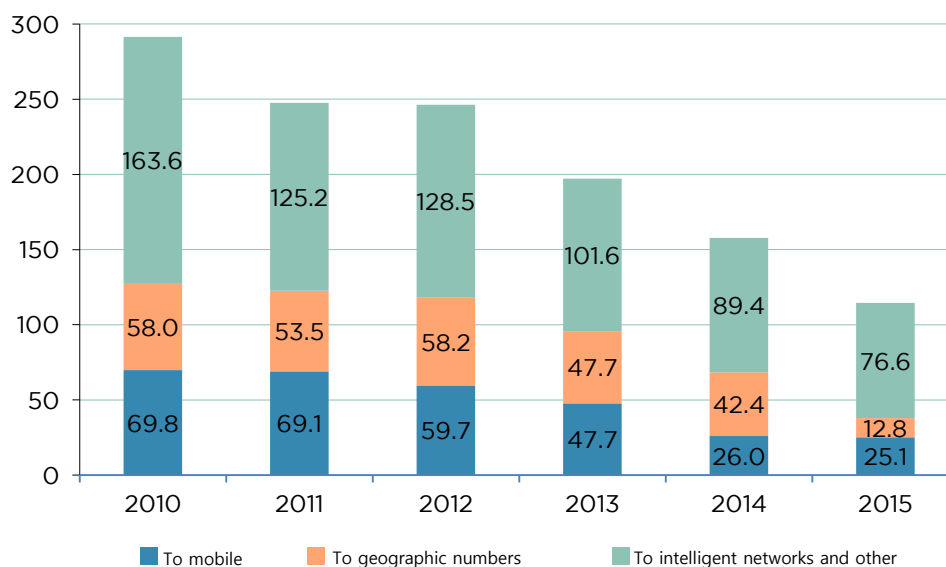
EVOLUTION OF REVENUE FROM NATIONAL VOICE TERMINATION FOR TELEFÓNICA AND THE OTHER FIXED NETWORK OPERATORS (MILLIONS OF EUROS)



As regards other fixed network interconnection services, transit represented 77% of total revenue and 34.2% of traffic.

National transit recorded a significant fall in revenue of 27.4%, caused mainly by transit to geographical numbers. The 69.7% drop in revenue associated with the latter type of transit reflects the transfer of the reduction in the price of fixed termination to the relevant transit service offered by various operators in an attempt to make a profit from their networks. Revenue from transit to mobile fell slightly, while traffic grew 20%, causing the average price to fall by 19.7%, despite the fact that the price of termination on a mobile network has not changed since July 2013 (1.09 euro cents per minute).

EVOLUTION OF REVENUE FROM NATIONAL TRANSIT SERVICES (MILLIONS OF EUROS)



Source: CNMC

Average revenue

Following the Recommendation on termination tariffs published by the EC⁴³ and the Common Position on termination tariffs prepared by the ERG⁴⁴, in the most recent review of the market in termination on a fixed network, approved in October 2014, it was asserted that, given the long period elapsed since the liberalisation of the sector, there was no justification for maintaining the price asymmetry in favour of alternative operators and that it could also be detrimental to competition and to consumer well-being.

The market in termination on a fixed network eliminated the asymmetry that existed until November 2014 for alternative operators, which could charge 30% more than the termination price for Telefónica at the local level, defined in the RIO (Reference Interconnection Offer), for terminating a call on their network. Therefore, the termination price established – 0,0817 euro cents per minute – implied an even greater reduction for them than for Telefónica.

Another important change was the elimination of the capacity modality. Until November 2014 there were two interconnection billing modalities: by time and by capacity. In the time-based modality, the traffic handled is billed in minutes, while in the capacity-based modality it is billed by the capacity of

⁴³ In May 2009, the European Commission published a specific recommendation on cost-orientation in relation to prices of termination on both fixed networks and mobile networks (2009/396/EU), where it established that the cost criterion to be applied is that of avoidable costs and, to that end, the incremental cost of providing the service in the long term is established (LRIC).

⁴⁴ In February 2008, the ERG adopted a common position on the symmetry of termination rates, in which it advocated the symmetry of fixed network rates, arguing that asymmetry over an excessive period of time could lead to inefficiencies and be detrimental to competition and consumer well-being.

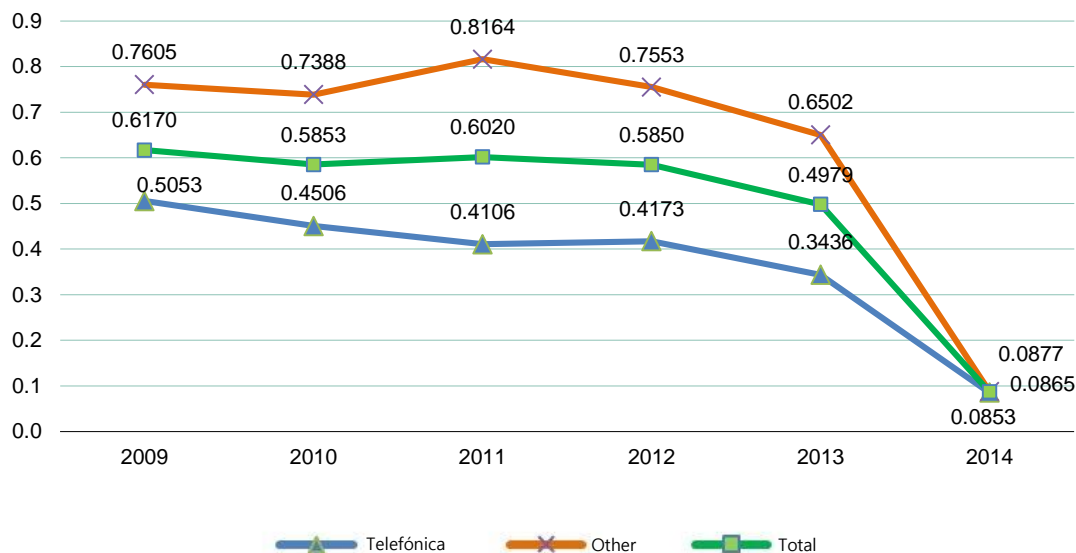
the subscribed link, regardless of the volume of minutes handled through it. Therefore, average revenue per minute in this modality varies according to the effective degree of occupation of the links. Telefónica was the only operator which was obliged to offer its access and termination interconnection services in both billing modalities.

After analysing the market, the capacity-based interconnection modality for the termination service was eliminated. Since November 2014, Telefónica is only obliged to offer that modality for the access service, which has also been provided for some time almost completely under the capacity-based scheme.

This new termination price is configured as a maximum price, symmetrically for all operators and with the obligation of billing only for traffic consumed and without time bands. Operators interconnected at the exchanges associated with the 21 nodal areas of Telefónica's current network structure benefit from this price, as well as those which are interconnected to those areas at lower levels. Otherwise, they must negotiate, with Telefónica, the conditions of transit to numbers outside the scope of the nodal areas where they are present.

As a result, in 2015, average consolidated revenue from voice termination on fixed networks stood at 0.0865 euro cents per minute⁴⁵, 82.6% less than in 2014.

AVERAGE REVENUE FROM NATIONAL VOICE TERMINATION FOR TELEFÓNICA AND OTHER OPERATORS (EURO CENTS/MINUTE)

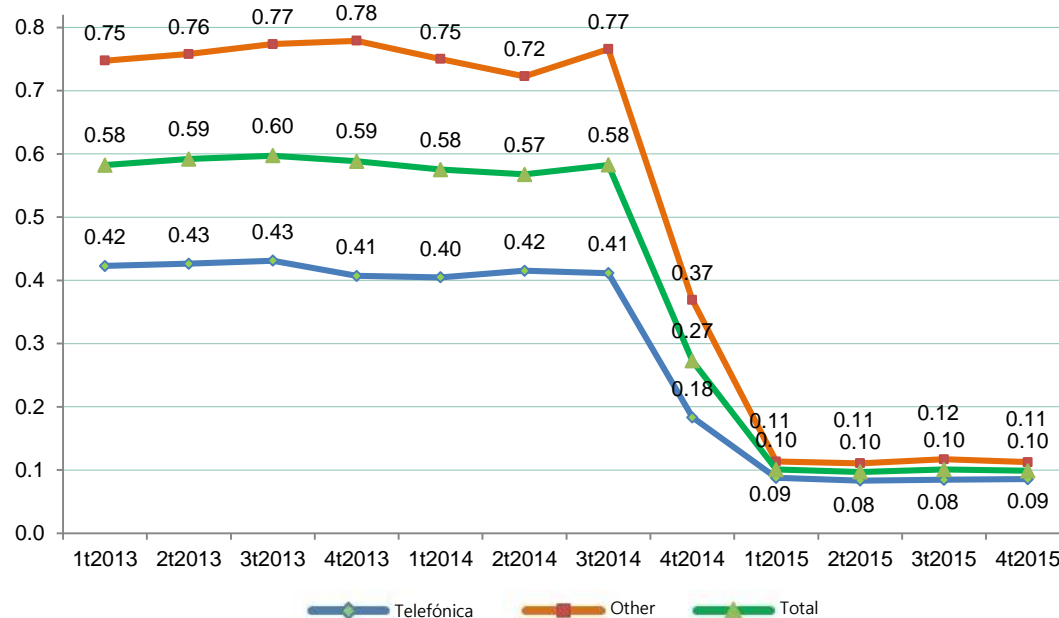


Source: CNMC

In order to see in greater detail how the new termination price has developed, the quarterly series revealing the drop in the last quarter of 2014 for both Telefónica and the other operators is shown.

⁴⁵ This price is slightly higher than the regulated price of 0.0817 euro cents/minute. In order to obtain this price, alternative operators must connect to Telefónica's 21 nodal areas. In the event of not connecting to all of them, Telefónica may charge double transit termination for that traffic at commercial prices.

AVERAGE QUARTERLY REVENUE FROM NATIONAL VOICE TERMINATION FOR TELEFÓNICA AND OTHER OPERATORS (EURO CENTS/MINUTE)

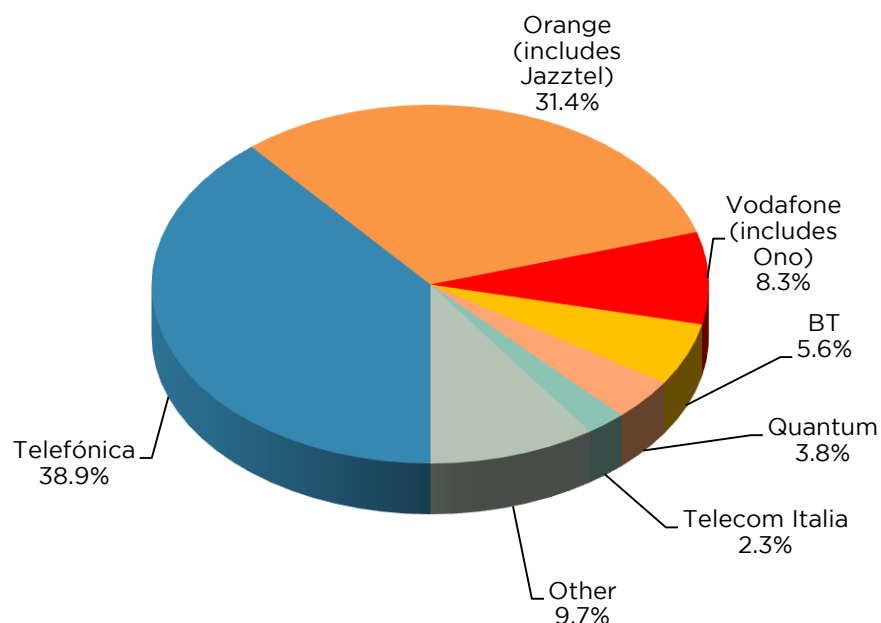


Source: CNMC

Market share

Market share by revenue – including all interconnection services – was 38.9% for Telefónica, followed by Orange and Vodafone – which include that of Jazztel and Ono, respectively. They are followed by operators such as BT, Quantum and Telecom Italia, whose revenue stems mainly from transit to international destinations.

MARKET SHARE BY TOTAL REVENUE FROM INFORMATION SERVICES PROVIDERS (PERCENTAGE)

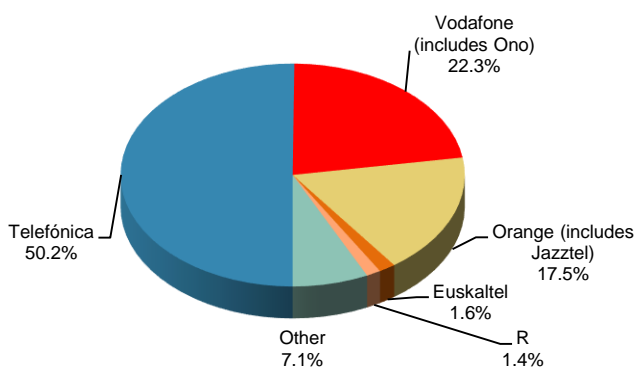


Source: CNMC

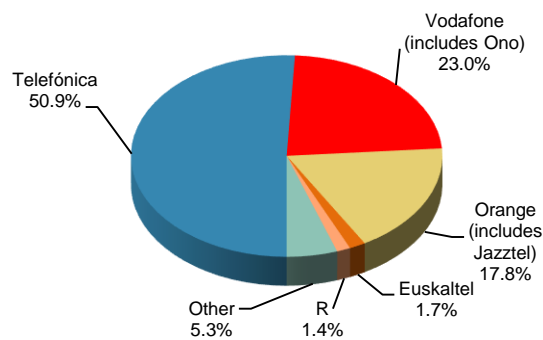
An analysis of distribution by operator exclusively considering the national termination service reveals that the market is shared between the leading direct access operators that operate at national or local level. Given that asymmetry has been eliminated from termination prices for alternative operators, the proportion of share in terms of revenue and traffic is maintained, unlike in previous years.

MARKET SHARE BY NATIONAL TERMINATION INTERCONNECTION SERVICES REVENUE AND TRAFFIC (PERCENTAGE)

REVENUE



TRAFFIC



Source: CNMC

2.2.2. Wholesale fixed broadband services

On 24 February 2016, the CNMC approved the definitive measure for the regulation of wholesale broadband markets (Markets 3a, 3b and 4 of the European Commission Market Recommendation). After receiving comments from the European Commission, the Ministry of Industry, Energy and Tourism and the Ministry of Economy and Competitiveness, the CNMC decided to impose different obligations for Telefónica's copper and optical fibre networks.

Different obligations were also established according to the competitive pressure in each geographical area (geographical segmentation criteria), summarised in the following table:

	DIRECT ACCESS (Market 3a)
66 municipalities with competition in next-generation networks:	<ul style="list-style-type: none"> • Access to Telefónica's copper network. • Access to civil infrastructure.
Rest of the country.	<ul style="list-style-type: none"> • Access to Telefónica's copper network. • Access to civil infrastructure. • Local NEBA: virtual access to Telefónica's optical fibre from the central exchange.
	RESIDENTIAL INDIRECT ACCESS (Market 3b)
Competitive area (758 exchanges).	<ul style="list-style-type: none"> • Elimination of copper and optical fibre NEBA obligations (with a limit of 30 Mbps) in a period of six months.
Other exchanges.	<ul style="list-style-type: none"> • NEBA over copper. • NEBA over fibre (with no 30 Mbps limit), except in the exchanges in the 66 municipalities.
	BUSINESS INDIRECT ACCESS (Market 4)
The entire country.	<ul style="list-style-type: none"> • Business NEBA over optical fibre and copper (immediate availability)

The ex ante obligations imposed on Telefónica de España S.A.U.⁴⁶ (Telefónica) by virtue of the market review, which the CNMC approved in January 2009, still applied in 2015. Specifically, market 4, which is the wholesale network infrastructure (physical) access market (including shared and fully unbundled access) at a fixed location; and market 5, which is the wholesale broadband access market.

The regulation of market 4 enables alternative operators to offer fixed broadband services to consumers through wholesale access to the physical infrastructure belonging to Telefónica, which was designated as an operator with significant market power. In particular, alternative operators can access Telefónica's copper pair and provide direct services to users through the regulated wholesale local loop unbundling service. In this access modality, alternative operators must connect their trunk network to Telefónica's exchanges and install equipment in them in order to unbundle the pairs of the exchanges' subscribers (last mile of the access network) and connect them to their network.

Telefónica provides this loop unbundling service in three modalities. Firstly, the fully unbundled access: with this service, Telefónica transfers the use of copper pair to the operator in the entire frequency range. Secondly, shared unbundled access: Telefónica transfers the use of high pair frequencies to the operator – which are used for xDSL services – and reserves the use of low frequencies to continue offering the user the basic telephone service. Lastly, the non-BTS shared access modality, that is, without a telephone subscription to Telefónica, which is comparable to the fully unbundled loop, in the sense that it is the alternative operator that provides all the services to the end user: xDSL and IP telephony (VoIP) in the high frequency band.

Furthermore, Telefónica is obliged to provide alternative operators with access to its passive infrastructure (pipes, ducts, manholes, etc.). This wholesale service has enabled alternative operators to roll out their FTTH networks with time and cost savings. Likewise, the technical and economic conditions, including cost-oriented prices, were established by the approval of the Reference Cabinet and Duct Product (MARCo).

Furthermore, the regulation of market 5 enables alternative operators to connect to a number of access points on Telefónica's network, enabling these operators to provide the broadband service to the end customer throughout Spain, including the areas beyond the scope of proprietary networks or local loop unbundling. This connection to the incumbent operator's network can be established at ATM level or at IP level; Telefónica markets these two types of wholesale service under the commercial brands GigADSL and ADSL-IP (the latter at the provincial and national level), respectively. As with the modality providing access to the non-BTS shared loop, users can subscribe to the indirect access service

⁴⁶ Despite the fact that in this report the commercial brand for designating the operators is used, in wholesale broadband services Telefónica was used instead of Movistar, since the obligations imposed on markets 4 and 5 relate exclusively to Telefónica de España, S.A.U.

without having to subscribe to the telephone service with Telefónica (so-called "naked" indirect access).

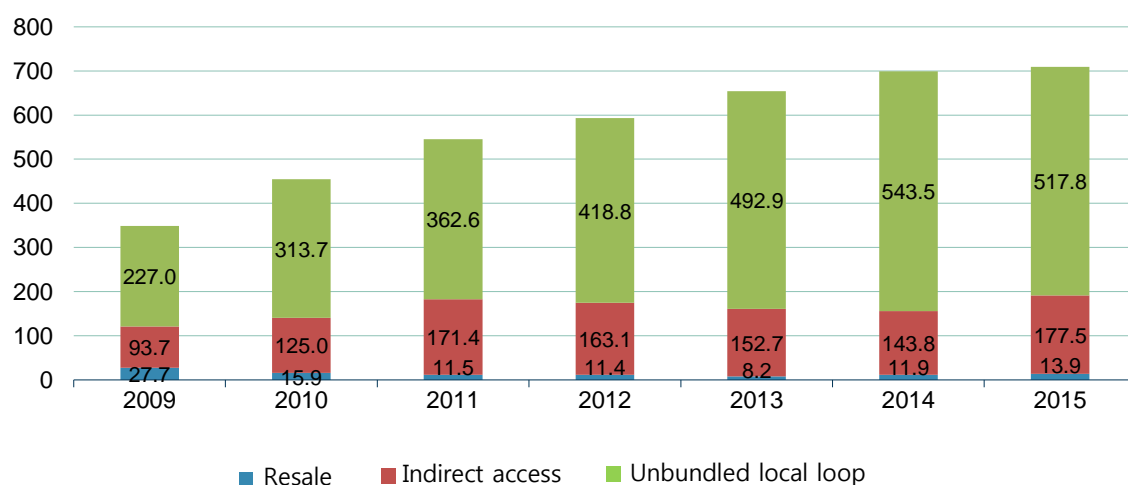
However, it should be noted that these last regulated services (GigADSL and ADSL-IP) are being progressively replaced by the wholesale broadband Ethernet indirect access service (NEBA), which already had significant a presence in the last year. It should also be noted that, until the approval of the definitive measure relating to wholesale broadband markets, this service only enabled wholesale access to the copper network and to Telefónica's new fibre network for speeds of up to 30 Mbps. In turn, the NEBA service makes it possible to offer services with quality guarantees to provide voice telephony over IP or business services. The objective of the NEBA service is to improve competition in the broadband services available to users who live in areas where there is no competition in terms of infrastructure and where alternative operators make use of indirect access.

Revenue

Revenue from regulated wholesale broadband (unbundled loop access and indirect access services) and resale services grew 1.4% in the last year to EUR 709.2 million. This growth was substantially lower than that recorded in 2014, when revenue rose by 6.9%.

The loop unbundling service, while continuing to be the most sought after service, fell for the first time both in terms of lines and revenue. Specifically, turnover for the local loop unbundling service amounted to EUR 517.8 million, down 4.7% on the previous year. Broadband indirect access services grew 23.4% to EUR 177.5 million. Lastly, revenue from the resale⁴⁷ service grew 16.7%.

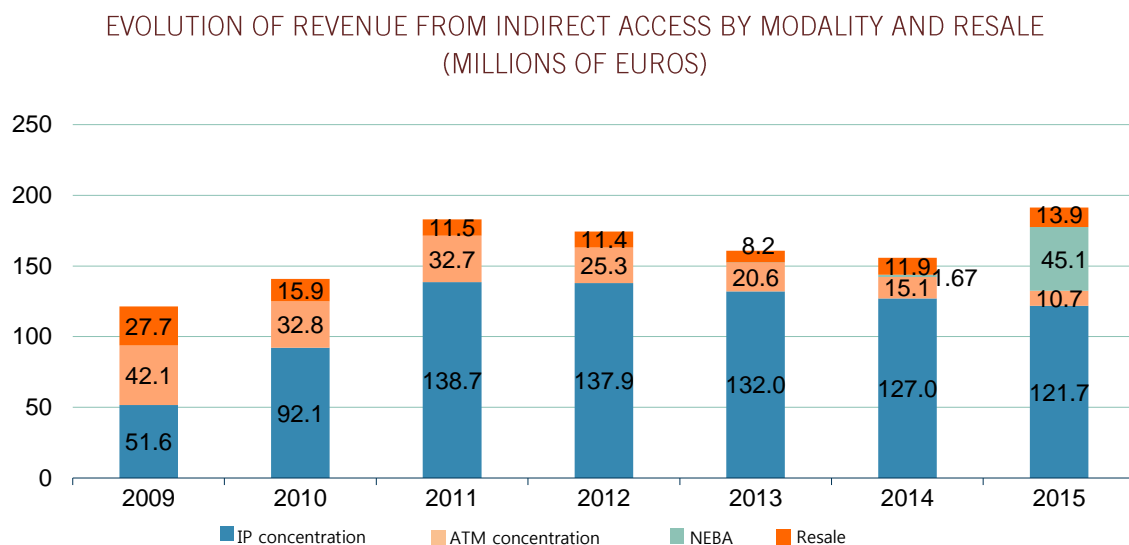
REVENUE BY WHOLESALE BROADBAND ACCESS MODALITY
(MILLIONS OF EUROS)



Source: CNMC

⁴⁷ Revenue from resale in 2014 and 2015 includes revenue from Vodafone's ADSL resale lines provided to Pepephone.

The following graph shows the breakdown of revenue from the different broadband indirect access modalities and from the non-regulated resale service. On the one hand, revenue from IP and ATM concentration services fell by 4.2% and 29%, respectively, and, on the other, revenue from NEBA reached EUR 45.1 million, compared to EUR 1.7 million recorded in 2014. It should be noted that operators intensified the use of the fibre NEBA service in those areas where they have not yet deployed their own networks; this enables them to offer higher-quality services compared to the other indirect access modalities.

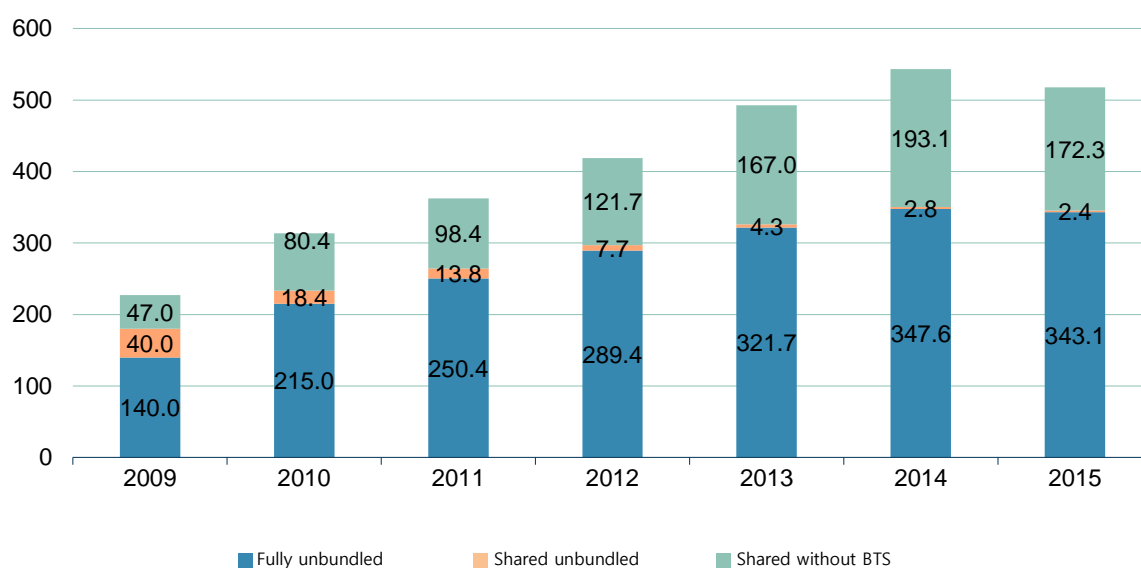


Source: CNMC

As regards revenue from the loop unbundling service, it should be noted that, for the first time, a decline in the volume of revenue was observed due to lower demand for this service from alternative operators, which progressively access the end market by means of proprietary networks, specifically, over FTTH and HFC networks.

In 2015, revenue associated with the subscriber full local loop unbundling modality totalled EUR 343.1 million, down 1.3% on the previous year. Shared non-BTS loop service turnover fell by 10.8% to EUR 172.3 million. It should be noted that these modalities enable alternative xDSL operators to offer the broadband and voice service, dissociating the user from Telefónica. Orange, Jazztel and Vodafone are the main operators that use these modalities to offer their services to consumers. Lastly, revenue from the shared loop service fell by 14.7% to EUR 2.4 million.

EVOLUTION OF REVENUE FROM LOOP UNBUNDLING BY MODALITY (MILLIONS OF EUROS)

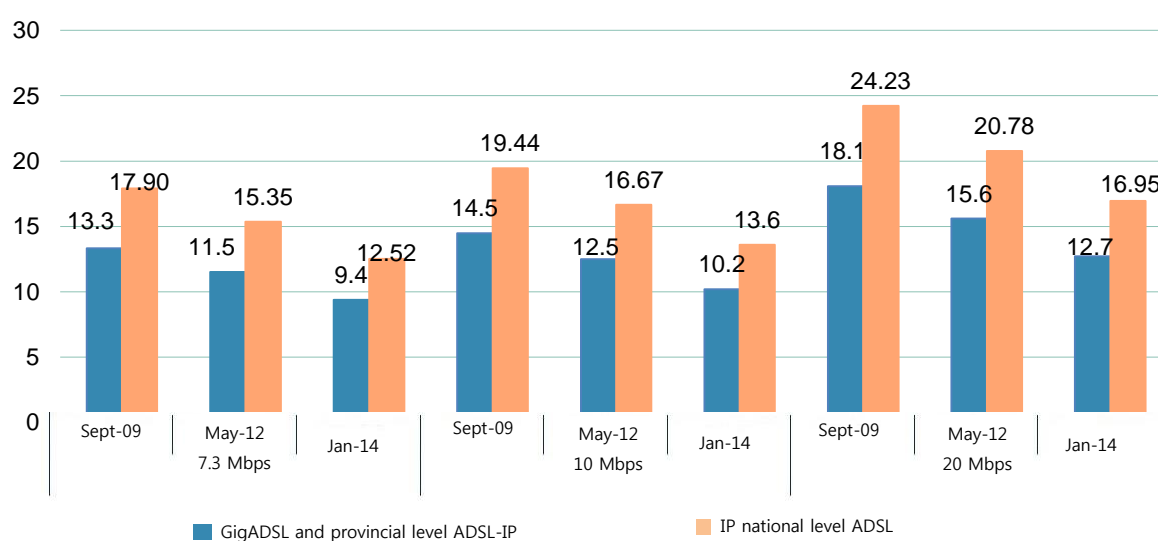


Source: CNMC

With regard to the regulated prices of the indirect broadband access services (IP and ATM concentration), these remained stable in the last year. It should be recalled that, in January 2014, the CNMC applied a reduction of 18.4% to the prices of these wholesale services.

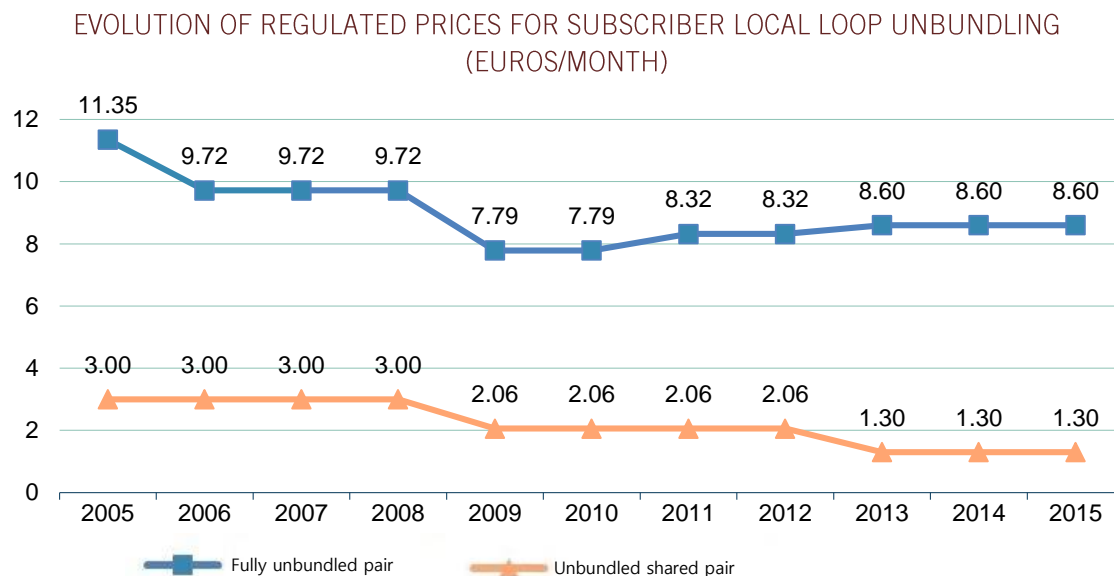
These regulatory measures in wholesale services enable alternative operators to configure offerings for consumers in areas where they do not have proprietary infrastructure, without disincentivising investment in the improvement of access networks.

EVOLUTION OF THE REGULATED PRICES OF THE MAIN BROADBAND INDIRECT ACCESS MODALITIES (EUROS/MONTH)



Source: CNMC

As regards unbundled local loop access service prices, in 2015 they remained unchanged after the CMT, in July 2013, applied a 37% discount to the monthly fee for shared loop and a 3.4% increase to the fully unbundled local loop modality. After these changes, prices stood at EUR 1.30/month and EUR 8.60/month, respectively.



Source: CNMC

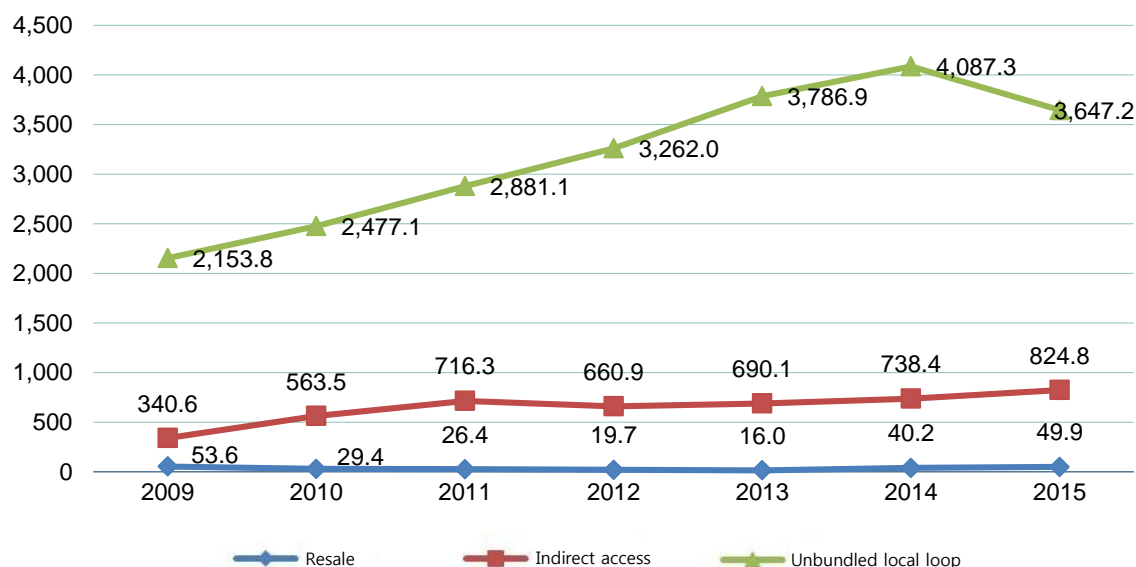
Lines

The wholesale loop unbundling service showed the same trend observed in revenue; it remained the regulated service with the greatest presence, however, the number of lines decreased. It should be remembered that the main alternative operators such as Vodafone, Orange and Jazztel make use of this service to offer broadband services. However in recent years particularly in 2015, these operators have intensified the deployment of FTTH networks and, therefore, their demand for this regulated service has decreased. Furthermore, the broadband indirect access service recorded an increase in line demand due to the increase in NEBA service demand.

Specifically, unbundled loops fell by 440 thousand (10.8% less) in the last year to 3.65 million loops. The total number of connections of the indirect access modalities stood at 824.8 thousand lines – more than 97% corresponded to Telefónica –, compared to 738.4 thousand lines in 2014, which represented a rise of 11.7%. Lastly, resale lines⁴⁸ ended the year with nearly 50 thousand connections.

⁴⁸ Resale lines in 2014 and 2015 included Vodafone's ADSL resale lines provided to Pepephone.

EVOLUTION OF WHOLESALE BROADBAND ACCESS (THOUSANDS)

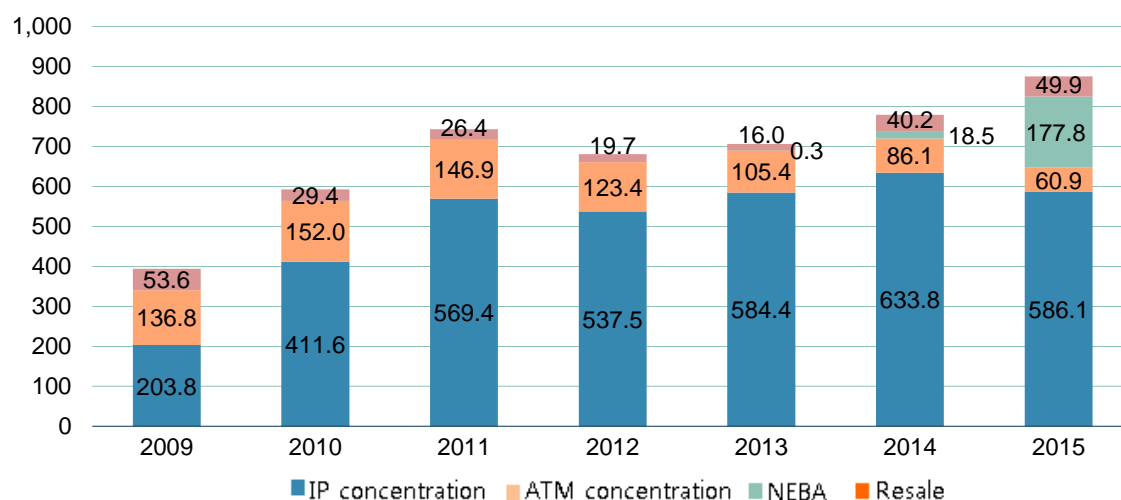


Source: CNMC

The following graph shows the breakdown of lines for the different indirect access modalities. The IP concentration modality, marketed by Telefónica under the name ADSL-IP, and the ATM or GigADSL concentration modality recorded falls in connections of 7.5% and 29.2%, respectively.

Conversely, in 2015, the number of active connections to the NEBA wholesale service grew significantly to 177.8 thousand connections, compared to the 18.54 thousand connections in 2014. It should be recalled that this new service will progressively replace ADSL-IP and GigADSL services. Lastly, resale service lines grew 24.1%.

INDIRECT ACCESS LINES BY MODALITY AND RESALE (THOUSAND)

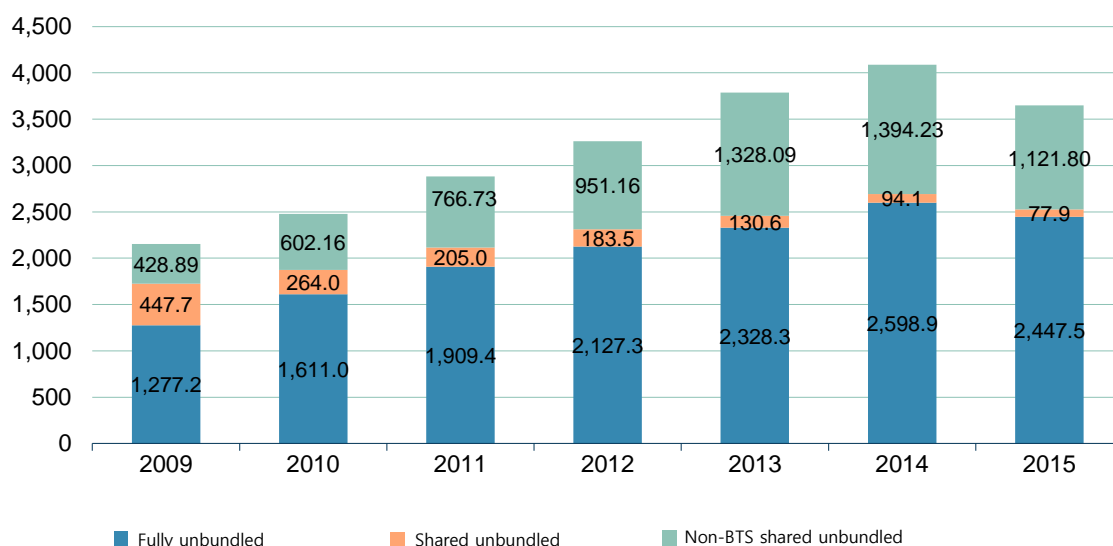


Source: CNMC

The drop recorded in the demand for the wholesale loop unbundling service was caused by the gradual migration of these copper pair-based connections to the newly deployed fibre to the home (FTTH) networks. However, the FTTH network coverage of alternative operators is still limited in Spain and, therefore, the local loop unbundling service or indirect access service continued to be the options chosen by these operators to offer service to consumers in areas where they lack coverage with their proprietary networks.

The following graph shows the evolution of the volume of unbundled local loops broken down into units. Non-BTS shared loop wholesale service lines reached 1.12 million loops (most of them belonging to the operator Orange), with a 19.5% fall in the last year. For its part, the fully unbundled loop modality, which is used by Jazztel and Vodafone, reached 2.45 million loops – down 5.8% on the previous year. Lastly, the total number of shared unbundled loops fell by nearly 17.2% to 78 thousand connections.

EVOLUTION OF UNBUNDLED LOOPS BY MODALITY (THOUSANDS)



Source: CNMC

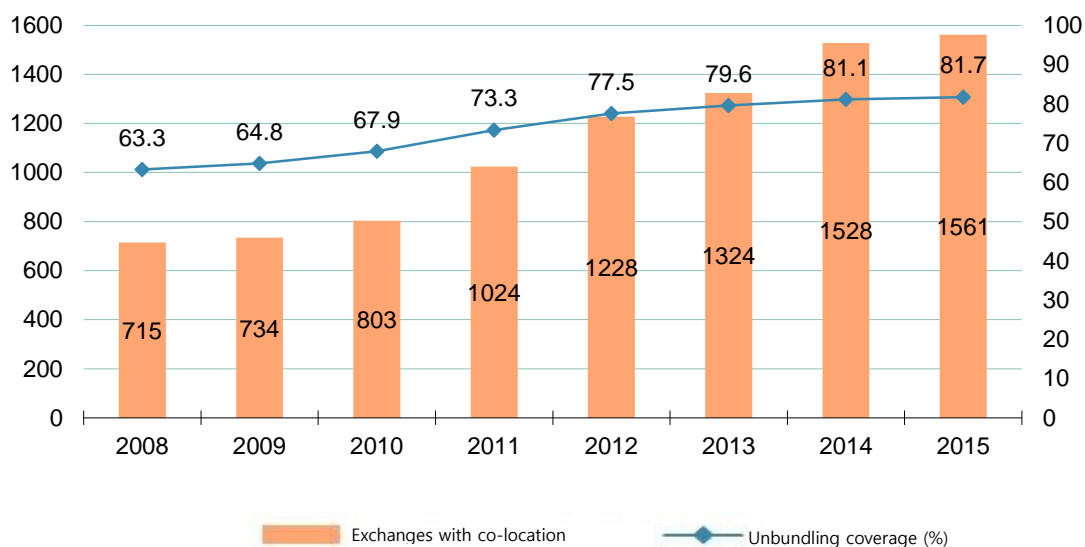
The preceding sections reveal that alternative operators continued to make significant use of wholesale access services to provide broadband services to customers. In particular, unbundled local loop continued to be the main access mode used by alternative operators.

The following graph shows the evolution of the number of exchanges which include the presence of at least one co-located operator and the percentage of accessible pairs relative to Telefónica's total number of copper pairs. In the last year there were a total of 1,561 exchanges⁴⁹ with at least one co-located alternative operator. This figure represented an increase of 33 exchanges in the last year, compared to the increase of 204 exchanges in 2014. Therefore, a slowdown in investment in new

⁴⁹ The data available for 2015 relate to the month of October.

exchanges for co-location can be observed, intended to increase coverage by means of subscriber loop unbundling. The co-located exchanges as a whole are connected to 11.3 million pairs (compared to 11.8 in 2014), representing coverage of 81.7% of accessible pairs in relation to the total number of Telefónica pairs.

EVOLUTION OF EXCHANGES WITH CO-LOCATION AND COVERAGE OF LOOP UNBUNDLING



Source: CNMC

The following map shows the geographical distribution of exchanges in which there is at least one co-located operator. According to geographical data for June 2015, exchanges with co-located operators provided services to a total of 2052 municipalities, compared to 1,889 municipalities in 2014, showing an increase in the geographical area where loop operators have the capacity to offer broadband services. Also, it should be noted that a total of 381 municipalities with unbundled loops had a population of less than 1,000 inhabitants. Therefore, alternative operators significantly increased their presence in less densely populated areas.

GEOGRAPHICAL DISTRIBUTION OF EXCHANGES WITH CO-LOCATION



Source: CNMC

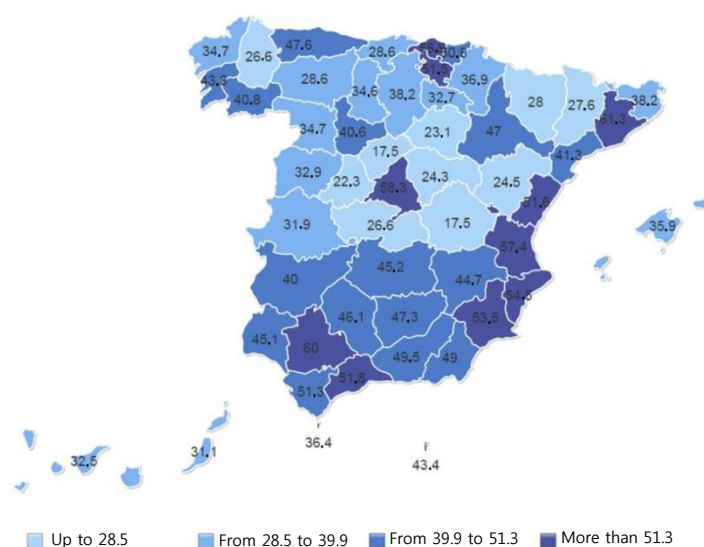
- Geographical distribution of the unbundled local loops.

As explained above, alternative operators made significant progress with the roll-out of proprietary NGA networks based on optical fibre. This has resulted in a reduction in the use of some regulated wholesale services, as in the case of unbundled loop. Even so, this last service continues to be the most widely used for offering a broadband service in territories where operators do not have proprietary networks.

As observed in the deployment of other networks, the geographical differences in the use of the wholesale unbundling service are significant. This is due to that fact that the most densely populated areas, in which an exchange covers a greater number of potential consumers, are very attractive for maximising the return on investment made by alternative operators.

The following map shows the distribution of unbundled local loops relative to retail market xDSL broadband lines. In the past year, the national total of unbundled local loops per 100 xDSL lines reached 47.5, representing an increase of nearly 2.1 loops compared to 2014. A total of 15 provinces reported a percentage equal to or higher than the national total. Barcelona, Seville, Madrid and Valencia were at the top of the list of the provinces with the highest penetration, exceeding 57 unbundled local loops per 100 xDSL lines.

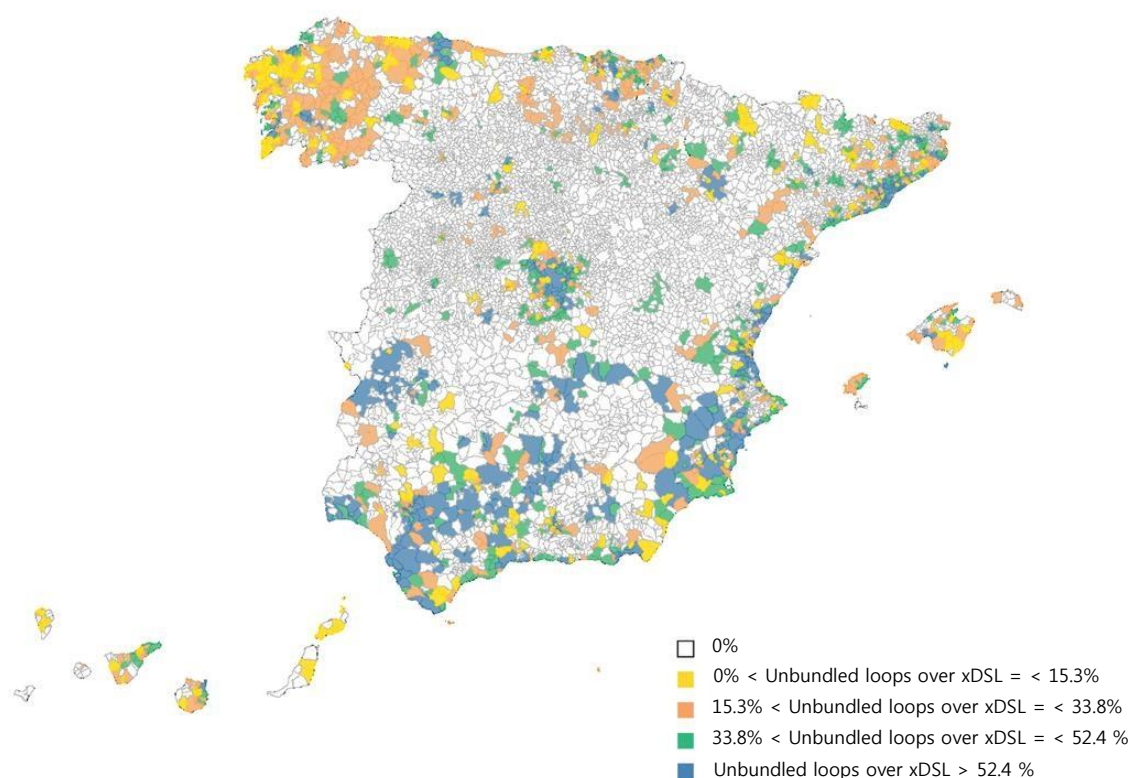
On the other hand, the autonomous cities of Melilla and Ceuta and the province of Álava recorded the highest increase in unbundled loop penetration, totalling 8.3 unbundled loops per 100 xDSL lines in the last year. At the other end of the scale, there are eight provinces that recorded a slight drop in the penetration of unbundled loops.

PENETRATION OF UNBUNDLED LOOPS BY PROVINCE (LOOPS/100 xDSL LINES)⁵⁰

Source: CNMC

The geographical breakdown at municipal level shows that, despite the increase in the number of exchanges where operators are co-located, there are extensive geographical areas where alternative operators are not present through local loop unbundling. On the other hand, the most densely populated areas and regions showed the highest penetrations of unbundled local loops.

⁵⁰ The intervals have been established based on the average \pm the standard deviation. The lower and upper limits are determined by the minimum and maximum values, respectively.

EVOLUTION OF UNBUNDLED LOOPS BY MUNICIPALITY JUNE 2015 (LOOPS / 100 xDSL LINES)⁵¹

Source: CNMC

2.2.3 Circuit rental and transmission of data to operators

Circuit rental

The wholesale circuit rental service is that provided between operators to provide a certain transmission capacity between two points. Rented wholesale circuits are divided into two categories: terminal circuits – which extend to the end customer's premises for connecting to the operator's networks – and trunk circuits – which join two nodes of the operator's backbone.

This section includes the aggregated data corresponding to trunk lines, terminals and those used to connect SLA (Subscriber Loop Access) rooms⁵². Therefore, the lines leased by Telefónica de España S.A.U.⁵³ (Telefónica) under conditions regulated by the RLO (most of the terminal lines and connection

⁵¹ The intervals have been established based on the average \pm the standard deviation. The lower and upper thresholds are determined by the minimum and maximum values, respectively. The data reflected relate to the CNMC's geographical requirement of June 2015.

⁵² The leased lines used to connect to SLA rooms enable the connection of Telefónica's exchanges to the alternative operator's network. They are one of the different signal delivery modalities included in the SLA.

⁵³ Although, in this report, the commercial brand is used to refer to the operators, for wholesale circuit rental services Telefónica was used instead of Movistar, since it includes the terminal and trunk leased lines regulated in the RLO, arising from the obligations imposed on Telefónica de España, S.A.U. in the relevant market analyses. Also, Telefónica's

lines for SLA rooms) and under commercial conditions (most of the trunk lines and those provided by Telefónica to Telefónica Móviles España S.A.U. to connect the latter's base stations) are included.

Revenue

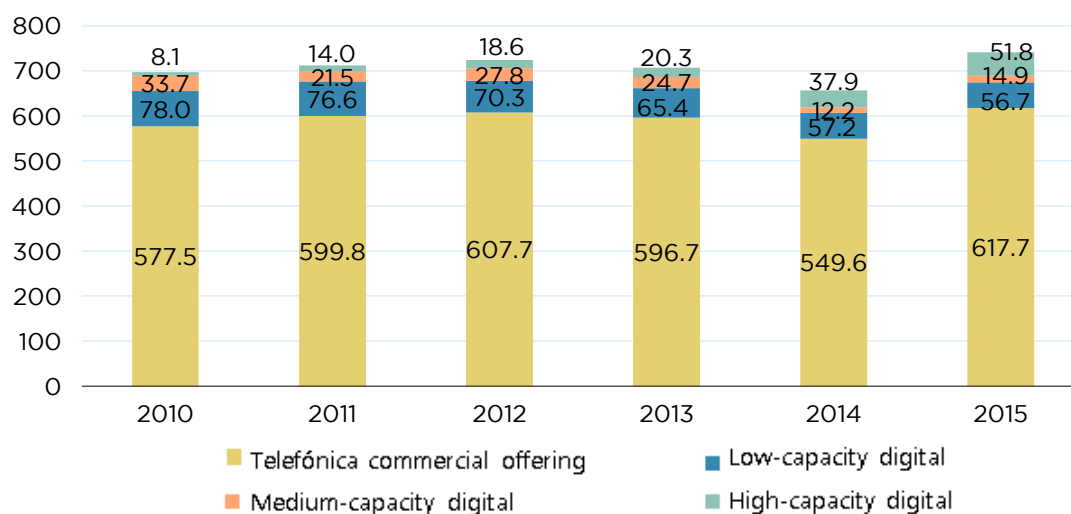
Total revenue from low-, medium- and high-capacity circuit rental, together with Telefónica's carrying capacity, totalled EUR 741.1 million. This implied 12.8% more than in the previous year – in absolute terms, EUR 84.1 million more.

As on previous occasions, Telefónica's commercial circuit rental offering accounted for most of this revenue – EUR 617.7 million– which represented 83.3% of total revenue, being a very similar proportion to that recorded in 2014. This revenue has grown 12.4% year-on-year after two years of falls.

When revenue by subscribed circuit capacity is analysed, it can be observed that low-capacity digital circuits fell slightly, by 0.7%, with falls in 2 Mbps circuits, which could not be offset by the increase in revenue from Ethernet circuits.

Medium- and high-capacity digital circuits recorded growth in revenue – 21.4% and 36.4%, respectively. High-capacity circuits recorded the highest growth, accounting for 7% of total revenue from rented circuits, up 1.2 percentage points on the previous year. The circuits that experienced the highest growth were Gigabit Ethernet and Digital 10 Gbps – with growth of 53.1% and 62.0%, respectively. This data indicates a market trend, since both end users and operators' trunk networks require increasingly high capacities, as indicated by the fact that higher capacities were subscribed to and lower-capacity circuits were not subscribed to. This effect will be mitigated in the coming years by the mergers between operators which have taken place recent years, which have concentrated the wholesale market and mean that some of the circuits included here are converted into a mere self-leasing.

revenue includes revenue from Telefónica Móviles España S.A.U. for the provision of wholesale services included in this section.

REVENUE FROM CIRCUITS RENTED TO OPERATORS⁵⁴ (MILLIONS OF EUROS)

Source: CNMC

Number of circuits

Following the trend of 2014, the total number of circuits continued to grow – on this occasion 0.4% – to 171,728 circuits. It should be noted that, although the rise in the number of circuits is low, the resulting capacity is higher, since medium- and high-capacity digital circuits grew 11.4% and 30.4%, respectively. Low-capacity digital circuits fell by 4.8% compared to the previous period.

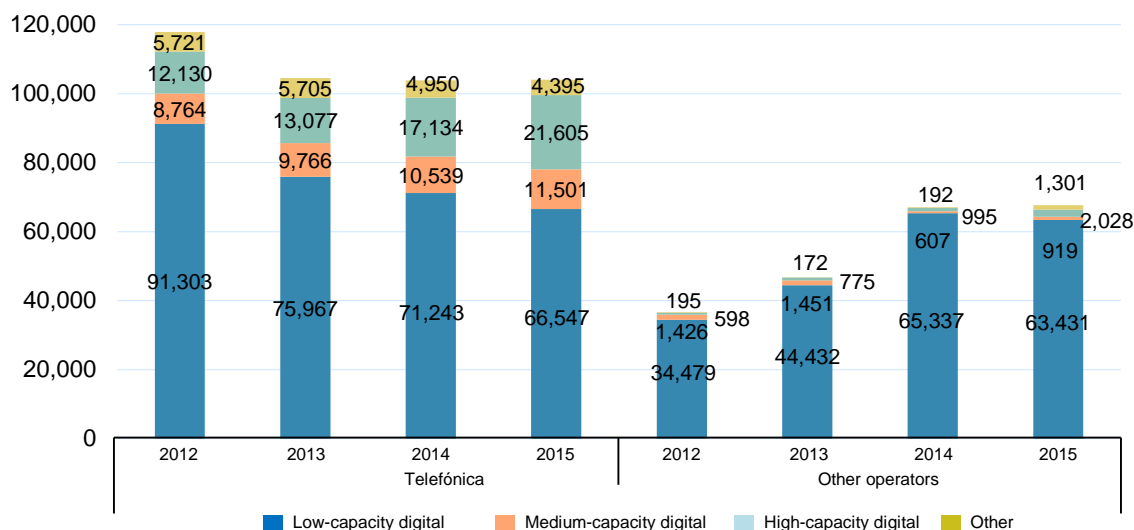
The circuits offered by Telefónica – which accounted for 60.6%⁵⁵ of the total – grew 0.2% year-on-year, with a total of 104,049 circuits, which implied a change in the trend that began in 2011. Telefónica's circuits followed the same trend as the market as a whole, with a decrease in low-capacity digital circuits – 6.6% year-on-year – while medium- and high-capacity digital circuits grew – 9.1% and 26.1%, respectively. In an analysis by subscribed capacity, circuits with the highest capacity or Ethernet circuits grew compared to the previous year, such as 10 Gbps circuits, which grew 98.6%.

The circuits offered by the other operators saw slight year-on-year growth of 0.8%, totalling 67,679 circuits. In this case, high-capacity digital circuits recorded the highest growth – 103.8% compared to the previous year – and medium-capacity digital circuits also grew, but to a lesser extent, by 51.4% to be precise. Low-capacity digital circuits fell by 2.9% compared to the previous year. By subscribed capacity, Ethernet circuits recorded the highest growth – increasing 215.0% compared to the previous year – in addition to circuits with the highest capacities, such as 622 Mbps circuits, 2.5 Gbps, 10 Gbps and Gigabit Ethernet, which grew 168.4%, 74.4%, 115.4% and 102.8%, respectively.

⁵⁴ It does not include revenue from other circuits or other revenue.

⁵⁵ Telefónica's circuits also include the breakdown of carrying capacity-circuits.

NUMBER OF CIRCUITS RENTED TO OPERATORS BY TECHNOLOGY



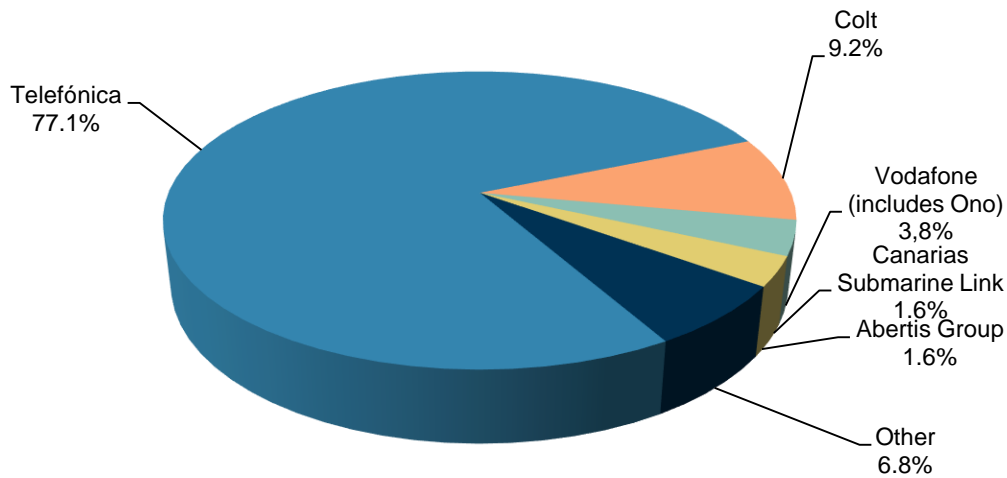
Source: CNMC

Market share

When this sector is analysed by market share obtained, it can be observed that Telefónica continued to occupy the leadership position – with a 77.1% share – down 5.6 points on the previous year.

It was followed in second place by Colt, which increased its revenue and achieved a market share of 9.2%. Third place was occupied by Vodafone (including Ono), which slightly increased its revenue, but with a slight drop in market share to stand at 3.8%. Lastly, Canarias Submarine Link, followed by Tradia Telecom of Grupo Abertis, both with 1.6%, with very similar levels of revenue.

MARKET SHARE BY REVENUE FROM CIRCUITS RENTED TO OPERATORS (PERCENTAGE)



Source: CNMC

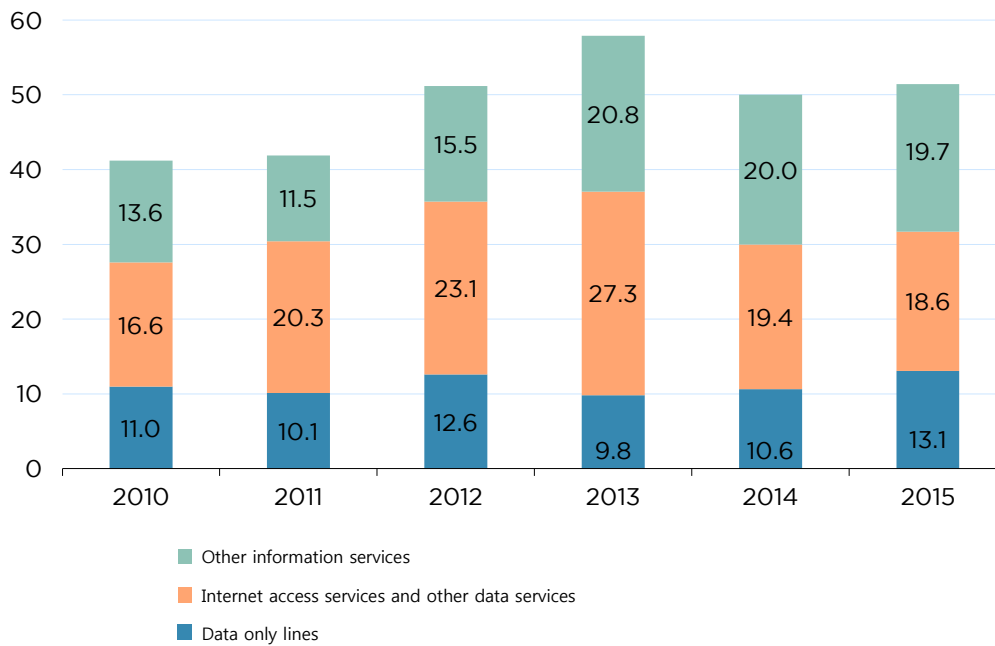
Data transmission

Wholesale data transmission services include data only line services using any type of technology – whether Frame Relay, IP, ATM, x.25, VSAT networks or ISDN –, as in the case of Internet access services provided to operators.

Revenue generated by this sector stood at EUR 51.4 million, representing a 2.9% rise, recovering slightly from the drop in 2014, when revenue fell by 13.6% compared to 2013.

As mentioned earlier, the data transmission service is divided into three subsections (data-only lines, Internet access services and other information services). When revenue is analysed – the only possible analysis due to the disparity of the items – the following conclusions can be drawn: revenue from data only lines grew 22.9% compared to the previous year to EUR 13.1 million, their best result since 2005; revenue from Internet access services and other information services fell by 3.7% and 1.4%, respectively, representing absolute values of EUR 18.6 million and EUR 19.7 million. Internet access services and other data services recorded their lowest result since 2010.

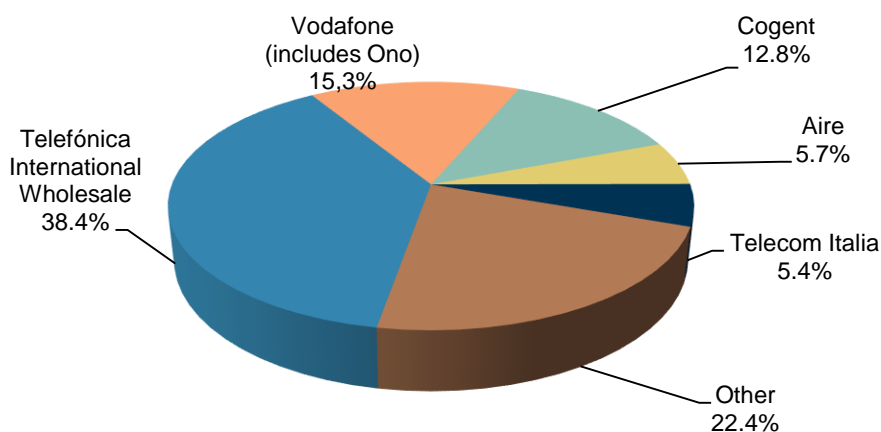
REVENUE FROM DATA TRANSMISSION SERVICES TO OPERATORS (MILLIONS OF EUROS)



Source: CNMC

When revenue from data transmission is analysed from the perspective of market share, it can be observed that Telefónica International Wholesale Services led the market once again with a 38.4% share, slightly lower than the previous year, both in terms of total revenue and market share. It was followed in second place by Vodafone (which includes Ono) with a 15.3% share, which doubled its revenue on account of the purchase of services between its companies. In third place was Cogent which, although it occupied second place in the previous year in terms of market share, this year occupied third place with a 12.8% share and revenue below that obtained in 2014. Some 66.5% of market share is concentrated in these three operators. It was followed by Aire and Telecom Italia, with market shares of 5.7% and 5.4%, respectively.

MARKET SHARE OF DATA TRANSMISSION TO OPERATORS BY REVENUE (PERCENTAGE)



Source: CNMC

2.3. Retail mobile communications

In 2015, mobile telephone revenue fell by 15.7% to EUR 5,194.9 million. This decline was due to numerous factors, including a sharp drop in end prices in certain services and, to a lesser extent, a drop in the use of certain services (mainly SMS messaging). However, mobile services operators partially offset this result with revenue from the expansion of the mobile broadband service, which grew 10.9% to EUR 4,011.3 million.

The total number of mobile telephone lines –excluding lines associated with machines and data only services – grew 0.5% in 2015 to 109.9 mobile lines per 100 inhabitants.

In 2015, the market, in line with the trend observed in recent years, was characterised by a number of new acquisition transactions performed by sector operators. Thus, operators such as Orange or Euskaltel became majority shareholders in companies such as Jazztel and R Cable. Logically, these transactions affected the distribution of market share and the level of concentration recorded in the market.

The volume of revenue from wholesale services – those provided between operators – grew 16% in 2015, thereby reversing the downward trend seen in recent years. Also, mention should be made of the increase in wholesale traffic – by 13.3% – driven mainly by the strong rise in the demand for services enabling access to mobile communications networks by third-party operators, mainly Mobile Virtual Network Operators (MVNO).

2.3.1 Mobile telephony

In 2015, revenue from mobile telephone end services – which include voice and messaging services – totalled EUR 5,194.9 million. All the services integrated in the mobile telephony offering (voice, messages and value-added services) recorded falls in revenue, although managed voice traffic grew 4.6%. Furthermore, SMS and MMS messaging services recorded, once again, a significant decline in traffic volume.

For its part, the demand for lines successfully reversed the downward trend observed the previous year and, in 2015, recorded a 0.5% increase. It should be noted that this increase in lines was concentrated exclusively in the contract segment, while, in the prepaid segment, the demand for lines recorded a general year-on-year decline.

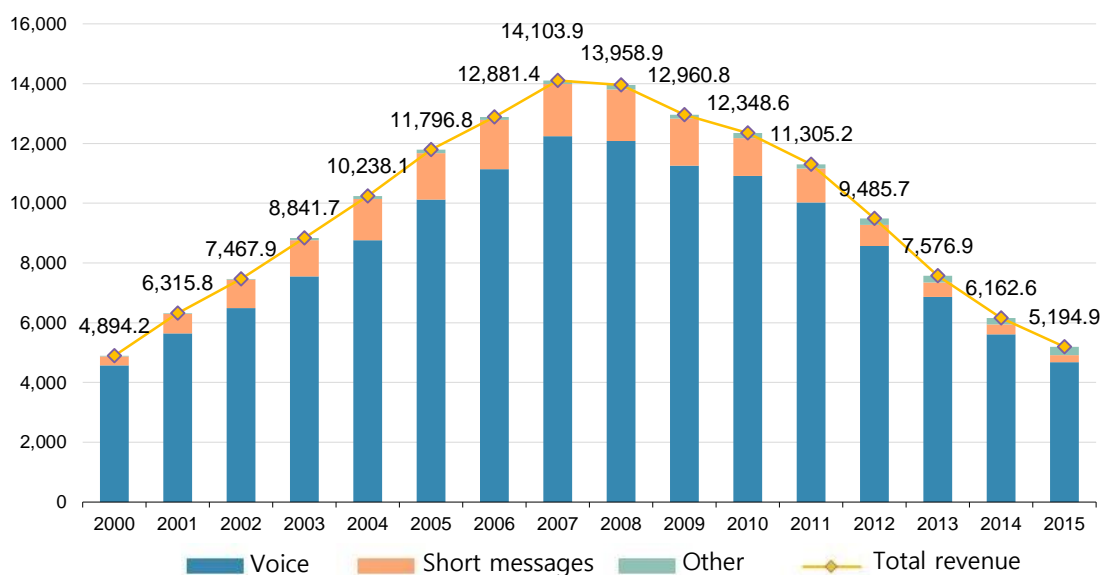
Consumers continued to make intensive use of portability to switch from one mobile communications provider to another. The beneficiaries of this process were mainly Virtual Mobile Operators (MVNO). However, this gain in lines did not result in a significant increase in the presence of those operators in the market, since mobile network operators (MNO) acquired some of the main MVNOs on the market in 2015.

- Revenue

Situation of the sector

As mentioned in the preceding section, in 2015 revenue relating to end services totalled EUR 5,194.9 million. This figure implied a 15.7% drop compared to the previous year.

Voice and short message services recorded a drop in revenue of 16.5% and 30.2%, respectively. Regarding this figure, the evolution of the messaging service – SMS or MMS – was seriously affected in recent years by the proliferation of instant messaging applications, such as WhatsApp or Telegram, which work by means of permanent connection to mobile Internet. The high substitutability between these services, together with the lower cost which, in relative terms, these types of applications represent, has led to a steady fall in both revenue and traffic for the traditional messaging system (SMS and MMS messages).

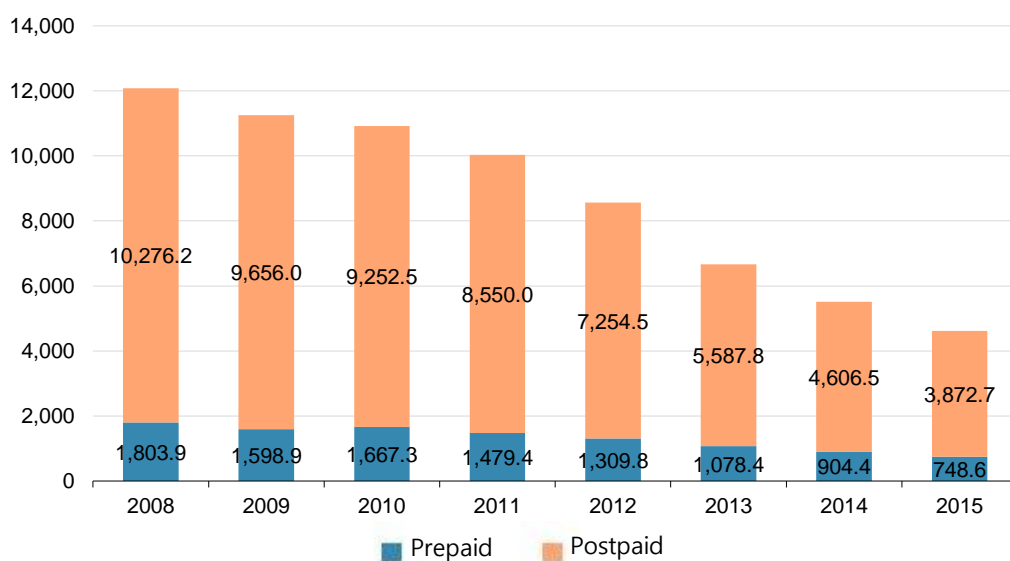
EVOLUTION OF REVENUE FROM END SERVICES (MILLIONS OF EUROS)⁵⁶

Source: CNMC

Revenue from voice traffic fell both in the prepaid and postpaid modalities, although the latter recorded the sharpest drop (17.2%). Additionally, revenue from subscription charges and monthly fees already accounted for 47.9% of total revenue from the voice traffic service. This result confirms the current predominance of products associated with the payment of a flat-rate tariff, mainly those which bundle various telecommunications services, both over fixed networks and mobile networks. It should also be noted that revenue from customers' minimum monthly use commitments has also been included in the monthly payments and fees category. In this regard, mention should be made of the fact that revenue associated with this item totalled EUR 64 million in 2015, down 37.8% on the previous year. The reason for this sharp drop is that, as mentioned earlier, most of the currently marketed tariffs include the payment of a monthly fee. This renders the consumer's commitment to use a minimum amount of mobile services unnecessary.

⁵⁶ The end services analysed include voice (which, in turn, includes revenue from voice traffic and from joining fees and subscriptions), short messages and other services (made up of less important services, such as the mobile radio system TETRA, the SPICA network and telemetry or telecontrol services).

EVOLUTION OF REVENUE FROM VOICE TRAFFIC (MILLIONS OF EUROS)

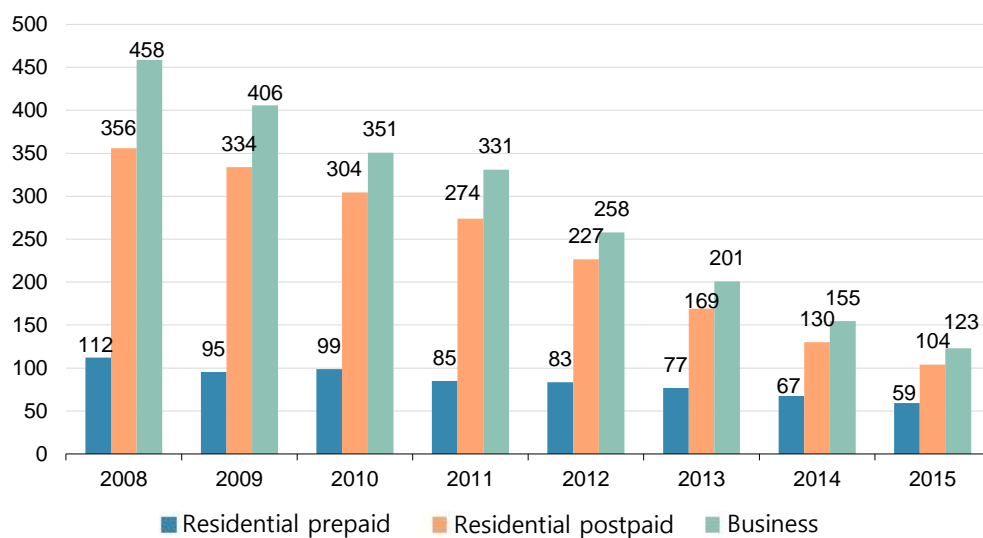


Source: CNMC

The following graph shows that average revenue per line for mobile operators – also called ARPU – has fallen dramatically in recent years.

Likewise, it should be noted that, in this same period, ARPU differences between the different business segments were also significantly reduced. In this regard, ARPU for the prepaid residential segment fell by 12% compared to 2014, with average revenue of EUR 59 per line and year. However, in the business segment, in which lines are contracted under the postpaid modality, ARPU fell by 20%. Lastly, the postpaid residential segment saw a very similar drop to that observed in the business segment, recording a fall of 20.4%.

AVERAGE ANNUAL REVENUE PER LINE (EUROS / LINE)



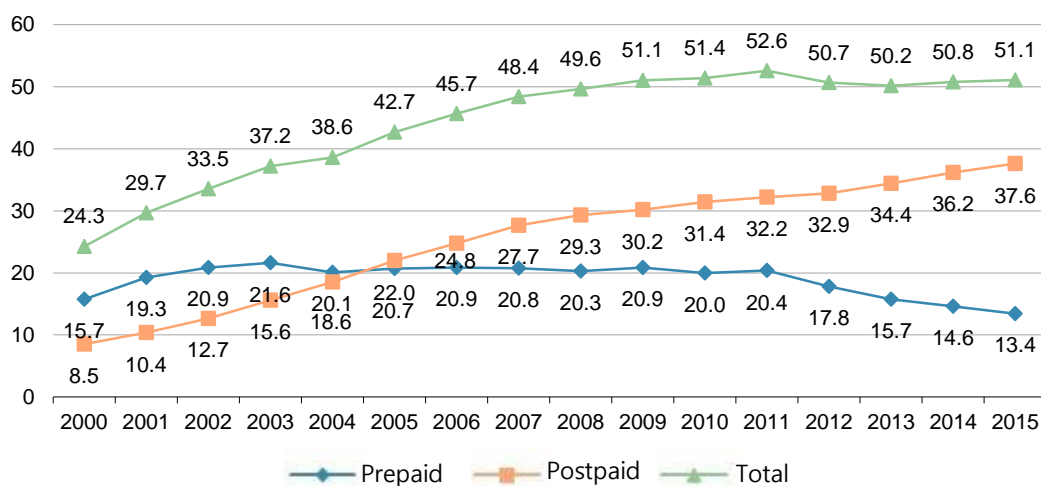
Source: CNMC

- Lines

As regards the total number of mobile telephone lines – excluding data only and machine-linked lines – it stood at 50.8 million, which represented an increase of 261 thousand lines compared to the previous year. It should be noted that the 7.9% increase in lines in the postpaid segment succeeded in offsetting the 3.9% decline observed in the prepaid segment. Furthermore, the total number of machine-linked lines – lines associated with telemetry or remote control services – reached 3.6 million, representing a significant increase in the volume of lines dedicated to these types of services.

Mobile telephony lines achieved a penetration rate of 109.9 lines per 100 inhabitants, representing a slight increase of 0.7 percentage points in one year. In line with the change in the total number of lines, these results revealed an improvement in the penetration of mobile communications services for the second consecutive year.

EVOLUTION OF MOBILE TELEPHONY LINES (MILLIONS OF LINES)

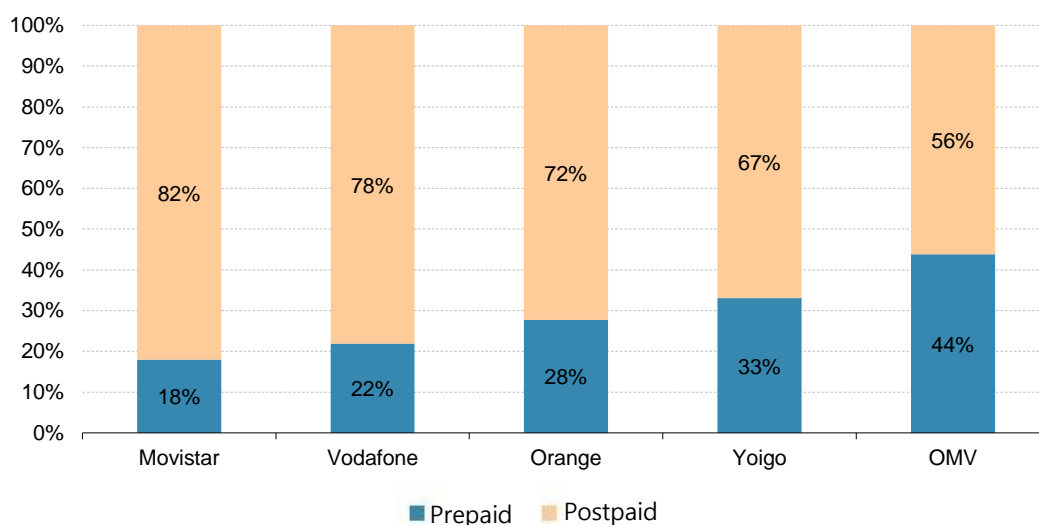


Source: CNMC

The graph below shows the total number of mobile lines per operator according to subscription modality: prepaid or postpaid. A positive correlation can be observed between operator market share and the proportion of contract customers in relation to the total portfolio. Thus, a very high percentage of Movistar and Vodafone customers – the operators with the largest market share – is concentrated in the postpaid modality. This proportion falls in line with the market share of the operator in question. However, the postpaid segment predominates both in operators represented individually and in MVNOs as a whole.

Likewise, mention should also be made of the fact that postpaid lines, in turn, represent the modality with the highest revenue per line. Therefore, in the residential segment, a postpaid line generates 1.8 times more revenue than a prepaid line.

TOTAL LINES PER CONTRACT MODALITY (PERCENTAGE)



Source: CNMC

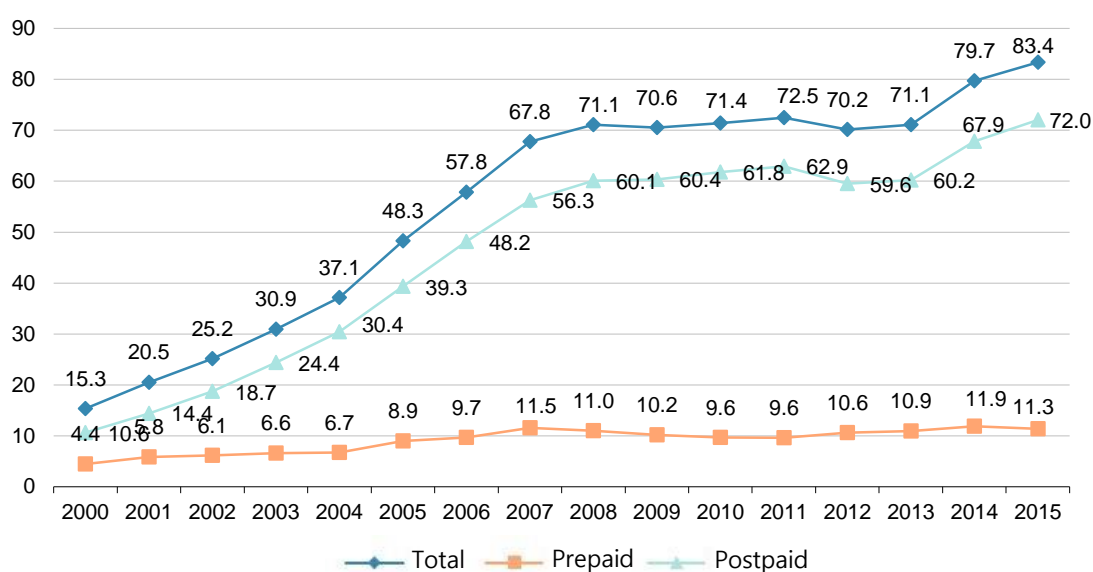
- Traffic

Voice calls

In 2015, voice traffic grew a significant 4.6%, thereby accelerating the trend observed in the previous year, when a recovery in total traffic managed by mobile networks was recorded.

This growth was due to the change in the postpaid modality, with year-on-year growth of 6.2% in voice traffic, while traffic fell by 4.6% in the prepaid modality.

EVOLUTION OF TRAFFIC OVER MOBILE COMMUNICATIONS NETWORKS
(BILLIONS OF MINUTES)



Source: CNMC

The traffic recorded between mobile communications networks grew 4.3%, although off-net traffic increased by 8.9%, while on-net traffic contracted by 0.4%. This uneven performance has been observed in recent years and is probably the result of the mass marketing of flat rates, which have helped to homogenise the price of calls in Spain.

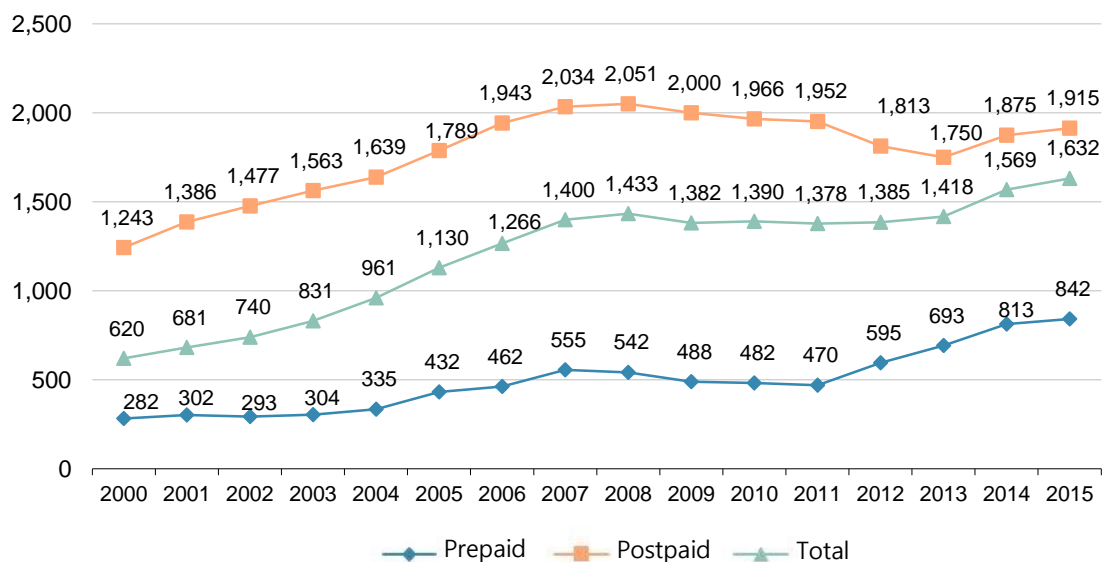
It should be recalled that most currently marketed tariffs also include calls terminated on fixed telephony networks. In this regard, traffic associated with these types of calls grew 7.6% in the last year.

As regards international communications, the international roaming service grew 15.7%, while the international calls service declined by 5.2%.

The increase in total mobile voice consumption also drove consumption per mobile telephone line. Thus, when consumption of traffic per line is analysed by contract modality, it can be observed that the postpaid segment grew 2.2%, while the prepaid segment saw higher growth, of 3.6%. In line with

the trend observed in recent years, lines in the prepaid segment increased their consumption of voice calls at a higher rate to that observed in the postpaid segment, thereby reducing the consumption differences between these types of lines.

MINUTES PER LINE AND YEAR BY CONTRACT MODALITY⁵⁷
(MINUTES / LINE)

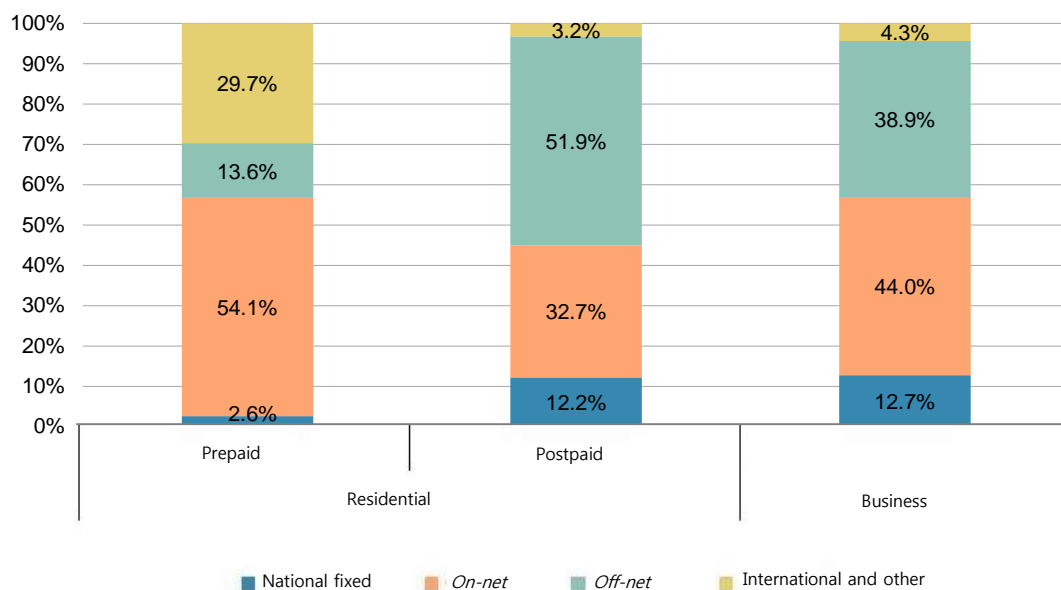


Source: CNMC

The disaggregation of traffic between the different market segments gave rise to clearly differentiated consumption patterns. Therefore, the prepaid segment recorded a percentage of traffic in international calls significantly higher than that of the other segments while, on the other hand, the business segment recorded a higher proportion of fixed network calls.

⁵⁷ The "Total" item reflects average consumption per line in the market and takes into account the importance of each segment in that market (prepaid and postpaid).

DISTRIBUTION OF TRAFFIC (PERCENTAGE)

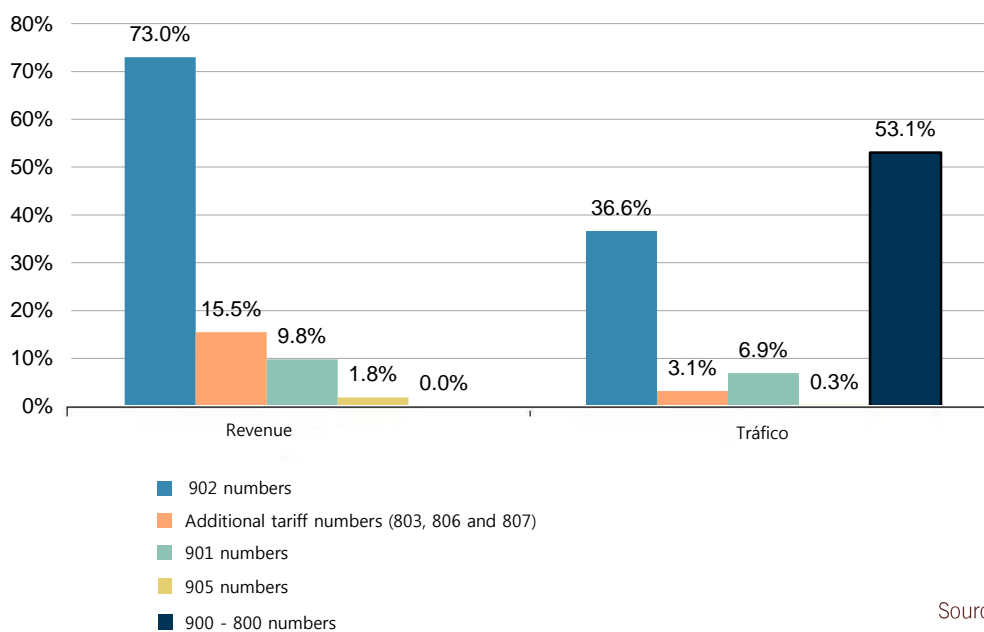


Source: CNMC

As regards services with special tariffs – or network intelligence services – in 2015 a total of EUR 236 million was billed in connection with the provision of these services.

Below is a graph showing the weight, both in terms of revenue and traffic, of the different intelligent network services in accordance with the numbers to which each is linked.

DISTRIBUTION OF THE DIFFERENT SPECIAL TARIFF SERVICES (PERCENTAGE)



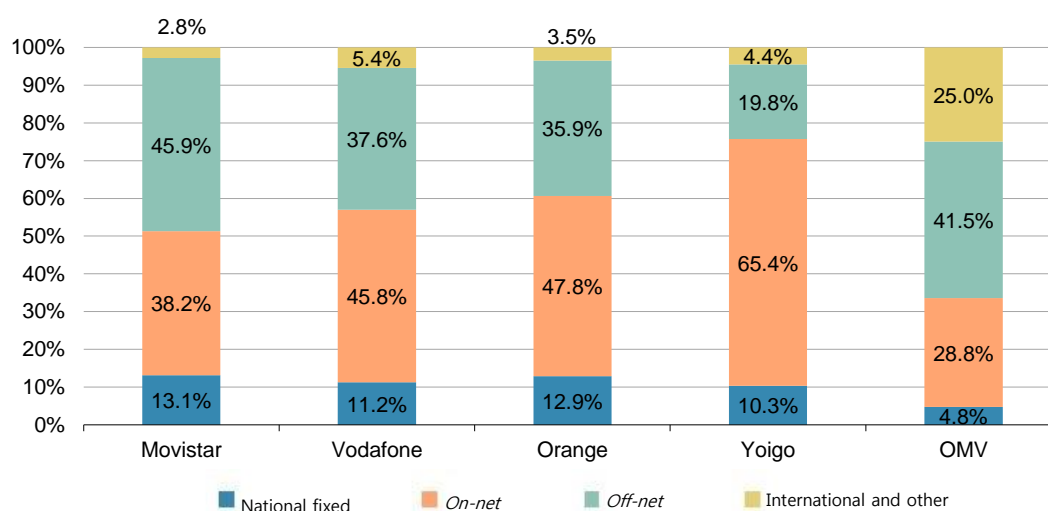
Source: CNMC

As can be observed, the service with the highest revenue and traffic was that based on 902 numbers, a service paid for entirely by the user originating the call; the following services in terms of revenue were 803, 806 and 807 numbers. These numbers include various services, such as leisure and entertainment or exclusive adult services. These were followed by 901 numbers, whose main characteristic consists of the shared payment between the calling user and the receiving user. The following service in terms of revenue is that based on 905 numbers aimed at handling mass calls. The services provided with 900-800 numbers ranked last in terms of total revenue due to their freephone nature for end customers. On the other hand, they accounted for 53.1% of total traffic.

Upon analysing the distribution of the traffic generated by the customers of each operator, clear differences between them can be observed. Therefore, the operators with the highest market share generated mostly on-net traffic. Conversely, in the case of operators with lower market share, their traffic was mainly off-net. This result is logical, as the higher the market share, the greater the probability that a customer of an operator will communicate with another customer of the same company. The exception would be some MVNOs – with much higher on-net traffic than expected – mainly due to the fact that some of these operators offer their customers the possibility of making on-net calls completely free of charge, exponentially increasing traffic in these types of destinations.

The high traffic share represented by international calls for MVNOs is also significant; this phenomenon is due mainly to the existence of various MVNOs specialising in these types of services, such as Lycamobile, Lebara Móvil and Digi Mobil, among others. The volume of international traffic generated by these operators is so high that some even exceed the total international traffic declared by Movistar, the operator with the highest market share in mobile telephony.

DISTRIBUTION OF TRAFFIC BY DESTINATION (PERCENTAGE)



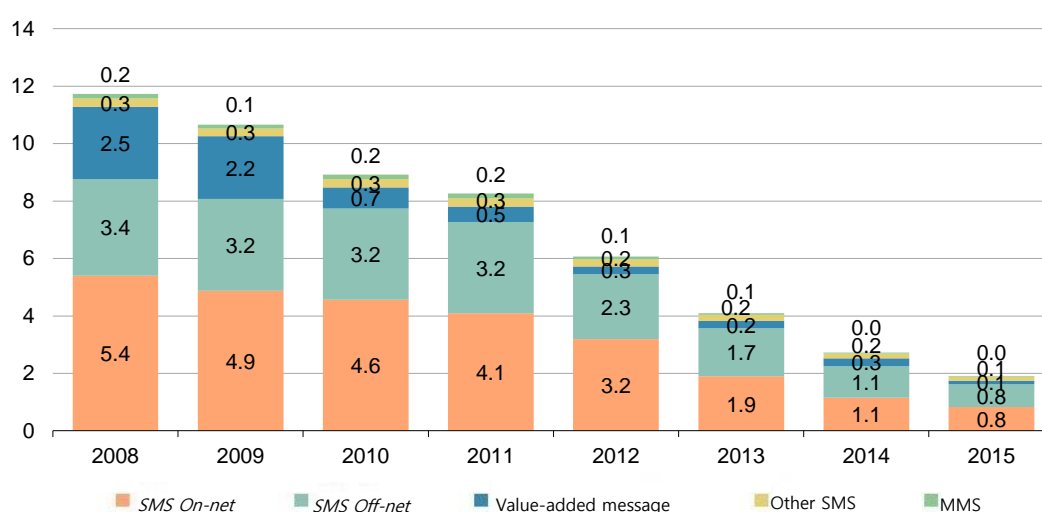
Source: CNMC

Messages

In recent years, mobile communications based on short messages (SMS and MMS) have recorded significant reductions in traffic. Specifically, in 2015, SMS traffic between subscribers (excluding value-added SMS) fell by 28%. It was the seventh consecutive year in which there was a sharp drop in traffic for this service. The most significant fall was observed in the value-added message service⁵⁸, with a year-on-year fall of 52.9%.

The volume of SMS messages stood at 25 million, a figure that represented a 25.9% fall in demand in the last year. These figures reveal that the use of MMS messages has declined sharply in recent years to become a practically residual service.

EVOLUTION OF MESSAGE TRAFFIC (BILLIONS OF MINUTES)

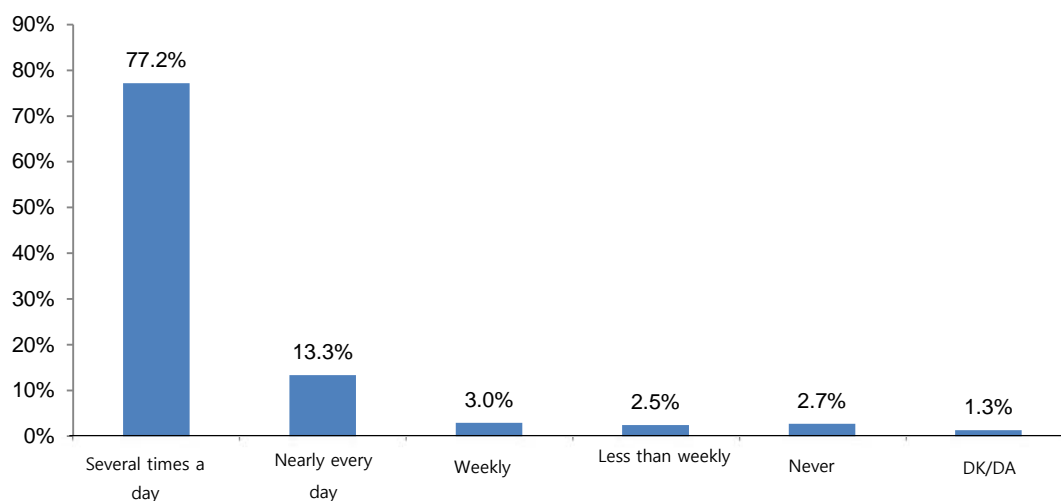


Source: CNMC

The surge in the use of mobile broadband on voice handsets has given rise to a process whereby traditional SMS messaging is being replaced by new online instant messaging services such as WhatsApp, Facebook Messenger, Telegram and others. In addition to not representing costs to users in addition to those of the mobile broadband connection, these OTT services have similar or even superior features to those of SMS, since they allow not only the delivery and receipt of messages, but also communication between the members of a group of individuals and free transfer of all manner of files, such as photos and videos. Consequently, these online messaging services are a new form of competition for traditional communication services. According to CNMC Household Panel data, OTT mobile messaging services are very popular: in the fourth quarter of 2015, 77.2% of smartphone users used them on a daily basis.

⁵⁸ Value-added SMSs, also known as Premium SMS, provide special leisure-related content (games, music, ring tones, television quiz shows) and can also be used for charity purposes by NGOs.

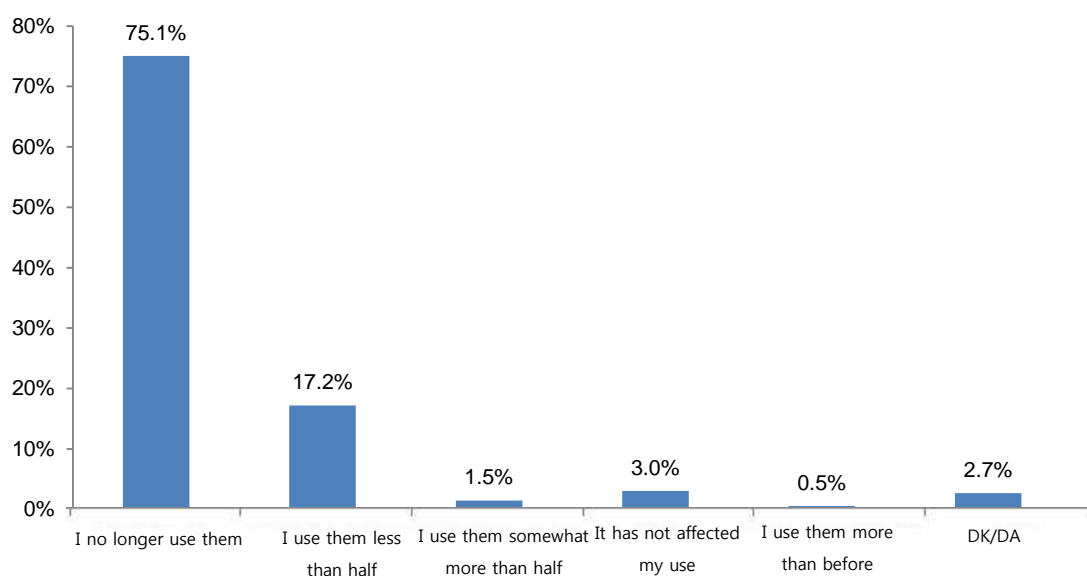
INDIVIDUALS BY FREQUENCY OF USE OF INTERNET MESSAGING
(PERCENTAGE OF INDIVIDUALS WITH A MOBILE SERVICE), I-2015.



Source: CNMC Household Panel

The following graph corroborates the adverse effects on demand for traditional services: regular users of OTT messaging services report that, since they started using this service, they have substantially reduced their use of traditional SMSs. For example, 75.1% of these users no longer demand SMS services and, among those who continue using them, the largest group is those individuals who have considerably reduced their use (“I still use SMS but by less than half”)

ONLINE MESSAGING USERS ACCORDING TO HOW THEIR USE OF SMS MESSAGING HAS
CHANGED (PERCENTAGE OF TOTAL ONLINE MESSAGING USERS), I-2015



Source: CNMC Household Panel

Competition

Once again, in 2015, users actively sought more competitive mobile service products. One consequence of this was that, during the year, on average, over 462 thousand instances of porting were recorded per month.

Furthermore, the generalisation of tariffs that bundle various services, of both fixed and mobile communications, led, in most cases, to a reduction in unit price per minute effectively used.

These circumstances led to a certain dynamism in terms of market share by lines. Thus, the leading market operator – Movistar – recorded a net loss of 360 thousand lines, while Vodafone also reduced its presence by 58 thousand lines. For its part, Orange achieved net gains of 2.2 million lines, thereby becoming the operator with the second highest number of mobile lines. In this regard, it should be noted that the increase in Orange's market share was largely explained by the acquisition of the telecommunications operator Jazztel in August 2015. Without this acquisition, Orange's number of lines would have remained the same in 2015. Lastly, Yoigo lost 88 thousand lines and, in the case of MVNOs as a whole, more than 1.4 million lines during the year. This dramatic drop was due mainly to the aforementioned acquisition.

- Portability

One of the most effective mechanisms for creating competitive conditions in the mobile telephony market is portability, that is, the ability of consumers to switch operators while retaining their phone numbers.

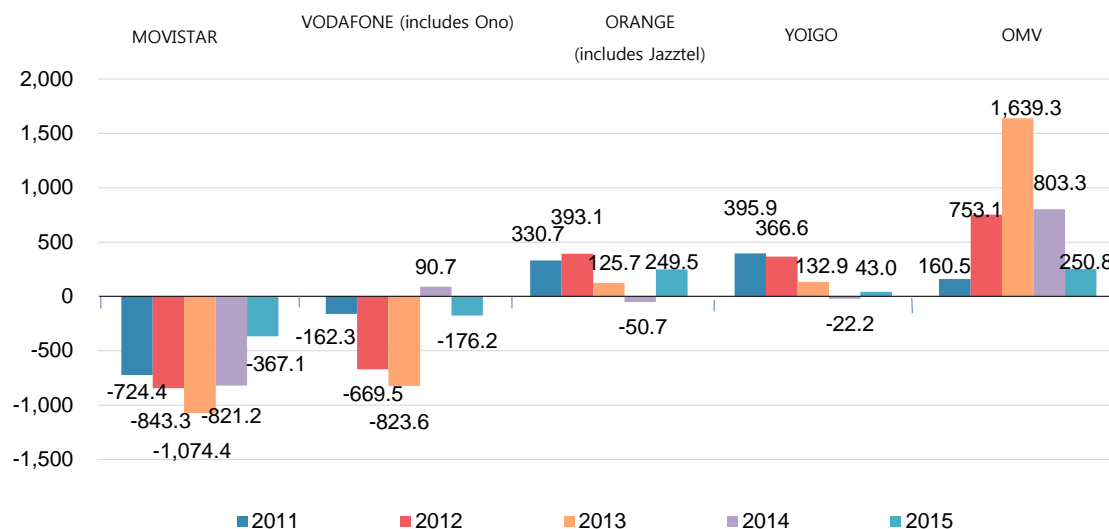
This regulation reduces the cost to users of changing providers and was used less intensively in 2015 compared to previous years: 5.6 million instances of porting. Despite the fact that this figure represents a year-on-year fall of 10.5%, Spain continues to be one of the leading European countries in terms of the amount of porting. In this regard, it should be recalled that the figure recorded in 2013 represented the highest porting figure since this service was first introduced in June 2000 (6.7 million lines ported).

When the lines ported by each operator are analysed, it can be observed that the leading market operator – Movistar – recorded a net loss of 367,000 numbers. Conversely, MVNOs as a whole obtained the best results, with a net gain of 250,800 lines in 2015. Looking at the porting figures for each operator over time shows that, in recent years, the differences in results have decreased considerably. Thus, in the following graph it can be observed that, in 2013, the net losses or gains of ported lines were much more polarised according to the operator analysed.

In this regard, it should be noted that the acquisition of Ono by Vodafone – in July 2014 – and Jazztel by Orange – in August 2015 – led to the lines gained by these MVNOs being attributed to the Vodafone and Orange groups, respectively. These MVNOs have helped to significantly improve the portability balance of the business groups into which they have been integrated (Vodafone and Orange).

The following graph shows the logical consequence of these merger transactions on MVNOs as a whole – a category that excludes MVNOs owned by the three main operators – in the form of a dramatic drop in the number of lines gained in the two last years.

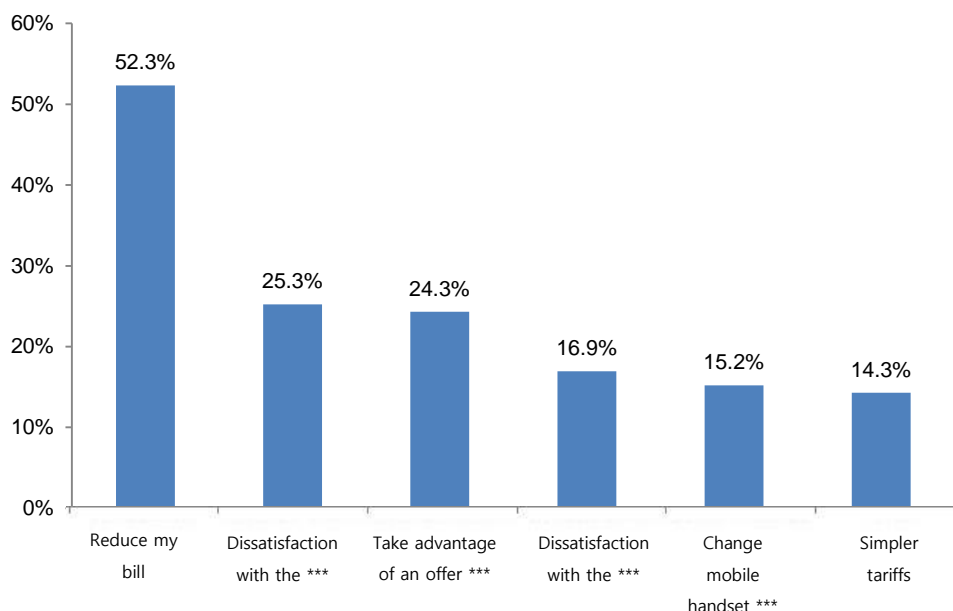
NET PORTING BALANCE BY OPERATOR (THOUSANDS OF LINES)



Source: CNMC

The following graph, based on CNMC Household Panel data, shows the reasons given by users for switching operator. More than 52% of users declared that they wanted to reduce their costs and nearly one in every four indicated that they wanted to take advantage of a fixed-mobile convergent product.

MAIN REASONS FOR CONSUMERS MAKING USE OF PORTABILITY (PERCENTAGE OF INDIVIDUALS WHO SWITCHED OPERATOR IN THE LAST TWELVE MONTHS), IV-2015



Source: CNMC Household Panel

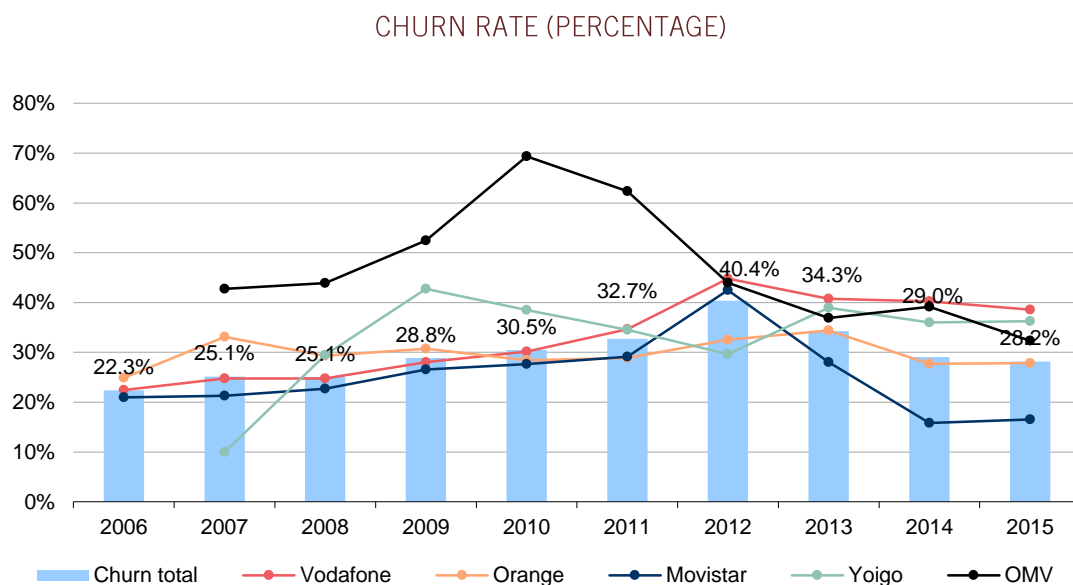
- Churn rate

Customer churn rate relates the number of an operator's lines which are cancelled to the average number of total lines which that operator has had in the market in the last two years⁵⁹.

Churn rate is used to estimate customers' degree of loyalty to their mobile telephone operator. At year end, overall market churn rate stood at 28.2 %. As can be observed in the graph, this would be the fourth consecutive year in which mobile telephony customers increased their degree of loyalty to their reference operator. This figure would undoubtedly have some connection with the lower porting figures recorded in recent years.

Considering the operators individually, it was observed that both network operators and MVNOs as a whole reduced their churn rate without exception. Movistar was the operator that retained the highest number of mobile telephone customers, obtaining the lowest churn rate in the market (16.5%).

⁵⁹
$$\text{churnrate}_{it} = \frac{\text{no. of unsubscribed lines}_{it}}{\frac{\text{totallines}_{it} + \text{totallines}_{it-1}}{2}}, \text{ where the subindex } i \text{ refers to the operator and } t \text{ refers to the period (year).}$$



Source: CNMC

- Evolution of unit revenue⁶⁰ by service

Average revenue from voice services

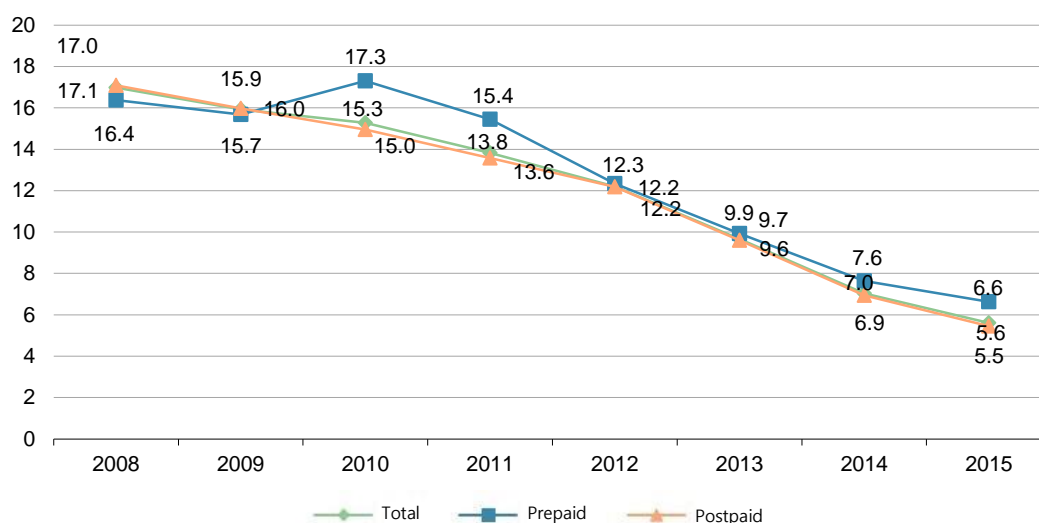
The mobile telephony service is characterised by offering a wide variety of tariffs, many of which are non-linear; that is, operators do not usually price per unit of time. Therefore, user call price may depend on the hourly or destination tariff or may be affected by all manner of volume discounts, bonuses or flat-rate or semi-flat-rate tariffs. Given this variety and complexity of tariffs, it is difficult to summarise call price in a single indicator, although the average revenue per minute ratio is normally used as an approximation, i.e. the quotient between total revenue from voice traffic and the total number of minutes consumed by users.

When that variable is analysed, it can be observed that, for the tenth consecutive year, average revenue from voices services⁶¹ as a whole fell compared to the previous year; in 2015 it fell by 20.2%, situating average revenue at 5.6 euro cents per minute. In the last decade, the total reduction in average revenue exceeded 73.2%.

⁶⁰ In this section, average revenue per minute and average revenue per message – unit revenue – are used to approximate the end prices observed in the market.

⁶¹ Voice services includes calls to national destinations (to mobile or fixed networks), international destinations, network intelligence and international roaming.

EVOLUTION OF AVERAGE REVENUE PER MINUTE (EURO CENTS / MINUTE)



Source: CNMC

Without a doubt, this significant drop in average revenue is associated with various events which have occurred in recent years. Firstly, the regulation of termination price, that is, the service which allows an operator to terminate a call on an external telecommunications network, has been instrumental in explaining the downward trend in national prices observed in the last decade. The CNMC (which, since 2013, has replaced the former CMT (Telecommunications Market Commission)), like the other EU National Regulatory Authorities (NRA), has been regulating the termination price on a declining path since 2001. Thus, in July 2013, the price of this service was set at 1.09 euro cents per minute.

Secondly, in 2006 the CMT introduced the obligation of granting access to networks providing mobile communications. This enabled new operators to enter the market: the MVNOs. In this regard, it should be noted that in December 2015 there were a total of 20 MVNOs whose capital was not majority-owned by mobile network operators⁶².

A third variable that would explain this continued drop in average revenue would be the mass marketing of flat-rate or semi-flat-rate tariffs. In most cases, these types of tariffs comprise various bundled services which, generally speaking, include the use of a limited amount of minutes for both voice calls and data traffic. In practice, this tariff structure implies, in most cases, a reduction in unit price per minute of conversation actually consumed.

In recent years, these measures – some of a regulatory nature – have clearly affected the market: an increase in competition, arising from a larger number of participants, and, consequently, a reduction in the degree of concentration of the market. In this regard, the evolution of these variables in the

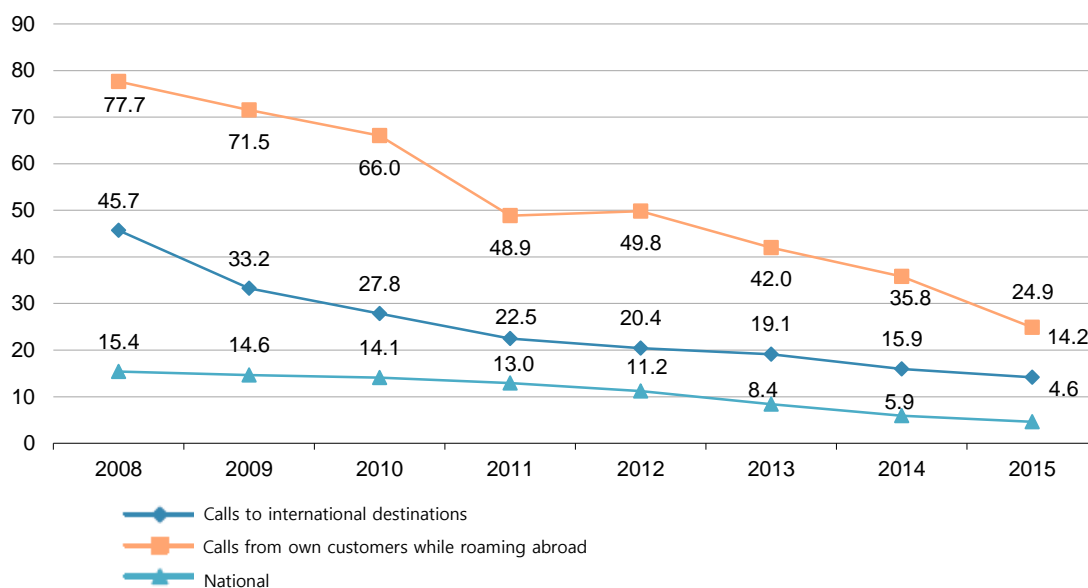
⁶² The MVNOs Jazztel and Simyo (Orange), Tuenti (Movistar) and Ono and Lowi (Vodafone) are majority-owned by network operators.

coming years will help us to identify the impact that the numerous recent merger processes will end up having on the level of competition in mobile communications markets.

As in the previous year, average revenue from the different market segments (prepaid and postpaid) was similar: 6.6 euro cents per minute and 5.5 euro cents per minute, respectively.

The following graph shows the evolution of average revenue for the most popular services: mobile calls to national and international destinations and calls made by an operator's own customers when they are abroad (also known as international roaming).

EVOLUTION OF AVERAGE REVENUE PER MINUTE BY TYPE OF TRAFFIC
(EURO CENTS / MINUTE)



Source: CNMC

In recent years, the price of the three services has fallen considerably, although the calls that fell most in price were calls to national fixed and mobile network destinations, with a decrease in average revenue per minute of 22.4% in just one year.

As regards international communications services, calls to international destinations and calls made while roaming abroad also showed a downward trend. Average revenue from the former fell by 11%, while that for the latter fell more sharply, by 30.6%. The downward trend in average revenue from international calls in recent years is largely explained by the entrance, after 2007, of several MVNO operators specialising in services with international destinations at highly competitive prices.

As regards international roaming services, the decline observed in recent years was due mainly to the Community regulation approved in June 2007 (Regulation 717/2007), which established a declining path for prices for voice communications while roaming within the EU. The regulation has been periodically updated to progressively expand the number of services regulated. In June 2012, a regulation extending the regulation of these services to May 2016 was approved and applied in 2015.

It should be noted that, in November 2015, a new regulation was published (Regulation 2120/2015) which established that, after June 2017, the surcharges added to the cost of roaming services within the European Union should disappear. The rate applied by roaming service providers after June 2017 must be equivalent to the price applied to these same services nationally. However, in order to prevent users from using regulated roaming services in an abusive or anomalous manner, a series of limits on the use of these services will be established. Exceeding these limits, operators may apply surcharges to the regulated price.

Likewise, the regulation also determined that a transitional period would be established to progressively adapt roaming rates to the obligations envisaged for June 2017. So, during this transitional period, operators must also apply the national rate to roaming services plus a surcharge, also established by the regulation itself. The regulation on *roaming* within the EU for the coming years is presented schematically in the table below.

RETAIL MARKET

		July 2013- June 2014	July 2014- April 2016	May 2016-June 2017	From June 2017
Voice call (euros/minute)	Call made	0.24	0.19	National rate + surcharge (0.05)	
	Call received	0.07	0.05	National rate + surcharge (0.014)	National rate (Surcharge once limit exceeded)
SMS messaging (euros/SMS)	Sending SMSs	0.08	0.06	National rate + surcharge (0.02)	
Data services (euros/MB)		0.45	0.20	National rate + surcharge (0.05)	

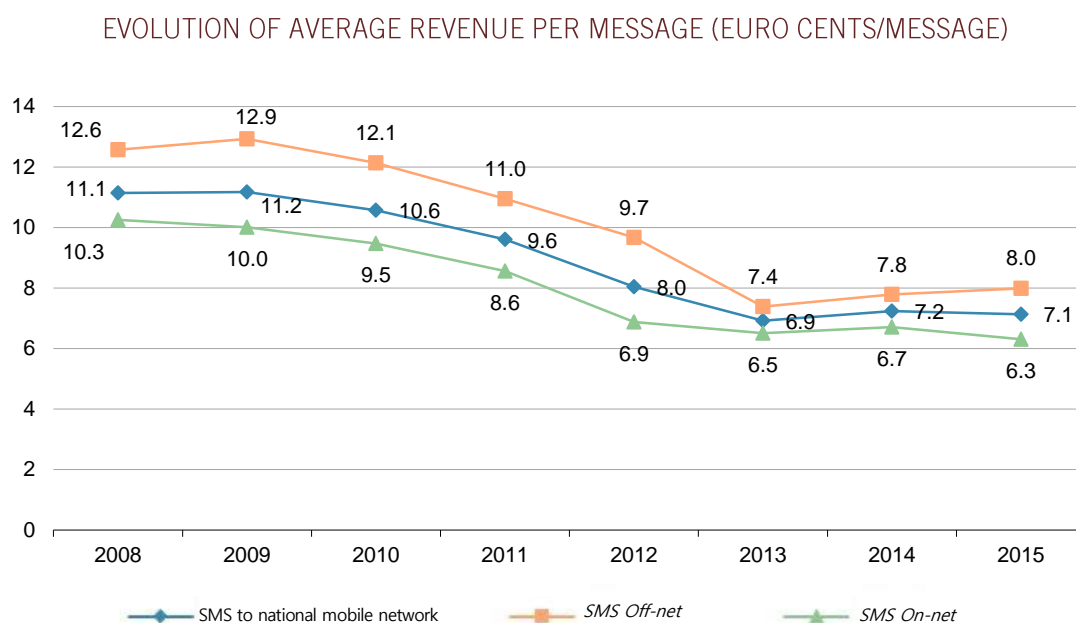
WHOLESALE MARKET

	July 2012- June 2013	July 2013- June 2014	From July 2014
Voice call originating on a national network (euros/minute)	0.14	0.10	0.05
SMS service originating on a national network (euros/SMS)	0.03	0.02	0.02
Data traffic over a national network (euros/MB)	0.25	0.15	0.05

Average revenue from messaging services

Lastly, average revenue from the SMS messaging service with a national mobile destination remained practically stable in 2015; specifically, it stood at 7.1 euro cents per SMS sent, which represents an imperceptible fall of 1.5% compared to 2014. The following graph shows how, after 2013, there was a period of greater stability in the evolution of prices associated with messaging services.

Also, once again, a sharp drop in total volume of SMS messages was recorded – falling by 37.3% in 2015 – caused, as explained earlier, by the substitution effect arising from certain OTT instant messaging applications, such as WhatsApp or Telegram.



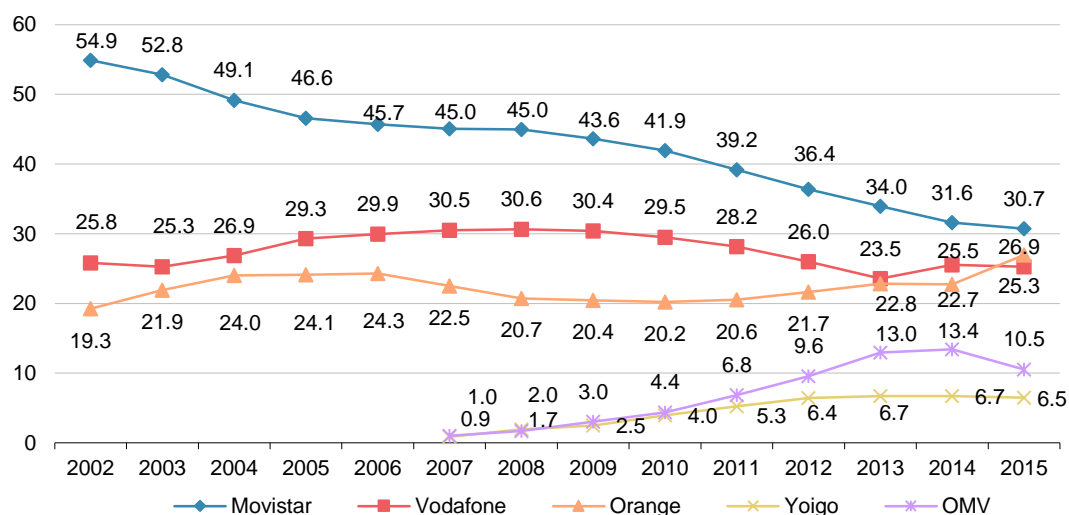
Source: CNMC

- Market share

In 2015, the two leading operators saw uneven market share evolution. Taking the number of mobile lines as a reference, Movistar reduced its market share by practically one percentage point, although it retained its position as leading operator in the market. As regards second place, it was occupied by a different operator for the first time. Orange managed to become the second largest operator in the market, due mainly to the acquisition of the operator Jazztel in August 2015. Vodafone, for its part, recorded a slight fall in market share. In this regard, its acquisition of Ono in July 2014 did not help Vodafone to retain its position as second largest operator in the market. Yoigo behaved in a similar manner, also recording a very slight drop in market share.

As regards MVNOs⁶³, they reduced their market presence by practically three percentage points during the course of 2015. Logically, the cause of this joint drop in market share can be explained by the different acquisition processes that have taken place in recent years. In this regard, it would be interesting to observe whether the impact of these acquisitions could be offset in the future with the entry of new MVNOs into the market.

EVOLUTION OF MARKET SHARE BY ACTIVE LINES (PERCENTAGE)



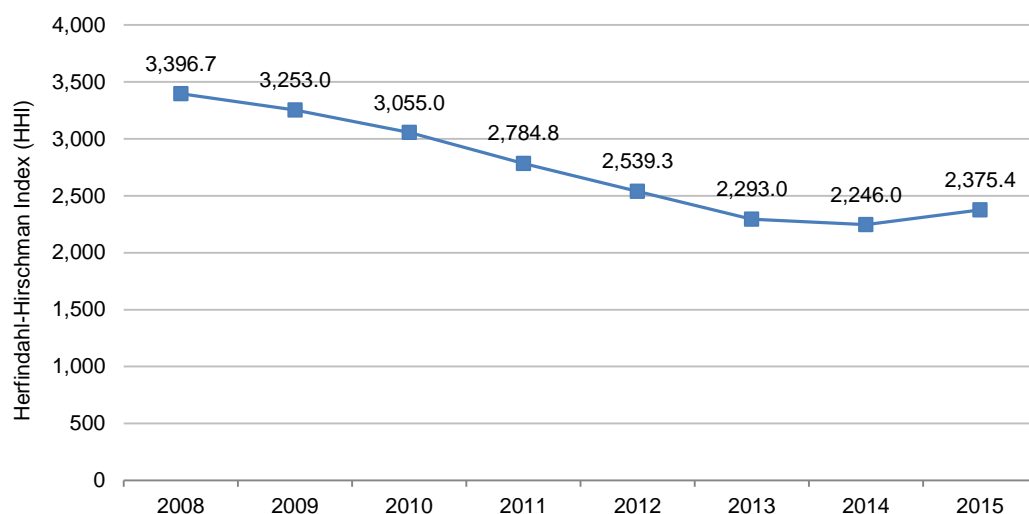
Source: CNMC

The Herfindhal-Hirschman Index (HHI) was used to calculate the degree of concentration. As for calculating market share, this index was estimated grouping together the different operators according to the group of companies to which they belong. The results reveal that, in 2015, the concentration of the market ($HHI = 2,375.4$) increased considerably in the last year. The results for this year represented the first increase observed in the historical series since Yoigo and the first MVNOs appeared in the market in 2006. This change in trend was due to several factors: Firstly, due to a merger and acquisition process detected among the MVNOs themselves. Examples of this phenomenon would be, for example, the acquisition of the mobile operators Happy Móvil and Neo by MásMóvil or the acquisition of the regional operator R Cable by cable operator Euskaltel in November 2014. Secondly, in 2015, MVNOs continued to be acquired by mobile network operators. The acquisition of Jazztel by Orange is a case in point. Lastly, MVNOs created directly by the network operators themselves have also proliferated. One example is Lowi which, despite having been created at the end of 2014, did not record an exponential increase in its business volume until 2015.

⁶³ To estimate the market shares of MVNOs as a whole, the data for the operators Tuenti, Ono, Lowi, Jazztel and Simyo have been excluded, since these operators belong to Movistar, Vodafone and Orange, respectively. Therefore, when calculating the market share of these operators, the revenue of these five MVNOs has been included in the data reported by the network operators that acquired them.

EVOLUTION OF THE MARKET CONCENTRATION INDEX (HHI)

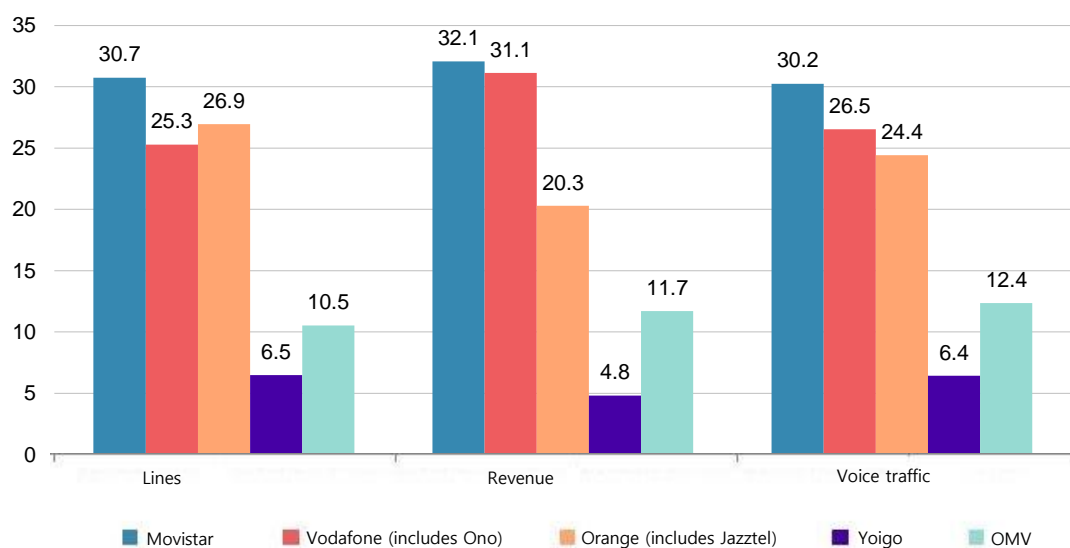
(HHI)



Source: CNMC

The graph below compares the distribution of the mobile line fleet by operator with the traffic shares and revenues recorded by those same operators. It can be observed that the market share of the different operators may vary significantly according to the variable analysed. Vodafone retained its position as second largest operator in the market in terms of both revenue and voice traffic, while in the case of distribution of total number of lines it lost that position to Orange. As regards Yoigo and MVNOs, it can be observed that they showed a very similar distribution in all three cases (lines, revenue and voice traffic).

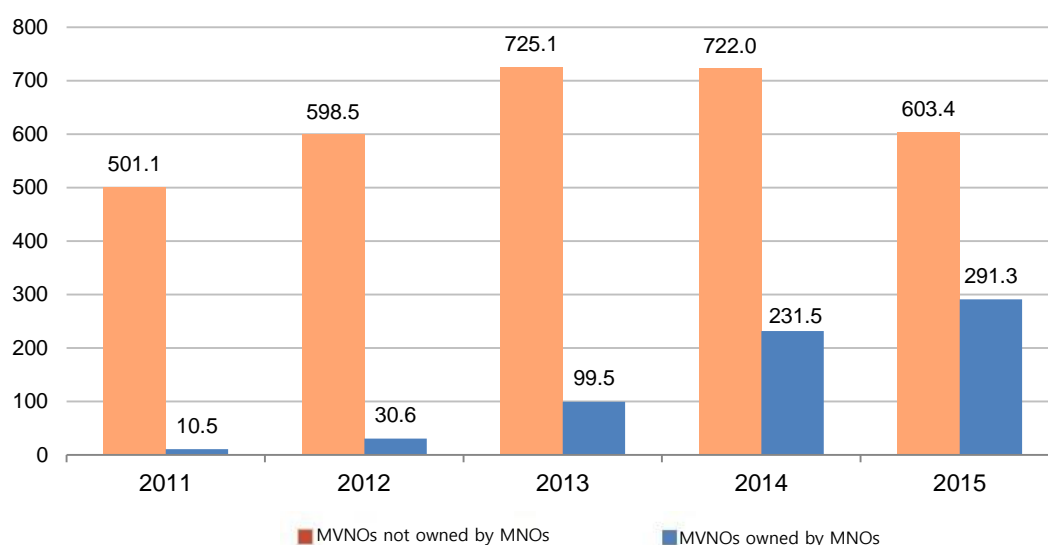
MARKET SHARE 2015 (PERCENTAGE)



Source: CNMC

In 2015, revenue obtained by MVNOs⁶⁴ as a whole in the retail mobile market totalled EUR 603.4 million. This figure represented a drop of 16.4% in revenue compared to the previous year. It is the second consecutive year in which a decline in business volume has been observed, which can be largely explained by the acquisition of some MVNOs by mobile network operators (MNOs). Consequently, the revenue generated by these MVNOs was no longer recorded under the MVNO category, but rather under the total revenues of the operators that acquired them. In this regard, the graph below compares the business volume generated by MVNOs majority-owned by network operators with the revenue generated by MVNOs not owned these operators. It can be observed that, in 2015, the revenue generated by investee MVNOs already accounted for 48.3% of the amount billed by the MVNOs whose capital was not majority-owned by the leading operators in the market.

REVENUE OF NON-INVESTEES MVNOs IN RELATION TO REVENUE OF MVNOs OWNED BY MNOs



Source: CNMC

The various MVNOs have not executed a single business strategy; rather, these operators have highly differentiated strategies. Those strategies can be grouped into: 1) operators with a specialised offering at competitive international rates; 2) operators based on a mobile offering integrated with other services provided by fixed networks; 3) operators with extensive distribution networks through which they can offer their mobile services to a large number of customers; and 4) operators whose main commercial argument is offering very competitive national mobile rates due to the elimination of supplementary services, which affords operators significant cost savings.

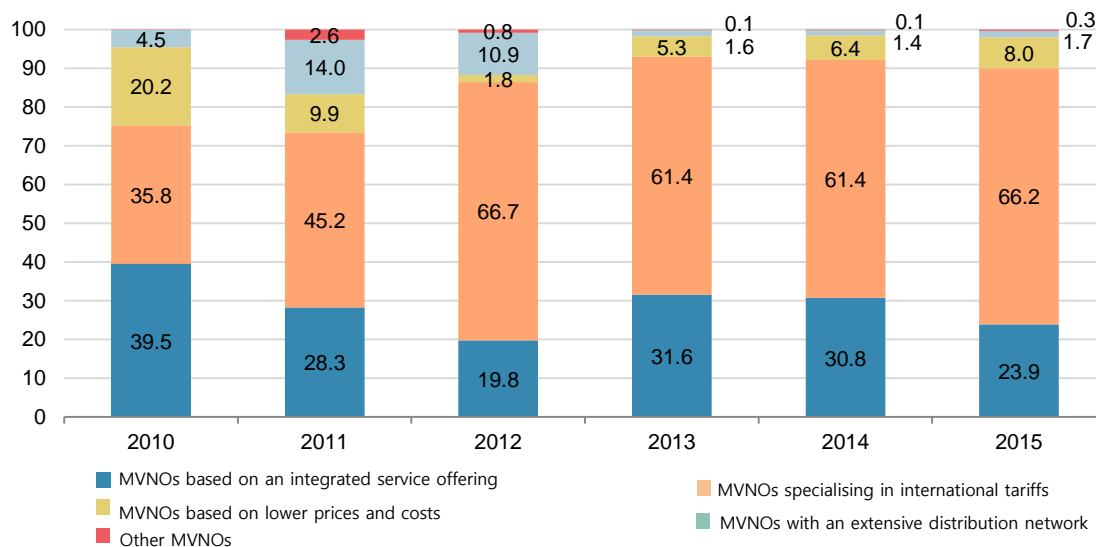
As can be observed in the graph below, those operators with a competitive international tariff offering made a significantly higher contribution to the total revenue recorded by MVNO operators as a whole.

This result is the consequence, on the one hand, of the major competitive dynamism observed in operators of this type. Proof of this dynamism is that, despite their small market share, some of these

⁶⁴ In order to estimate the market share of MVNOs as a whole, the data corresponding to the operators Tuenti, Ono, Lowi, Jazztel and Simyo have been excluded, since they are investee MVNOs majority owned by network operators (MNOs).

operators recorded a higher volume of international calls than that declared by the leading mobile telephony operators. On the other, this evolution can also be explained by the smaller presence of MVNOs based on a comprehensive service offering. The main reason for their loss in importance would be the acquisition, by Vodafone and Orange, of Ono and Jazztel, respectively, the two main MVNOs dedicated to offering these types of integrated telecommunications services.

MARKET SHARE BY REVENUE FOR MVNOs ACCORDING TO THEIR BUSINESS STRATEGY
(PERCENTAGE)



Source: CNMC

2.3.2 Mobile broadband

In 2015, a total of 39 million lines accessed the Internet over mobile communications networks, up 6.3% on the figure recorded in 2014. As regards turnover, in line with previous years, this telecommunications service recorded the highest growth in revenue – 10.9% – compared to the previous year, reaching total revenue of EUR 4,011.3 million. This figure makes the mobile broadband market one of the markets with the highest turnover in the field of telecommunications in 2015, exceeding, for the first time, turnover from broadband services provided using fixed communications.

It should be noted that there are different options for connecting to the mobile Internet service: 1) connection through a mobile device linked exclusively to the data traffic service, as would be the case with data card devices, USB modems, tablets, etc.; or 2) connection using a voice mobile telephone that simultaneously provides voice services, SMS messaging and Internet access, among others. This category includes smartphones.

Therefore, of the total number of active mobile Internet users, 37.4 million connected via their mobile phone. However, the total number of data-only lines – mainly USB modems and tablets – stood at 1.7 million, implying a slight drop – 2.9% – compared to the previous year. This result indicates that most

of the users who acquired these types of devices, mainly tablets, chose to connect to the Internet over a Wi-Fi network.

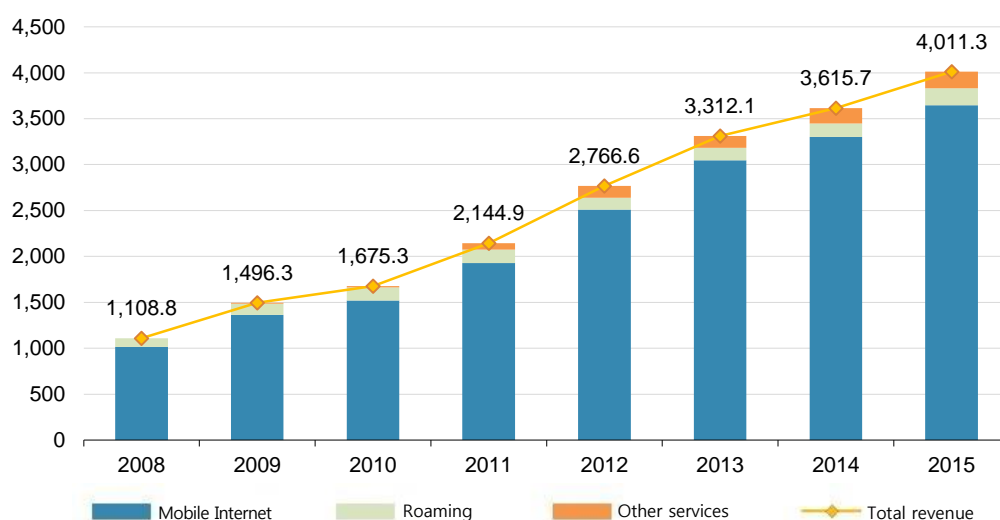
Lastly, it should be noted that the adoption of 4G technology by Spanish consumers grew sharply in 2015, which had an impact on both the number of users who accessed this technology and the intensity of use of these services by users.

Situation of the sector

- Revenue

In 2015, the business volume of mobile broadband services as a whole stood at EUR 4,011.3 million, up 10.9% on the revenue obtained in 2014.

EVOLUTION OF REVENUE FROM MOBILE BROADBAND (MILLIONS OF EUROS)



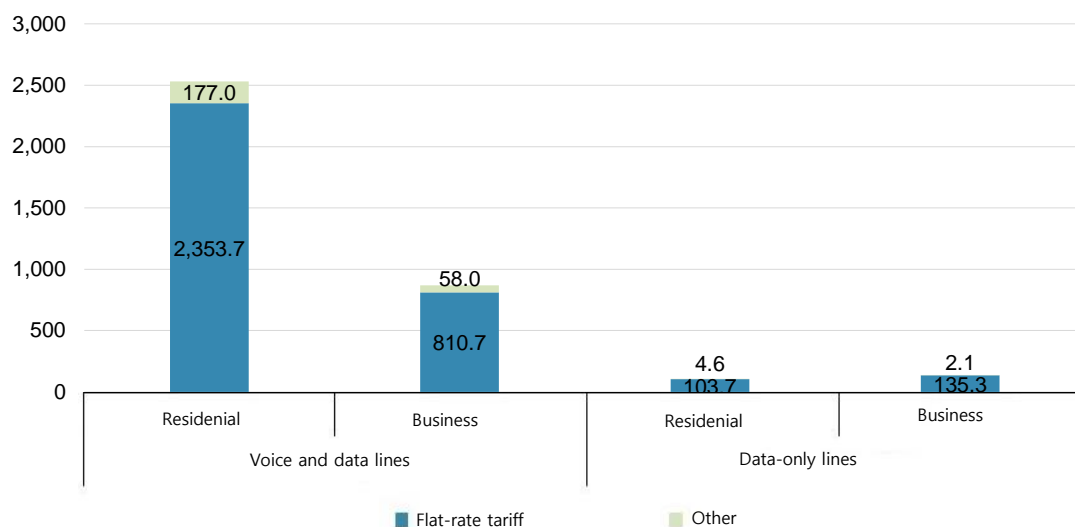
Source: CNMC

The preceding graph shows that if this revenue is broken down into the different services that generated it, it can be observed that the national Internet connection service continues to predominate – 90.9% – in the market. It is followed by international roaming Internet connection, accounting for 4.6% of total revenue.

Ranked last are complementary services, which currently have a minimal share – only 4.5% of revenue – but which have significant future growth capacity. This section includes services such as, for example, download of content or transactions performed via *m-Commerce* applications.

Below is a breakdown of total revenue by type of device from which the mobile Internet service was accessed. The 'Voice and data lines' item refers to mobile telephones, while the 'data only lines' item refers to tablets or USB modems.

REVENUE FROM MOBILE INTERNET BY TYPE OF DEVICE AND BUSINESS SEGMENT (MILLIONS OF EUROS)



Source: CNMC

It can be observed that most revenues were generated by the residential segment –accounting for 72.4% of total recorded revenue–, while the business segment accounted for only 27.6% of revenue. In this regard, it can be observed that in recent years the residential segment has increased its contribution to total turnover for these services.

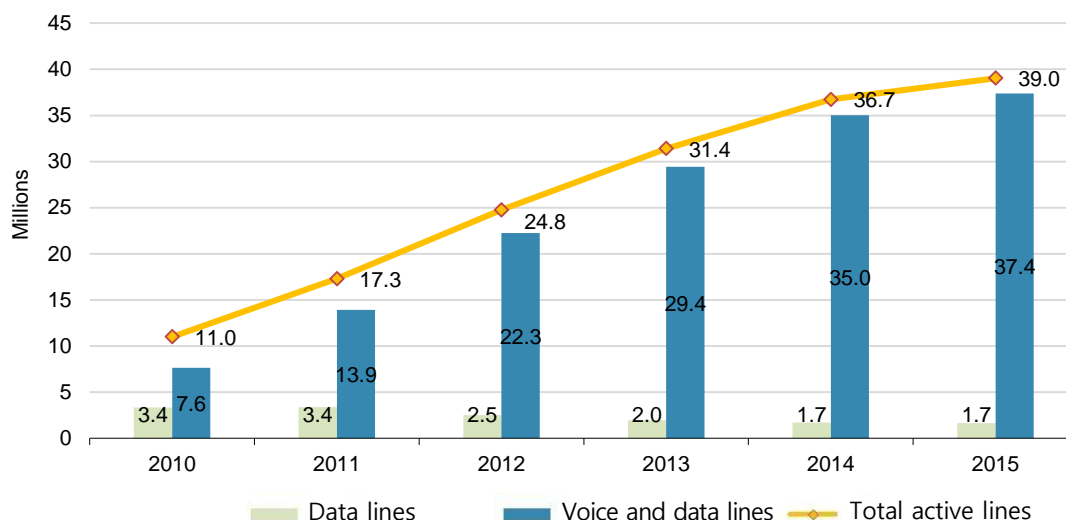
The mobile broadband service saw exponential growth in revenue from flat-rate tariffs. In fact, 93.4% of total revenue stemmed from this type of tariff. However, revenue based on connectivity billing has fallen considerably in recent years, to the point where this billing modality is nearly non-existent as regards data-only lines.

- Lines⁶⁵

In 2015, 39 million lines actively connected to the mobile Internet service, implying a penetration of the service of 84 lines per 100 inhabitants. The graph below shows the change in this figure compared to 2010 and its breakdown according to the type of device from which the Internet was accessed.

⁶⁵ Calculating the volume of active lines associated with this type of service takes into account all the lines associated with a dedicated tariff that implies the payment of a recurring rate (for example, the payment of a flat rate) plus all lines with a data tariff which, while not being subject to the payment of a recurring amount, have accessed the Internet in the last 90 days.

EVOLUTION OF ACTIVE MOBILE INTERNET LINES (MILLIONS OF LINES)



Source: CNMC

The number of lines associated with voice and data devices –i.e. mobile phones and *smartphones*– that actively connected to the Internet totalled 37.4 million. This figure implied an increase of 6.7% compared to the active lines of the previous year.

As regards data-only lines –mainly tablets and USB modems– in 2015, there were 1.7 million lines actively connected to mobile Internet services, down 2.9% on 2014.

With regard to the proliferation of flat-rate tariffs offered on the market, mobile operators reported that 34.8 million of the 39 million active mobile Internet lines were linked to a flat-rate data tariff. Of this total, 27.7 million related to tariffs that bundled data traffic with other telecommunications services. In most of these cases, the mobile Internet service has been offered bundled with the mobile voice calls.

However, as explained in preceding sections, in recent years a significant increase in the number of subscribed tariffs has been observed where the main characteristic was the joint marketing of multiple fixed-line and mobile communications services.

Lines with access to a 4G network

In 2015, a total of 11.8 million mobile lines accessed a network equipped with 4G technology. It should be noted that Spanish operators initiated the roll-out of this technology in mid-2013 and, in the last two years, have installed base stations with this technology in the main Spanish cities.

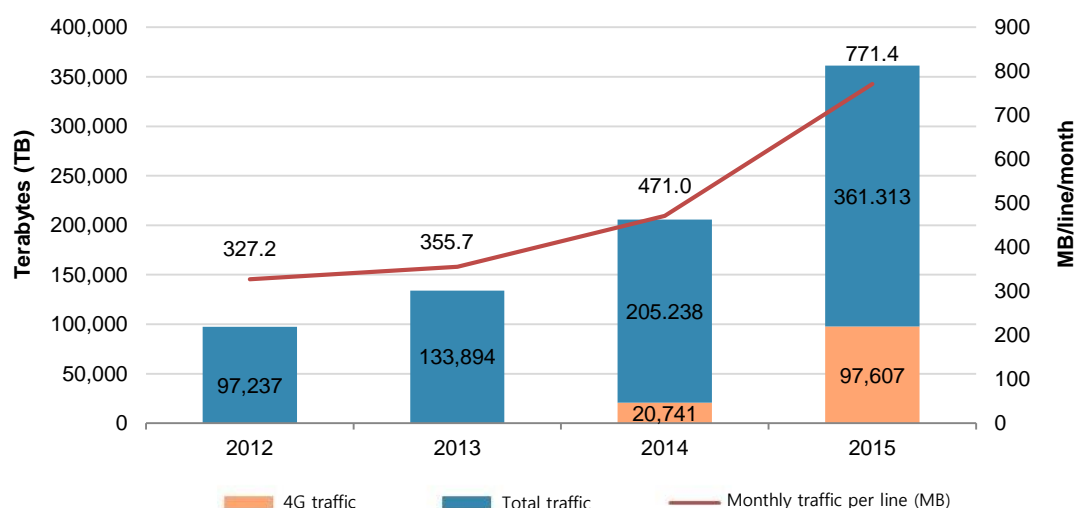
In this regard, mention should be made of the fact that, in 2015, various MVNOs – Pepephone, MásMóvil, Euskaltel and Oceans – also began to offer connection to 4G networks thanks to a new access agreement entered into with their host operators. The other MVNOs who reported currently offering connection to 4G technology (Tuenti, Jazztel, Ono and Simyo) were all investee companies majority-owned by network operators.

If we relate this figure to the lines that actively used the mobile broadband service in 2015, it can be observed that 30.3% of the lines accessed these services over a 4G network, thereby enabling them to reach theoretical connection speeds in excess of 100 Mbps.

- Traffic

The increase in the number of subscribers to mobile Internet access, whether through data lines or voice and data lines, gave rise to significant growth in data traffic managed through mobile networks with high data transmission capacity, mainly through 3G technologies (UMTS, HSDPA, HSPA+) or 4G (LTE). Therefore, total traffic generated in these types of networks amounted to 361.313 terabytes, up 76% on the previous year. In this regard, it should be noted that 4G or next-generation networks – with a data transmission capacity of up to 100 Mbps – generated traffic of 97,607 terabytes in their second year of operation, accounting for 27% of total traffic recorded.

TOTAL AND MONTHLY TRAFFIC BY LINE (TB AND MB/LINE/MONTH)

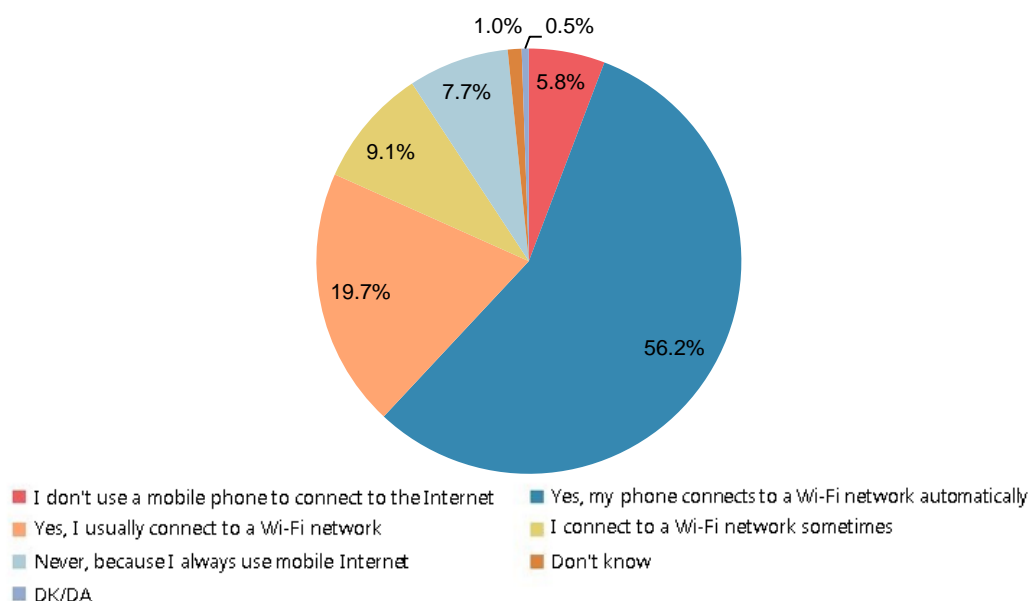


Source: CNMC

This strong growth in total traffic had an impact on monthly traffic per line. In 2015, active mobile Internet lines recorded, on average, monthly traffic of 771.4 MB, up 63.8% on 2014. In this regard, a clear upward trend can be observed in the intensity of use of the mobile Internet service by consumers. This increase in consumption is expected to continue in the future, since the expansion of 4G technology will incentivise the demand for new applications that will increasingly require a high transmission speed.

It should be noted that the traffic referred to in this section does not include total data traffic consumed by mobile devices as a whole. This is due to the fact that a very high percentage of these devices also connects to the Internet over wireless Wi-Fi networks. Thus, 75.9% of users with smartphones reported connecting regularly to Wi-Fi networks, while only 7.7% exclusively used mobile networks to access the Internet.

CONNECTIONS TO WIRELESS WI-FI NETWORKS IN THE HOME, WORKPLACE OR PLACE OF
STUDY TO ACCESS THE INTERNET USING A MOBILE PHONE
(INDIVIDUALS WITH SMARTPHONES), IV-2015



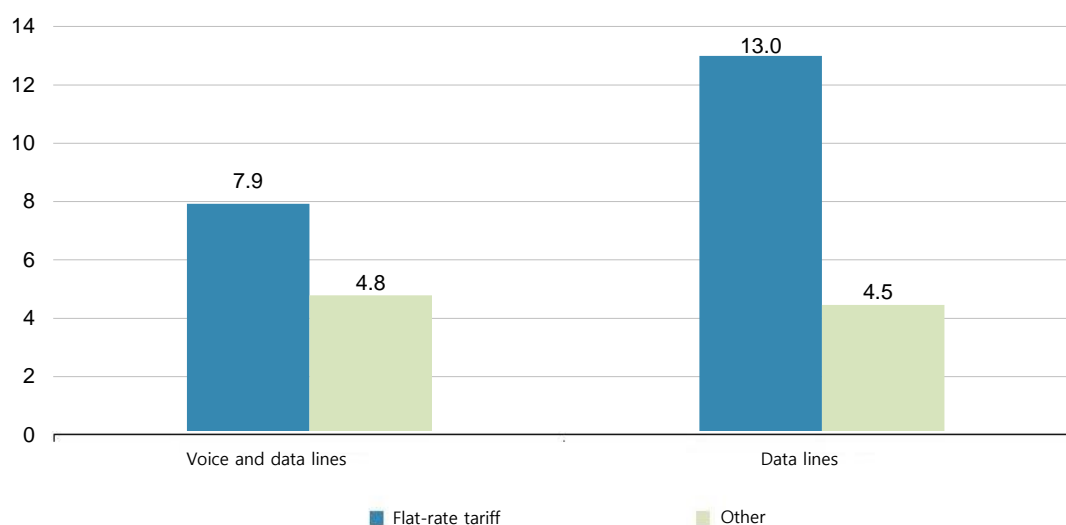
Source: CNMC Household Panel

Competition

- Prices

The data presented in the preceding sections reveal that voice and data lines experienced the highest growth in recent years in terms of both active lines and revenue obtained. However, the data analysed show that average revenue per line –or ARPU– of data only lines is higher than that generated by voice and data lines. This can be explained by the fact that customers who contract a data only line make more intensive use of these services and, consequently, need to contract tariffs which allow a greater volume of data traffic.

MONTHLY REVENUE PER LINE (ARPU) (EUROS / LINE)



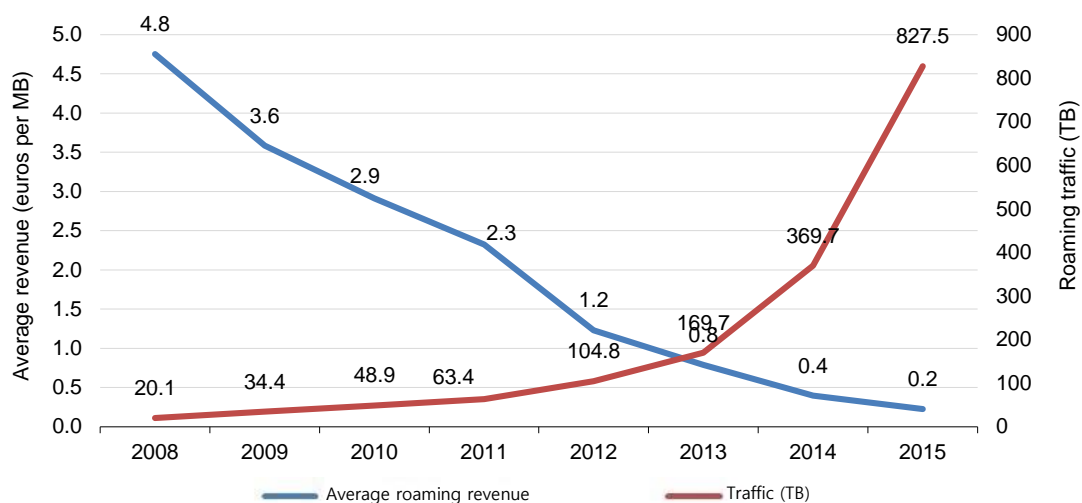
Source: CNMC

As regards the international roaming data traffic service, the following graph shows the spectacular growth recorded by this service in recent years. In 2015, the demand for data traffic over foreign networks grew 123.8% compared to the previous year. This is the second consecutive year in which the demand for mobile Internet roaming more than doubled.

The graph also shows a clear downward trend in average revenue per megabyte, a variable used as an approximation for the price level of this service. Since 2008 average revenue has fallen by 95.3% to EUR 0.2 per megabyte (MB). This price includes the roaming data services provided both in EC and non-EC countries.

In this regard, in 2012 the EC approved a new Community regulation on international roaming services. This regulation established, among other new developments, that operators must offer, from July 2012, a maximum price of 70 euro cents per megabyte for roaming data traffic within the EC. This price continued on a downward path in subsequent years, until reaching 20 euro cents in July 2014. The establishment of this limit was the main cause of the repeated falls in the price of these services.

EVOLUTION OF AVERAGE REVENUE PER MB AND VOLUME OF INTERNATIONAL ROAMING TRAFFIC (EUROS/MB and TB)



Source: CNMC

- Market share

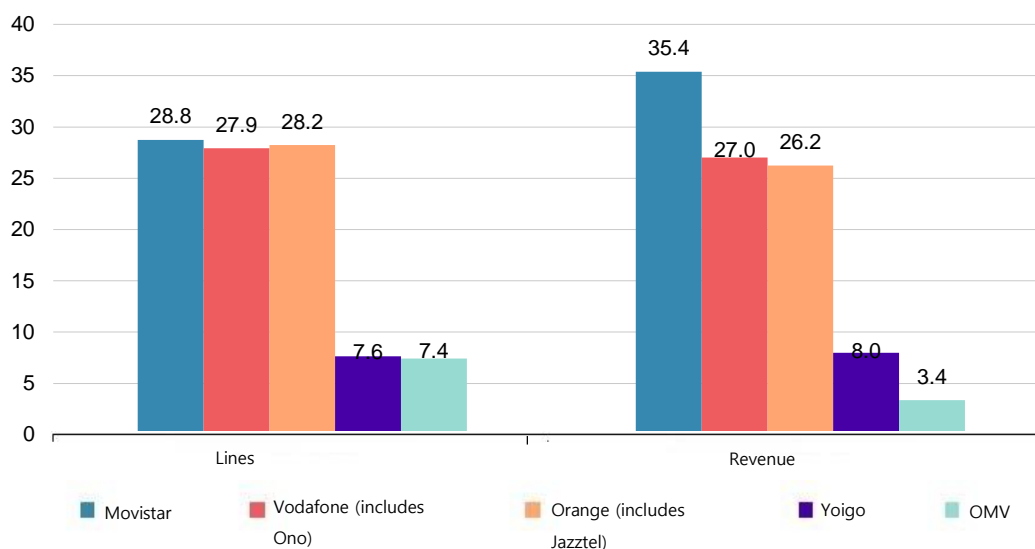
The following graph shows the market share held by the different operators in mobile Internet services, both in the case of voice and data devices (mobile phones) and data only lines (USB modems).

Firstly, market shares per mobile Internet service line showed concentration levels similar to those of mobile telephony. As in the section on mobile telephony services, the different acquisition processes recorded in 2015 had a clear effect on the concentration levels observed in the mobile broadband market. Likewise, operators which have recently entered the market – Yoigo and MVNOs as a whole – accounted for 15% of mobile broadband lines.

The analysis of market share based on total revenue shows that Movistar led the market, accounting for 34.8% of total revenue. Vodafone accounted for 29.3% of the market, followed by Orange (22.5%). Operators which have recently entered the market – Yoigo and the MVNOs – accounted for 13.4% of total revenue from mobile broadband.

As already observed in the mobile telephony section, in 2015, Orange became the operator with the second largest number of mobile broadband lines, although it was behind Vodafone in terms of market share.

MARKET SHARE IN 2015 (PERCENTAGE)



Source: CNMC

2.4. Wholesale mobile communications

The wholesale mobile telephony market is composed of various services aimed at allowing third-party operators access to a mobile communications network and interconnecting all networks, whether fixed or mobile. The most relevant interconnection services are as follows: national termination, that is, the service that makes it possible to terminate a mobile communication originated on a network other than the destination network; the roaming service, used by customers of foreign operators who, although their operator does not have proprietary infrastructure in Spain, can continue using mobile services by accessing a foreign national network; the international termination service – which makes it possible to terminate calls originated abroad; and the mobile network access service offered by third-party mobile operators that do not have proprietary infrastructure.

Revenue from these wholesale services fell by 16%, while total traffic rose by 13.3%, due fundamentally to the growth in traffic related to the service enabling access to mobile communications networks by MVNOs in recent years.

Situation of the sector

- Revenue

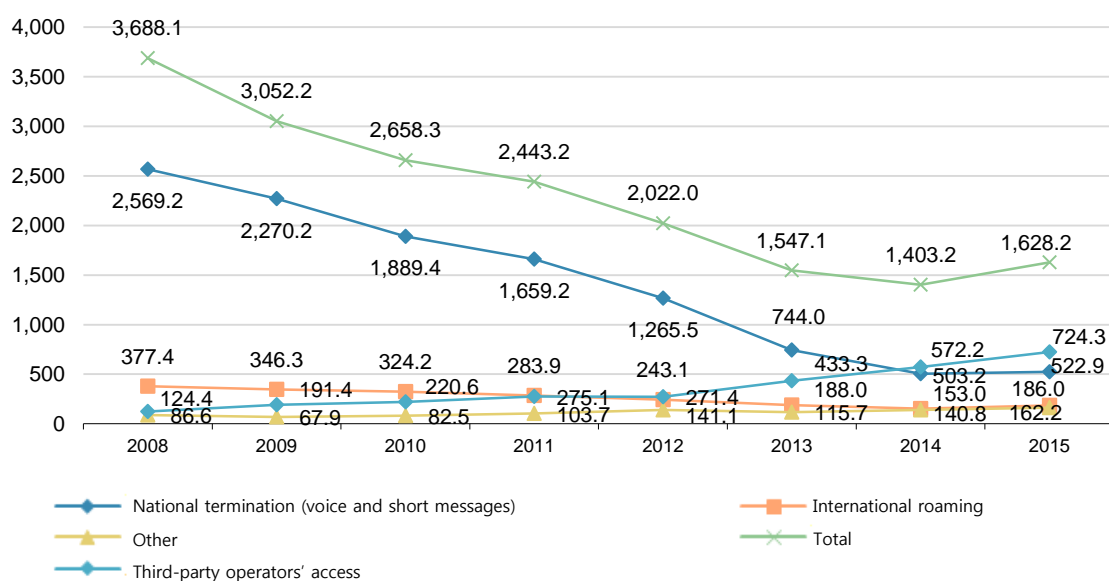
In 2015, the revenue generated by the wholesale market totalled EUR 1,628.2 million, a figure that, as mentioned earlier, represented a 16% increase compared to the previous year and it became the first year in the last decade in which an increase in turnover was observed in this market. In this regard, 2006 was the last year in which an increase in revenue linked to wholesale mobile communications services was observed.

The service for enabling access to mobile communications networks by third-party operators, mainly MVNOs, recorded a 26.4% rise in revenue, reaching a total business volume of EUR 724.3 million. It should be noted that the demand for these types of services has experienced strong growth in recent years. In fact, growth for this service was so high that the network access service generated the highest revenue in the wholesale mobile communications services market for the second consecutive year.

For its part, the national mobile voice termination service recorded year-on-year growth in revenue of 3.9%. These results made it possible to reverse the downward trend observed in turnover from these services over the last decade. This growth was due to a combination of various factors. On the one hand, the CNMC maintained the regulated price for this service stable at 1.09 euro cents per minute since July 2013, when the downward glide path for prices, established by the regulatory body in 2009, ended. Also, the growth in business volume for this service was also due, among other reasons, to the continued growth in the demand for those services.

Revenue from the international roaming service grew 21.5%. As in the case of the national termination service, revenue from international roaming grew for the first time since 2007, when the regulation of these services within the European Union was initiated with a Community regulation.

EVOLUTION OF WHOLESALE REVENUE (MILLIONS OF EUROS)



Source: CNMC

The access obligation imposed by the defunct CMT in 2006 gave rise to the emergence and expansion of multiple MVNOs in the mobile telephony market. In 2015, there were 20 active MVNOs⁶⁶ in the Spanish market, whose market share accounted for 10.5% of the total number of mobile lines. The table below shows the map of active MVNOs in the Spanish market distributed by operator providing access to the mobile network.

The table also shows the MVNOs majority-owned by mobile network operators. In this regard, it should be noted that the acquisition of Ono by Vodafone, in July 2014, caused the logical cancellation of the agreement between this MVNO and Movistar, the network operator with which it had the interconnection agreement until then. In the case of the acquisition of Jazztel by Orange, this formality was not required as Orange was the host operator with which Jazztel had entered into a mobile network interconnection agreement in the past.

DISTRIBUTION OF VIRTUAL MOBILE OPERATORS ACCORDING TO HOST OPERATOR		
Movistar	Vodafone	Orange
Full MVNOs		
Digi Mobil	TeleCable	Jazztel
Lycamobile	R	Simyo
	Lowi	Euskaltel
	Ono	
MVNO service providers		
Tuenti	Lebara ⁶⁷	Carrefouronline
Pepephone	Hits Mobile	Día Móvil
	BT ⁶⁸	Moreminutes
	Eroski Móvil ⁶⁹	You Mobile
		MÁSmovil
		LCR Telecom
		Aire Networks
		Procono
		Sarenet
		Voz Telecom
		Ocean's

⁶⁶ To estimate the market shares of MVNOs as a whole, the data for the operators Tuenti, Ono, Lowi, Jazztel and Simyo have been excluded, since these operators belong to Movistar, Vodafone and Orange, respectively. Therefore, when calculating the market share of MVNOs, the revenue generated by these four MVNOs has been excluded.

^{67, 68, 69} The operators Eroski Móvil, BT, Lebara and Orbitel access Vodafone's network through an agreement entered into with the MVNO Vodafone Enabler, owned by the Vodafone Group.

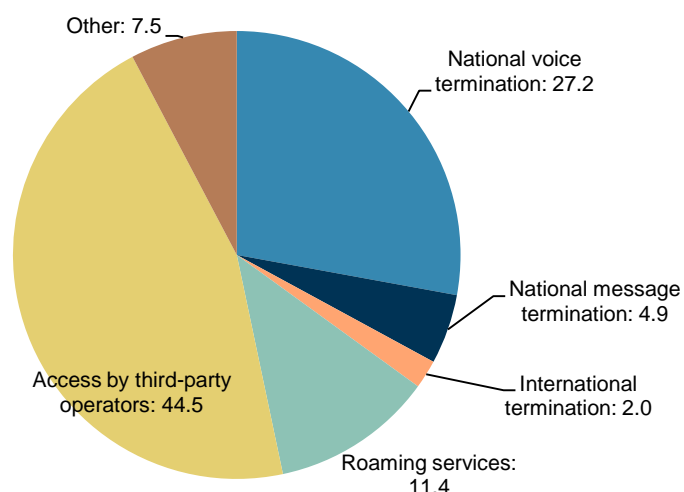
MVNOs majority-owned by MNOs

Tuenti	Ono	Jazztel
	Lowi	Simyo

Source: CNMC

For the second year in a row, the third-party access service achieved the highest share of the wholesale mobile market, accounting for a 44.5% share of total market revenue. The following services in terms of revenue were related to national voice termination, which accounted for 27.2% of total mobile interconnection market revenue.

REVENUE FROM WHOLESALE MOBILE SERVICES (PERCENTAGE)

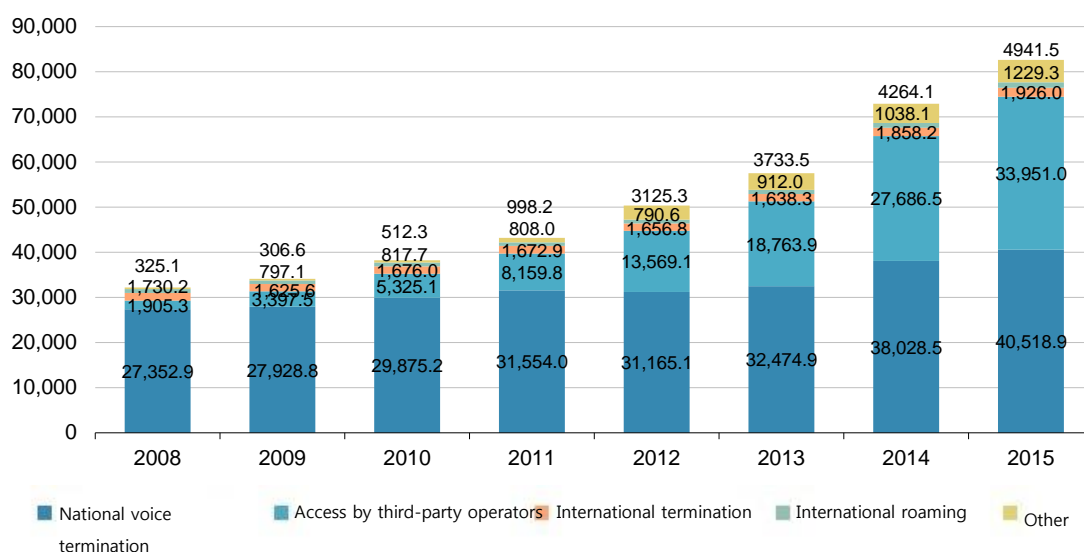


Source: CNMC

- Traffic

The volume of traffic in the wholesale market recorded changes similar to those observed in revenue, with positive growth in most of its services. The traffic volume generated in the market totalled 82,566.7 million minutes, up 13.3% on 2014.

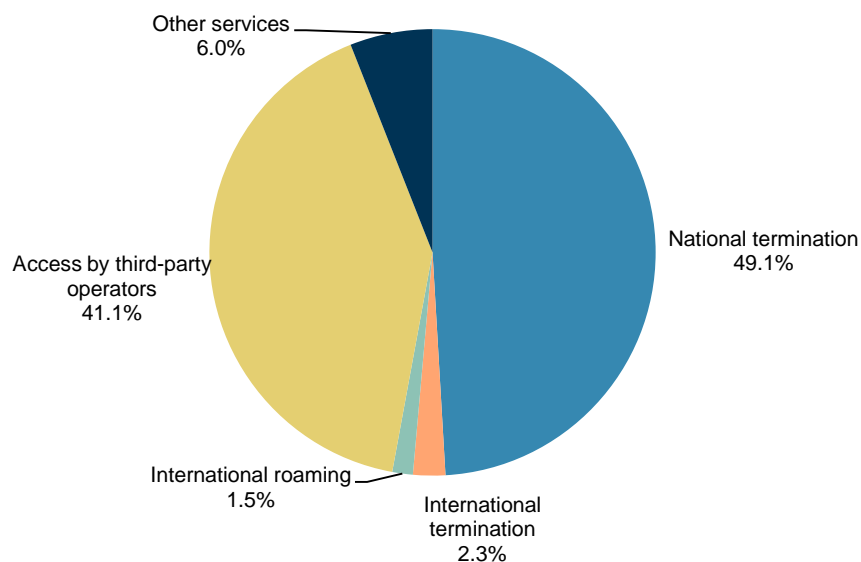
DISTRIBUTION OF WHOLESALE SERVICE TRAFFIC (MILLIONS OF MINUTES)



Source: CNMC

The breakdown of total traffic by service provided reveals that the service that concentrated the highest traffic volume was the national termination service, which accounted for 49% of the total. Secondly, the third-party operator access service, which recorded annual growth of 22.7%, ranked highest among wholesale services. For its part, the use of the international roaming service – i.e. customers of foreign operators who used mobile services over a Spanish network – grew a significant 18.4%.

DISTRIBUTION OF TRAFFIC VOLUME BY WHOLESALE SERVICE (PERCENTAGE)

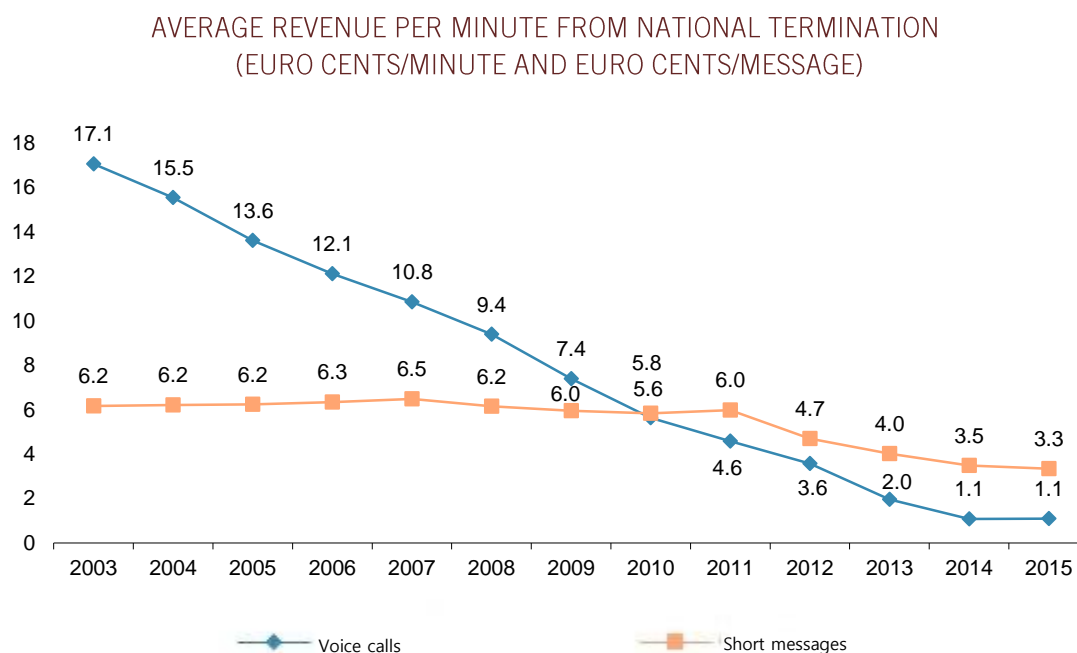


Source: CNMC

- Evolution of prices

In this section, as in that relating to the retail market, average revenue per minute is used as an approximation of the prices of the different wholesale services analysed.

The following graph shows that, in 2015, average revenue from termination in proprietary networks of calls originating on external networks remained stable at 1.09 euro cents per minute. Likewise, the price of termination of a short message stood at 3.3 euro cents.



Source: CNMC

The prices applied by the different operators to the voice termination service are considered of key importance for the correct development of the mobile telephony market and it is, therefore, a service regulated by all the European NRAs. In this regard, in 2012 the CMT carried out an analysis of the call termination market on individual mobile networks. In that analysis, all the network operators (NO) and full mobile virtual network operators (MVNO) were identified as operators with significant market power. Consequently, as in previous analyses, the CMT imposed a series of obligations on these operators. In this regard, the main difference consisted in establishing a new declining path for prices relating to the call termination service. A target price of 1.09 euro cents per minute was set for operators with significant market power, to be reached by July 2013. Since that date and as shown in the previous graph, the price remained stable in accordance with the price determined by the WCL at the time.

	From 16/04/2012 to 15/10/2012	From 16/10/2012 to 29/02/2013	From 01/03/2013 to 30/06/2013	From 1/07/2013
Movistar, Vodafone and Orange	3.42	3.16	2.76	1.09
Yoigo	4.07	3.36	2.86	1.09

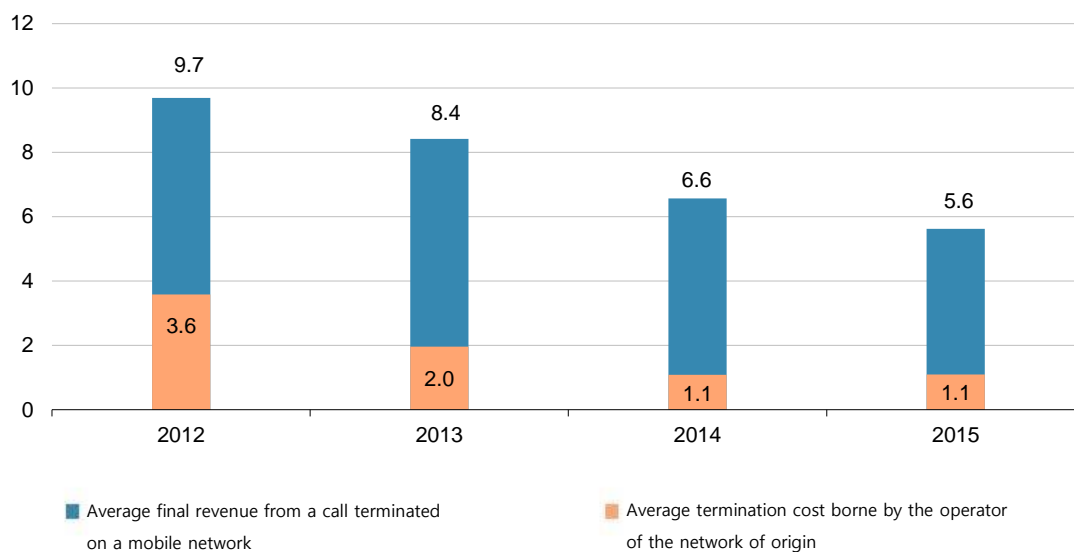
Source: CNMC

As regards the short message termination service, the preceding graph revealed a significant reduction in average revenue compared to 2014. It is the fourth consecutive drop in price and is undoubtedly related to the impact of instant messaging applications on the traditional messaging service. In this regard, mobile telephone operators have gradually modified their interconnection contracts so as to reduce the price of messaging service termination, in an attempt to avoid the decline in this service in favour of the use of OTT applications.

It should be noted that, despite this downward trend, completing a message in an external network was three times more expensive than one minute of conversation.

It is of interest to analyse average revenue from calls to mobile networks together with the termination price borne by the operator. Call termination cost –1.1 euro cents per minute– accounted for 19.4% of the average revenue obtained by a voice call terminated on a mobile network, which generated average revenue per minute of 5.6 euro cents. In this regard, it should be noted that, for the first time in recent years, the retention margin decreased compared to the previous year. That is, the cost of termination borne by operators for completing a call on an external network fell as a proportion of the final price that those operators charge their customers for this service.

RETENTION MARGIN FOR A CALL TO A MOBILE COMMUNICATIONS NETWORK (EURO CENTS/MINUTE)

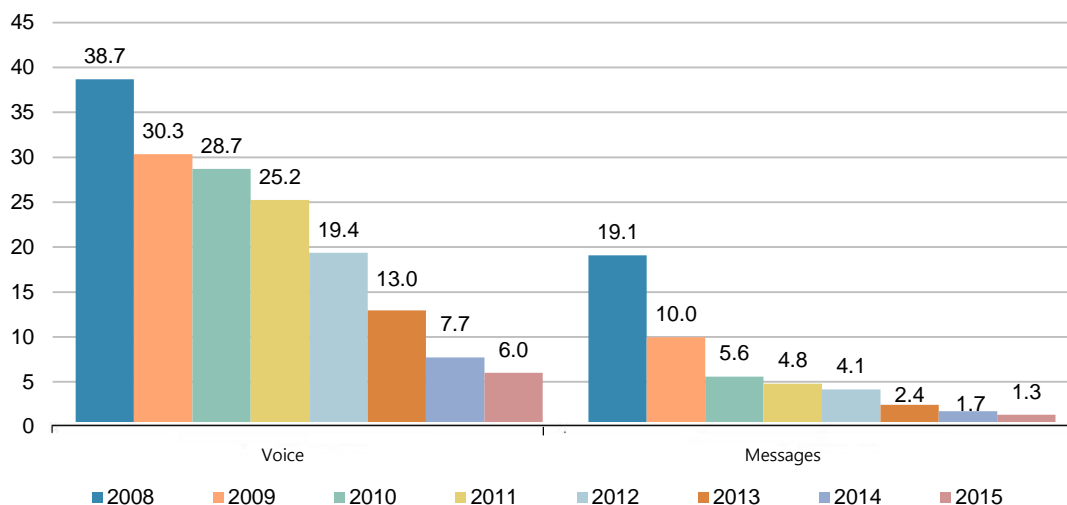


Source: CNMC

As regards wholesale international roaming services, when provided between EU operators they are regulated by Regulation (EC) 531/2012 of the European Parliament and of the Council. In this regard, the regulation approved in November 2015 (Regulation 2120/2015) did not include new developments in the regulation of wholesale international roaming markets.

The following graph shows the effect of Community regulation on average revenue from roaming services. Average revenue per minute from calls fell dramatically by 22.1% compared to the previous year. With this reduction, average revenue per minute in 2015 was 84.5% lower than average revenue in 2008. Average revenue from the international roaming messaging service recorded a sharp year-on-year drop – 23.5% – to stand at 1.3 euro cents per message on average.

AVERAGE REVENUE FROM INTERNATIONAL ROAMING
(EURO CENTS/MINUTE AND EURO CENTS/MESSAGE)



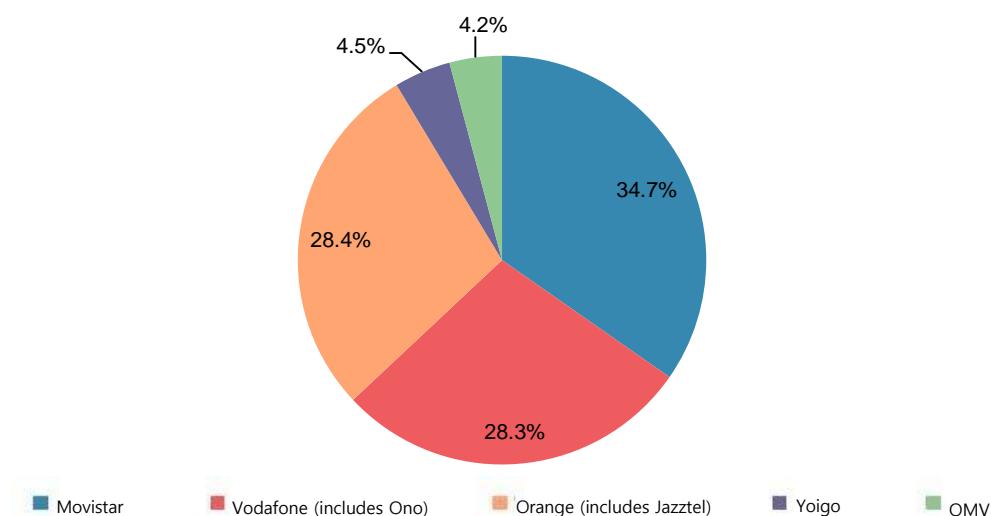
Source: CNMC

- Market share

In the wholesale market, the degree of concentration of revenue is traditionally higher than that observed in the retail market. This is due to the fact that a percentage of MVNO operators does not have proprietary infrastructure and, therefore, their interconnection traffic is concentrated in the networks of the three leading operators which, in turn, receive a payment.

Consequently, Movistar (34.7%), Orange (28.4%) and Vodafone (28.3%) accounted for the majority market revenue. Yoigo obtained 4.5% of the total revenue generated by this market and full MVNOs, those which manage received call termination traffic, obtained 4.2% of the total.

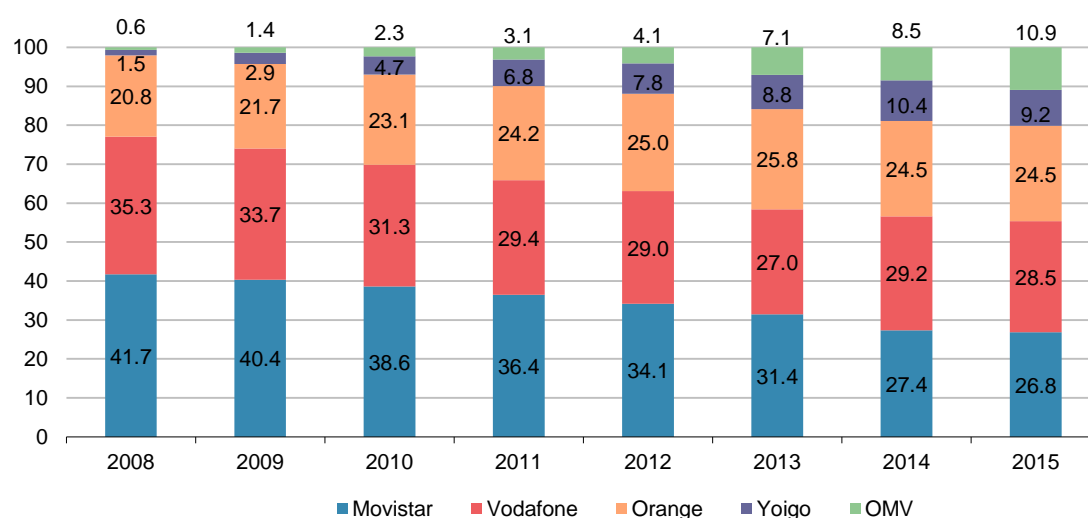
MARKET SHARE BY WHOLESALE REVENUE (PERCENTAGE)



Source: CNMC

National voice termination service traffic was distributed among the various operators in a different manner to that observed in mobile lines. Thus, the Vodafone Group obtained 28.5% of national termination traffic, followed by Movistar with 26.8%. In this regard, it should be noted that the Vodafone Group includes both termination traffic managed by Vodafone itself and that recorded by the MVNOs Ono and Vodafone Enabler, both owned by the British holding company. For its part, the Orange Group recorded slight growth in market share while Yoigo, on the other hand, recorded a loss in market share in the same period. As regards full MVNOs in which MNOs do not have an interest, these increased their share of the national termination service.

MARKET SHARE OF NATIONAL TERMINATION TRAFFIC (PERCENTAGE)



Source: CNMC

2.5 Audiovisual communication services

2.5.1. Sector data

In 2015, the audiovisual media sector obtained good results on the back of the positive evolution of the advertising market and the increased number of subscribers to pay television services.

As regards free-to-air television, one of the most significant factors in 2015 was the growth in revenue received for the second consecutive year, as a result of increased advertising expenditure in the media. In relation to market structure, six new DTTV⁷⁰ licences were awarded after nine channels were closed in 2014⁷¹. This award implies the entry of new DTTV operators into the Spanish market: Mediaset, Atresmedia, CRTVE, Net TV and VEO TV were joined by the Grupo Secuoya, 13TV, Kiss TV and Real Madrid TV. In accordance with the published provision, the deadline for new operators to start broadcasting is April 2016.

With respect to pay television, the merger between DTS and Movistar was followed by the Vodafone-Ono and Orange-Jazztel mergers, which also affected the audiovisual sector. These transactions involved the main pay television operators (DTS, Movistar and Ono), together with the most representative telecommunications operators; and, as envisaged in 2014, the union between pay television operators and telecommunications operators has made it possible to consolidate commercial bundled services that combine telephony services (fixed and/or mobile), broadband (fixed and/or mobile) and television in a single bill. These types of products were the main driver of growth in pay television services in 2015, once again achieving a record number of subscribers in Spain at the end of the year, with a total of 5.6 million subscribers.

Revenue

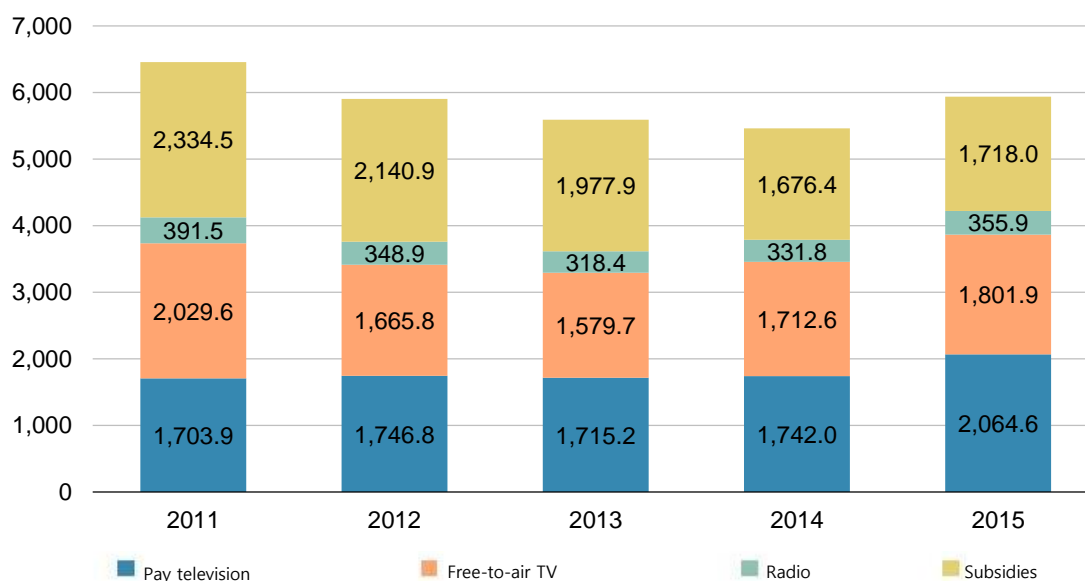
The gradual improvement in the economic environment, the growth in the number of pay television subscriptions and the recovery of media advertising expenditure in 2015 had a positive impact on the revenue obtained by the sector, which stood at EUR 4,222.4 million, representing growth of 11.5%.

When operating subsidies, capital grants and those relating to the execution of the various contract-programmes received by public state and regional operators are added to the business volume achieved, revenue adds up to EUR 5,940.4 million, up 8.7% on 2014.

⁷⁰ Award of six new DTTV licences granted by the Spanish Ministry on 16 October 2015.

⁷¹ See the Supreme Court ruling of December 2011 overturning the 2010 Ministry decision assigning a digital multiplex with nationwide coverage to each of the licensee companies of the Spanish DTTV service, for not having carried out the relevant public request for tenders.

REVENUE, INCLUDING SUBSIDIES (MILLIONS OF EUROS)



Source: CNMC

Subsidies

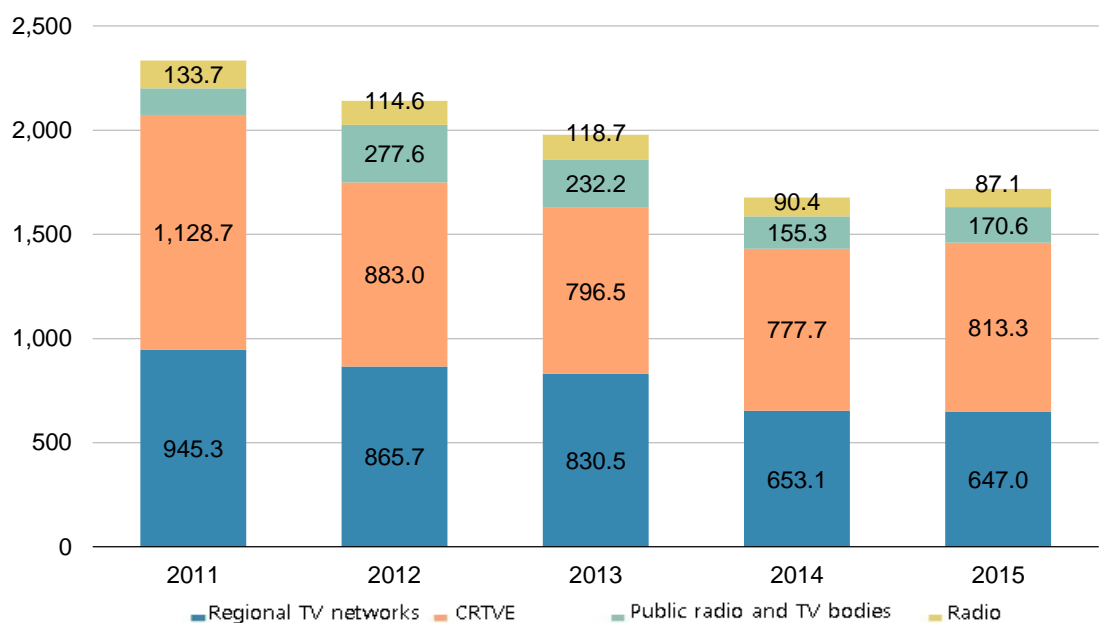
After three consecutive years of falls, the subsidies received by public operators with nationwide and regional scope grew by 2.5% in 2015, reaching a total of EUR 1,718 million by the end of the year.

Of these, EUR 1,460.3 million were allocated to the television service, broken down as follows: EUR 813.3 million for Corporación de Radiotelevisión Española⁷² and EUR 647 million for financing regional public television networks.

Radio operators received EUR 87.1 million⁷³ and the remaining EUR 170.6 million were allocated to financing entities and corporations that manage regional radio and television services. However, it must be taken into account that the subsidies awarded to the entities and corporations ultimately finance part of the operation of radio and television services.

⁷² Includes subsidies from RNE.

⁷³ Amount received by regional public radio stations. RNE subsidies are included in the total received by CRTVE.

BREAKDOWN OF SUBSIDIES (MILLIONS OF EUROS)⁷⁴

Source: CNMC

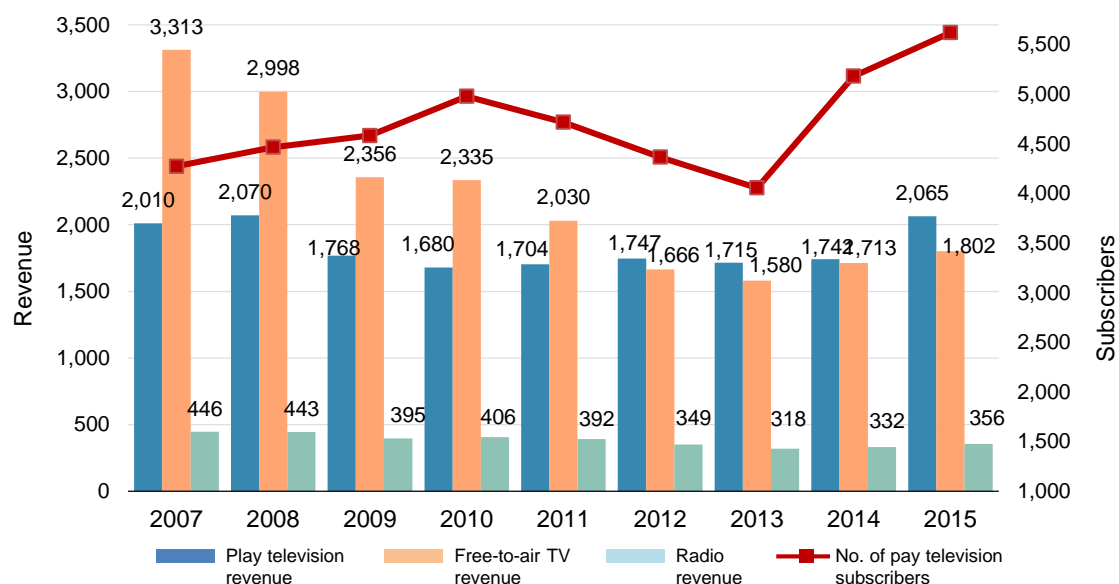
Revenue from the different business areas

By business area, in 2015, pay television recorded the highest growth, positioning itself for the fourth consecutive year as the block with the highest revenue after obtaining EUR 2,064.6 million, up 18.5% on 2014. This growth in revenue was in line with the increase in the number of subscribers to pay television services, which grew at a rate of 8.5%, ending 2015 with 439 thousand more subscribers than in December 2014.

The second area, free-to-air television revenue, grew for the second consecutive year, spurred by the recovery in advertising expenditure, obtaining EUR 1,801.9 million, up 5.2% on 2014. Lastly, radio broadcasting services, which also depend to a large extent on advertising revenue, recorded growth of 7.3%, ending 2015 with a business volume of EUR 355.9 million.

⁷⁴ Radio subsidies only include subsidies for regional broadcasters; RNE is included in CRTVE.

REVENUE BY BUSINESS AREA AND NUMBER OF SUBSCRIBERS
(MILLIONS OF EUROS AND THOUSANDS OF SUBSCRIBERS)



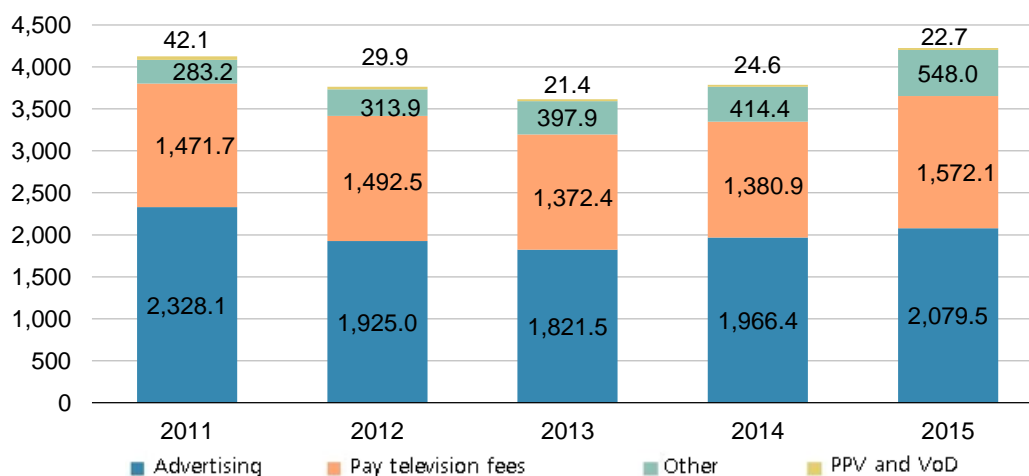
Source: CNMC

Revenue by item

The item that recorded the highest growth was revenue per subscriber, which includes monthly fees, registration fees, sale and rental of equipment, premium channel fees and revenue from subscription to on-demand channels. This item accounted for 37.2% of total revenue, standing at EUR 1,572.1 million, up 13.8% compared to the previous year. The other major item, that of advertising revenue, also performed well due to the recovery experienced by operators in line with the improvements in the economic context. Thus, advertising revenue⁷⁵, which accounted for 49.3% of total commercial billings, totalled EUR 2,079.5 million in 2015, up 5.85% on 2014.

⁷⁵ It includes advertising, sponsorship, teleshopping, product placement, telepromotions and other advertising revenue.

DISTRIBUTION OF COMMERCIAL REVENUE BY ITEM (MILLIONS OF EUROS)

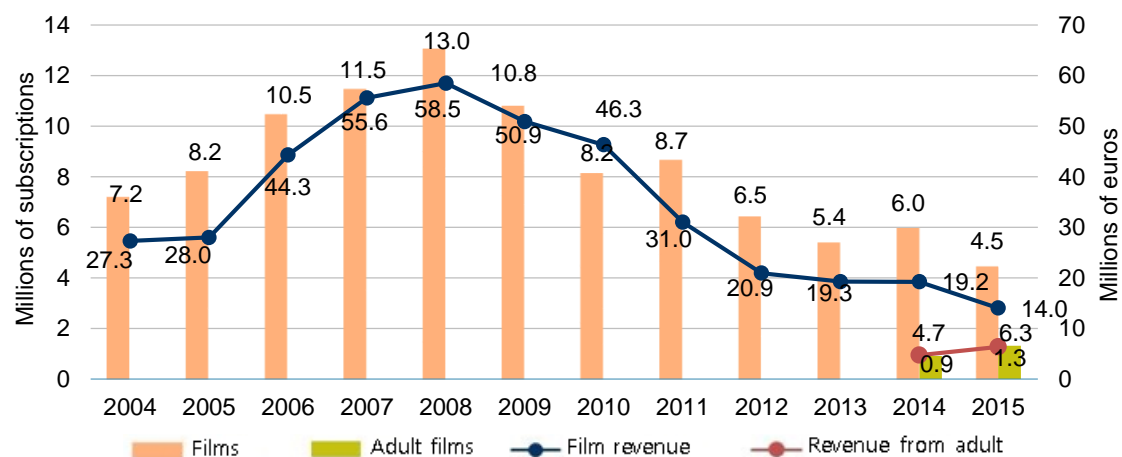


Source: CNMC

PPV and VoD revenue – not included in revenue from pay television fees – fell back by 7.7% in 2015 to EUR 22.7 million. Of that, EUR 20.4 million corresponded to film rental and the remaining EUR 2.4 million to other items including the rental of concerts, television series, documentaries and sporting events. Of the EUR 20.4 million for film rental, EUR 6.3 million were for the adult film genre. It should be noted that revenue from on-demand content barely accounted for 0.5% of total revenue from pay television operators.

Lastly, revenue from other items including, among others, revenue from premium rate calls, premium SMS messaging, merchandising sales, revenue from the transfer and lease of DTTV licences, sale of proprietary productions and sale of proprietary channels to third-party operators, totalled EUR 548.0 million. In this section, the most significant item was the sale of proprietary Movistar channels to third parties which, after the merger, added the channels that previously belonged to the DTS service to its assets.

NUMBER OF FILM SUBSCRIPTIONS AND REVENUE FROM PAY TELEVISION
(MILLIONS OF SUBSCRIPTIONS AND MILLIONS OF EUROS)



Source: CNMC

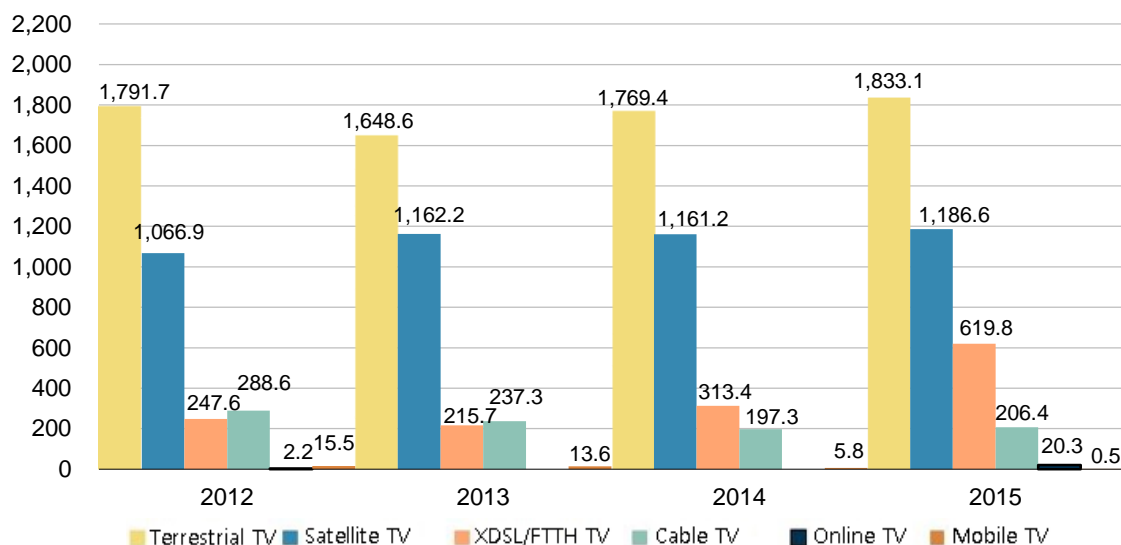
Revenue by technology

An analysis by broadcast medium reveals that the highest volume of business was obtained by DTTV services, standing at EUR 1,833.1 million and accounting for 47.4% of total revenue from television services in Spain. This figure represented growth of 3.6% compared to the revenue obtained in the previous year, in line with the recovery in the advertising market.

Satellite pay television services ranked second, with revenue of EUR 1,186.6 million, up 2.2% on 2014. This figure includes both revenue from subscribers to satellite television and revenue from subscribers to premium channels (films, television shows, etc.) through other non-Movistar pay television services.

COMMERCIAL TELEVISION REVENUE BY BROADCAST MEDIUM⁷⁶

(MILLIONS OF EUROS)



Source: CNMC

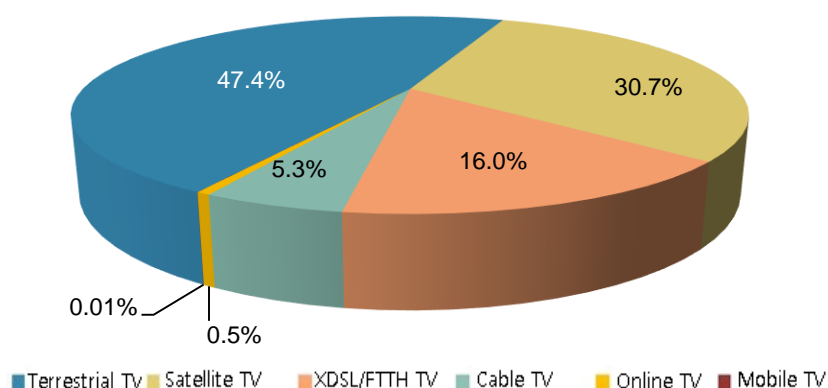
In third place in terms of revenue were XDSL/FTTH television services, which practically doubled their revenue compared to the previous year, obtaining a business volume of EUR 619.8 million, which represented growth of 97.7% compared to 2014. This technology experienced strong growth both in revenue and in number of subscribers, due mainly to the commercial products launched by the segment's operators, which in turn are also telecommunications services operators. These offered customers the possibility of adding, for a small fee, the pay television service to the other telecommunications services already subscribed. Furthermore, operators also enhanced their content offering. By strengthening their content they made the pay television subscription option more attractive to consumers.

Cable television services followed XDSL/FTTH television, growing 4.6% and obtaining revenue of EUR 206.4 million. This segment became much more active in 2015 after the acquisition of Ono by Vodafone and the impetus Vodafone gave to marketing its television services, which are distributed both by XDSL/FTTH technology and over the cable network of the former Ono. It should be remembered that Vodafone ceased to offer the pay television service, but with the acquisition of Ono and the possibility of acquiring premium content through the wholesale offering of Movistar's proprietary Premium channels, it once again bundles the service with its commercial products.

⁷⁶ "Other" includes revenue from online television services offered by broadcasters and pay television operators.

Incipient online TV services ranked last and at a substantial distance from the above services. These services refer to viewers who access the television service through Internet-connected devices⁷⁷ such as, for example, laptop computers, tablets, smart TV (intelligent television sets), smartphones and consoles. These services, which were the latest market entrants, practically tripled the revenue obtained in the previous year to stand at EUR 20.3 million.

DISTRIBUTION OF COMMERCIAL TELEVISION REVENUE BY BROADCAST MEDIUM
(PERCENTAGE)



Source: CNMC

Lastly, broken down by technology, it should be noted that, in 2015, the main operators decided to gradually stop offering the mobile pay television service that operated over 3G/4G networks. Movistar closed its mobile TV service in December 2014 and Orange – the only operator in the market that was still active in this segment – stopped offering its service definitively at the end of the second quarter of 2015.

2015 also represented the definitive termination of pay DTTV services, which disappeared in July with the closure of the Gol TV channel, which operated through a leased Atresmedia multiplex channel.

2.5.2. The free-to-air TV segment

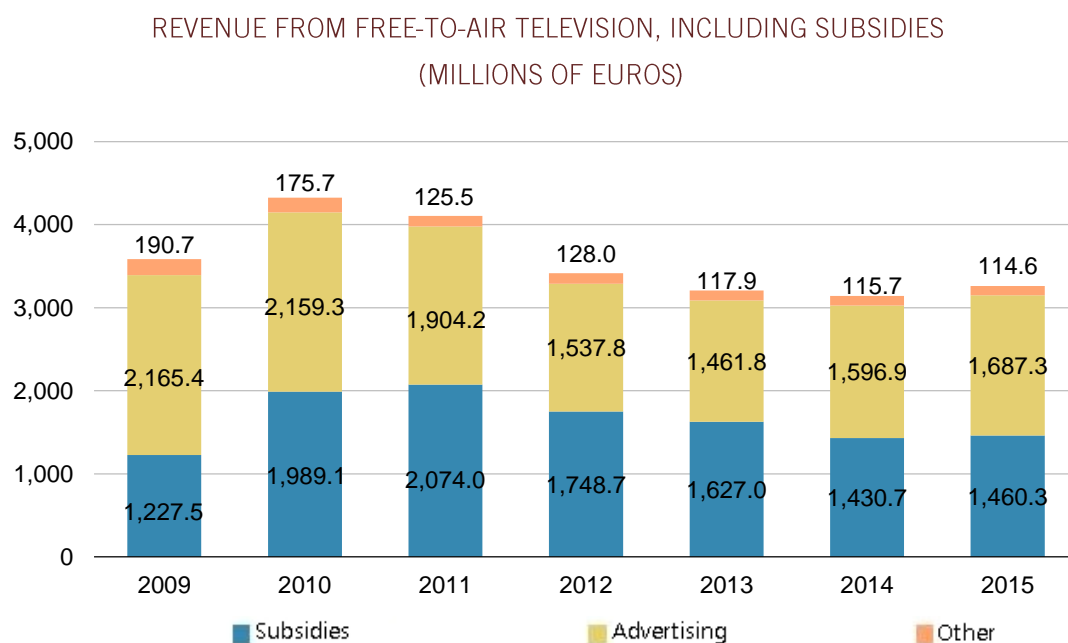
In addition to the recovery in advertising revenue, the other relevant event with respect to the market structure of free-to-air television in Spain was the award of six new DTTV licences that were granted by the Spanish Ministry in mid-October 2015. As a result of this new tender process, six new nationwide DTTV channels currently operate in Spain (three high-definition and three standard

⁷⁷ They include only online TV services associated with DTTV operators and pay television operators. They do not include customers with free access to online TV as part of other subscribed products, but only those which pay a monthly fee or additional amounts on their bill in order to access this service.

definition). Of these six channels, two were awarded to Mediaset and Atresmedia and the other four to Grupo Secuoya, 13TV, Kiss TV and Real Madrid TV.

In terms of figures, in 2015, the free-to-air television segment recorded total revenue of EUR 3,262.2 million, of which EUR 1,801.0 million stemmed from commercial billings and EUR 1,460.3 million from the subsidies received by public television networks⁷⁸.

Of the EUR 1,801.9 million in commercial billings, EUR 1,687.3 million stemmed from advertising, sponsorship, teleshopping, product placement, telepromotions and other advertising revenue. The remaining EUR 114.6 million related to other items including revenue from proprietary productions, premium rate calls, website advertising, transfer of channels, sale of rights, studio rental and, in general, all revenue from audiovisual production services that do not stem from advertising expenditure.



Source: CNMC

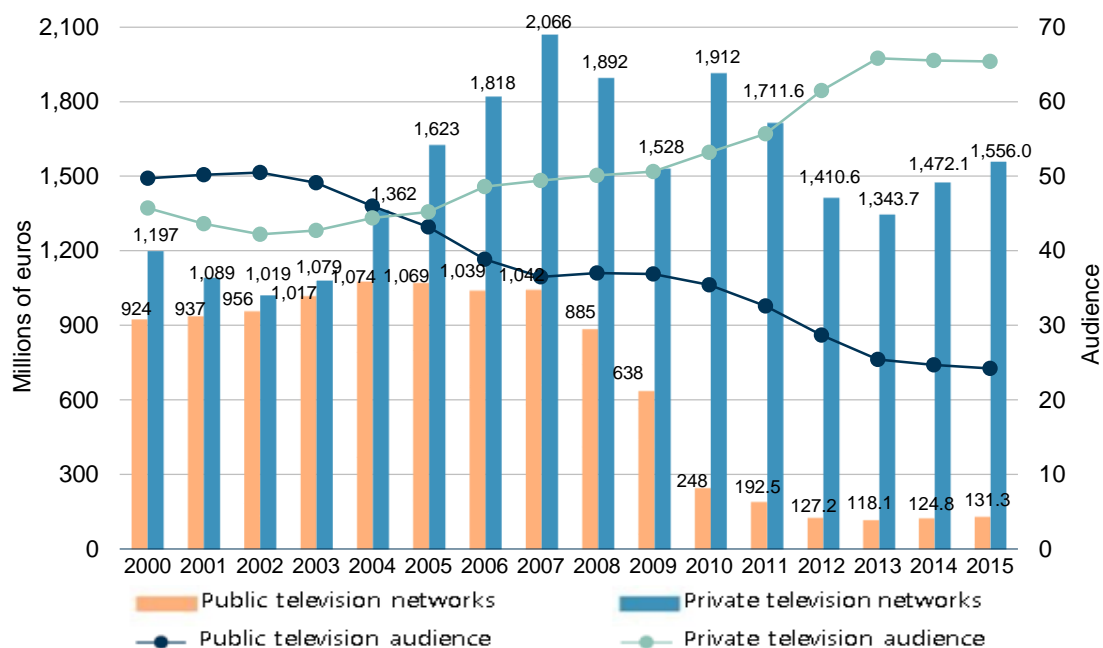
Advertising revenue by type of operator

In 2015, both groups of operators, both public and private, experienced growth in revenue.

Overall, private television networks obtained advertising revenue of EUR 1,556 million, EUR 83.9 million more than in 2014, representing growth of 5.7%.

⁷⁸ To these subsidies should be added part of the EUR 170.6 million received by the public entities and corporations that manage the regional public radio and television services.

ADVERTISING REVENUE AND AUDIENCE SHARES BY GROUPS OF OPERATORS⁷⁹
(MILLIONS OF EUROS AND PERCENTAGE)



Source: Prepared in-house using CNMC and Kantar Media data.

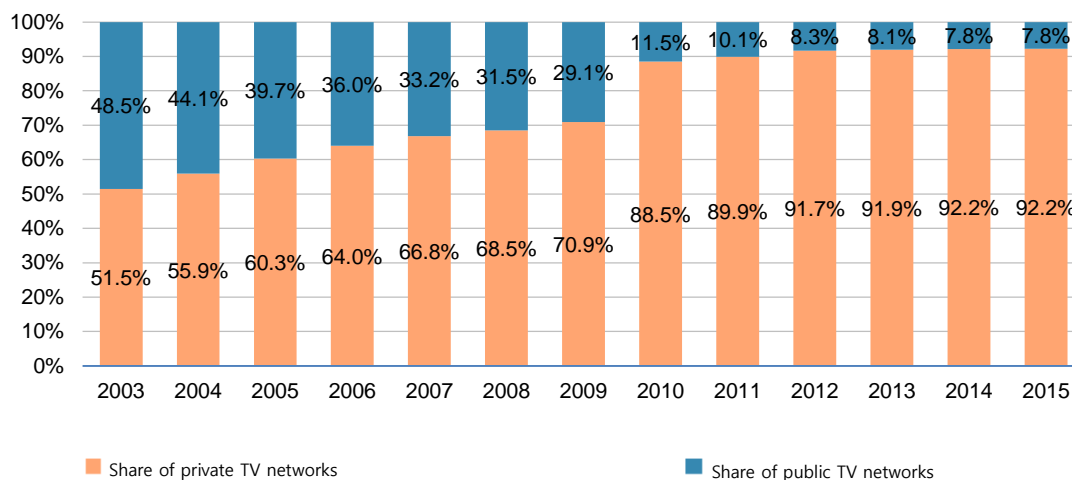
Public television operators obtained advertising revenue of EUR 131.3 million, representing growth of 5.2% which, in total, represented EUR 6.5 million more than in 2014.

The distribution of revenue showed a positive correlation with audience ratios. In this sphere, private television networks obtained a joint audience share of 65.4 per cent and public television networks obtained a joint audience share of 24.2 per cent⁸⁰.

⁷⁹ It DTTV channel audiences are included. Advertising revenue obtained by pay television networks, which totalled EUR 38 million in 2014, is not included.

⁸⁰ Audiences calculated based on the national total; the remaining percentage relates to pay television and local television networks.

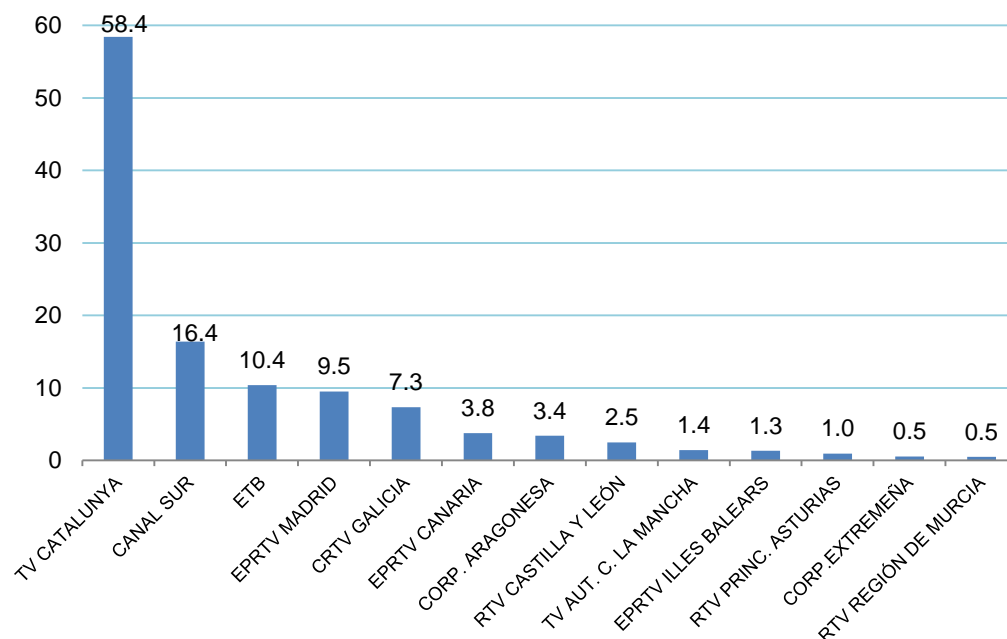
EVOLUTION OF ADVERTISING MARKET SHARE BY GROUP OF OPERATORS
(MILLIONS OF EUROS)



Source: CNMC

As regards the commercial revenue obtained by the group of regional public television networks, those with the largest share were the Catalan television networks, which obtained advertising revenue of EUR 58.4 million, Canal Sur, with EUR 16.4 million, the public television network of the Basque Autonomous Region, ETB, with EUR 10.4 million, the Madrid public television network, with EUR 9.5 million, and the public television network for Galicia, with EUR 7.3 million. Revenue for the other regional public television networks was less than EUR 4 million.

ADVERTISING REVENUE OF REGIONAL PUBLIC TELEVISION NETWORKS
(MILLIONS OF EUROS)⁸¹



Source: CNMC

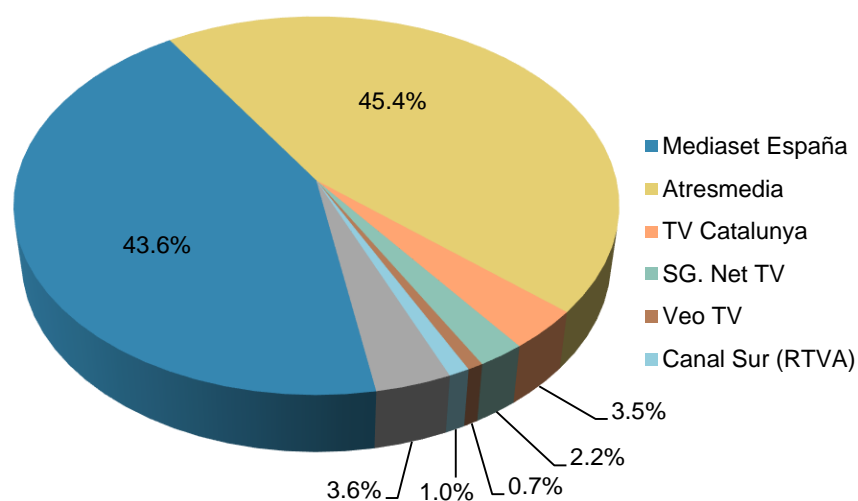
Advertising revenue by operator

In 2015, Atresmedia outperformed Mediaset and became the leading operator by business volume, with revenue of EUR 765.3 million, 8.5% more than in 2014. The second operator was Mediaset, with advertising revenue of EUR 736.2 million and growth of 4.1%.

The duopoly in the sphere of free-to-air television continued and both operators jointly accounted for 89% of the total advertising revenue from the free-to-air television market. Individually, the corresponding advertising market shares were 45.4% for Atresmedia and 43.6% for Mediaset.

⁸¹ The operator RTV Castilla y León is a privately owned operator which receives a subsidy in exchange for carrying out a contract-programme, under a contract entered into with that autonomous region. Furthermore, Murcia RTV is managed by the private operator Grupo Secuoya.

ADVERTISING REVENUE OF THE LEADING FREE-TO-AIR TELEVISION OPERATORS⁸²
(PERCENTAGE)

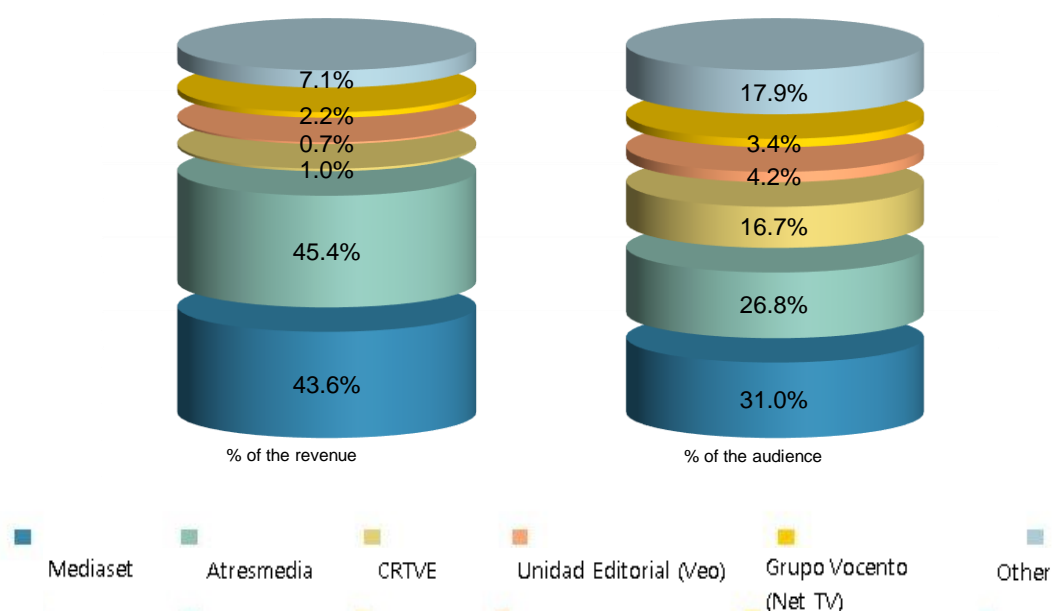


Note: Total advertising revenue from free-to-air television stood at EUR 1,687 million.

Source: CNMC

Concentration measured in terms of audience was somewhat lower and jointly totalled 57.8 points. This was due partly to the effect of Corporación de Radiotelevisión Española which, although it is not involved in the advertising market, is included in the distribution of audience share.

⁸² Only the advertising revenue of free-to-air television networks is included and the EUR 36.6 million of advertising revenue obtained by pay television networks as a whole is excluded. The revenue relates to all the free-to-air channels that operate over the bandwidth of each group, regardless of whether the channels are directly or indirectly operated. It does not include regional or local private television networks.

MARKET SHARE IN TERMS OF ADVERTISING REVENUE AND AUDIENCE (PERCENTAGE)⁸³

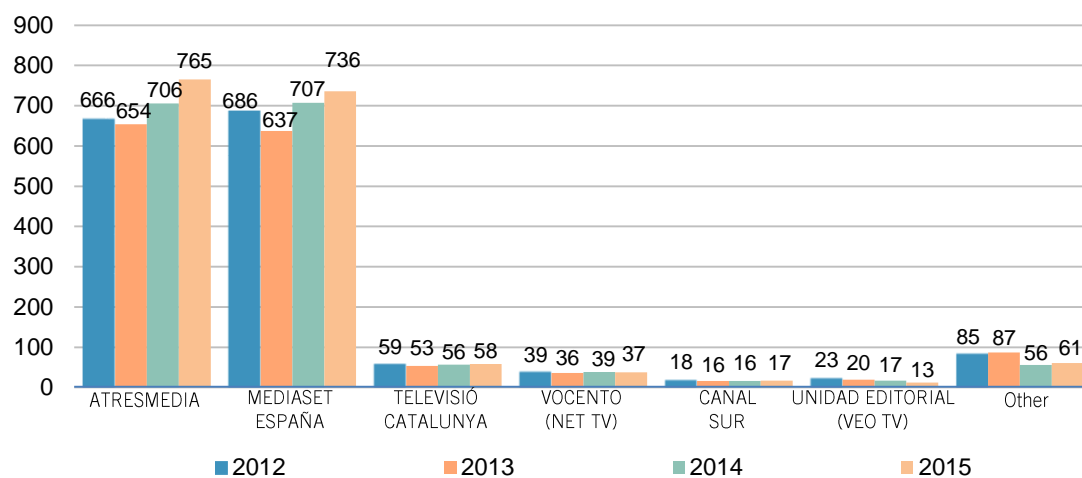
Source: CNMC and Kantar Media

Lastly, the remaining 11% of advertising expenditure was distributed among the other market participants, most notably the other two national private operators, Net TV and Veo TV, which jointly totalled 2.9% of total revenue, the former obtaining EUR 37.4 million and the latter obtaining EUR 12.6 million⁸⁴.

⁸³ Percentage calculated on the basis of advertising revenue from free-to-air television. The other audience figures include FORTA (Federation of Regional Radio and Television Organisations or Entities), regional private television networks, thematic pay television networks and local television networks.

⁸⁴ Net TV and Veo TV ceased the activity of their respective television stations, La 10 and VEO7 in 2011, and currently operate a business model based on allowing third-party operators to use their television signals. Advertising revenue refers to channels that operate through their licences.

ADVERTISING REVENUE OF THE MAIN FREE-TO-AIR TELEVISION OPERATORS⁸⁵
(MILLIONS OF EUROS)



Source: CNMC

Audience by operator

In 2015, Mediaset and Atresmedia continued to lead in terms of audience share and the joint hegemony of the two groups. They had a joint market share of 57.8% at the end of the year.

By business group, Mediaset was the leader, achieving a share of 31%, representing an increase of 0.3 points in audience share compared to the previous year. It was followed by Atresmedia, with a share of 26.8%, after losing 0.9 points with respect to the audience share obtained in 2014.

⁸⁵ Revenue relates to all the channels that operate under the free-to-air modality over the bandwidth of each group, regardless of whether the channels are directly or indirectly operated.

EVOLUTION OF AUDIENCE BY CHANNEL AND GROUP (PERCENTAGE)

Audience	2013	2014	2015	dif.	Audience	2013	2014	2015	dif.
Mediaset	29.0	30.7	31.0	0.3	Grupo CRTVE	16.7	16.7	16.7	0.0
Telecinco	13.5	14.5	14.8	0.3	La 1	10.2	10.0	9.8	-0.2
Cuatro	6.0	6.7	7.2	0.5	La 2	2.4	2.8	2.7	-0.1
FDF	2.9	3.5	3.5	0.0	Clan TV	2.4	2.3	2.4	0.1
Divinity	1.7	2.1	2.3	0.2	Teledporte	0.9	0.9	0.9	0.0
Boing	1.7	1.7	1.6	-0.1	24H	0.8	0.8	0.9	0.1
Energy	1.2	1.5	1.5	–	Grupo Vocento (NET TV)	4.5	3.5	3.4	-0.1
La Siete*	1.2	0.3	–	–	Paramount Channel	1.4	1.9	2.0	0.1
Nueve*	0.7	0.3	–	–	Disney Channel	1.5	1.5	1.4	-0.1
Atresmedia	28.8	27.7	26.8	-0.9	Intereconomía*	0.9	0.1	–	–
Antena 3	13.4	13.6	13.4	-0.2	MTV*	0.6	0.1	–	–
La Sexta	6.0	7.2	7.4	0.2	G. U. Editorial (VEOTV)	3.5	3.6	4.2	0.6
Neox	2.3	2.6	2.6	0.0	Discovery Max	1.6	2.1	2.1	0.0
Nova	2.1	2.5	2.4	-0.1	13TV	1.3	1.6	2.0	0.4
Mega	–	–	0.9	–	AXN (canal TDT de pago)	0.3	–	–	–
Nitro*	1.7	0.6	–	–	Marca TV	0.6	–	–	–
Xplora*	1.7	0.6	–	–					
La Sexta 3*	1.6	0.6	–	–					

* Channels which stopped broadcasting in May 2015 as a result of a ruling by the Supreme Court, obliging the closure of nine TDT channels adjudicated without prior public contests being conducted.

On 22 December 2015, Atreseries started broadcasting, the new channel by Grupo Atresmedia, whose audience figures will be measured as from January 2016.

Source: Kantar Media

Audience by type of channel

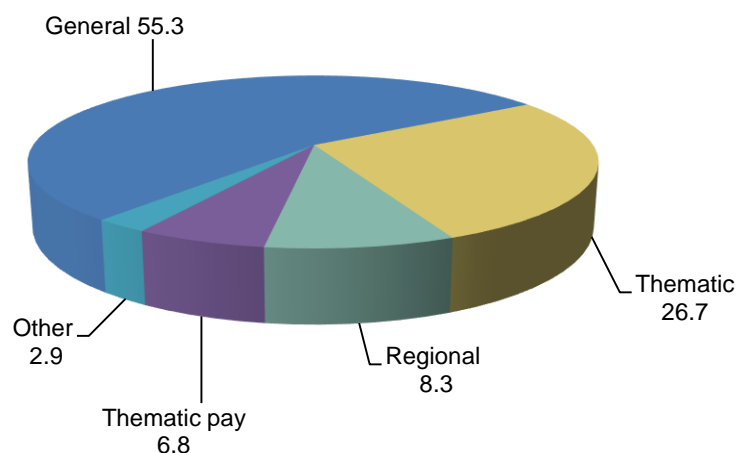
By type of channel, general channels⁸⁶, which are traditional channels that existed before the migration to the DTT environment, grew by 0.5 per cent, ending the year with an audience share of 55.3%. Overall, thematic channels obtained an audience share of 33.5%, 0.1 percentage points lower than in 2014. Within this group, free-to-air channels that broadcast over DTT fell by 27.4% to 26.7%, while thematic pay channels grew from 6.2% to 6.8%.

As regards the regional television networks, the total operators grouped under FORTA⁸⁷ (Federation of Regional Radio and Television Organisations or Entities) obtained an average audience share of 7.5%, representing the historical minimum for this group. FORTA's figure, added to the audience share obtained by private regional television networks, which in 2015 accounted for 0.8 per cent of total national audience share, yields an overall audience share obtained by regional television networks of 8.3%, 0.6 percentage points lower than in 2014.

⁸⁶ The group of general channels included the channels La1, La2, Tele 5, Antena 3, Cuatro and La Sexta.

⁸⁷ Federation of Regional Radio and Television Organisations or Entities.

AUDIENCE SHARE BY TYPE OF CHANNEL (PERCENTAGE)



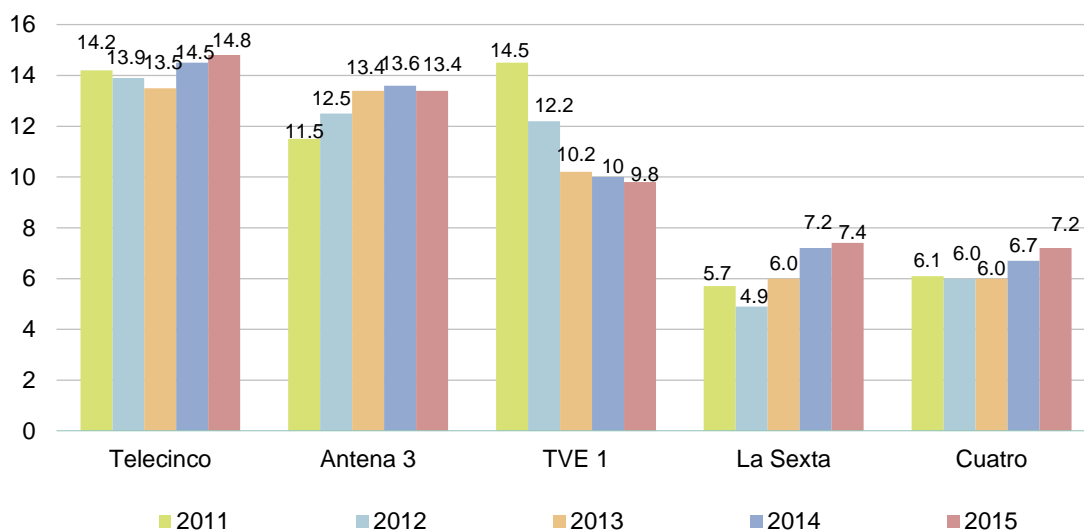
Source: Kantar Media

Audience by channel

In a more detailed analysis of audience, Telecinco ranked first for the fourth consecutive year, obtaining an audience share of 14.8%, up 0.3 points on 2014. It was followed by Antena 3 in second place with a share of 13.4% (0.2 percentage points less than in 2014) and, in third position, La 1 of Corporación de Radiotelevisión Española, which recorded a new historical minimum with a share of 9.8%, a yearly decline of 0.2 percentage points. La Sexta and Cuatro, both recording continuous growth in recent years, came in behind the three leading channels with audiences of 7.4% and 7.2%, respectively.

Next came the other DTT channels, at a substantial distance from the rest, led by FDF, belonging to the Mediaset Group, with an audience share of 3.5%; La 2, belonging to CRTVE, with an audience share of 2.7%; and Neox, belonging to Atresmedia, with an audience share of 2.6%. In general, the audience shares of the thematic channels were reinforced by the disappearance of nine DTT channels in 2014, which helped the audiences of other minority channels to grow.

EVOLUTION OF THE AUDIENCE SHARE OF THE FIVE MAIN CHANNELS (PERCENTAGE)



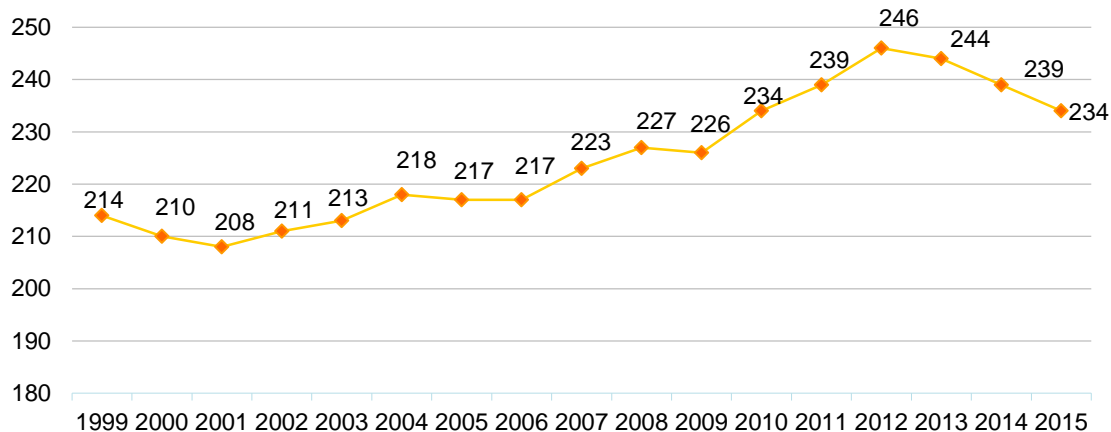
Source: Kantar Media

Television audiences and viewing

In 2015, the average daily consumption of television fell for the third consecutive year, by 5 minutes, to stand at 234 minutes per day on average per viewer. This figure represents 3 hours and 54 minutes of television viewing per person per day, after three years of continuous falls, from a peak of 4 hours and 6 minutes reached in 2012.

To the consumption of 234 minutes per day must be added another three minutes per day of consumption of recorded programmes, a figure that Kantar Media began to measure for the first time in 2015 and which refers to what the public sees in the seven days following the original broadcast, whether recorded by the user or watched on-demand. Deferred consumption is steadily increasing through new devices and could grow substantially in the coming years due to changing audience habits, particularly those of the youngest age groups.

AVERAGE DAILY CONSUMPTION OF TELEVISION (MINUTES)

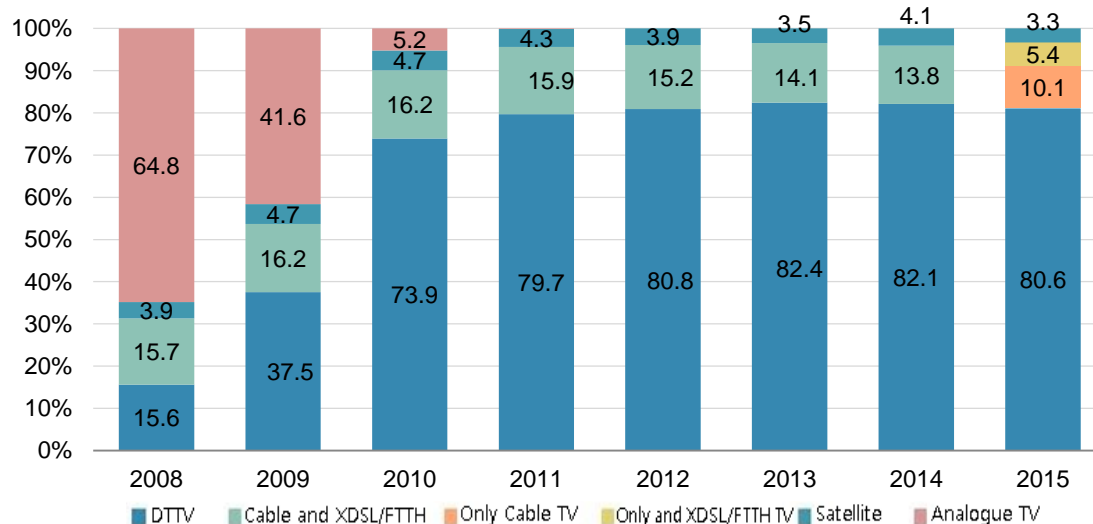


Source: Kantar Media

Audience by broadcast medium

As regards audience share by broadcast medium, for the first time in 2015, data for cable television and IP television were published separately, evidencing the growth in pay television services over XDSL/FTTH (former IPTV), which, after the significant surge in the number of subscribers in the last two years, obtained an audience share of 5.4%. Overall, cable television and XDSL/FTTH television jointly accounted for an audience share of 15.5 percentage points by broadcast medium, representing an advance of 1.7 points over DTTV and satellite, which lost 1.5 and 0.8 points, respectively.

AUDIENCE BY BROADCAST MEDIUM (PERCENTAGE)



Source: Kantar Media

2.5.3 Pay television segment

In 2015, revenue obtained by pay television operators recorded a new high of EUR 2,064.6 million, experiencing strong growth of 18.9% for the year. This growth in revenue was accompanied by an

increase in net number of subscribers, such that 2015 ended with a gain of 438,535 new net subscriptions to the service and a record number of customers, with more than 5.6 million.

As in the previous year, in 2015 the increase in the number of pay television subscribers was down to mass subscription to the bundled television service, combining pay television with other telecommunications services in bundled products.

The most frequently subscribed type of bundle and one which has recorded substantial growth in the last two years was the so-called quintuple-play bundle, which combines fixed telephony services, fixed broadband, mobile telephony, mobile data and pay television in the household. This type of bundling has been very successful and is currently present in most of the commercial offerings of all the operators in the market, regardless of the broadcast medium.

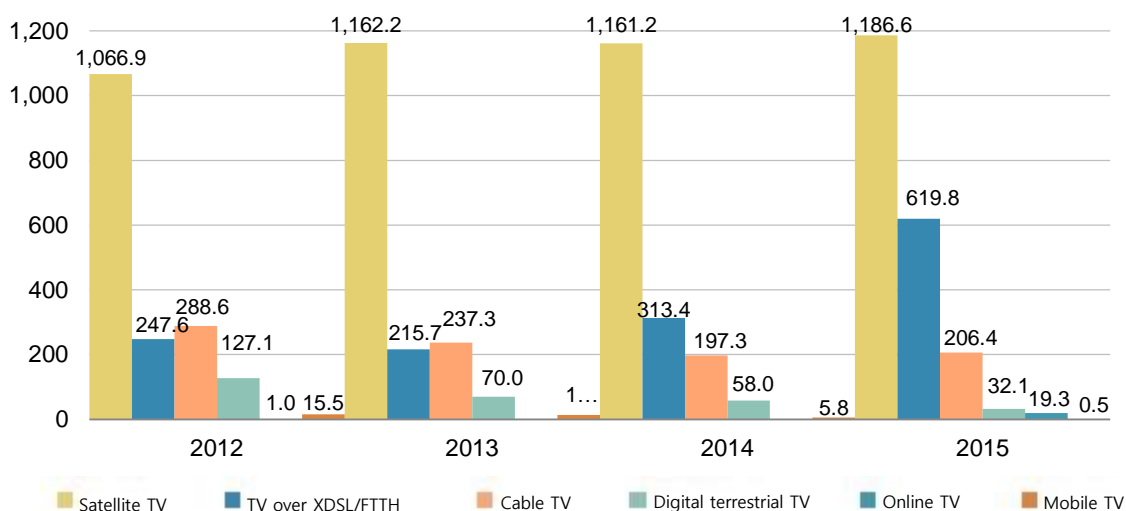
Other relevant events that occurred in the pay television segment in 2015 were: (i) the definitive closure of mobile TV services and pay DTTV; (ii) accelerated growth, both in 2014 and 2015, of XDSL/FTTH television services; and (iii) the growth – although it is only an incipient market– of online TV services⁸⁸, which refers to pay television subscribers through television services distributed over the Internet.

Revenue by type of technology

Satellite TV maintained its leadership position in terms of business volume in 2015, accounting for 57.5% of pay television revenue, with EUR 1,186.6 million; 2.2% more than in the previous year. This turnover stemmed from customers who subscribed directly to satellite pay television and subscribers who indirectly received premium channels belonging to the former DTS, through third-party operator pay television services.

The second-ranking technology in terms of turnover was pay television over XDSL/FTTH networks. Revenue from these services recorded significant growth, with a turnover of EUR 619.8 million, representing growth of 97.7% in relation to 2014.

⁸⁸ These services refer to pay TV access via devices connected to the Internet such as intelligent television sets, computers, tablets, etc., as distinct from the XDSL/FTTH television service (also known as IP television).

REVENUE FROM PAY TELEVISION BY BROADCAST MEDIUM⁸⁹ (MILLIONS OF EUROS)

Source: CNMC

Cable television services ranked third with EUR 206.4 million and growth of 4.6% on the previous year. This increase was in line with the growth in its customer base, 16.8%, ending the year with 205 thousand net new subscriptions.

As regards the other technologies, the growth in and consolidation of the online pay television service⁹⁰, which tripled its revenue with turnover of EUR 19.3 million, ending the year with a customer base of more than 215 thousand subscribers.

On the other side of the equation, worth noting is the disappearance of pay DTTV services – at the end of June – of the football channel Gol Televisión⁹¹ and also the disappearance of mobile television services over 3G/4G networks, with the definitive closure – at the end of the second quarter – of Orange's mobile TV service, the only operator that remained active in this segment after Movistar ceased to broadcast mobile TV at the end of 2014.

Number of subscribers by technology

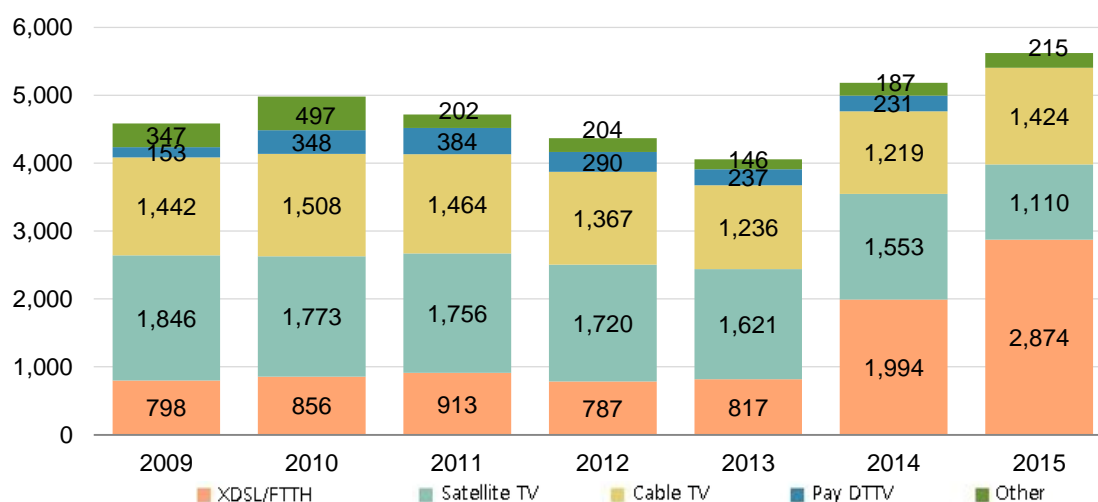
The number of subscribers to pay television in Spain grew by 8.5% in 2015, achieving a record figure of 5.6 million users, despite the closure of pay television services over DTT and mobile television. Specifically, the number of subscribers to pay television stood at 5,622,451 customers at the end of December, representing an annual growth of 438,535 net new subscribers.

⁸⁹ It does not include revenue from the online pay television or Web TV services offered by pay television operators.

⁹⁰ It is also known as Web TV or Internet TV. It only includes the online TV of traditional pay television operators.

⁹¹ The channel Gol TV operated over DTTV through a channel leased from Atresmedia Televisión.

EVOLUTION OF THE NUMBER OF SUBSCRIBERS TO PAY TELEVISION BY BROADCAST MEDIUM
(THOUSANDS)⁹²



Source: CNMC

Once again, one must underline the strong growth of pay television services over XDSL/FTTH, driven by the success of bundled products. These services grew by 44.1% in 2015 in terms of customers, adding nearly 880 thousand net new subscribers during the year. The sharp growth recorded in the last two years has positioned television services over XDSL/FTTH as the leading pay television technology in Spain, with a subscriber base of 2,873,548, exceeding satellite TV services in number of subscribers.

In 2015, changes also took place in the second and third place in terms of number of subscribers and, for the first time, satellite TV fell to third place, with a total of 1,109,908 subscribers, after being surpassed by cable television services, which in 2015 grew to 1,423,847 subscriptions.

In part, the changes between the different technologies for accessing pay television were caused by the recent merger transactions in the market. Thus, after the acquisition of DTS by Movistar, some of the subscribers that are subscribed to a satellite access are migrating to XDSL/FTTH television services. Similarly, the acquisition of Ono by Vodafone and the improvement in its content offering has spurred an increase in subscriptions to cable pay television, by new clients, but also by Vodafone customers which prior to the merger were telecommunications customers who did not contract pay television.

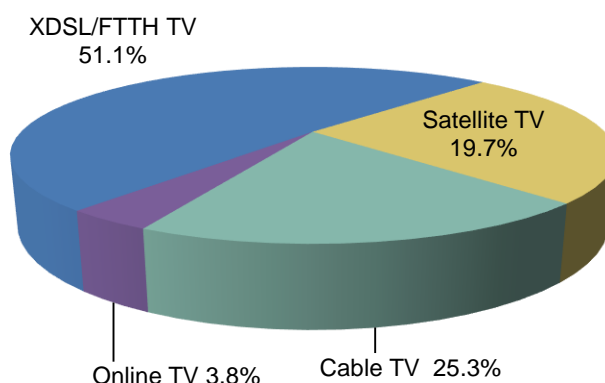
The last of the three major mergers that affect the pay television market, that between Orange and Jazztel, and the growth experienced by this operator in the last year in terms of pay television service subscriptions (in this case over XDSL/FTTH), indicate that the three leading operators in the market

⁹² The "Rest" includes mobile TV and online TV subscribers (for 2015, due to the closure of mobile TV services, it only includes online TV subscribers).

have reorientated their strategies to include television services as an integral part of their service offerings.

In this regard, the commercial policies of the three leading operators place special emphasis in 2015 on the marketing of bundled products that include the four telecommunications⁹³ services plus pay television. These products have recorded very high growth rates in the last two years and were the main drivers of the pay television market in Spain in 2014 and 2015.

DISTRIBUTION OF SUBSCRIBERS BY TECHNOLOGY (PERCENTAGE)



Source: CNMC

Finally, the as yet incipient pay television services via online TV should be mentioned. These are pay TV services subscribed by consumers who receive them over the Internet, using connected devices, such as for example: intelligent television sets, tablets, laptop computers, video game consoles connected to a television set, etc.

Online TV, which is slowly beginning to penetrate the market, particularly in the niche market of the youngest consumers, grew by 49.9% in 2015 to reach 215,148 subscribers⁹⁴. Currently, this figure refers to the online TV services offered by traditional pay television operators, without including pure OTT (Over The Top) operators, which in the year under analysis still had a relatively limited presence, but which are expected to have a bigger share in the coming years.

As regards the use of the different networks to offer the pay television services, 2015 was characterised for being the year in which there was a redistribution of subscribers in the market, such that XDSL/FTTH television services became consolidated as the leading technology in Spain, with more than half of pay television subscribers (specifically 51.1%), while cable television experienced an upturn, ranking second with 25.3% of subscribers.

⁹³ The four telecommunications services are fixed telephony, mobile telephony, fixed broadband and mobile broadband-mobile data.

⁹⁴ It refers to customers who are expressly subscribed to online TV services and who pay a certain amount to access those services. Subscribers to pay television through other technologies who also have free access to online pay television are not included here.

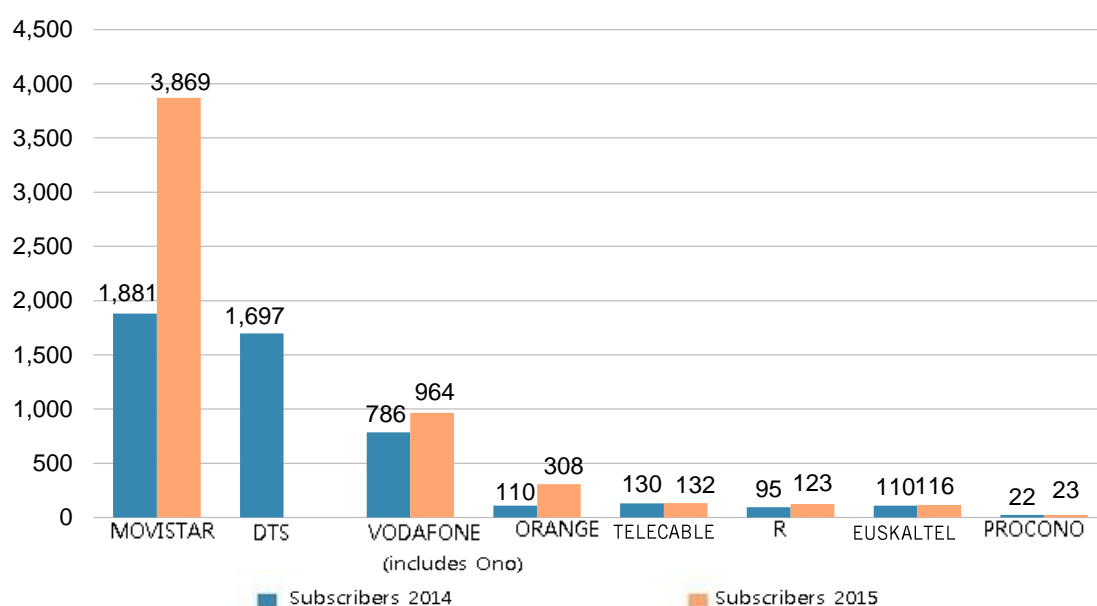
Number of subscribers by operator

At the end of the year, the leading operator in the market was Movistar with a total of 3.87 million subscribers, which were broken down into 2.55 million subscribers to pay television over XDSL/FTTH networks, 1.11 million satellite television subscribers and 208 thousand subscribers to YOMVI, an online TV service.

The second operator, behind Movistar, was Vodafone (which includes Ono), with 964 thousand subscribers, most of which were for cable television, with a few over FTTH networks.

Next and at a substantial distance from the two previous operators was the third operator in the market, Orange, which, after the recent acquisition of the telecommunications operator Jazztel, doubled its number of subscribers in one year, from 109 thousand⁹⁵ at the end of 2014 to 308 thousand in 2015. Of these, the great majority were XDSL/FTTH television subscribers, although the operator also had online TV service subscribers.

NUMBER OF SUBSCRIBERS OF THE LEADING PAY TELEVISION OPERATORS⁹⁶
(THOUSANDS OF SUBSCRIBERS)



Source: CNMC

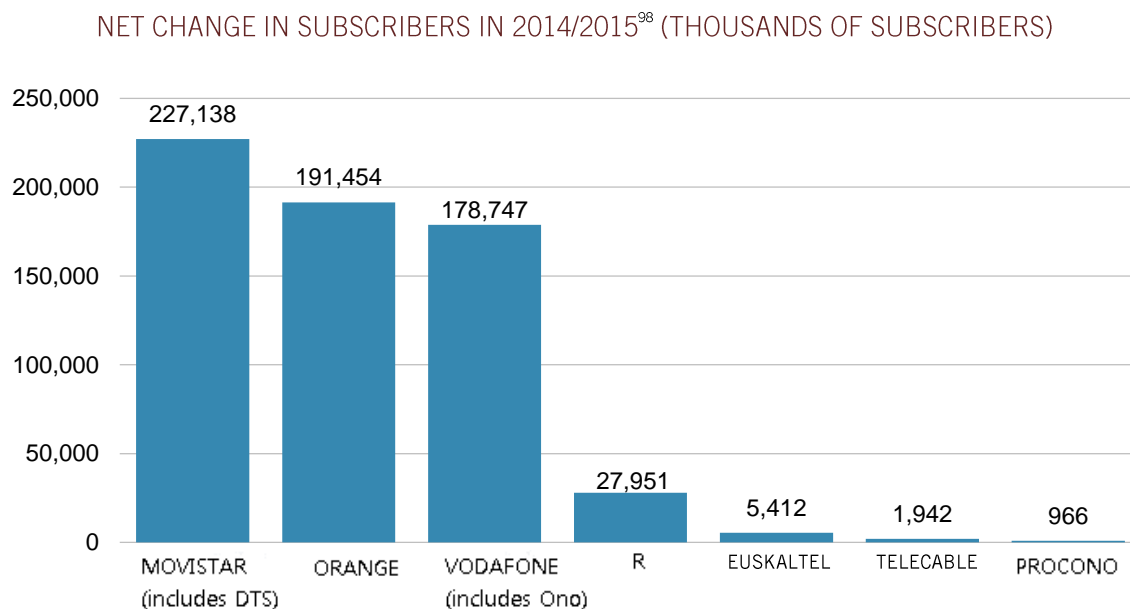
A dynamic analysis revealed that all market operators gained subscribers to the pay television service compared to the previous year. The three leading national operators recorded the highest growth in terms of customers: Movistar increased its customer base by 227 thousand net new subscriptions⁹⁷, followed by Orange with a growth of 191 thousand subscriptions and Vodafone with 178 thousand subscriptions.

⁹⁵ It does not include the subscribers which Orange had to mobile TV over 3G/4G networks in 2014.

⁹⁶ Movistar's subscribers include XDSL/FTTH TV, satellite TV and YOMVI's online TV services.

⁹⁷ This figure was obtained after consolidating net new subscriptions to the XDSL/FTTH TV service and the net loss of customers recorded by the satellite TV service.

Behind the three national operators were the four regional operators: R, Euskaltel, TeleCable and Procono, which, as can be observed in the following graph, also experienced slight growth in their customer bases.



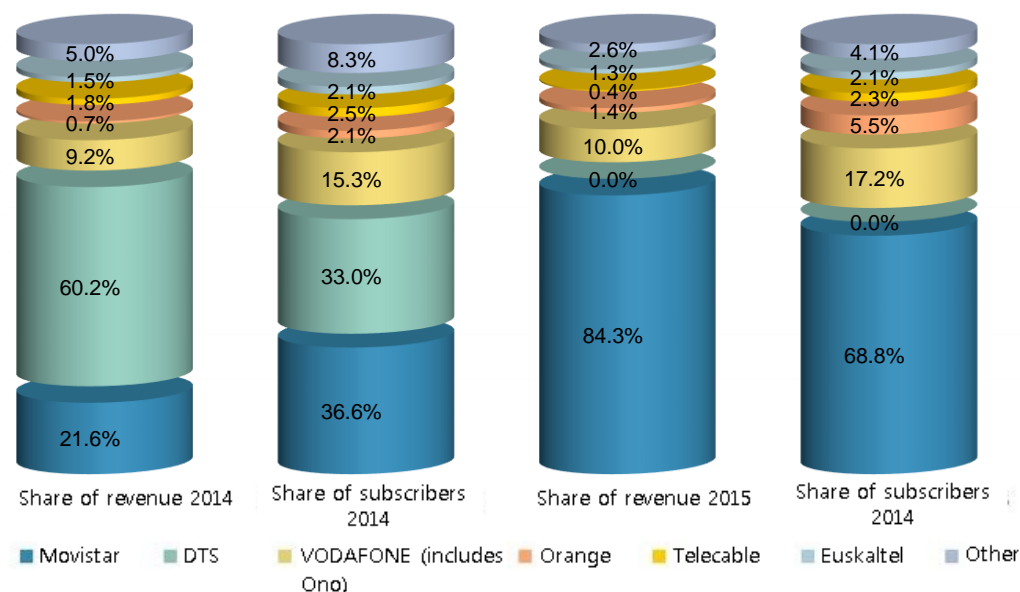
Source: CNMC

Distribution of revenue by subscribers and pay television subscribers by operator

The merger transaction between DTS and Movistar gave rise to significant changes in the structure of the pay television market, particularly in the market shares attributed to each of the operators; although it is true that, as can be observed in the following graph, the concentration was greater in the case of revenue than in that of subscribers.

⁹⁸ Mobile TV subscribers were not taken into account in the comparison with 2014. In the case of Movistar, the comparison was made adding Movistar and DTS data for 2014.

MARKET SHARE ACCORDING TO REVENUE FROM SUBSCRIBERS AND NUMBER OF SUBSCRIBERS⁹⁹ (PERCENTAGE)



Source: CNMC

After the merger with DTS, Movistar became the leading operator and, through the different pay television services it offers (XDSL/FTTH TV, satellite TV and online TV), accounts for 84.3% of revenue from subscribers on the one hand and, on the other, 68.8% of total subscriptions to pay television. The next operator in terms of size is Vodafone, at a substantial distance, with a 10% share of total revenue from subscribers and 17.2% of connections.

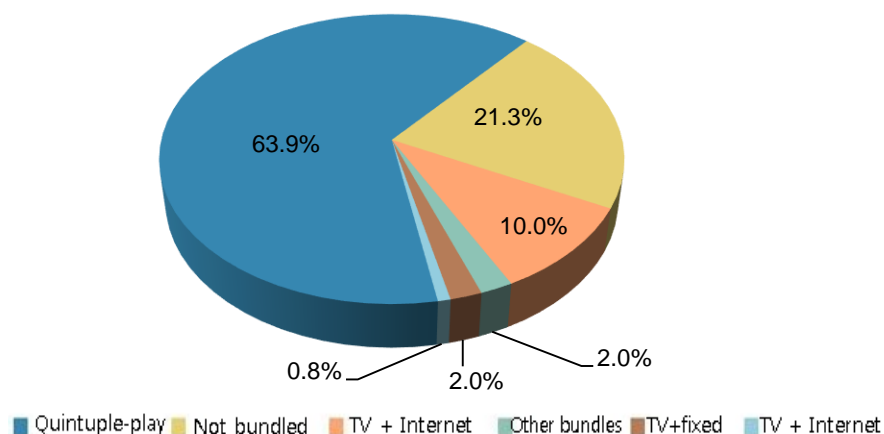
Geographical penetration of pay television

The increase in the number of subscribers to pay television in Spain in 2015 brought about a rise in the penetration rate for the service, to stand at 12.1 subscribers per 100 inhabitants on average. Once again, the province that recorded the highest penetration rate was Asturias, with 19.1 subscribers per 100 inhabitants, followed by Madrid with 15.3%, Las Palmas with 14.3% and Melilla with 14.1%.

At the other end of the scale were Almería, Jaén and Granada, with penetration rates for pay television services of 7.1%, 7.3% and 8%, respectively, although penetration increased in the three provinces compared to the previous year.

⁹⁹ Subscribers and revenue from online TV are not considered. The data used to prepare this graph only consider revenue from subscribers, not total operator revenue, so as not to include the effect of other operator activities, such as the sale of their own productions, or other types of revenue not related to subscribers.

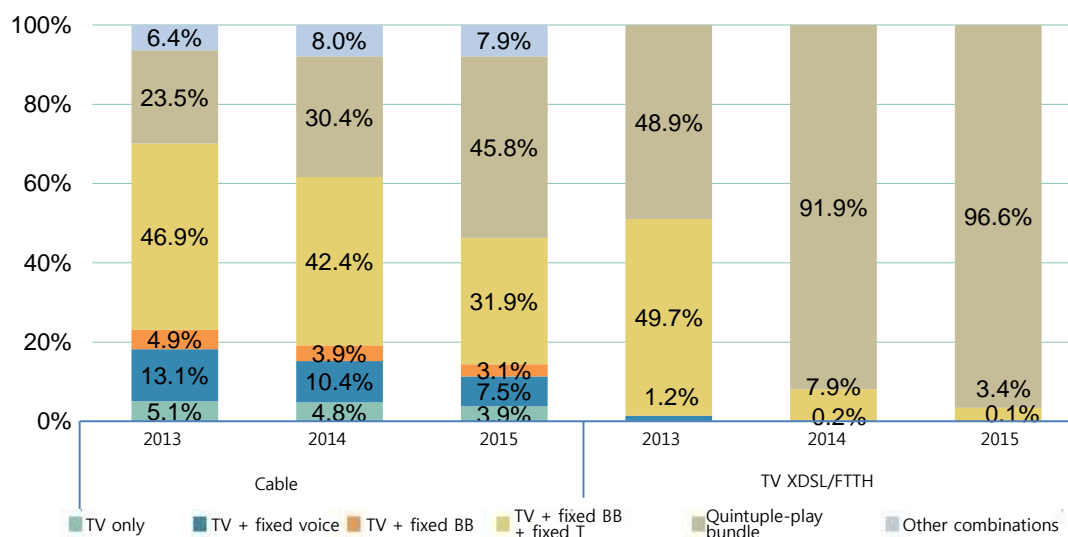
SUBSCRIBERS TO PAY TELEVISION BY TYPE OF SUBSCRIPTION (PERCENTAGE)



Note: The total number of subscribers amounted to 5,622,451.

Source: CNMC

As regards the relationship between the pay television service and bundled subscriptions, at the end of 2015 the number of pay television bundle subscriptions had grown to 78.7% of total subscribers, while reducing the number of unbundled subscriptions so that, at the end of the year, independent pay television subscriptions fell to 21.3% of subscribers.

SUBSCRIBERS TO PAY TELEVISION BY TYPE OF BUNDLE AND BROADCAST MEDIUM¹⁰¹
(PERCENTAGE)

Source: CNMC

¹⁰¹ "Other combinations" includes the following bundles with minority service combinations: TV + fixed voice + mobile voice; TV + fixed broadband + fixed voice + mobile voice; TV + mobile voice and TV + fixed broadband + mobile voice.

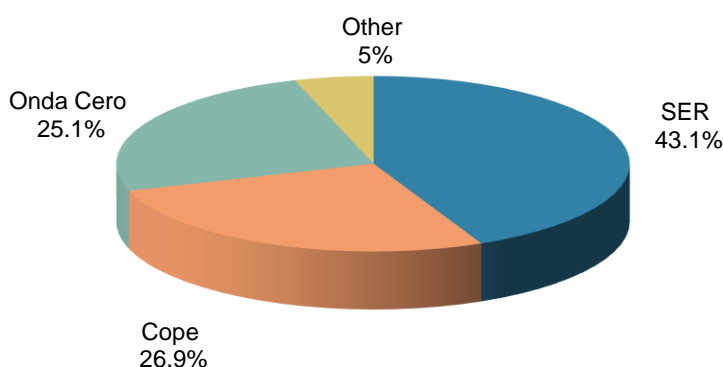
The number of pay television subscribers associated with a quintuple-play bundles had increased at the end of 2015 to 63.9% of total subscribers. In absolute terms, the total number of quintuple-play bundles was 2.9 million for XDSL/FTTH TV services and 0.7 million for cable television services, reaching a total of 3.6 million.

The radio segment

In line with the growth in advertising expenditure in 2015, commercial revenue from the radio sector grew by 7.3%, reaching EUR 355.9 million.

This figure does not include the subsidies received by public operators in 2015, which amounted to EUR 87.1 million¹⁰², a decrease of 3.6% on 2014. If we add subsidies to this net revenue, total radio broadcasting revenue amounted to EUR 443 million, with growth of 4.9%.

REVENUE FROM THE MAIN RADIO GROUPS (PERCENTAGE)



Note: Total radio revenue amounted to EUR 355.9 million.

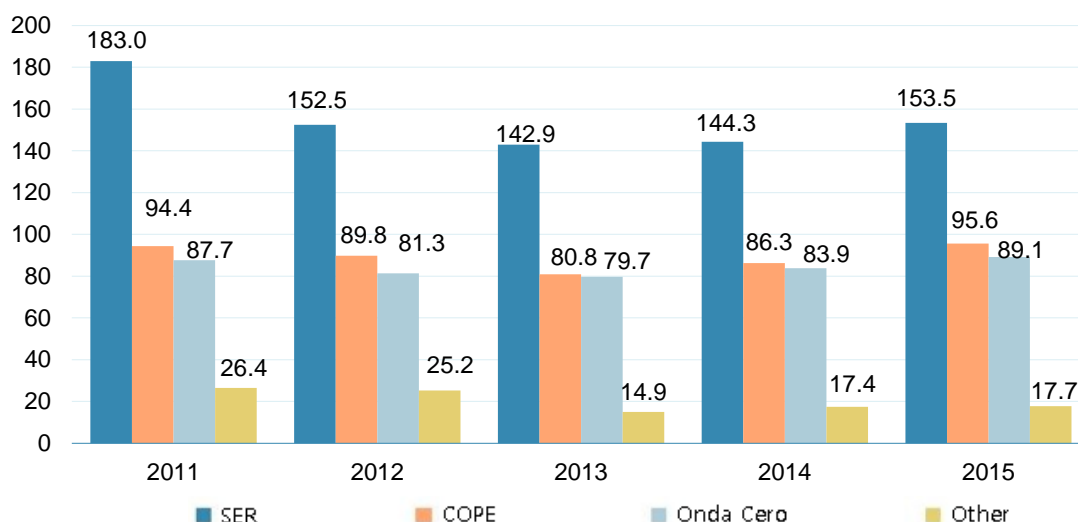
Source: CNMC

Concentration in the radio broadcasting market

As regards the market structure, the data reflect the fact that the Spanish radio broadcasting market is characterised by significant concentration in terms of audience share and advertising revenue. Of the EUR 355.9 million received by radio in 2015, the group comprising the three leading national private operators – Sociedad Española de Radiodifusión (SER), owned by the Prisa Group; Onda Cero, owned by the Uniprex Group; and COPE, owned by Radio Popular – jointly obtained EUR 338.2 million, representing 95% of total commercial revenue from the radio sector.

¹⁰² It only includes subsidies paid directly to radio services. This figure does not include subsidies intended for public radio and television entities, which in 2015 totalled EUR 170.6 million.

REVENUE FROM THE LEADING RADIO OPERATORS (MILLIONS OF EUROS)



Source: CNMC

Radio revenue by operator

Cadena SER continued to lead the market in 2015 with revenue of EUR 153.5 million, up 6.4% on the previous year, thereby maintaining its share of total revenue with 43.1%. Radio Popular's Cadena Cope experienced higher annual growth of 10.8%, with turnover of EUR 95.6 million, its highest figure in the last seven years. Lastly, the third-ranking radio operator by size was Onda Cero, owned by the Uniprex Group, with EUR 89.1 million, up 6.3% on 2014.

Behind the three biggest operators in the market, the remaining radio operators had a combined turnover of EUR 17.7 million, which represented growth of 1.7%.

2.6 Audiovisual signal transport and broadcasting services

Bearer services are those that provide the necessary capacity to transmit signals between two or more defined points of the telecommunications network. In the case of audiovisual services, these constitute the network services through which radio broadcasters make their content available to end consumers.

This market includes, on the one hand, the audiovisual signal transport services, which carry the audiovisual signal from the production centres to the network head-ends (contribution transport¹⁰³) and from the network head-ends to the broadcasting centres (distribution transport) and, on the other, the signal broadcasting services that send the signal from broadcasting centres and relay stations to users' homes.

¹⁰³ Contribution services consist of transporting unprepared and unedited audiovisual signals from any location to the production centres to be processed.

From the viewpoint of regulation, the transportation of the signal can be performed by various means such as cable, radio-link or satellite. This implies that any operator with the appropriate networks may potentially provide transport services; the transport service may, therefore, be provided under competitive conditions, since there are numerous telecommunications companies that can provide the service using the country's existing infrastructure. In addition to being a point-to-point service (unidirectional), the activity is not related to the use of radio spectrum, which enables any operator with telecommunications networks to provide the service, therefore being few restrictions on the entry of operators into the signal transport segment.

Conversely, the broadcasting service – which in the case of DTTV is linked to the use of radio spectrum – can only be provided by operators which have a terrestrial network with the appropriate broadcasting facilities and infrastructure, which implies heavy investment and explains, in turn, the existence of only a small number of agents who specialise in the provision of these services.

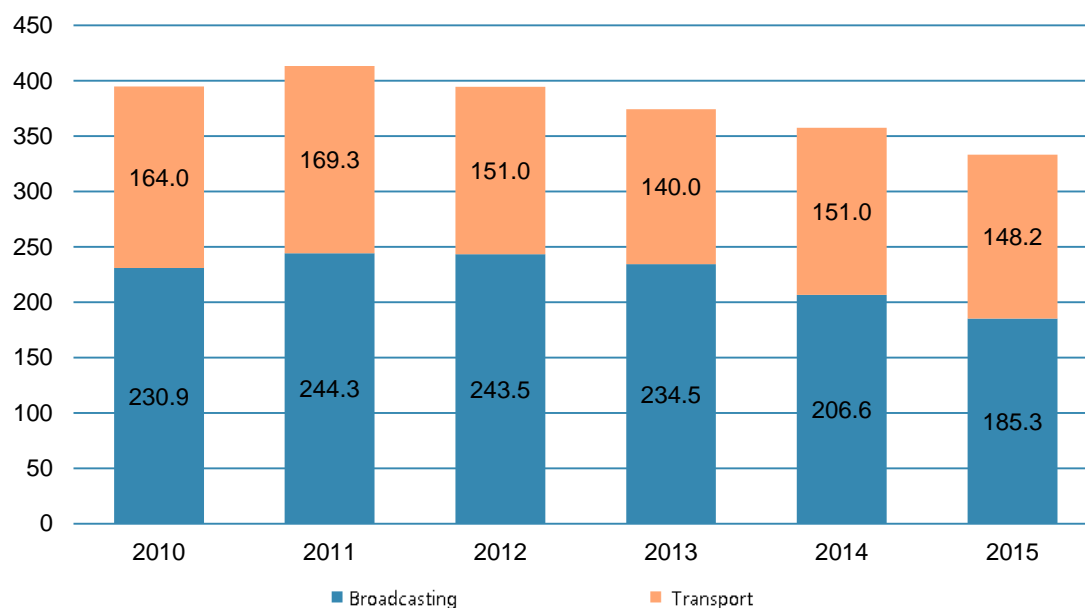
Additionally, in the case of broadcasting services, the *ex ante* market analyses find other barriers to market entry arising from the long duration of the contracts and the impossibility of replicating certain forms of infrastructure in the short term. As a result, the wholesale television signal broadcasting market is considered a non-competitive market, in which there are structural barriers to entry for new operators and which remains subject to *ex ante* regulation.

Transport and broadcasting revenue

The closure of the nine nationwide DTTV channels that took place in May 2014 affected the agreements between transmission signal operators and broadcasters and, therefore, the volume of wholesale revenue from signal transport and broadcasting fell by 6.8% in 2015 compared to the previous year, with a net revenue of EUR 333.4 million. It should be taken into account that transmissions ceased in May and, therefore, the channels were only fully active in the first four months of 2014 and not in 2015, which resulted in a new fall in the latter year after the closure.

As in 2014, of the two activities performed by signal-carrying operators, the one which was more affected by the closure of the channels was audiovisual signal broadcasting, which recorded a year-on-year fall of 10.3% in turnover, compared to the 1.9% drop experienced by signal transport services.

REVENUE FROM AUDIOVISUAL SIGNAL BROADCASTING AND TRANSPORT SERVICES
(MILLIONS OF EUROS)



Source: CNMC

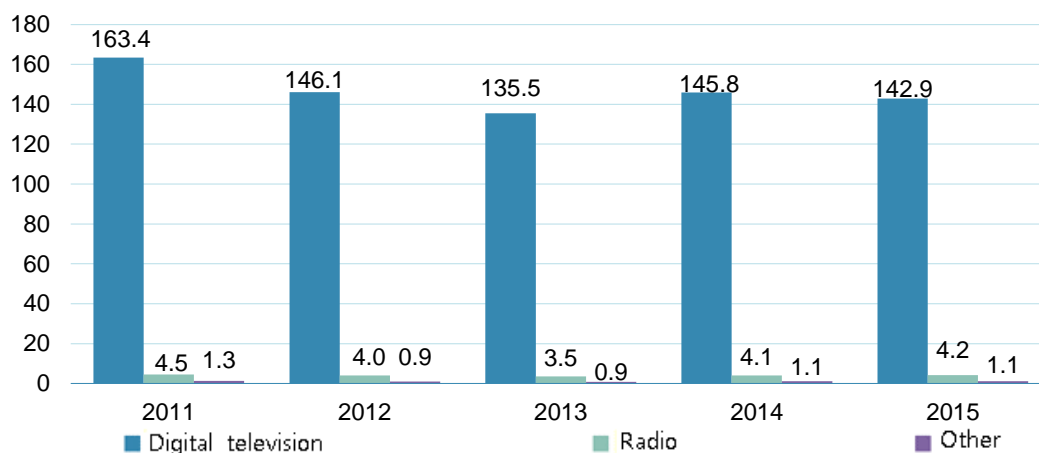
2.6.1 Audiovisual signal transport services

Overall, revenue from transport accounted for 44.4% of turnover obtained by audiovisual signal transmission operators, with revenue amounting to EUR 148.2 million, down 1.9% on the previous year.

Transport revenue by type of technology

In terms of the type of audiovisual communication service for which they provide support, the highest turnover was seen by the digital television service, with EUR 142.9 million, although the revenue obtained fell slightly by 2% compared to 2014. Thus, DTT signal transport was the main activity of this segment, with a 96.4% share of total revenue. The other section of this chapter relates to the radio signal transport activity, where revenue amounted to EUR 4.2 million, with growth of 1.2% in 2015.

REVENUE FROM AUDIOVISUAL SIGNAL TRANSPORT SERVICES BY TECHNOLOGY (MILLIONS OF EUROS)



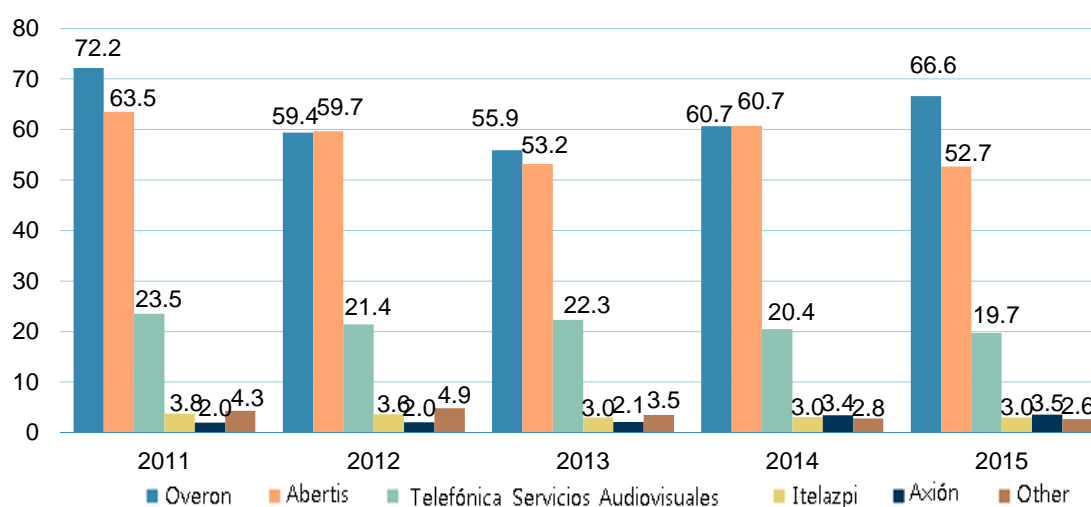
Note: Other includes occasional contributions and other transport services.

Source: CNMC

Revenue by operator and share of the audiovisual signal transport services market

Once again, Overon and Abertis were the two leading operators in terms of revenue and number of customers. However, after their tie in 2014, the two operators performed differently in the last year. Overon, ranked first with a turnover of EUR 66.6 million and growth of 9.8%, while Abertis fell back by 13.2%, with revenue of EUR 52.7 million, due to the closure of the nationwide DTT channels.

REVENUE FROM AUDIOVISUAL SIGNAL TRANSPORT SERVICES BY OPERATOR (MILLIONS OF EUROS)



Source: CNMC

The third-ranked operator in terms of business volume, at a substantial distance from the first two operators, was Telefónica Servicios Audiovisuales, with revenue of EUR 19.7 million, down 3.5% on 2014.

These three operators are the only operators with nationwide presence. Then followed the remaining regional operators which jointly totalled EUR 9.2 million, a figure similar to that of the previous year.

2.6.2 Audiovisual signal broadcasting services

Television and radio signal broadcasting services continued to have the largest share of overall revenue, accounting for 55.6% of total revenue generated in 2015, although the difference with transport services was reduced for the second consecutive year.

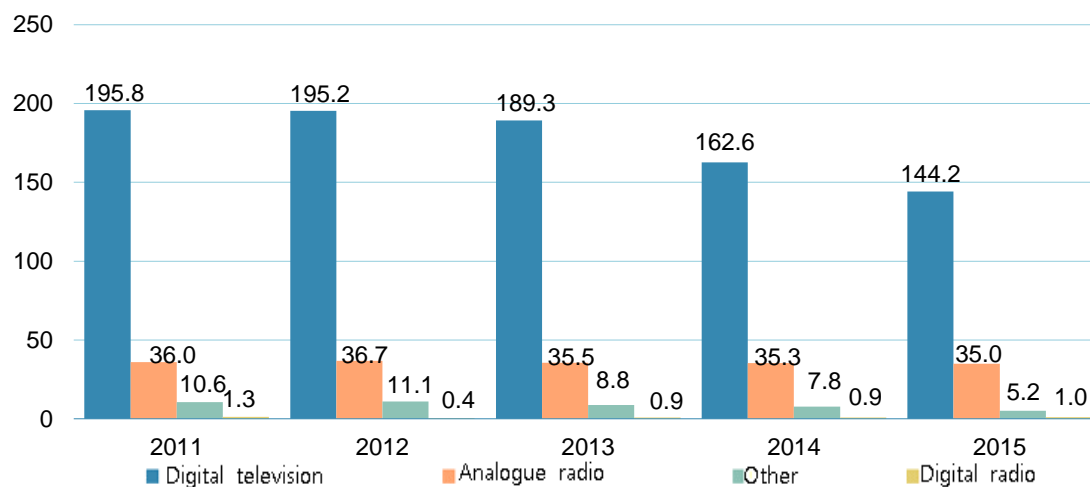
This segment was also affected by the Supreme Court decision in 2014 which required the closure of nine DTT programme channels, which ceased broadcasting in May. When the channels ceased broadcasting, it gave rise to a drop in revenue from DTT signal broadcasting, which fell by 10.3% compared to 2014 to stand at EUR 185.3 million.

Broadcast revenue by type of technology

By type of technology, the largest amount of revenue came from digital television services, with a turnover of EUR 144.2 million, despite the fact that revenue from these services fell by 11.4% compared to the previous year. Even so, revenue from DTT represented the majority of that for broadcasting services, accounting for 77.8% of total revenue.

Digital television services were followed by radio signal broadcasting services, with revenue of EUR 35 million. These services remained very stable compared to the two previous years and only experienced a slight fall of 1%. Overall, radio services accounted for 18.9% of revenue obtained from broadcasting services.

REVENUE FROM AUDIOVISUAL SIGNAL BROADCASTING BY TECHNOLOGY
(MILLIONS OF EUROS)



Note: Revenue from other services related mainly to revenue from Premium DTTV.

Source: CNMC

Revenue by operator and share of audiovisual signal broadcasting services market

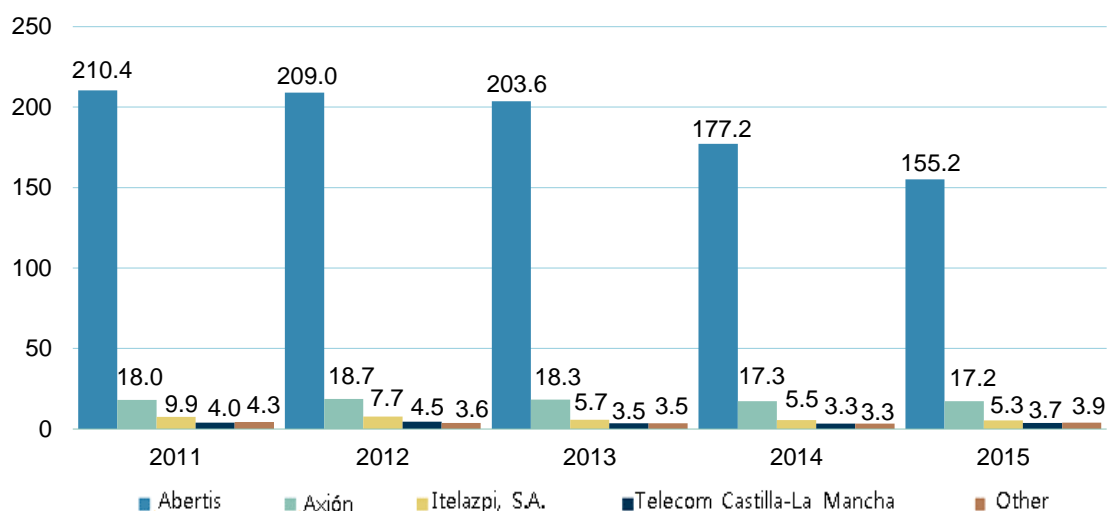
By operator, Grupo Abertis – which is the largest operator in the market and the only operator that offers nationwide coverage –¹⁰⁴ was the leading provider of audiovisual signal broadcasting services, with revenue of EUR 155.2 million, representing a 12.4% decrease (EUR 22 million less) compared to the figure obtained in the previous year. This fall was due to the reduction in the number of DTTV channels.

The other operators, those operating at regional and provincial level, followed a long way behind, together accounting for 83.8% of total revenue generated. The largest regional operator was Axi3n, whose activity is focused on the autonomous region of Andalusia and whose revenue grew to EUR 17.2 million, a figure very similar to that obtained in 2014.

Next were the Basque operator Itelazpi, with revenue from broadcasting services of EUR 5.3 million – 3.5% less than in the previous year – and the operator Telecom Castilla La Mancha, with revenue of EUR 3.7 million, up 10.9% on 2014.

¹⁰⁴ The revenue obtained by Grupo Abertis includes the revenue generated by its subsidiaries Retevisi3n I, S.A.U. and Tradia Telecom, S.A.

REVENUE FROM AUDIOVISUAL SIGNAL BROADCASTING SERVICES BY OPERATOR
(MILLIONS OF EUROS)

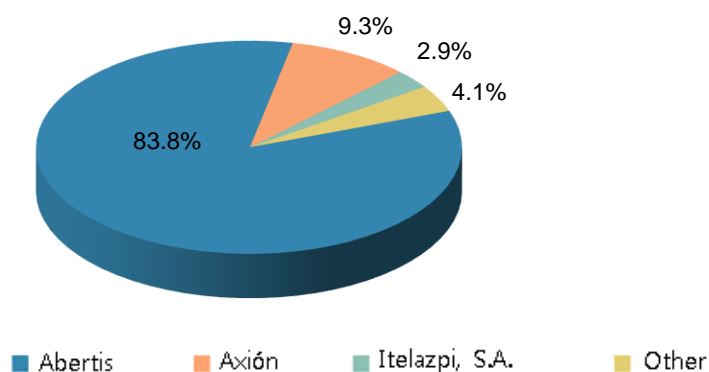


Source: CNMC

Competition in the audiovisual signal broadcasting services market

The market for audiovisual signal broadcasting services by means of terrestrial waves is characterised by being a highly concentrated market in which there is a single operator, Abertis Telecom, which operates at national level and accounted for 83.8% of overall billings in 2015, compared to the other operators, which operate at regional level and jointly accounted for the remaining 16.2% of total revenue.

MARKET SHARE OF THE AUDIOVISUAL SIGNAL BROADCASTING SERVICE BY REVENUE
(PERCENTAGE)



Source: CNMC

Abertis is the company which has the largest terrestrial television signal broadcasting infrastructure in Spain. Abertis is the owner of most of the huts and radio towers. There are seven autonomous regions which have an independent television signal broadcasting operator and jointly provide coverage to 48.3% of the Spanish population. In many cases, operators in the autonomous regions are public capital operators that provide restricted services to a certain autonomous region and do not offer services to third parties.

Abertis provides nationwide service to the five Spanish operators –the state-owned operator CRTVE and the four privately owned operators: Mediaset, Atresmedia, the Vocento Group (Net TV) and the Unidad Editorial Group (Veo Televisión).

At regional level, in 2013, seven of the 13 public regional television network broadcasters used Abertis' service and six used that of regional operators¹⁰⁵. As a result, Abertis Telecom has a market share of 100% on national services and 90% if the different geographic levels (national, regional and local services) are taken into account.

¹⁰⁵ Mention should be made of the existence of operators, mostly set up with public money, which provide services to regional television channels. This fact has caused recipients of television licences in each region to subscribe to the operator that provides services in that region. The business activity of these operators is, therefore, clearly focused on their specific autonomous region.