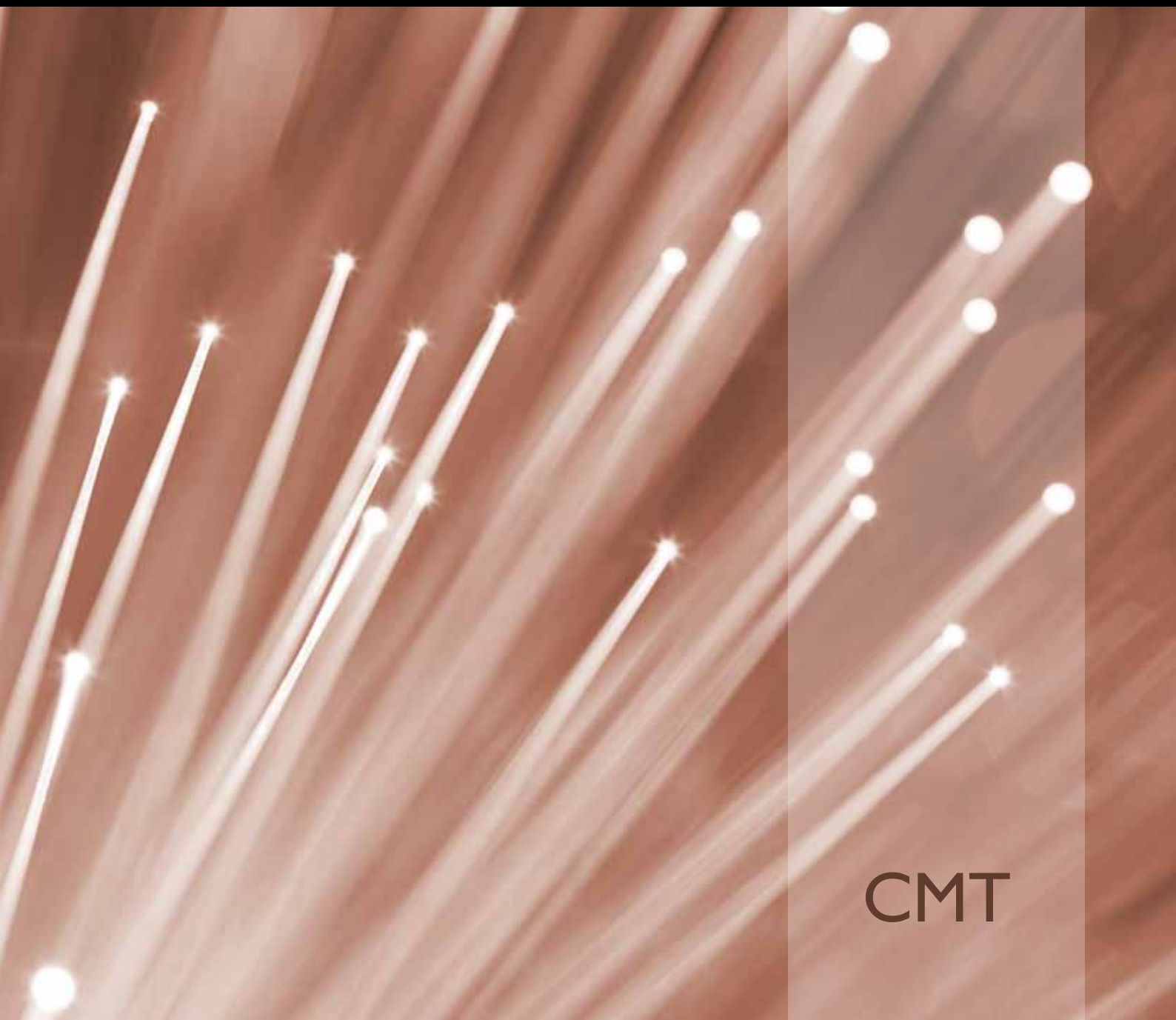
2012

Financial and **Industry Report**

Comisión del Mercado de las Telecomunicaciones



CMT

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Letter from the Chairman

The key figures for Spanish electronic communications in 2012 show that the industry was not immune to the economic crisis, although the impact of this was milder than for other industries in the Spanish economy. The fall in consumption and price-drops hit revenues, leaving overall turnover for the telecommunications services and audiovisual industry at 35,230 million euros, including revenues from both retail and wholesale services. This figure meant turnover was 7.2% down on 2011.

Demand varied according to service type. As in previous years, the trend of deepening penetration of broadband services continued, particularly in mobile broadband. On the other hand, fixed telephony service penetration fell back, as did that for mobile telephony, for the first time since it was launched.

Fixed broadband lines were up 3.2%, topping the figure of 11.5 million active accesses and population penetration of 24.9%. Mobile broadband user numbers also grew by 44.2%, achieving a penetration rate of 54 lines per 100 inhabitants.

On the other hand, fixed telephony was down by 314,000 lines, standing at a penetration rate for the population of 42.4%, while mobile telephony lost a total of 1.9 million lines, basically in the pre-paid segment, registering a penetration rate of 121.2 lines per 100 inhabitants if we include *datacards* and M2M lines.

With respect to the pay TV service, user numbers were down by 340,000, with the penetration rate at year-end 2012 standing at 9% of the population.

Operators invested over 4,000 million euros in 2012. This was 8.9% less than the figure for 2011 if we exclude the expenditure made by operators in acquiring frequencies in the tender held in 2011.

The stiffer competition in the market in 2012 gave rise to an across-the-board drop in service prices and a clear trend by users towards subscribing to converged fixed and mobile service offers, both for voice and data. The cost of mobile telephony for domestic calls came down by approximately 14% and voice and broadband packages became around 7% cheaper. Likewise the appearance in the latter part of the year of convergent offers integrating fixed and mobile services, both for voice and broadband, entailed a substantial drop in the prices for services relative to the previously existing individual offers for these.

During 2012 the roll-out of Next Generation Access (NGA) networks continued, which will make it possible to provide broadband services at bitrates of over 100 Mbps. At the end of the year cable operators had reached 9.6 million installed high speed accesses and Telefónica had topped 3.2 million home fibre-optics roll-outs. Out of a total of approximately 1.16 million lines subscribed with bitrates of 30 Mbps or over, more than 700,000 were accounted for by cable operators, some 344,000 by Telefónica and the remaining 117,000 basically by alternative operators who use Telefónica infrastructures with VDSL technology.

Notable in the roll-out of new NGA infrastructure were the agreements on joint investment in fibre-optics networks entered into by operators. On the one hand, there was Jazztel's agreement with Telefónica, which will allow these operators to access more than 3 million building units, and on the other hand, that of Orange with Vodafone, extending to 6 million building units. Vodafone, Orange and Yoigo have also announced the commercial launch of fourth generation mobile communications services in mid 2013 using LTE technology.

In 2012 there was also a step-up in the level of competition, with losses in market share for Telefónica and Vodafone, both in fixed and mobile communications. For its part, Orange boosted its market share and cable operators held theirs virtually steady. In terms of broadband lines, Telefónica had a market share in late 2012 of slightly over 48%; alternative operators, around 33%; with cable operators pushing 19%. With regard to mobile telephony, Movistar had a share of over 36%; Vodafone, 26%; and Orange, almost 22%; while both Yoigo and the mobile

virtual network operators (MVNOs) lifted their market shares to 6.4% and 9.6%, respectively.

On top of this, portability, i.e. changing operator while keeping the same telephone number, continued apace, reaching a total of 7 million transfers in 2012, with 1.8 million fixed phone transactions and 5.2 million in mobile telephony, which illustrates how dynamic the telecommunications market is in Spain.

Over 2012 the CMT was highly active in pursuing its plan of action and revising and laying down the relevant regulatory measures concerning operators with significant sway in markets. Specifically, the Board of Directors of the CMT passed regulatory decisions in the different markets for voice call termination within individual mobile networks, accessing the public fixed telephony network, rented terminal and trunk lines, and, in mid 2013, television signal transport. It also passed or proposed reviews of most of the prices for wholesale services, such as those for indirect access to the subscriber loop, those for direct access and those for rented circuits.

Activity in the audiovisual industry was also hit by the economic crisis, with an 8.6% downturn in overall turnover, reaching revenues of 5,902.4 million euros, of which 2,140.9 million were accounted for by subsidies. The biggest fall in turnover was recorded in the free TV segment, which slumped by 17.9% on lower advertising revenues, these being the primary source of funding for this market segment. Revenues in the pay TV business were up 2.5% to 1,746.8 million euros, with turnover here outweighing that for free TV operators as a whole. The audiovisual signal transport market reported a turnover 4.6% down in annual terms.

On the other hand, the publication last 5 June of the Act to create the National Markets and Competition Commission, a body that would comprise the various industry regulators and the competition authority, represents a sea-change in the institutional framework and a challenge for all the employees of the CMT in pursuing its activities to the benefit of the public, companies and the economy as a whole.

Finally I would like to thank those working at the CMT for their effort and devotion in preparing this 2012 Financial and Industry Sector Report.

Bernardo Lorenzo Almendros
CMT Chairman

Barcelona, 14 June 2013

2012 financial year highlights

Overall turnover for the sector falls by 7.2% with respect to 2011, to 35,228.3 million euros

The drop in revenues affected both end and wholesale services (7.4% and 6.3%, respectively).

As in 2011, mobile broadband was the only retail where revenues rose, doing so by a notable 29%.

The decline in wholesale service revenues was mainly due to weaker revenues from voice interconnection, both in fixed and mobile networks, while the demand for wholesale broadband services continued to grow.

Penetration only deepens in fixed and mobile broadband services

The number of broadband lines in fixed and mobile networks rose, while those for other services decreased.

Total fixed broadband lines topped 11.5 million, although the annual growth rate for these slackened, dropping to 3.2% compared to the figure of 4.8% posted in 2011. Mobile broadband lines (meaning *datacards* plus *smartphones*), however, showed a substantial increase of 44.2%, reaching 24.9 million lines.

This left the penetration rates for fixed and mobile broadband at 24.9 and 54 lines per 100 inhabitants, respectively.

The advent of quadruple and quintuple *play* services, which combine fixed and mobile services, has changed the scenario for bundled services in Spain

At the end of the year over one million quadruple packages, which bundle together voice and broadband services in both fixed and the mobile networks, had been recorded, and 146,132 packages featuring five services, which include pay TV as well as the previous four.

The range offered by Telefónica was joined by those from other operators, who launched similar products in late 2012 and early 2013. This led to a more dynamic market, with a total of portability transfers in the final quarter of the year that surpassed that seen in previous quarters.

The number of lines with bundled services continues to follow the growth trend of the last few years. To be specific, 55% of fixed phone lines are bundled with some other service, whereas for fixed broadband this figure is 92.2% of lines.

Operators continue to lower their prices as a result of the economic crisis

Falls in service prices were above all realised through bundling various services, where the end price was substantially below those for individual subscriptions for the different services. The effective total expenditure of households subscribing for quadruple *play* services thus came down by 7.7% in the last quarter of the year.

Operators continued to bring down their end prices as well, relying in turn on the lowering of wholesale prices

regulated by the CMT. Particularly significant were the falls of 13.8% in the average price per minute for mobile network calls to phones (fixed and mobile) nationally and 11.1% for fixed-to-mobile calls.

Industry investment down 8.9%

Total investment by industry operators came to 4,053.1 million euros. Taking out radio spectrum investments (1,562 and 82.1 million euros in 2011 and 2012, respectively), investment dropped by 8.9% on the previous year (3,971.1 million euros in 2012 against 4,358.6 million euros in 2011).

Significant headway made in the roll-out of Next Generation Access (NGA) networks

Operators continued to invest in next generation access networks so as to be in a position to offer broadband services at very high bitrates. The roll-out of these networks was substantially stepped up via Telefónica in FTTH accesses and the migration of practically all HFC accesses to DOCSIS 3.0 by the cable operators.

Total installed FTTH accesses amounted to 3.25 million, doubling the figure the previous year, while the number of installed HFC accesses using DOCSIS 3.0 was 9.6 million.

Fixed telephony

Fixed telephony continued to lose importance

The level of fixed phone revenues, which stood at 4,813.9 million euros, fell off to a greater extent than in previous years, dropping 10.7% compared to 7.9% the previous year. Total active lines fell by 314,412. Traffic decreased proportionately less, which represented a reduction in average prices.

The level of portability transfers remained steady at a high volume

A total of 1,782,121 fixed portability transfers were recorded in 2012. The beneficiaries of this spate of portability transfers were, above all, the alternative operators, which accounted for 23.4% of the fixed lines in the market at the end of 2012 and managed to capture 38.6% of lines in conjunction with the cable operators.

Fixed telephony service prices continue to come down

All the average prices per minute for the major call destinations from the fixed network were cut in 2012, notable among them being the fall of 11.1% for fixed-to-mobile calls down to 13.3 euro cents per minute. National fixed-to-fixed call prices came down 5% to 2.1 euro cents per minute.

Fixed broadband

Broadband connections rose to over 11.5 million lines

Fixed network broadband accesses increased by 3.2% over the last year to more than 11.5 million. This volume of lines left the penetration rate at 24.9 lines per 100 inhabitants. Taken together, xDSL technology, with 8.9 million lines, and HFC networks, with over two million accesses, accounted for 96% of active broadband accesses. The increase in FTTH connections was also notable, practically doubling in the space of one year and reaching 336,719 lines.

Internet services, which include fixed broadband, brought in a total of 3,659 million euros, 4.6% less than the previous year.

Over 1.1 million lines connected at a bitrate of 30 Mbps or more

The improvement in access networks was mirrored by higher speeds for subscribed broadband lines. Lines with a connected bitrate of 30 Mbps or more were up by 63.7% in the year, totalling 1.16 million, of which 28.9% were FTTH lines and the rest HFC.

Alternative operators see line numbers increase considerably

352,031 new broadband lines joined the market. Of these, alternative xDSL operators captured 70%. Telefónica, which suffered a net loss of lines in 2011, managed to end the year with almost 100,000 new lines. Despite this, its market share stayed at under 50%.

Boost in bundled offers featuring fixed and mobile services

The 2012 financial year was characterised by the appearance of commercial offers with more bundled services. Fixed broadband and voice services, which

are the most numerous packages in the market, were thus joined by mobile broadband and voice services in the same bundle. These quadruple *play* packages represented 10.5% of all broadband lines.

On the other hand, effective price reductions were noted for the most frequently subscribed packages. The average price of broadband and voice offers from the major operators for bitrates of 30 Mbps or more was 41.1 euros, 10.3% down on 2011, and the average expenditure of households subscribing to these services fell by 6.9%.

New indirect access service (NEBA, or new broadband ethernet)

The number of local Telefónica exchanges at which alternative operators co-located continued to rise, in line with the boosting of the local loop unbundling service, which reached the figure of 3.26 million loops. In zones where these operators do not have the local loop unbundling service they have indirect broadband access available with GigADSL and ADSL-IP services, which reached 660,876 lines, thus allowing them to cover Spanish soil fully with the services they offer.

The limited scope for differentiation afforded by current indirect access services compared to those offered by Telefónica prompted the scheduling in 2011 of a new indirect access service (New Broadband Ethernet Service, or NEBA). This service will gradually phase out GigADSL and ADSL-IP, provide wholesale access to Telefónica's new fibre network and allow greater value-added services to be offered with quality assurance in providing IP telephony.

Mobile telephony

Total mobile lines decrease for the first time

In 2012 total mobile telephony lines stood at 50.7 million, a figure which means a loss of some 1.9 million lines compared to the previous year. The decline was focused on the pre-paid segment, with a YoY fall of 12.5%, whereas in the post-paid segment there was a mild increase of 2%. Lines associated with telemetric or telecontrol services (M2M) reached 2.8 million last year, which represented a YoY increase of 12.1%.

Revenues from mobile telephony end services down 15.9% in one year

Revenues from mobile telephony end services fell back to 9,504.5 million euros. This figure meant an annual drop of 15.9% on top of the fall of 8.4% posted in 2011. The *en masse* launch was also observed of offers bundling the voice service and mobile internet and payable at a flat or semi-flat rate. At year-end, total bundled subscriptions (voice and data) reached 8.9 million.

The price of mobile calls to national destinations fell by 13.8%

In 2012 mobile telephony prices continued the downward path seen in recent years. Average revenue per minute for a call from a mobile terminal dropped on average by 11.8% on last year and the average cost of a call with a national destination decreased by 13.8%.

The operators with the lowest market shares are those capturing the greatest percentage of lines

In 2012 the two major market operators (Movistar and Vodafone) saw their market shares in mobile voice lines fall, and to compensate this Orange, Yoigo and the MVNOs upped their market shares to 21.7%, 6.4% and 9.6%, respectively.

Mobile broadband

Subscriptions to mobile broadband services via voice terminals increased exponentially

A total of 24.9 million lines had internet access via mobile networks, which represented an increase in demand for these services of 44.2%. Most mobile broadband connections (89.9%) were through voice terminals. 22.4 million users connected through such terminals, whereas 2.5 million did so from data-only devices, mainly *datacards* and tablets.

A high growth-rate displayed once again in 2012 for mobile broadband services as a whole

Mobile broadband was the only telecommunications service which experienced meaningful revenue growth, with a YoY increase of 29% on turnover of 2,766.6 million euros.

Television and radio services

Total industry revenues 8.8% weaker, above all due to a marked decline in advertising revenues

Television and radio operators billed 3,761.4 million euros, posting a drop of 8.8% on 2011.

Public operators saw subsidies receive less in subsidies and private operators were hit by lower advertising revenues and a shrinking base of subscribers to pay TV.

Second merger of DTTV operators against a backdrop of falling advertising revenues

In 2012 advertising revenues were 1,925 million euros, having experienced a YoY decline of 17.3%, which resulted in 403 million euros less.

Following the merger between Gestevisión Telecinco and Cuatro in late 2010, a second merger process was finalised in October between Grupo Antena 3 and Gestora de Servicios Audiovisuales la Sexta. These two major operators together accounted for 82% of advertising investment. The private television channels obtained 91.7% of the advertising broadcast by free TV compared to 8.3% of revenues achieved by regional and local public television channels.

Pay TV revenues outstrip those of free DTTV

Free TV revenues slid the most, falling back by 17.9%, showing total turnover of 1,665.8 million euros. Turnover for pay TV services was 1,746.8 million euros, rising by 2.5% and for the first time topping sales revenue obtained by the free TV segment. This higher revenue figure was not however accompanied by more subscribers, the number of these dropping off by 340,522 over the year.

The number of subscribers to pay TV is down and almost half of subscriptions involve offers bundled with telecommunications services

The total number of subscribers to pay TV, excluding mobile TV, was 4,177,603, down 7.5% on 2011. 49.1% of these subscribers had their television service bundled with some kind of telecommunications service.

The downward trend in the number of customers was shared by all the pay TV platforms, especially IPTV, cable TV and pay DTTV. The appearance of emerging online TV services was however noticeable.

1 The telecommunications industry

2012 was a year of recession and severe belt-tightening in the European Union (EU). The eurozone[1] recorded negative growth of 0.5% and activity slowed down as the year wore on. The biggest rates of decrease in gross domestic product (GDP) occurred in southern Europe, where governments applied drastic fiscal tightening, a policy of streamlining the banking system and structural measures to boost the competitiveness of the economies of their respective countries. Despite the liquidity injection into the banking system in 2012, the volume of loans granted to the private sector shrank.

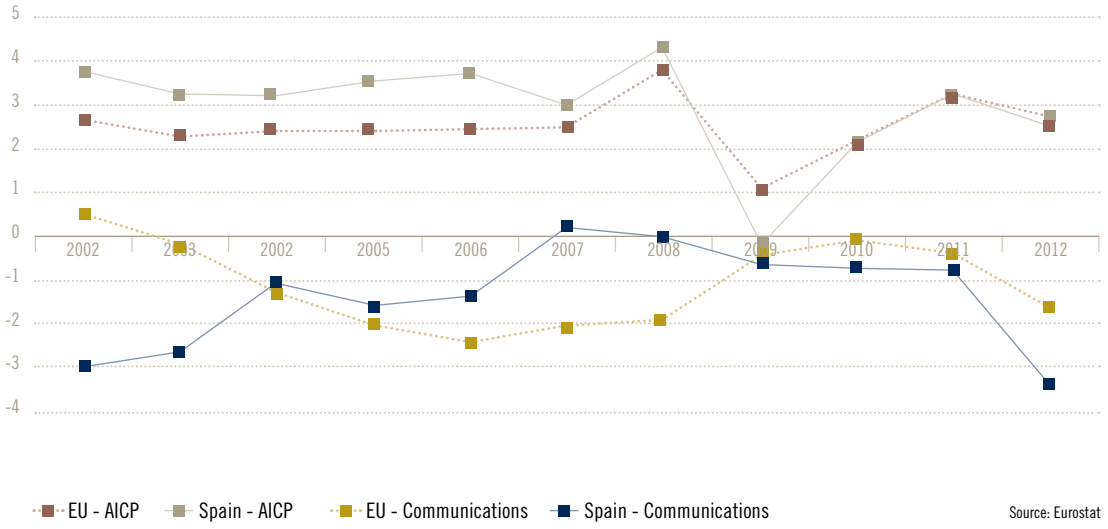
In Spain the year proved especially awkward. The fall in GDP in real terms was 1.4%. Gross Fixed Capital Formation was down by 9.2%, private consumption was reduced by 1.4% and public consumption fell even more proportionately, by 3.7%, as a result of the drastic fiscal tightening. The only positive component on the demand side came from abroad, owing to the rise in exports, which, together with the drop in the demand for foreign goods, improved the trade balance.

For 2013 major reductions in activity in the economies in the south of Europe are forecast, while for 2014 a change in trend is predicted with small, yet positive, growth rates.

1.1 The Spanish industry in the European context

In 2012 the economic crisis begun in 2008 brought about a decrease in disposable income, which in turn contributed to the fall in private consumption. Telecommunications operators responded to this contraction in demand by lowering the prices for their services. This meant that while the general consumer price index (CPI) for the Spanish economy rose 2.4% (a rate slightly below that recorded for the EU-27, where prices rose by 2.6% on average), the communications prices sub-index[2] came down by 3.3%, the largest fall observed in a decade. This fall was larger than that observed for the EU-27 for this set of services, which was 1.6%.

Rate of annual change in the Harmonised ICP and the communications sub-index in the EU-27 and Spain



Source: Eurostat

[1] Data used from the *Annual Report* 2012, European Central Bank; as well as the quarterly accounts of the INE (Spanish National Institute of Statistics).

[2] This sub-index includes postal services and excludes audiovisual services.

As a result of the price moderation and also the reduction in certain areas of consumption, in 2012 the revenues of the major EU operators receded in a continuation of the negative trend begun in 2009. Even though consolidated figures are not available, it is estimated that in Europe turnover in the industry came down by 1.1%.

By type of service, the results were uniform: voice service revenues dropped, both for those provided via fixed networks (EU turnover was 7% down) and via mobile networks (2.7% lower). On the other hand broadband revenues were up, above all in the case of mobile broadband, where estimated sales revenue for the year grew by 6.3%. The rise in turnover for fixed broadband, on the other hand, was more modest, at 2.4%. Lastly, sales revenue for pay TV services remained steady, with the figure rising for services targeting companies.

In Spain, more acutely affected by the economic crisis, the decline in sales revenue was even more pronounced. End service revenues fell by 7.4% and wholesale services by 6.3% compared to 2011. The falls arose for all representative services except mobile broadband, which saw very substantial rises, both in subscriber numbers and revenues.

As regards the level of penetration of services, in the EU the trends seen in previous years continued. On the one hand, the level of penetration and fixed telephony line numbers continued to fall, whereas mobile telephony penetration, including M2M lines and *datacards*, displayed modest growth of 2.7% and stood at 136 lines per 100 inhabitants. In Spain, total mobile lines fell by 3.7% due to a very significant reduction in total pre-paid lines (more than 2 million).

On the other hand, the home VoIP service continued to expand, and in Spain the active operators, as a whole, declared that they had 1.75 million lines. The VoIP service can be delivered in two ways: by a telecommunications service provider or by *over-the-top* (OTT) agents, who offer VoIP services without being network operators (with no quality assurances) to users having a broadband connection. The competition from OTT agents also made itself felt in the mobile market, where the fall in SMS consumption was very marked due to the popularisation of instant messaging services, which probably also had a substitution effect to the detriment of voice services. 23.5% of people with a mobile in Spain said they used voice and/or OTT messaging applications. Even though this fact causes demand for broadband connections via a terminal to increase, it also allows communications services to be substituted, and in this case the outcome is falling voice and SMS demand and revenues for operators. As a result of this new competition, though also as a result of consumers being less willing to pay, mobile operators cut their prices and the average price per minute for national calls came down by 13.9% and the cost of SMS by 12.6%. Worldwide it is estimated that in 2012 the volume of messages sent via OTT applications for the first time outstripped the volume of SMS handled by the traditional operators.

Finally, in the mobile segment operators also reacted by offering SIM only subscriptions, where the provider does not fund the customer's terminal and the sale focuses on providing their services at lower prices. In such a case the distribution channel generally used is *on-line*, with the reduced sales and customer support cost that this brings with it. Other traditional operators acquired or created specific brands to complement their own and compete more aggressively in price terms, as was the case with the acquisition of Simyo by Orange and their relaunch of the Amena brand.

Broadband

One of the key electronic communications services is broadband internet access.

Telecommunications operators (who provide ser-

[3] Projections used in this section are from the ICT Market Report, EITO, 2012.

vices and the basic infrastructures underlying other services), the companies which produce the equipment needed by such operators, the IT companies which provide smart network solutions and the companies that offer web-based applications, make up an industry which is expected to be one of the drivers of economic growth and European competitiveness. Thus the European Commission (EC) is confident that developing high speed broadband connections will have a positive effect on industries such as e-health, e-administration, e-commerce, cloud-based corporate services, *smart-cities*, etc. According to Rand Europa[4], in these industries the EU is showing itself to be behind other zones worldwide, in particular the United States.

To boost the single European digital market, in 2010 the EC outlined some ambitious targets for coverage and use of different broadband services through the so-called Digital Agenda for Europe (DAE). Since then these targets have marked both the drafting of recommendations for the industry and making ready European Community (as well as national and sub-national) funding. For example, the EC has proposed earmarking 1,000 million euros for digital and broadband services in the 2014-2020 period in pan-European projects to bring about improved access to next generation services for the public and companies. These public funds have a broad range of objectives: to extend networks to zones which private initiatives would be unlikely to reach, to foster internet use among social segments that do not tend to utilise it so as to boost their digital skills, to make an impact in stepping up e-administration and to improve key aspects towards greater development and reliability of broadband and data protection.

In 2012 the DAE's objective of obtaining internet coverage for all members of the public in 2013 was very close to being achieved. 95.7% of EU households[5] had the chance to connect to the internet via a fixed network, although in a rural context coverage was patently lower, at 78.4%. In Spain the figures were very similar, with 94.9% of households having the ability to access the internet where a fixed network had been rolled out, while coverage in rural areas was 79.1%.

Mobile 3G/HSDPA networks also had very extensive coverage across the population. In the EU 94.9% of the population was covered by an HSDPA mobile network and if the focus on coverage is only in a rural context, this reached 79.1% of the population. In Spain the coverage of these mobile networks was slightly better: 97.1% across the whole of Spanish soil and 88% of the population in rural areas.

In fact during 2012 broadband was the service which saw the most substantial growth rates, whether via fixed or mobile networks. The penetration rate in the EU reached 29 lines per 100 inhabitants (fixed broadband) and 54.4 lines per 100 inhabitants (mobile broadband). In Spain the figure for mobile broadband penetration of 54 lines per 100 inhabitants was in line with the European statistic, whereas in the case of fixed broadband it was somewhat below, at 25 lines per 100 inhabitants.

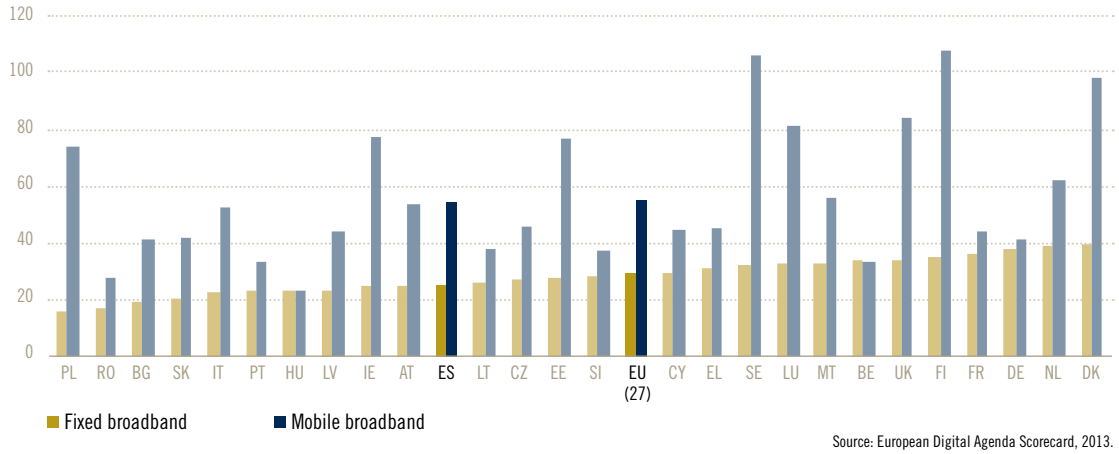
In the EU household internet penetration thus rose to 76%. In Spain the figure came in below this, at 67% of households with internet, almost all with a broadband service.

The penetration of both fixed and mobile broadband showed positive growth rates, being 3.6% in the former case and far higher in the latter case. In the EU

[4] *"Towards a competitive European Internet industry. A socio-economic analysis of the European Internet industry and the Future Internet Public-Private Partnership", Rand Europe.*

[5] *"Broadband lines in the EU: situation at 1 July 2012", Communications Committee,* EC, February 2013.

Fixed and mobile broadband penetration in the EU-27 and Spain (active lines/100 inhabitants)**, December 2012**



Source: European Digital Agenda Scorecard, 2013.

the total number of subscribers to this service, which encompasses *datacards* and data service with the smart phone or tablet, rose 26%. The growth of mobile broadband was due to the increase in the data service via a mobile terminal, given that the growth of *datacards* and USBs for internet use with the PC was modest. In fact, in some countries there was even a net reduction in the total of this kind of connection.

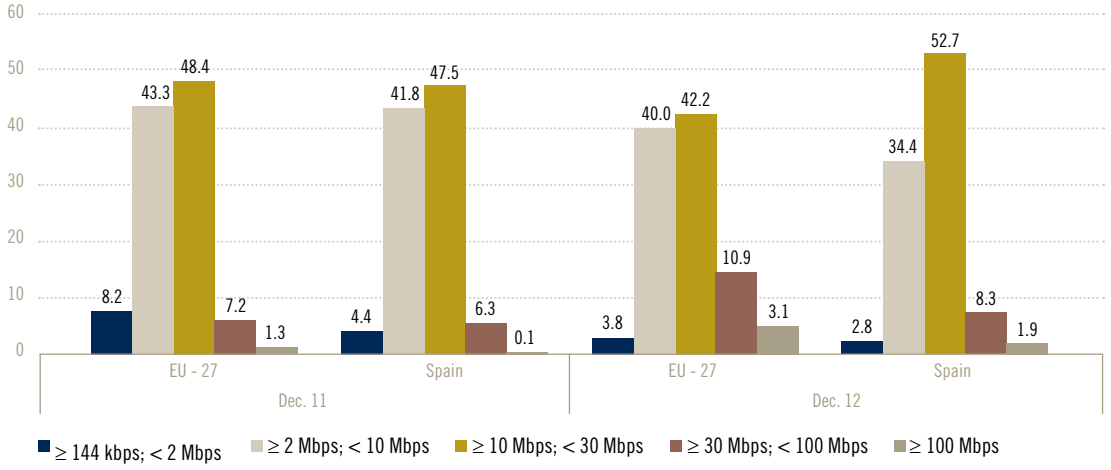
Furthermore, even though growth in the number of subscriptions to mobile broadband was 26%, according to Cisco[6] mobile network data traffic was up three times more, by 70%. More than half the traffic sent via mobile networks was video and download rates doubled: in 2012 the average speed measured via any kind of terminal was 526 Kbps. Each terminal set consumed 342 MB a month on average, which is practically double the traffic sent in 2011.

Another of the DAE's targets – for 75% of the population to use internet on a regular basis by 2015 – is expected to be achieved in the next few months. Not only has coverage become widespread, but so has internet use; according to Eurostat, 70% of European citizens use internet at least once a week. The proportion of citizens also using internet to interact with the government authorities or shop has also increased. Nevertheless, 27% of members of the public in Spain (and 22% in the EU) had never used the internet.

Finally, with respect to fixed broadband speed, in the EU 56.2% of broadband lines had bitrates of 10 Mbps or more at the end of the year. In Spain this proportion was higher, at 63%. The speeds which saw most growth were very high bitrates of 30 Mbps or more. In fact, these moved from accounting for 8.5% in the EU (6.4% in the case of Spain) in 2011 to 13.9% (and 10.2% in Spain) in 2012.

[6] *"Cisco visual networking index: global mobile data traffic forecast update, 2012-2017"*, February 2013

Distribution of fixed broadband lines according to download speed in the EU-27 and in Spain (%/total lines)



Source: European Digital Agenda Scorecard, 2013 and CMT.

NGA networks

Besides the basic objectives as regards internet access and use, in the DAE the EU set targets for coverage by the next generation networks (the so-called NGA networks) and the availability of very high speed broadband services in homes, of at least 30 Mbps. NGA networks can be fixed, supported by technology such as VDSL, FTTx or HFC with DOCSIS 3.0, or mobile, using, for example, Long Term Evolution (LTE).

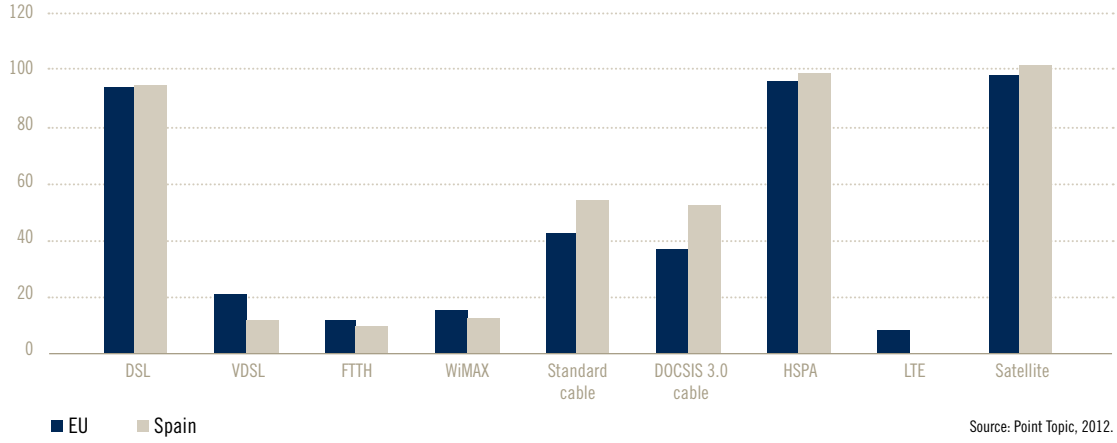
Towards the end of 2011 coverage by NGA networks reached the figure of half of EU households and was therefore still a long way off from reaching 100% of homes, the target of the DAE for 2020. The most extensive coverage was obtained by cable operators, which covered 37% of households.

In 2012 sizeable number of mobile operators embarked on the roll-out and commercial implementation of LTE services, generally in medium-sized to large cities. LTE services allow a very high speed connection, with bitrates of 40, 100 Mbps or more. At the same time this technology is managing to push down its traffic transmission costs. It does however require considerable investment, as it needs new radio access equipment to be installed, greater trunk network capacity and additional base stations. In Spain the roll-out of LTE has already been started by Vodafone, Orange and Yoigo, the first of these having launched a commercial offer in June 2013.

According to Cisco, effective LTE connections in Europe late in 2012 (3.5 million) did not account for more than 0.6% of total mobile solutions. They did however generate 19 times more traffic than a traditional connection.

It is often noticeable that the new networks, especially fixed ones, are being mainly rolled out in medium-sized and larger cities where the population density is highest and economies of scale are greatest: the

Estimated coverage of the population for the various networks, July 2012 (%)



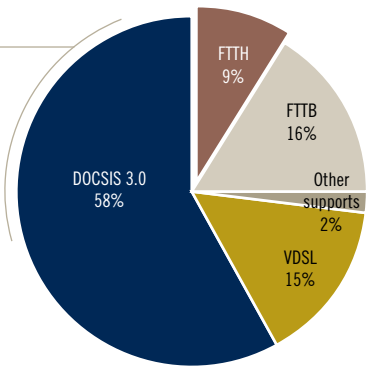
Source: Point Topic, 2012.

roll-out of NGA networks in rural areas only reaches 12% of EU households, in contrast to a coverage rate of 37% achieved nationwide.

The DAE also laid down targets for using NGA connections. One of these was for 50% of homes to have subscriptions for speeds of at least 100 Mbps by 2020. In July 2012 only 2.5% of EU fixed subscriptions had bitrates of this order. The number of broadband lines with NGA did actually rise though, moving from 11.8% in 2011 to 19.9% of total broadband lines one year later.

In the EU the main support for active NGA connections is the HFC solution offered by cable operators, which concluded improvement of their networks by using the DOCSIS 3.0 standard. In December 2012 these operators accounted for 58% of very high speed broadband connections. Connections very close to the subscriber (FTTB, or Fibre to the Building) represented 16% of very high speed connections and VDSL support showed a very similar proportion. Fibre to the Home (FTTH), for which roll-out is less than for the previous formats, was subscribed to by 9%. At year-end the figures showed that there were 7.4 million FTTH lines in Europe, which means an annual rise of two million.

Distribution of active NGA lines in the EU-27 by technological support, December 2012 (%/total NGA broadband lines)



Source: European Digital Agenda Scorecard, 2013.

1.2 The industry in Spain

Revenues

In 2012 total industry turnover was down 7.2% on the previous year. The downward revenue trend which began in 2009 therefore continued, although this year the negative change was more pronounced than it had been in the previous three years.

End service revenues fell back by 7.4%. The only service showing growth was mobile broadband, up by 29%. Revenues here represented 9.5% of those for the industry as a whole.

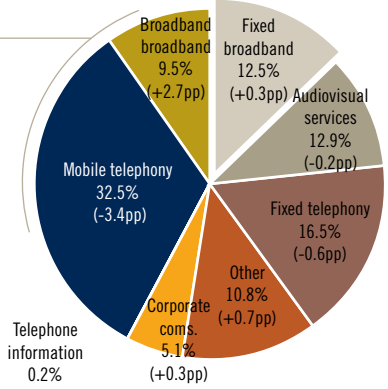
In 2012 revenues from fixed broadband connections posted a negative growth rate for the second year running even though the number of active lines rose.

Revenues by type of end service 2011-2012 (millions of euros and percentage)

	2011	2012	CHANGE 2012/2011
Fixed communications	**10,786.09**	**10,021.43**	**-7.1%**
Fixed telephony	**5,387.91**	**4,813.86**	**-10.7%**
Fixed broadband	3,833.76	3,659.01	-4.6%
Corporate Coms.	1,501.37	1,497.28	-0.3%
Tel. information	63.06	51.29	-18.7%
Mobile communications	**13,450.13**	**12,271.10**	**-8.8%**
Mobile telephony	**11,305.23**	**9,504.46**	**-15.9%**
Mobile broadband	2,144.90	2,766.64	29.0%
Audiovisual services	**4,125.03**	**3,761.43**	**-8.8%**
Others	**3,178.93**	**3,166.38**	**-0.4%**
Total	**31,540.18**	**29,220.34**	**-7.4%**

Source: CMT

Breakdown by end service revenues (%)



Source: CMT

Fixed and mobile broadband services increased their contribution to total final revenues and the weight of these came to represent 22% thereof, compared with 19% in 2011. Mobile communications services overall lost weight in the industry owing to the sharp drop in voice and messaging services, which was not offset by the growth in mobile broadband.

Sales revenue for wholesale services fell by 6.3%, mainly on price cuts for the interconnection services most in demand in fixed and mobile networks. Conversely, revenues from wholesale ADSL services continued to rise thanks to the demand from alternative operators.

Revenues by type of wholesale service 2011-2012 (millions of euros and percentage)

	2011	2012	CHANGE 2012/2011
Interconnection	4,114.20	3,698.86	-10.1%
Circuit rental	741.29	747.75	0.9%
Data transmission	41.98	51.37	22.4%
ADSL services	545.57	593.29	8.7%
Transport and broadcasting	413.51	394.50	-4.6%
Other services	553.78	522.19	-5.7%
Total	**6,410.33**	**6,007.96**	**-6.3%**

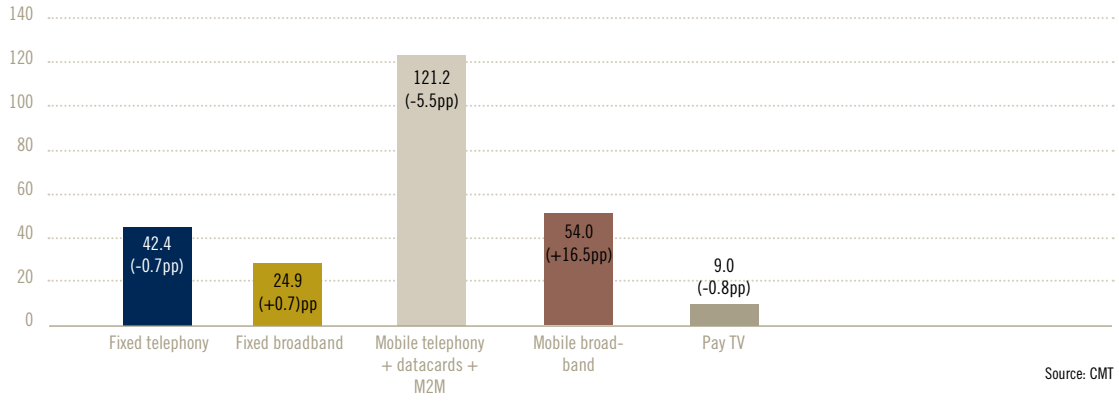
Source: CMT

Penetration of end services

For yet another year fixed broadband penetration was up, albeit only slightly, by 0.7 percentage points relative to 2011. On the other hand, mobile broadband grew substantially, reaching 54 lines per 100 inhabitants (*datacards* and *smartphones*), 16.5 percentage points more than the previous year. This figure came about from the more than significant rise in connections to 3G/UMTS networks via *smartphone* terminals, which attained the figure of 22.4 million, versus 13.9 million for the previous year. In contrast USB *datacards* or modems fell sharply, by 25.6%, to 2.5 million.

Penetration rates for other services dipped. Total fixed telephony lines continued slightly in decline, as has been the case in recent years. Voice mobile telephony lines and the number of subscribers to pay TV dropped this year, meaning a reversal of the upward trend observed in previous years.

Penetration of key services and change 2012-2011 (lines/100 inhabitants and percentage points)



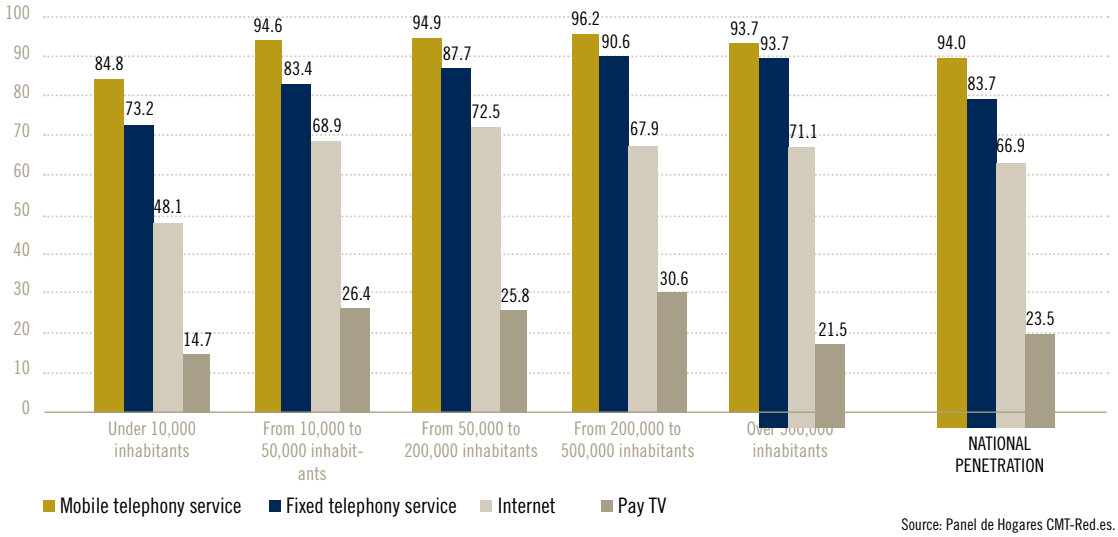
Source: CMT

According to figures from the Panel de Hogares CMT-Red.es survey, it can be observed that 83.7% of households had a fixed telephony service, whereas 94% had a mobile phone. On the other hand, nearly 24% of homes had pay TV and almost 67% already had internet access. The considerable growth experienced by internet penetration in households is worth noting, this having risen by 10% in the year.

Nonetheless, the penetration rates of the different services are not uniform and instead vary depending on the sizes of the urban concentrations. Thus for homes

located in municipalities with less than 10,000 inhabitants, penetration rates for all services were noticeably lower than the national average, particularly in the cases of pay TV and broadband.

Penetration of the major services in homes by environment size (percentage)



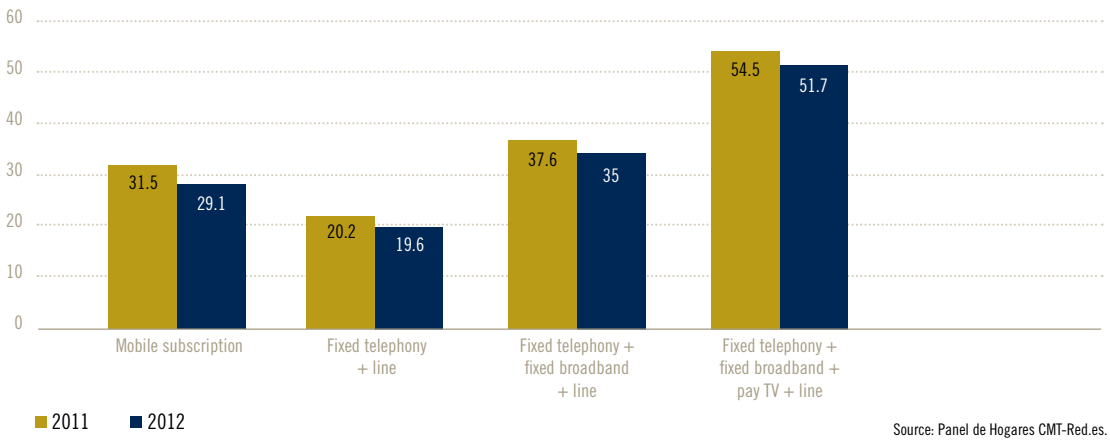
Source: Panel de Hogares CMT-Red.es.

Prices

Operators responded to the weakness of demand by cutting their rates and promoting their services. As a result, the effective expenditure of households on the most representative services continued to shrink over 2012. The average expenditure made by a household for the bundle of services most widely in demand – fixed broadband and unlimited voice services nationally (including access) – therefore fell by 6.9%. In the case of the triple package, which also includes pay TV, expenditure was reduced by 5.1%.

With regard to traffic prices, the cost of using up a minute of voice from a mobile network with a national destination (to a fixed or a mobile network) fell by 13.8%. The average revenue per minute of voice from a fixed network to a mobile network was down 11.1% on the previous year.

Average expenditure per household on key services (euros/month)



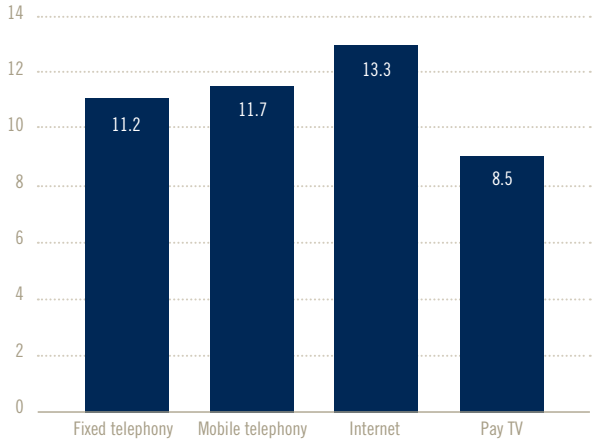
Source: Panel de Hogares CMT-Red.es.

Switching operator

As a result of the economic crisis, homes and companies used number portability extensively (changing service provider and keeping the number originally assigned) over 2012. The total number of lines for which portability transfers were applied in the year was 1.8 million. Even greater was the volume of mobile lines where the operator was changed: at year-end 5.2 million mobile portability transfers were reckoned to have been made. Since June 2012, when the changes introduced by the CMT in the portability transfer process came into effect, it has been possible to make a portability transfer for a mobile number within one single business day. Those benefiting the most from this process were the smaller operators, such as Yoigo and the mobile virtual network operators (MVNOs). In fact Spain is one of the countries with the highest levels of mobile portability activity in Europe.

The following chart shows the percentages for changes of operator for the most usual services in the third quarter of 2011 and 2012. The internet service, with 13.3%, is the service displaying the greatest percentage of change of operator; pay TV is the service showing the lowest percentage of change, at 8.5%. Finally fixed and mobile telephony have similar percentages, with 11.2% and 11.7%, respectively.

switching operator by service (% of lines with a change of operator/total lines for each service)



Packages

In Spain 2012 brought with it a substantial change in the bundling of services. On the one hand, the number of mobile lines that had voice and broadband services bundled with them doubled, reaching 9 million, compared to a figure of 3.6 million in 2011. On the other hand, during the final quarter of the year quadruple and quintuple packages appeared on the market, combining fixed and mobile services.

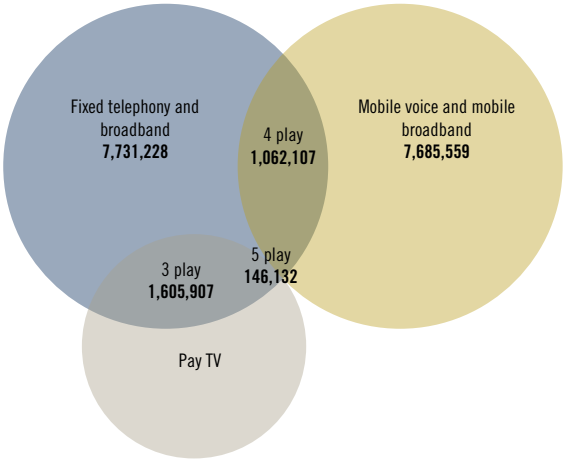
In 2007 the strategy of the mainstream operators was to offer double and triple *play* within the ambit of fixed communications, which meant a lowering of prices compared to individually subscribing to the services bundled with them. As a result of the economic crisis, from 2009 onwards consumers showed themselves to be more sensitive to end prices and did not hesitate to switch telecommunications service provider to achieve the biggest possible savings in the bills they receive. This was reflected in the figure for fixed portability transfers, which peaked at over 200,000 numbers transferred in December 2010.

To boost loyalty among its customer base and win back some of the customers it had lost, in October 2012 Telefónica launched Movistar Fusión, which for the first time marketed both fixed and mobile voice and broadband services in a single offer, as well as pay TV in the case of the quintuple *play*. Other operators reacted by launching similar quadruple *play* offers over the last quarter of the year. These bundled offers led to a major drop in the prices of the services included in them and towards the end of 2012 this resulted in there being already over one million packages offering four services (fixed and mobile voice and broadband together). These 1,062,107 quadruple play packages were joined by another 146,132 quintuple play packages, which add pay TV to the four services mentioned.

By way of a contrast, the most common double and triple packages to date (fixed voice plus broadband and fixed voice plus broadband plus pay TV) were down for the first time, with annual falls of 493,867 and 279,008 packages, respectively. This decline arose from the migration of this kind of package to the new offers appearing on the market which also include mobile services. One phenomenon to highlight is the fact that eight out of every ten of such migra-

tions occurring in the final quarter of 2012 did not entail a change of operator, but instead the customer signed up for one or other of the new packages offered by the same operator which had been providing them with a service up until then.

Number of bundled contacts



Source: CMT

The launch of these new packages reinvigorated the market, which was reflected in the portability figures for fixed numbers: from October to December 2012 some 518,027 were transferred, a figure which is far above those for the other quarters in 2012 and 2011.

According to data from the Panel de Hogares CMT-Red.es survey, prior to all these events, in the second and third quarters of 2012 the total effective expenditure of households subscribing to fixed telephony services, mobile telephony, fixed broadband and mobile broadband stood at around 92 euros per month. On the other hand, at year-end and as a result of the success of these new packages this expenditure had fallen to 84.9 euros a month.

As a consequence of developments in the industry there are increasingly fewer lines that are not part of a package for the various services. 55% of fixed telephony lines (10.8 million) were part of packages at the end of 2012 (a figure which stood at 52.3% in 2011).

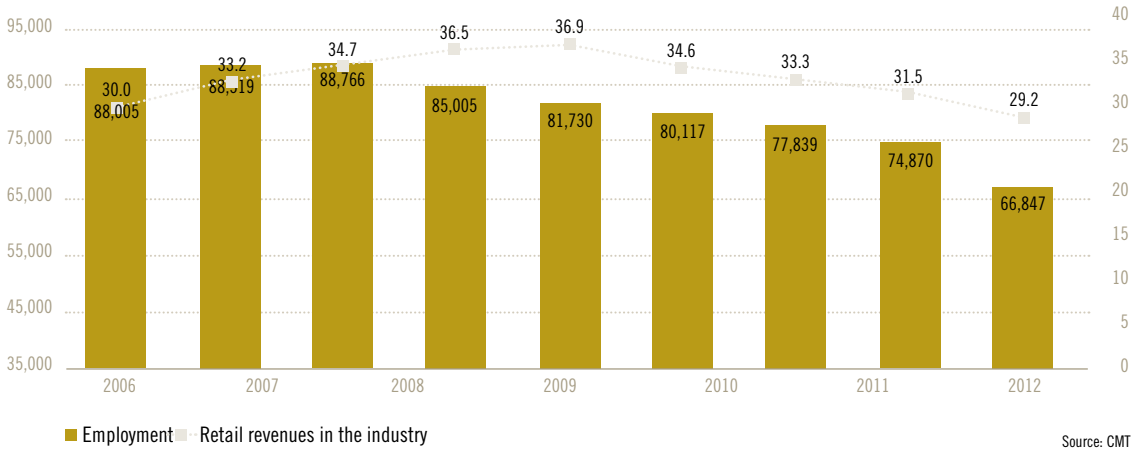
In the case of fixed broadband, 92.2% of lines (10.6 million) were subscribed to with some other service, this figure having been 91.3% in 2011.

As regards mobile communications, 8.9 million lines, or 17.6% of the total, had voice services bundled with some other mobile or fixed service.

Employment

The number of employees in the industry, including the audiovisual segment, continued the downward trend that began in 2007. In 2012 the decline was more marked than in earlier years, although a major element in this drop was due to the number of employees at Telefónica being downsized by almost 3,000. A total of 66,847 people were thus employed in the industry, which compares with close to 75,000 for the year before.

Trends in industry employment and revenues from end services
(number of employees and billions of euros)



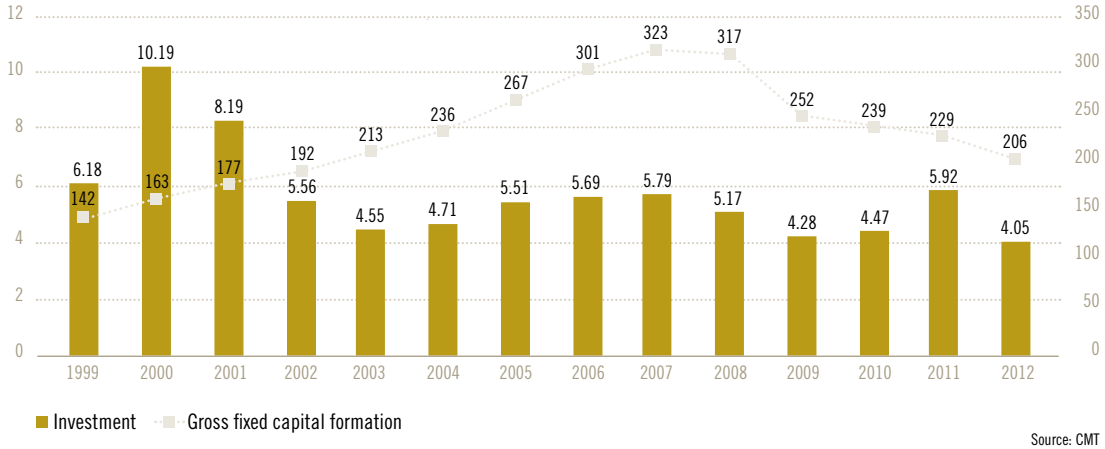
Source: CMT

Investment

As the chart below shows, in 2012 total industry investment came to 4,053.1 million euros, a figure which includes outlays to pay the rates for the radio spectrum allocated in 2011. Stated investment in spectrum by operators was 1,562 million euros in 2011 and 82.1 million euros in 2012.

The trend in investment (excluding spectrum investment and including audiovisual investment) was negative, moving downwards by 8.9% (3,971.1 million in 2012 against 4,358.6 for 2011).

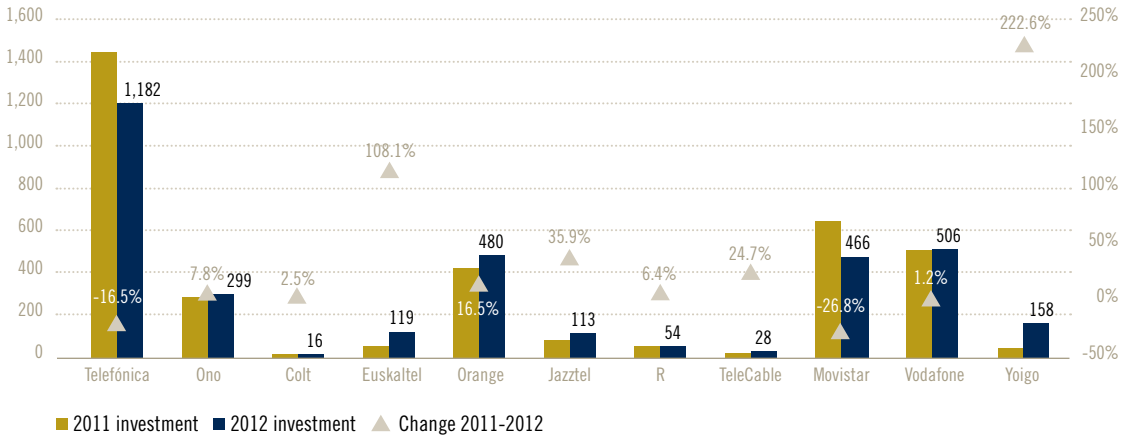
Investment in the industry and gross fixed capital formation (billions of euros)



Source: CMT

As regards the figures per operator, the major players, except Telefónica and Movistar, stepped up their investments in 2012. The combined amount for these dropped by 19.7%, while investment by them was curtailed most in the mobile communications business. Vodafone's investment was practically the same as in 2011. In contrast, Yoigo tripled its investment owing to its 4G network roll-out. Cable operators invested more than the previous year, especially Euskaltel, which lifted its investment on buying the Basque Government's trunk network.

Investment in the industry per operator (not including spectrum) and annual rate of change (billions of euros and percentage)



Source: CMT

Infrastructure

Fixed network infrastructure

The upgrade of fixed access networks continued in 2012, which allows greater connection speeds to be achieved and better quality service. Among such networks special mention should be made of the kind based on copper-pair technology, which had the most accesses at 15.7 million. This kind of access continued to be the most widely used to provide voice and data services, both by incumbent operators and by alternative xDSL operators via local loop unbundling. Despite the improvement and optimisation of the copper-pair based technologies however, their scope for improvement has its limits and means that gradual migration of such accesses to next generation networks based on fibre-optics is needed.

These traditional copper-based accesses by a subscriber to a local exchange are no longer the only means of access to users via xDSL technology. As well as conventional local exchanges there are other elements in the network known as remote loops, which generally hook up with a few hundred loops. There can be multiple remote nodes within the area of a single local exchange. These are deployed either to improve the broadband services in certain areas lying far from the local exchange by stepping up the speed customers can achieve, or else to provide a service for new urban areas. At year-end 2012, it was calculated that there were a total of 5,977 remote nodes in the network, on which some 975,196 loops depended[7].

As for NGA networks, the notable progress made by Telefónica in rolling out FTTH accesses continued. Other operators likewise carried out access network

[7] Occupied plus vacant pairs.

roll-outs based on this kind of support. By the end of 2012 the figure of 3.25 million deployed FTTH connections had been attained, doubling those in existence the previous year.

In terms of HFC accesses (with fibre to the node and coaxial cable to the subscriber), cable operators carried on installing new connections and improving the capacity of them. In the last year HFC deployed connections rose by 3.2% to 9.8 million. Of this figure over 98% were connections deployed at nodes using DOCSIS 3.0 technology, which allows bitrates in excess of 100 Mbps.

Trends in deployed connections

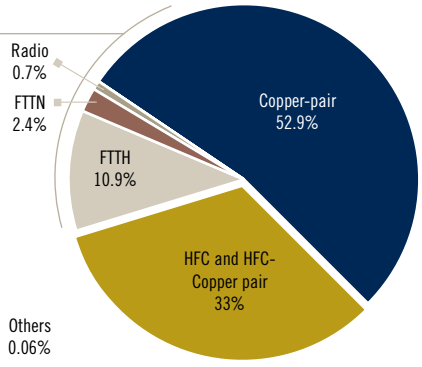
	2008	2009	2010	2011	2012
Copper-pair	16,100,379	15,865,857	15,996,403	16,065,690	15,740,106
HFC	9,146,308	9,307,653	9,439,863	9,497,692	9,797,680
FTTH		396,065	524,370	1,607,108	3,250,556
FTTN	26,894	628,494	668,724	691,435	700,495
Radio	235,189	233,335	226,186	236,807	219,532
Other	20,699	25,349	20,027	14,207	19,322

Source: CMT

As a result of these developments deployed copper-pair connections lost out in terms of market share, taking this to 52.9%, meaning 4% less than in 2011. This trend contrasts with the progress made in FTTH connections, which attained a share of 10.9%, doubling the previous year. On the other hand, the share of deployed HFC connections of cable operators (33%) held steady without significant changes. Finally the other forms of access closed the year with figures similar to previous years.

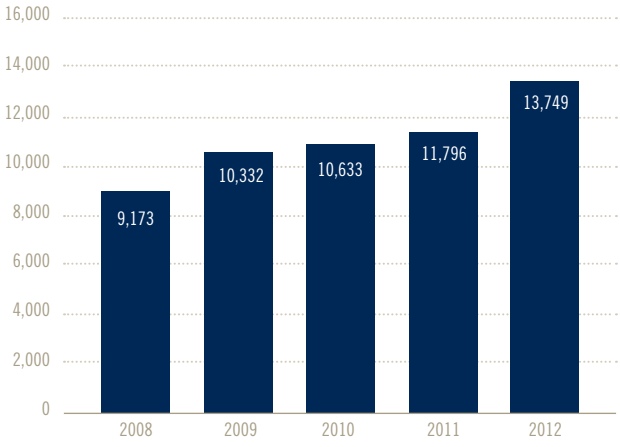
The chart below shows trends in HFC and fibre-optics deployed connections. 2012 closed with 13.7 million connections deployed with these forms of support, which meant an increase of 16.6% with respect to the previous year. Once again, this increase was above all due to the rise in the number of FTTH connections from the roll-out carried out by Telefónica.

Installed accesses by format type (%/total)



Source: CMT

Trends for HFC, HFC-Copper pair and fibre-optics installed accesses (thousands of accesses)

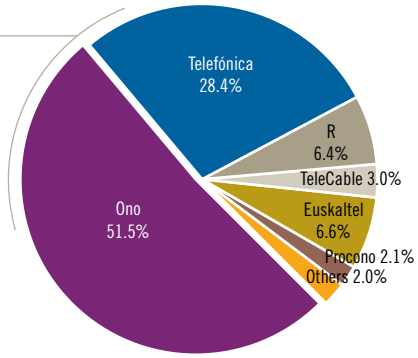


Source: CMT

The breakdown of NGA accesses deployed per operator shows that the share of cable operator Ono, which has its own network rolled out across an extensive area of Spanish soil, reached 51.5% of connections, HFC in its case. This figure marked a fall of over 7 percentage points on the previous year on account of the higher number of connections deployed by Telefónica. This operator ended the year with a share of 28.4% of NGA connections, compared to 19.1% for 2011 (FTTN and FTTH). Lastly the regional cable operators with roll-outs over specific zones on Spanish soil jointly achieved a market share of 20.6%.

Operators opted for the wholesale local loop unbundling service as a means of accessing the retail broadband market. By the end of 2012 the figure of 3.26 million unbundled loops had been attained, meaning an increase of 13.2% in one year. A total of 1,228 of Telefónica's local exchanges had a co-location with some or other alternative xDSL operator, which was 204 more than in 2011.

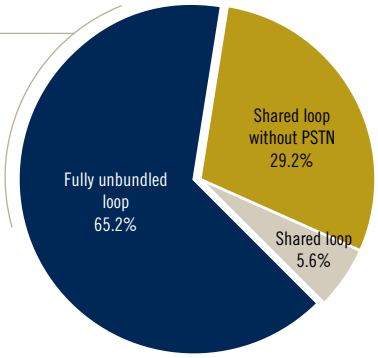
Share of installed access of HFC, HFC-Copper pair and fibre by operator



Source: CMT

In particular fully unbundled loop and shared loop without basic telephone service (PSTN) arrangements rose substantially, by 15%, thus topping the figure of three million loops. Such formats allow the alternative operator to provide all fixed services to the end-customer, who thus becomes completely untied from Telefónica. In contrast, the offer of fixed broadband services via a shared loop leads to the customer continuing to subscribe to at least the fixed connection service or line with their incumbent operator. This service has been in decline for some time, and in 2012 its negative growth (measured in loops) was 10.5%.

Breakdown of unbundled loop types (%)



Source: CMT

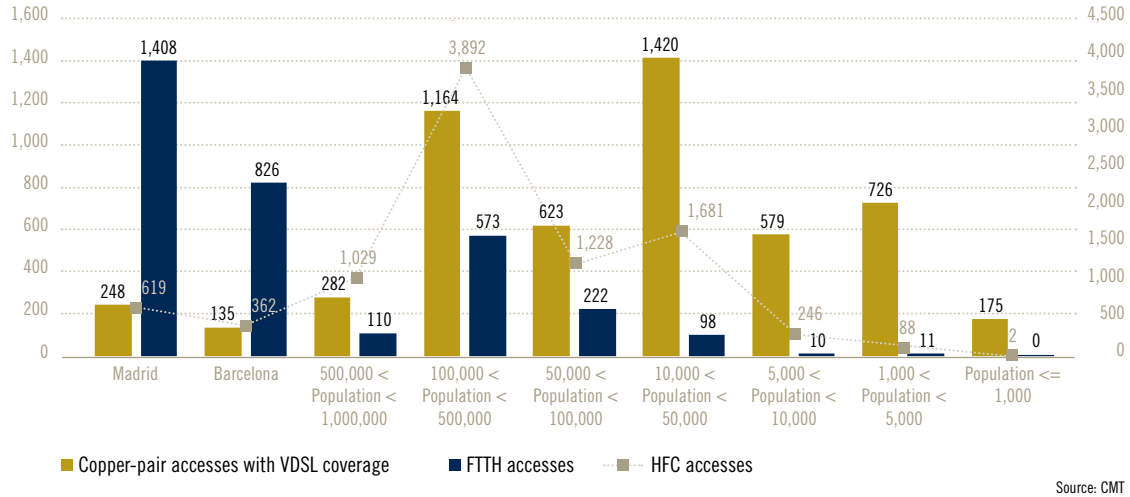
As stated earlier, the limitations of copper-pair technology mean that migration of these networks to NGA networks based on fibre-optics becomes necessary. Certain copper-pair based technologies however, such as VDSL, mean it is possible under certain conditions to offer high bitrates (of 30 Mbps or over).

The chart below shows the distribution of NGA connections based on FTTH, HFC DOCSIS 3.0 and VDSL (with a bitrate greater than or equal to 30 Mbps) by municipality size in December 2012. The biggest roll-out of FTTH connections was focused on municipalities in Madrid and Barcelona with 2.2 million connections (69% of the total). In smaller-sized municipalities their presence was merely at token levels.

HFC accesses were observed to be most established in municipalities with a population of between 100,000 and 1 million inhabitants, if we count the number of deployed connections and the population as a whole for these municipalities.

Lastly, copper-pair connections capable of supporting VDSL technology with connection speeds of 30 Mbps or more came to 5.4 million. The geographical distribution was uniform among the various types of municipalities.

Breakdown of installed NGA accesses by type of municipality (thousands)

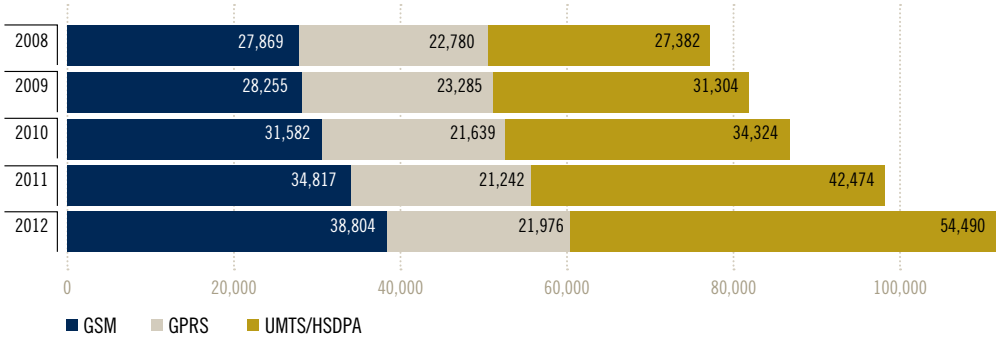


Source: CMT

Mobile network infrastructure

In recent years mobile operators have made a major investment effort aimed at rolling out their 3G technology networks. One example of this was the number of UMTS/HSDPA base stations operational in the year in 2012 –54,490 active stations. These already represented 47.3% of total stations rolled out on Spanish soil. This result shows that the investment effort focused on the roll-out of this technology has remained steady in the last few years. 3G base stations installed in 2012 thus increased 28.3%, a growth rate slightly higher than that stated in 2011, of 23.7%.

Trends in base station numbers by technology



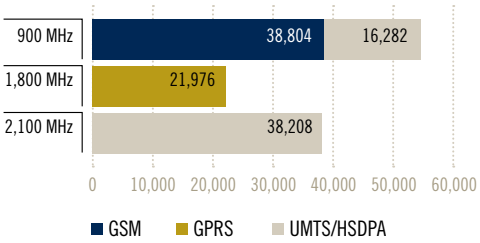
Source: CMT

It should be pointed out that the amended GSM Directive and Commission Decision 2009/766/EC introduced the principle of technological and service neutrality into Europe. As a result of applying this principle it is possible to use the 900 MHz and 1,800 MHz bands, not just for systems based on GSM technology, but also for other systems that allow greater data transmission speeds, such as UMTS/HSDPA or LTE technology or others that are compatible. This measure can help stimulate the roll-out of mobile broadband systems, especially in rural areas. The chart below shows the breakdown of base stations by

technology and frequency band used in 2011.

In 2012 for the second year running operators deployed UMTS/HSDPA stations in the 900 MHz frequency bands. On this point it is worth noting that this year most installation of UMTS/HSDPA stations was in this frequency, while a mild fall was recorded with respect to the previous year in the 2,100 MHz frequency.

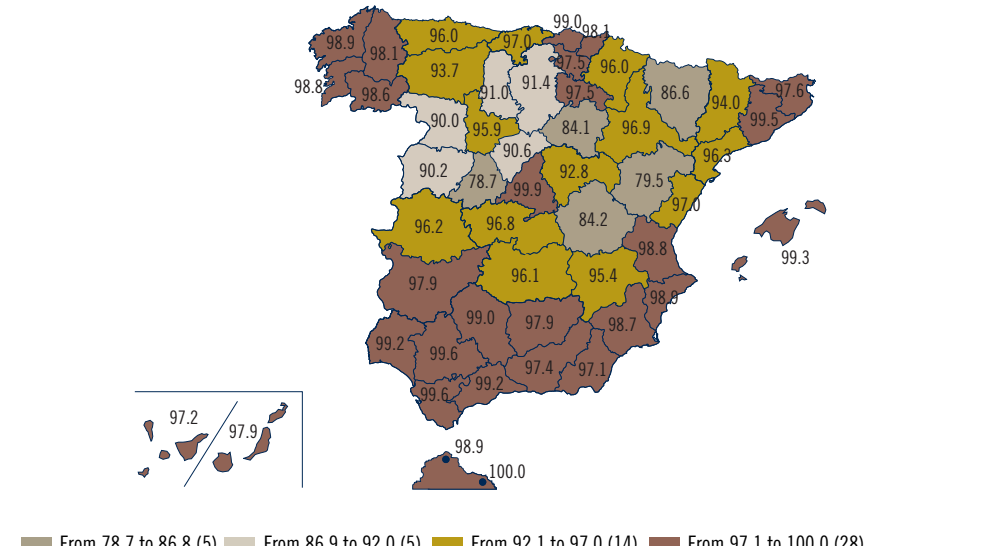
Number of base stations by technology and frequency band in 2012



Source: CMT

The main outcome of this increase in the number of 3G base stations was the increase in the population covered by this type of technology. The following chart shows, on a provincial scale, the mobile network where the degree of 3G service coverage is greatest, in accordance with the minimum quality standards required[8]. The provinces with the highest urban population concentration as a general rule had the greatest 3G network coverage.

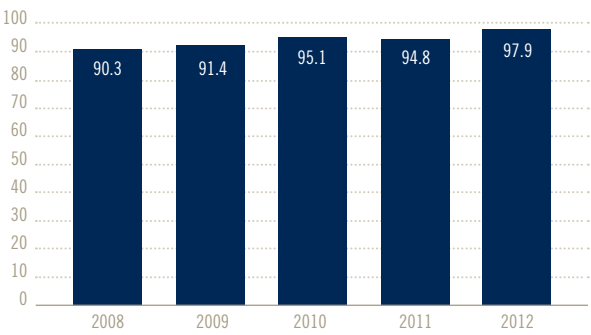
Percentage of population with third generation network access (UMTS/HSDPA)



Source: CMT

According to the figures stated by the four mobile operators who own their own networks, 97.9% of the Spanish population was covered by at least a third generation network, either via UMTS or HSDPA technology.

Population covered by at least one 3G network (%)



[8] Declared 3G service coverage guarantees data traffic at bitrates of over 300 Kbps.

1.3 Tasks related to the intervention of the public administrations

On occasions the Public Administrations take part in the electronic communications market, either directly or by setting up public companies that deploy or manage networks or services. The contribution of public funds for participation by a Public Administration may be viewed as State aid. Even though article 107 of the EU Treaty states that such government aid is incompatible with the domestic market when it distorts market competition, section 3 examines certain circumstances where public aid can be held to be compatible.

To provide the operators with greater assurances, in 2009 the EC published guidelines for applying the rules on State aid in rolling out broadband networks. These guidelines have recently been revised[9]. In these the EC indicates that State aid must focus on those cases where there are flaws in the market and objectives of common interest to Europe exist. The possibility is envisaged of State aid being used to achieve a fairer and more suitable result when those achieved in the market are unsatisfactory from the point of view of cohesion policy. The EC is in any case the authority charged with determining whether a specific project is appropriate under the EU Treaty or not, and is the one empowered to impose conditions regarding the project submitted.

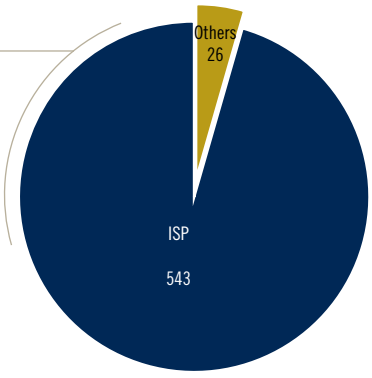
Paragraph 42 of the guidelines mentions that for the sake of better coordination and planning in applying the principles laid down by the EC, the national regulatory authorities (NRAs), such as the CMT in the case of Spain, must advise the authorities granting the aid in designing their proposed measure. Institutions of this kind are the authorities best-placed to perform this role of advising and coordinating given their knowledge of the market and the part they play in regulating it. For these reasons and to provide greater transparency and assurances for operators in rolling out and starting up electronic communication networks and services, the CMT published Circular 1/2010 on the conditions for the operation of networks and provision of electronic communication services by the Public Administrations.

Supervision of public projects to roll out networks or provide services by the CMT in 2012

Within its duties of supervising electronic communications markets, the CMT tries to ensure that the Public Administrations participate in the industry in the same way as any other operator and that where this is not the case any possible distortion of competition is kept to a minimum. As an instrument to help achieve this aim, the CMT keeps a record of the activities of all the Public Administrations, or undertakings whose capital is predominantly public, in connection with the operation of public networks or the provision of electronic communications services to third parties.

Up to December 2012 there were a total of 1,216 operators of this kind, distributed among the Public Administrations and public capital undertakings, who featured on the Register of Operators, which is kept by the CMT. Of these, 636 are subject to Circular 1/2010. The others are undertakings only registered to operate electronic communications networks which provide support for broadcasting services for Digital Terrestrial Television in very localised areas. With respect to the former, most of the activities they reported (93%) were aimed at providing an internet connection via WiFi networks in specific areas.

Services provided by the Public Administrations



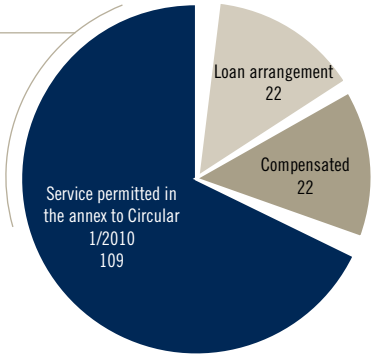
Source: CMT

[9] "EU guidelines for the application of State aid rules in relation to the rapid deployment of broadband networks" (2013/C25/01), EC, January 2013.

Given the high number of undertakings subject to Circular 1/2010, during 2012 the CMT's attention focused on those projects promoted by public bodies that could have the largest impact. To this end 161 projects were chosen, which were those located in areas where the population affected numbered at least 20,000 inhabitants. Of this total number of projects taken on, 67.7% involved services covered in the annex to Circular 1/2010. Said annex details a list of circumstances where it is felt that providing an internet access service does not affect free competition. According to such situations, the said service can thus be provided for an indefinite period, even if the provider does not submit to the principle of private investment. This involves internet access services restricted to accessing the web-sites of Public Administrations, access in libraries and public centres where educational and cultural activities are pursued (other than regulated education) or in public areas via WiFi networks at low speeds (a network-user bitrate that does not exceed 256 Kbps). These are mostly wireless networks that operate using frequencies for common use (WiFi).

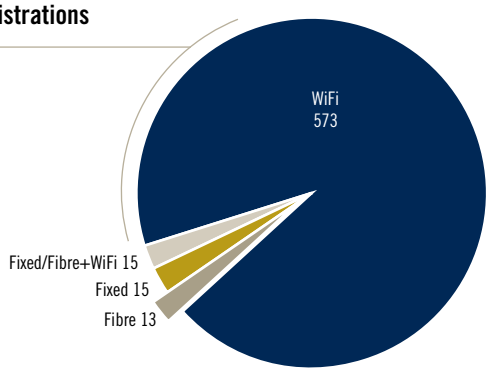
Of the total electronic communications networks run by the Public Administrations, most of them have been used to provide services covered in the list mentioned, i.e. services which do not affect the competition to any significant degree. Of the rest, if we include the largest projects, in some cases the Administrations or undertakings retain ownership of the network but hand over the running of them to other operators (22) and in others they operate their network directly in the market and for a required consideration (22).

Operating schemes for public projects (projects affecting population clusters of over 20,000 inhabitants)



Source: CMT

Types of networks promoted by the Public Administrations



Source: CMT

1.4 Industry perspectives

The experience of the last few years illustrates the progress made by the electronic communications industry. In the EU, in recent years the industry trend has been to reduce revenues but at the same time widen the customer base, step up consumption generated and broaden the range of services offered to the end-consumer. Competition has brought with it a large number of end service providers. Consumers have multiple offers available to them, with improvements in the types of services on offer, quality, speeds and prices. Few end services are currently subject to regulation.

Given the general economic situation, investment projects are being taken on selectively and the need to cut down on debt has led to operators focusing on segments showing clear-cut growth. Some of them have even been forced to offload subsidiaries or assets. Many operators have forged agreements to share networks or roll-out projects for the sake of cutting costs.

The EU's regulatory framework is going through a phase of major changes, which are expected to materialise by 2013. The prime objective of such changes is to encourage investment in the new fixed and mobile networks to allow very high bitrates and advanced services. Investment of this kind will in turn keep up and encourage effective competition in the sector. Broadly speaking, future trends can be split out into five sections.

Investment and roll-out of NGA networks

The roll-out of all NGA networks calls for heavy investment at a time when it is hard to raise funding and uncertainty about demand is high. One of the key components of the overall roll-out cost is the investment in civil construction work, especially in the last stage, where the end-user is hooked up. Such investment involves both ditching and channelling work and costs arising from obtaining licences and coordinating with the operators involved in connections.

The EC estimated that the total figures for such investments would come down by between 20% and 30% if applied to the different suggestions contained in their "Proposal for a Regulation of measures to reduce the cost of deploying high-speed electronic communications networks"[10]. Such measures include, for example, obliging all network infrastructure operators, whether this refers to telecommunications or other services, to provide reasonable or non-discriminatory access to their infrastructures and networks for electronic communications operators wishing to deploy or improve their networks. They also include several that should simplify processes to acquire the necessary information on these infrastructures and the licences needed to perform roll-outs. Besides this, the right should also be guaranteed to coordinate the jobs required for roll-out. They thus embrace the obligation that new buildings be fitted out with the necessary infrastructure to reach the end-user. Both fixed and mobile network operators should benefit from such regulation, which is expected to be passed by the second half of 2013.

Until today, in the EU, it is cable operators who have taken the initiative in rolling out fixed NGA networks. Where the cable operators have a presence these have improved their networks with the DOCSIS 3.0 standard and offer very high speed connections to almost all users covered by their network system. In late 2012 these operators were supplying 58% of all very high speed connections subscribed to in the EU; on the other hand the incumbent operators with fibre-optics were only offering 7.3%.

The 2009 review of the European framework brought new possibilities into the regulation. For example, it contemplates the possibility that if the NRAs detect bottle-necks that stop competition arising among operators, they can regulate the elements for accessing networks that entail greater costs and risk for the operators that take on the deployment. The Framework Directive also introduced wiring within buildings – or

[10] "Proposal for a regulation of the European Parliament and of the Council on measures to reduce the cost of deploying high-speed electronic communications networks", of 26 March 2013.

the vertical part of the access infrastructure – as a component that could possibly be subject to regulation *ex ante*, so as to facilitate access to the end-user and avoid doubling up on costs. This possibility was included in the Spanish regulatory framework in 2012.

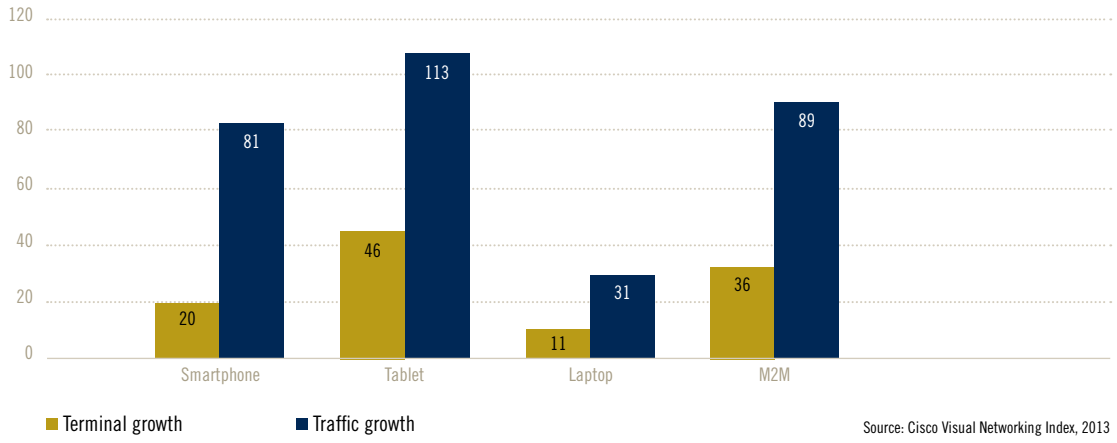
The European Commission subjected for consultation a proposed recommendation on non-discrimination and methodologies concerning costs for NGA networks. In the European context of deploying these networks and to promote investment in ultra-fast broadband networks and competition, the proposal focuses on guaranteeing effective non-discrimination in the conditions of access to networks between the incumbent operator and those who wish to make use of the infrastructure deployed by them. An effective guarantee of this principle could be based on the equivalence of inputs, or the offer by the incumbent of wholesale services in exactly the same conditions that apply to their own subsidiary in the retail segment. BEREC replied to the consultation made by the European Commission and it is hoped that this Recommendation will be approved by the second half of 2013.

In the case of wholesale physical access services – market 4– deregulation of the price can occur if the NRA also shows that there is sufficient competition in the affected market, whether this is generated by the proprietary wholesale service of the traditional access network of the operator with significant market power or is due to the existence of alternative infrastructure owned by third parties. The EC project also specifies the cost model which should be used if said wholesale price deregulation does not exist. This recommendation is expected to be passed in the second half of 2013.

Roll-out of the fourth generation mobile network, LTE, to address growing data demand

Promoting investment in mobile networks to cater for the growing demand for connectivity by users is also a priority. The expectations for the next five years are for very high growth rates. Traffic as a whole is expected to multiply by 13 (or 66% a year), although the situation varies substantially according to the type of terminal used by the consumer. While the demand for data is expected to grow at a rate of 81% annually for *smartphones* and at a rate of 113% for tablets, in the case of personal computers, on the other hand growth, is expected to be less.

Annual expected growth for total terminals and in mobile network data traffic 2012-2017 (compound annual percentage rate)



Source: Cisco Visual Networking Index, 2013

As regards traffic for machine to machine connections (M2M) it is estimated that connections will multiply by 4.6 times in the next five years, whereas traffic will do so by a factor of 24.

The reason behind these growth expectations lies in three factors all feeding off of one another. On the one hand, there is growing demand for subscriptions to data services, whether for smartphones or for some other type of device. Secondly, devices offer increasingly better possibilities for connection, application functionality and visualisation of content, which invites greater use of data services. More than half of the traffic handled on mobile networks in 2012 was video. Finally the new mobile networks based on LTE will allow content to be downloaded much faster than 3G-based networks, which will be conducive towards an increase in data demand by end-users.

The traffic growth rates experienced in mobile networks and those forecast for the next few years mean that operators are under substantial pressure to make improvements to their current networks or deploy new networks to be able to satisfy the growing data demand. Throughout 2012 it was noticeable that a large amount of mobile operators in the EU have already embarked on the roll-out and commercial implementation of services using LTE[11], at least in medium to large-sized cities. Such technology allows a very high speed connection of 40, 100 or more Mbps depending on the capacity in MHz available in the frequency band to be used and also manages to bring down the costs of traffic transmission.

To facilitate investment in LTE, governments have made certain frequency bands in the radio spectrum available to operators. The most widely used frequencies up to now by operators for the commercial roll-out of LTE are those in the 1,800 MHz band, together with the 2.6 GHz band to cover areas with a lower population density as well. The digital dividend band, 800 MHz, was used in few countries as the allocation of spectrum arising from the transition to DTTV had still not finalised in a good number of cases and in others the freeing up of this frequency band had not even been completed in order to make it available to communications operators. On the other hand, Germany, a country which allocated the 800 MHz band in 2010, was already offering coverage to over 80% of the population using LTE in 2012. In the Netherlands, Portugal and Sweden too, operators started to use the 800 MHz band.

In Spain the Government auctioned off frequencies in the 800 MHz and 2.6 GHz bands in 2010, although the process of freeing up the former, which is still used for the television signal broadcasting service, had not finalised. Vodafone launched its commercial offer of 4G services (LTE) in June, while Orange and Yoigo announced that they would be launching the LTE service in major cities in the summer of 2013. It was expected that the roll-out by these operators would be conducted in particular using the 1,800 MHz band, and in some cases supplementing it with the 2.6 GHz band.

Agreements between operators to facilitate roll-out and coverage

Mobile network operators reached multiple agreements to share infrastructure or take on joint investments to bring down the cost of their roll-out activity. The LTE network requires a substantial investment and sharing and voluntary joint investment agreements between operators are thus expected to proliferate. In the mobile segment there is a vast assortment of possibilities for sharing: from sharing only space and the mast to striking agreements on roaming nationwide whereby one operator provides almost the entire service to another.

Within the area of fixed networks joint investment projects have also emerged to deal with the roll-out of fibre-optics. In 2012 some of the biggest names among operators in the EU, such as Orange, Deutsche Telekom, Hutchinson, Telefónica and Vodafone, made agreements to share networks to provide wholesale

[11] *GSA Evolution Report*, 2013

services in several EU countries. In Spain, Jazztel and Telefónica signed a joint investment agreement in their FTTH roll-out strategy concerning the vertical section of buildings, i.e. the last section of the wiring. Early in 2013, Orange and Vodafone agreed to a joint strategy for rolling out fibre-optics with the intention of achieving coverage for six million households in Spain.

Given that the coordination needed between operators is very different depending on the kind of sharing in question, in 2006 the EC established certain principles that should govern these kinds of agreements to promote competition, as well as the need for supervision. These agreements must therefore be supervised by the regulatory authority. The most important elements that should be assessed in these are the degree of cooperation between the parties, the market power gained and the characteristics of the area affected by the agreement.

In general both the EC and the various NRAs have adopted a positive attitude to agreements of this kind when they involve sharing the passive infrastructure (for example the spaces where some network facility is located). On the other hand, when the sharing involves coordinating active infrastructure, the foreseeable positive effect in reducing costs or speed of coverage must be weighed up against the negative effects of reduced competition that might arise. To evaluate these effects it is important to take into account the degree of maturity of the technology, the status of the roll-out and the area concerned, as there are zones where two or more rivals with their own network might be co-existing. From a set of decisions taken both by the EC and by various NRAs in recent years the idea emerges that joint investment or sharing can be compatible with a model of competition between infrastructures but that agreements of this kind must be analysed on an individual case basis so that all their effects can be assessed.

Minimising distortions to competition from public initiatives regarding the roll-out of networks in unprofitable zones

The DAE established that by 2020 all homes must be covered by at least one NGA network and that 50% should have subscribed bitrates of at least 100 Mbps. Up to now the roll-out of fixed NGA networks in the EU has focused mainly on the larger or medium-sized cities where there is greater population density and economies of scale or density are more substantial. At the close of 2012, roll-out of NGA networks in rural areas had only reached 12% of EU households, a figure which contrasted with an average coverage of 37% for the EU as a whole.

Given the risk of digital exclusion in rural zones, for some time now initiatives have been appearing involving public funding or public-private partnerships. Since these entail aid from the administrations they could, according to EC rules and regulations, distort competition in the market if they do not meet certain requirements. For this reason, the EC reserves its approval and urges the NRAs to cooperate with the Public Administrations when they roll out networks. The 2009 guidelines for the application of rules on State aid for deploying broadband networks were recently revised[12] In these guidelines, the EC indicates that State aid must be focused on those cases where there are flaws in the market and objectives of common interest to Europe exist. They consider the possibility that, when the results for the market are unsatisfactory from the point of view of cohesion policy, State aid may be used to achieve a fairer outcome.

[12] "EU guidelines for the application of State aid rules in relation to the rapid deployment of broadband networks" (2013/C25/01), EC, January 2013.

To provide greater transparency and assurances for operators, the CMT published Circular 1/2010 on the conditions for the operation of networks and the provision of electronic communication services by the Public Administrations. From that date on the CMT has kept a record of the activities of all the Public Administrations, or undertakings whose capital is predominantly public, and conducts specific monitoring of larger-sized projects, i.e. those affecting areas with 20,000 or more inhabitants.

Greater harmonisation of EU standards

The EC has implemented initiatives in recent years towards ensuring that electronic communications markets in the EU operate in more uniform conditions. Two of these are referred to below, which have already had visible effects concerning termination prices and roaming services in the EU.

In 2009 the EC published a recommendation establishing a common methodology to set termination prices (the price certain operators pay to others when a call originates within a network other than the destination network), whether fixed or mobile networks. Interconnection in fixed networks and termination in mobile networks are regulated services across the whole of the EU. To encourage conditions of effective competition, the EC established that these prices should be regulated by using the Long Run Incremental Cost (LRIC) standard as a basis.

In the case of mobile networks most EU countries have already implemented this recommendation, which has led to a very considerable drop in the termination price. In the countries that have already proposed such regulation, in June 2013 an average termination price will be achieved of 1.5 euro cents per minute, which represents an average price-fall of over 36% compared to the average price recorded a year before.

Such regulation clearly affects the market on several levels. On the one hand, termination is a cost component of the call which operators tend to add to the final price. The substantial drop in this price at wholesale level has made it possible not only to reduce the final price paid by the end-user per minute but also for flat rates to appear for calls in mobile networks. Mobile operators have even bundled the voice service with that for SMS and that for mobile broadband. In some countries, such as France, Ireland, Belgium or Spain, quadruple *play* packages have appeared, which include in one single offer, voice (provided through a mobile or a fixed network) and broadband, also provided indistinctly by both types of network.

Additionally, with the reduction in the regulated price for mobile termination, these rates are starting to approach the regulated prices for fixed termination, which were traditionally higher. Nonetheless, in 2012 the average price for termination of a call in a mobile network was still four times more than the price which mobile operators had to pay when the call had a fixed network as its destination. Such an unbalanced arrangement between termination prices traditionally ended up in a notable outflow of funding from fixed networks to mobile networks.

Another important example of action by the EC in favour of greater harmonisation was to extend regulation of the roaming price within the EU to data services. In July 2012 Regulation (EU) 531/2012 came into effect, which establishes downward paths for prices, both retail and wholesale, for roaming of voice, SMS and data in the EU up to 2016. The main novelty in the regulations is the unbundling of the roaming service, the intention of which is that any operator, even national ones, can offer visitors to a country a data service without the user having to resort to the operator of which they are normally a customer. Thus when a consumer subscribes to roaming services from an operator, it is the latter who provides and bills for the data service, irrespective of which operator provides the services to the said customer in their country of origin. This option will be available to the public from July 2014.

Digital Agenda for Spain

In February 2013, the government approved the Digi-

tal Agenda for Spain whereby it seeks to attain the objectives for the agenda for Europe, and encourage the roll-out of ultra-rapid networks in Spain and intensive use of ICTs in society. The six major objectives indicated are: to foment the roll-out of networks and services that guarantee digital connectivity, to foment competitiveness, growth and the internationalisation of companies via the digital economy, to improve electronic administration and its use by citizens and companies, to bolster confidence in the digital environment, to encourage the R+D+i system in ICTs and promote literacy, inclusiveness amongst collectives and the training of new professionals in ICTs.

As regards the first objectives, focused on facilitating investment in ultra-fast networks, a set of measures are being considered such as simplifying the official formalities that have to be carried out to obtain licences from local administrations to deploy networks and establishing the duty of making available to the operators the civil infrastructure components of other networks, such as electricity, roads, gas and others, so as to reduce civil engineering costs. This set of measures, which affect new networks, will be brought in with the new telecommunications act which the government is preparing as of the date of publication of this report.

2 Analysis of the sector in Spain

2.1 Retail fixed communications

The slowing economy and falling domestic consumption led to a deterioration in the figure for billing of retail fixed communication services. In 2012 it fell by 7.1%. The services that generate most revenue - telephony and fixed broadband - showed decreases on the previous year of 10.7% and 4.6% respectively, worse than last year's figures of 7.9% and 4.4%.

However, these falls in revenue do not always match indicators of consumer expenditure. The number of fixed broadband connections grew by 3.2% to more than 11.5 million and the increase in 30 Mbps or faster connections was remarkable: 63.7% more than in 2011. In the case of telephony, the decline in the number of lines (1.6%) and in traffic (5.1%) was much less than that in revenues, which means that revenues decreased both per line and per minute.

The average price of broadband and voice offerings of the major operators for speeds of 30 Mbps and above was 41.10 euros, i.e. 10.3% less than in 2011, and the average expenditure of households contracting these two services fell by 6.9% (including initial connection). Prices of calls from the fixed network also fell, particularly those from fixed to mobile, which fell by 11.1%.

To some extent the economic crisis has sharpened consumer price sensitivity, leading a large number of customers to seek and obtain improved offers and prices. Thus both the fixed portability figure –1.8 million transfers in 2012– and estimates of the percentage of households changing operator remained particularly high.

Because of this proactive behaviour on the part of consumers, particularly those subscribing to dual packages (i.e. fixed broadband service together with flat-rate fixed domestic voice service), the cheapest offers are currently those most widely accepted by customers. Traditionally it has been the new operators, and in particular the alternative xDSL operators, that have been characterised by price-cutting competition. In 2012, a large proportion of new broadband lines in the market was captured by precisely these types of operators, who ended the year with a market share of nearly 32% by number of lines.

The growth in demand for the alternative xDSL operators in the end markets was reflected in increases in both the number of lines and wholesale revenues from fixed broadband, which amounted to 593.3 million euros, 8.7% more than in 2011. The wholesale service most in demand, unbundled loop, showed an increase of 15.5% on the previous year.

The new sales strategy of Telefónica, which started selling packages of fixed and mobile services towards the end of 2012, belongs in this context of increased competition. The combined voice and data offerings, whether through fixed or mobile networks, allow the end-customer to benefit from a monthly charge that includes a number of different services at substantially reduced rates. The launch of these packages towards year-end enabled Telefónica to reverse the trend of 2011 and end the year with 93,406 new broadband lines, although its market share remained below 50%.

Lastly, there is also competition from operators who are undertaking capital expenditure to maintain and extend their own fixed networks. The cable operators are consolidating and increasing their revenues year after year, competing with Telefónica in high-speed offerings, for example of 30 Mbps or more, where they have a very significant presence. Thus, of the 1.16 million active fixed high-speed broadband lines, 60.3% belonged to the cable operators.

2.1.1 Fixed telephony

Although the number of fixed telephony lines has been gradually falling since 2003 and this past year ended with 314,412 fewer lines, fixed telephony services still account for a significant portion of the sector's revenues. In fact, during 2012, revenues from this source represented 16.5% of the whole sector's retail revenues.

Nevertheless, as has been the case in the past few years, retail revenues from fixed telephony declined

by 10.7%. Moreover, average revenue per minute decreased due to more proactive behaviour by consumers who, in a context of falling disposable incomes, continued to seek better prices and offers. Thus, the number of transfers recorded in the year reached very nearly 1.8 million. This is a relatively high number, although it was lower than that of the year before.

As for market shares, the alternative operators continued to gain ground, reaching 40% by number of lines.

The gradual growth of the competition is due to the possibility of contracting regulated wholesale services and also to the roll-out of proprietary infrastructure.

Revenues

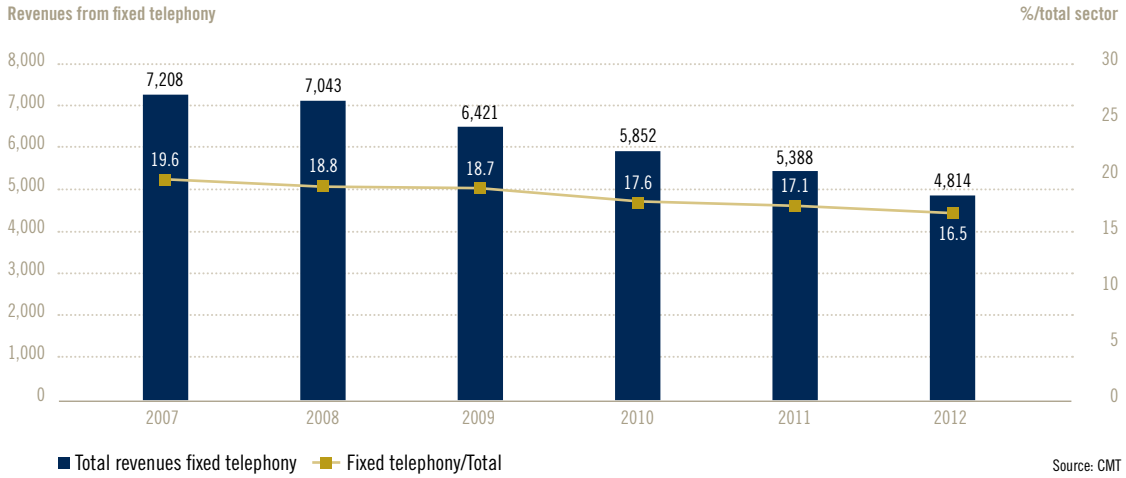
Revenues from retail fixed telephony services reached 4,813.9 million euros, down by 10.7% on the previous year. Of these revenues, 51.8% concerned connection or access services (connection charges, subscription charges, extra features, etc.) and the rest related to traffic services.

In a context in which traffic declined moderately, revenues from this traffic fell by 13.4% compared with the previous year. The biggest decline in billing concerned outbound international calls, which were down by 31.3%. Revenues from calls to mobile phones were down by 16%. Lastly, the traffic service most used, calls to domestic fixed lines, saw billings fall by 8.2%.

Lines

The number of active fixed telephony lines was 19.6 million, 314,412 fewer than in 2011, with declines in both the residential and business segments.

Evolution of retail fixed telephony revenues and share with respect to total retail revenues [13] (million euros and %)

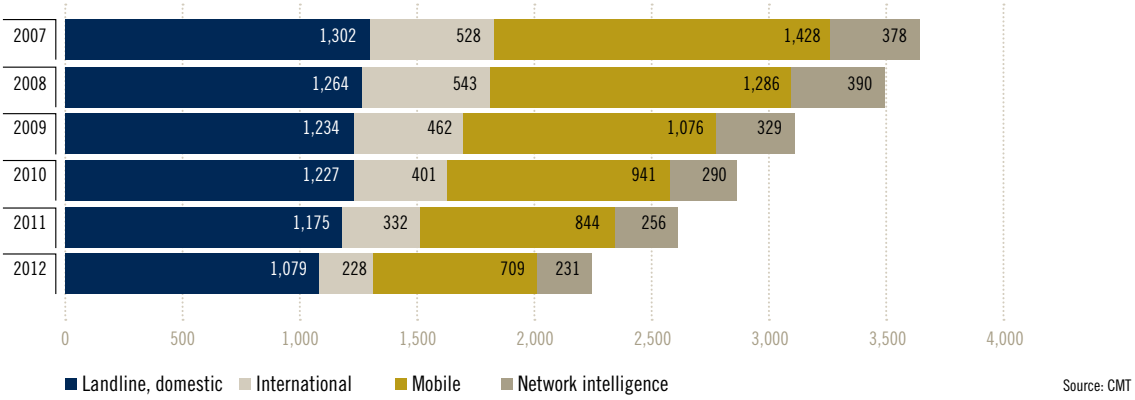


Source: CMT

Of the total number of fixed lines in the market, 9.3% were offered by means of voice over IP, with Orange and Vodafone as the major operators. These operators used the wholesale methods of renting out loops without PSTN and naked bitstream access to provide fixed voice services using IP technology. The voice over IP service posted YoY growth of 24.5%, reaching a total of 1,821,707 lines[14].

[13] Includes convergent services

Evolution of revenues from fixed traffic services (millions of euros)



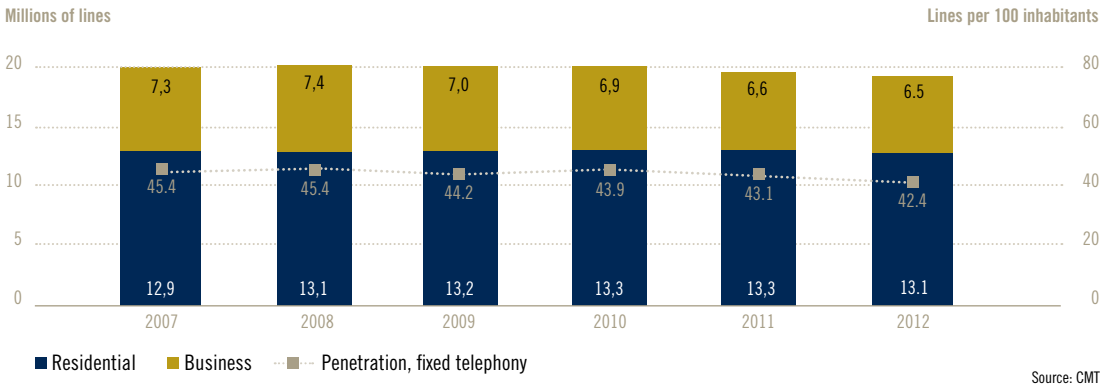
Source: CMT

The penetration rate for fixed telephony[15], defined as the total number of active fixed lines per 100 inhabitants, was 42.4. This figure is slightly lower than that of 2011, which was 43.1. This indicator showed moderate variation from one province to another: Madrid and Barcelona stood out as having the highest penetration rates for fixed lines, while Murcia and Huelva were the provinces with the lowest penetration rates.

Customers

A service provider can offer fixed telephony in two ways: with direct access, offering the customer access by means of a proprietary network or an unbundled loop, or by means of an indirect access service such as preselection or AMLT (Acceso Mayorista a la Línea Telefónica or Wholesale Access to Telefónica Line), whereby an operator that does not have its own network with which to reach the subscriber can of-

Number of lines and penetration rates for fixed telephony (millions of lines and lines per 100 inhabitants)

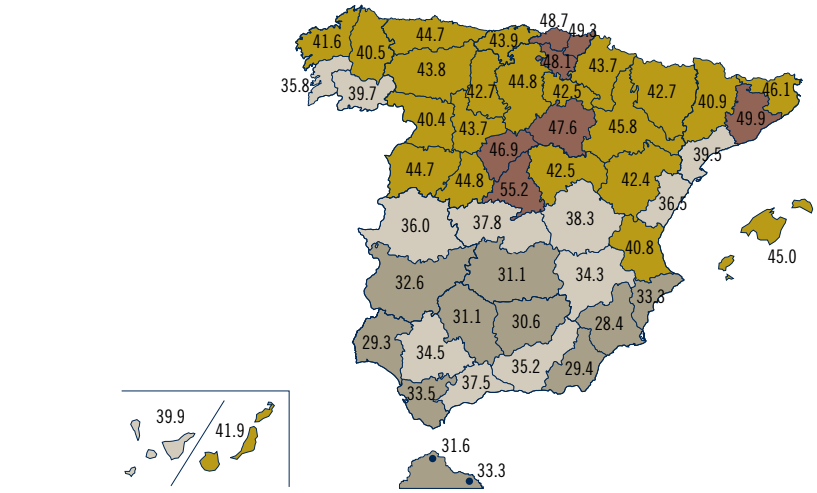


Source: CMT

[14] This figure does not include the use of applications enabling telephone calls to be made over the Internet.

fer him end services using the incumbent operator's network - subject to regulated prices and conditions – and capture the subscriber through preselection of the operator. Thus in AMLT mode, operators can bill their customers for the access and voice traffic services together. In this case the end-customer has no

Penetration, lines by province[16] (lines per 100 inhabitants)



Source: CMT

According to data published by the CMT-Red.es Household Panel, the percentage of households with fixed telephony was 83.7%. Moreover, a considerable number of households had only mobile telephony (16.9%) and thus had no access to the fixed network. Conversely, 5.8% had only fixed access.

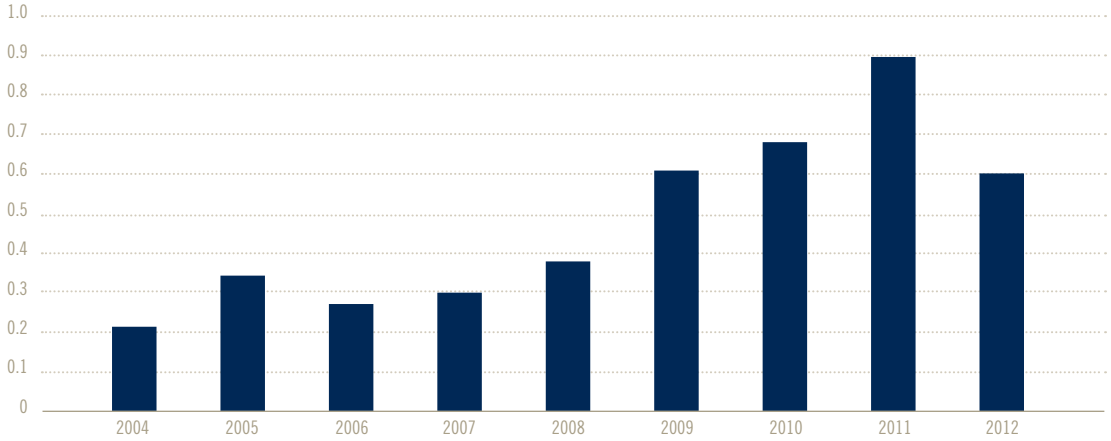
These households are characterised by consisting mainly of people aged over 65. The demand and consumption of these households are very different from those of younger households in which the use of a number of services is more common, and in particular the use of mobile services. The number of households with fixed access only is therefore not expected to increase in the future.

As regards the number of fixed and mobile lines, the substitution rate between fixed and mobile connections declined slightly this past year from an already very low rate, to less than 1% in each quarter. In fact, in 2012, the average quarterly rate for replacement of fixed by mobile access was 0.6%. We must therefore conclude from the latest data that replacement of connections does not seem to be a very significant factor in the Spanish market.

[15] Calculated from the total number of fixed telephony lines and the population in 2012, obtained from the updating of the census: 46,196,278 inhabitants (source INE, the Spanish National Statistics Institute).

[16] The intervals were set from the mean ± standard deviation. The upper and lower extremes are determined by the maximum and minimum values, respectively.

Evolution of quarterly substitution rate between fixed and mobile connections
(number of households as % of total)



Source: CMT-Red.es Household Panel (Red-es being the public body responsible for promoting the development of the Information Society in Spain)

relationship or dealings with Telefónica. This wholesale service has enabled alternative operators to sell new packages and offers to compete more effectively with the dominant operator.

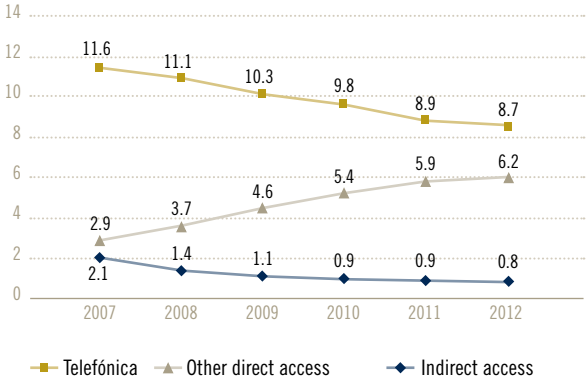
At the end of the year there were 15.7 million fixed telephony customers, 94.9% of whom were proprietary network or direct access customers. Only 5.1%, or 799,646 customers, had some form of indirect access.

The decline in the past few years in the number of customers with indirect access is a result of increased competition in infrastructures, not only through roll-outs of proprietary networks, but above all through the use of wholesale services involving some capital expenditure on the part of the alternative operators, for example unbundling the subscriber loop.

The development of AMLT as a means of indirect access for the end-customer has enabled the alterna

tive operators to take over the commercial relationship with the customer, including access, which is no longer invoiced by the incumbent operator. In 2012, the total number of AMLT lines was 489,374, representing an increase of 7.9% on the previous year.

Changes in number of customers with direct and indirect access (millions)



Source: CMT

Traffic

Once again this past year, voice traffic on mobile networks exceeded that of fixed networks. Thus, traffic originating from mobile networks represented 53.1% of total traffic, with a total of 69.7 billion minutes, surpassing the total handled by fixed networks, which reached 46.9% of the total with 61.6 billion minutes.

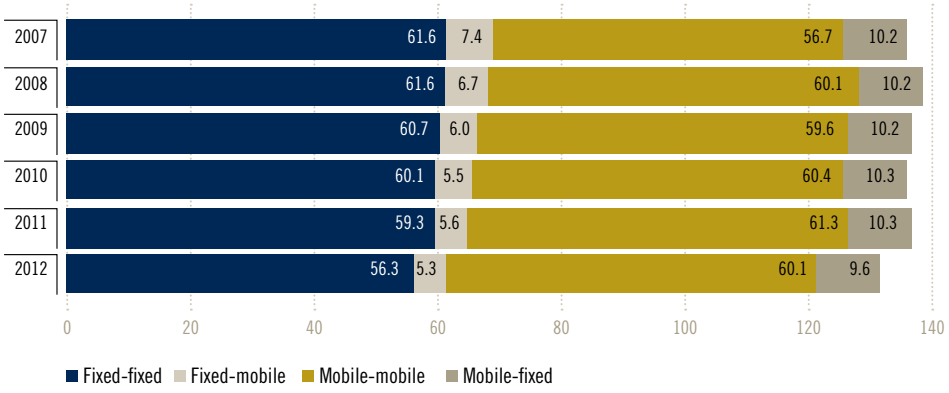
Number of customers by segment in 2012

	RESIDENTIAL	%/TOTAL	BUSINESS	%/TOTAL	TOTAL
Direct access	12,503,655	79.5%	2,420,203	15.4%	14,923,858
Indirect access	655,006	4.2%	144,640	0.9%	799,646

Source: CMT

Traffic through fixed networks was 5.1% down on the previous year at 61.6 billion minutes[18]. This reduction was also seen in traffic volume per line, which fell overall by 4% relative to the previous year.

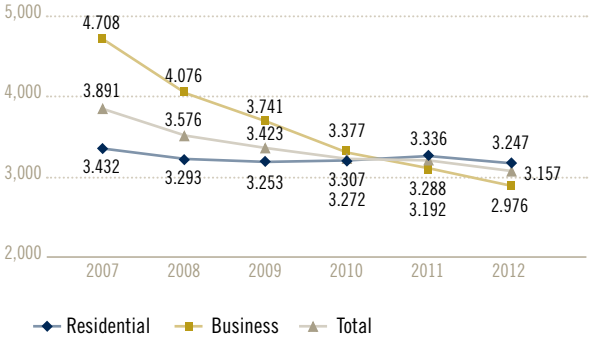
Trends in traffic by origin and destination[17] (billions of minutes)



Source: CMT

Flat-rate fixed telephony traffic represented 75.7% of the total volume in minutes. The remaining 24.3% was traffic charged by time. This same analysis for the residential segment gives 89.8% for flat-rate traffic and the remaining 10.2% charged by time.

Minutes per line and year and by segment (minutes per line)



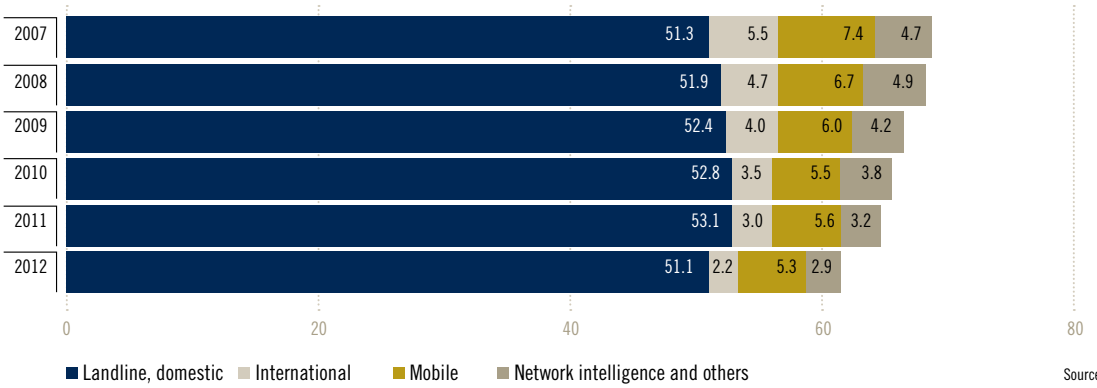
Source: CMT

[17] Fixed traffic does not include local calls to narrow-band Internet. Traffic from mobile is calculated in air minutes and does not include international roaming.

[18] Minutes of access to switched-traffic Internet are not included.

As regards trends in the various types of traffic originating from fixed networks, we saw very significant declines in the number of outbound international call and in network intelligence. Outbound international traffic fell significantly, by 26.8% in the year. This was the decrease recorded by conventional operators as a whole, and does not include traffic handled by over-the-top operators enabling calls to be placed to any destination by means of Internet applications at reduced prices. Traffic with mobile destinations suffered a slight decline - 5.5% - while calls to domestic fixed lines fell by 3.6%.

Trends in traffic originating from fixed network (billions of minutes)



Source: CMT

Competition

The number of portability transfers was nearly 1.8 million, a large number although less than the all-time record reached in 2011.

Average revenue was also down, for all types of traffic – domestic, mobile and international – while bundling of fixed voice with another service represented 55% of the total number of fixed telephony lines.

Telefónica's overall market share fell, while that of the alternative operators increased.

Preselection and portability

Portability and preselection are the mechanisms stimulating competition in the fixed voice market. In particular, portability allows consumers to change operator while keeping the same fixed number, which reduces switching costs, and its use is a good indicator of the degree of competition in the market.

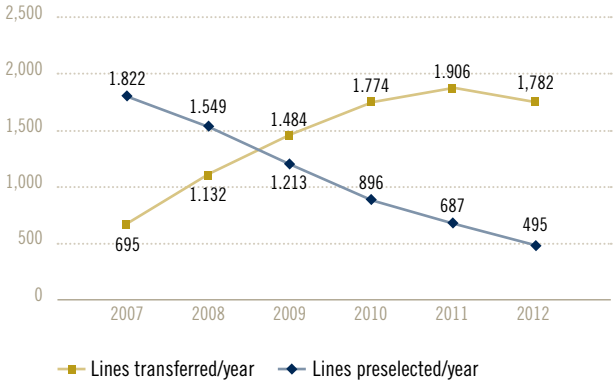
In the past few years fixed portability has posted very large figures. In 2012 the monthly average was 158,855 portability transfers, the majority by customers of Telefónica to alternative operators.

Data of the CMT-Red.es Household Panel indicate that 11.2% of households with fixed telephony switched operator during 2012. The percentage of households subscribing to bundled services of fixed telephony and broadband that switched operators, at 13.9%, was practically double that of households with non-bundled fixed telephony (6.4%). This is particularly revealing, indicating that in general changes of fixed telephony operator are motivated by the need to replace the operator of both services and benefit from a more economical combined rate. The data also reflect the less proactive behaviour of consumers who do not have fixed broadband, whose incentives to change provider are fewer.

The growing supply of direct access from alternative operators hastened the decline in use of preselection, which is an increasingly residual service. The number of active preselected lines fell to 495,178, a decrease of 27.9% from the previous year. Thus the importance of this mechanism in generating more competition in

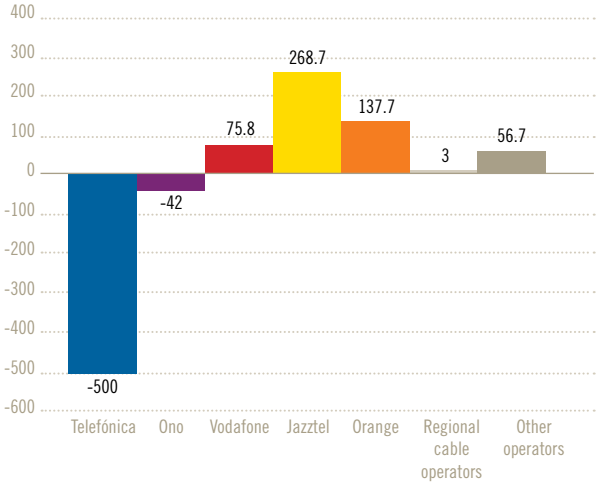
the market for fixed telephony has gradually diminished.

Portability and preselection of fixed lines (thousands of lines)



Source: CMT

Net balance of portability by operator in 2012 (thousands of lines)



Source: AOP (Asociación de Operadores para la Portabilidad, the Spanish "Association of Operators for Portability") and CMT

The net balance of portability transfers is defined as the difference between the number of lines imported by an operator and the number of lines exported by that same operator to the other operators in the portability process. Telefónica, with a negative balance of 500,047 lines, lost ground to its competitors. In contrast, Jazztel was the operator with the greatest gains in transferred customers, with 268,723 lines, followed by Orange, with an overall positive balance of 137,697 lines for the year.

This loss of customers may have been one of the reasons why, in the fourth quarter of the year, Telefónica started selling its products by offering quadruple and quintuple play. In return for a single monthly payment, these offers cover fixed and mobile services with a significant discount for the end user. Although by year-end these offers did contribute to slowing the seepage of customers from the incumbent operator to the rest, they were not enough to stem the net loss for the whole year. Nevertheless, the net negative balance of portability transfers from Telefónica was not as high as in previous years.

Lines: gains and losses

Telefónica's total stock of lines showed a declining trend, falling by 674,943 during the year. The cable operators lost 67,717 fixed lines, while the remaining operators gained 428,248 lines. Thus Telefónica's losses in the residential and business segments over the course of the year led to the final consolidated balance being negative, with a net loss of 314,412 lines.

The migration of lines from Telefónica to the alternative operators reflects an increase in competition made possible by the CMT's regulatory activity. In the first place, the trend towards unbundling the subscriber's loop continued, particularly in the complete unbundling mode, which enables the alternative operator to offer the entire range of services to the end-customer, including access. In the second place, access to the shared loop without PSTN has enabled alternative operators to capture customers by offering a whole set of services at competitive prices. The increases of 216,833 or 11.3% in the number of completely unbundled loops and of 184,247 or 24% in loops without PSTN clearly point to operators' strategy being to get as close as possible to the end-customer. In 2012 the number of unbundled loops of these two

types was 3,078,440, representing 15% growth compared with the previous year.

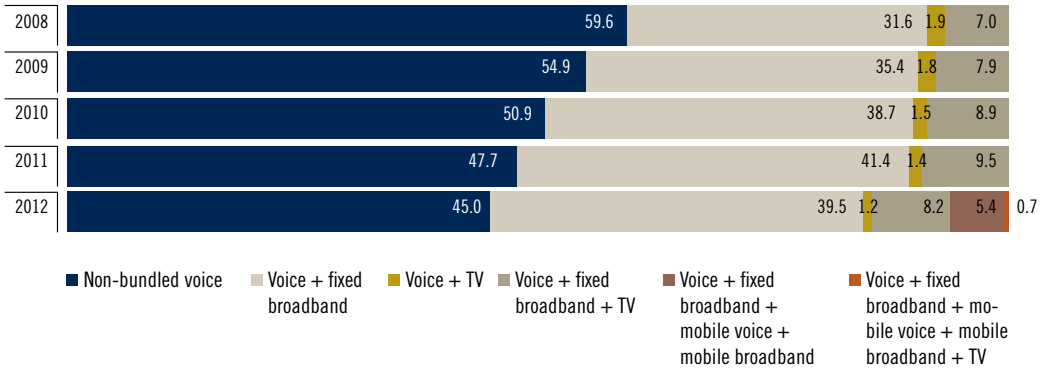
Another regulatory measure driven by the CMT is AMLT Wholesale Access to Telefónica Lines, which is a type of indirect access. At year-end, a total of 489,374 lines had been contracted in the market under this indirect access scheme. This represented growth of 7.9% on the previous year. Orange took up 51.1% of these lines.

Voice bundling

55% of fixed lines contracted bundled voice, the most popular bundle being fixed voice with broadband, which accounted for 39.5% of the total number of lines. Historical data show that bundling of services continues to gain ground in the market.

In fact in 2012 Movistar's launch of quadruple and quintuple bundles consisting of fixed telephony, fixed broadband, mobile voice and mobile broadband, as well as the option to also include television using

Proportion of bundled and non-bundled voice (% of voice lines in service)



Source: CMT

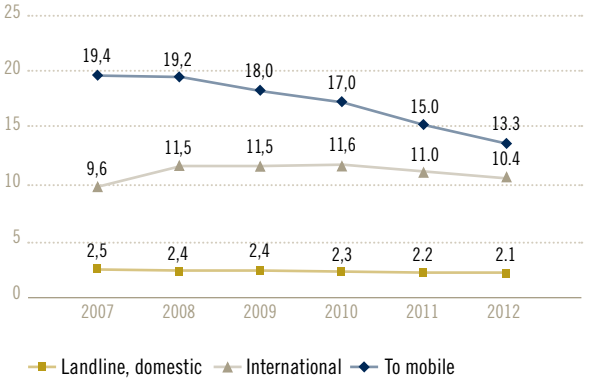
IP technology provoked a reaction from its rivals which in due course offered similar bundles.

Prices

Average revenue per call to the mobile network fell by 11.1% to 13.3 euro cents per minute. This price reduction reflects among other things the reaction applied by the CMT in 2012 to the wholesale price of call termination in the mobile network.

Average revenues from calls to international destinations also declined - by 6.1% compared with 2011 - and their average price was 10.4 euro cents per minute.

Average revenue from traffic to domestic and international fixed lines and mobiles (euro cents per minute)



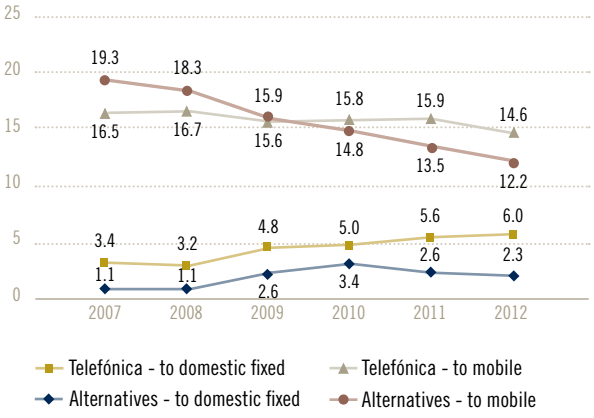
Source: CMT

It is also interesting to analyse how prices of time-charged calls have changed, for example calls originating and terminating in domestic fixed networks made by customers that have not subscribed to a flat rate for domestic voice. The great majority of these calls are placed by customers who subscribe to the non-bundled fixed voice service which although in steady decline still represent 45% of the total number of lines in the market. As already argued, these customers are less inclined to switch operator compared with subscribers to bundled fixed voice, and they also tend to generate much smaller volumes of traffic.

Moreover, in 2012 these customers were faced with significant price changes, with Telefónica changing its nominal tariffs in June 2011 to include a 0.15 euros charge for placing a time-charged call. Telefónica also did away with time bands for local and domestic calls, applying across the board what had until then been peak-time rates, i.e. 1.5 and 7.2 euro cents per minute respectively. Thus, as shown in the graph, as a result of these changes time-charged calls to the fixed network by Telefónica customers showed an increase of 6.5% in average revenue, reaching 0.06 euros per minute, which is a relatively large amount in comparison with its rivals: 2.3 euro cents per minute. These customers' low usage rates, together with their social-demographic profile (they are mostly elderly) make them less sensitive to and less likely to react to price differentials.

Another type of call that is generally time-charged are calls from fixed to mobile networks. Because of the reduced incidence in the market of "bonos" (low-cost block packets of MB) for fixed voice calls to mobile, and of flat rates for fixed voice that include calls to mobiles, the vast majority of customers are billed by the minute for these calls to mobiles, irrespective of the terms of their subscription as regards domestic calls to the fixed network. In this case average revenue per minute amply exceeds that from calls to fixed lines, the overall average revenue per minute – even including calls to mobile billed by means of "bonos" – being 13.3 euro cents per minute, 9.7 euro cents more than the average termination cost of these calls in the mobile networks. Admittedly for fixed voice customers, and particularly customers who subscribe to bundled voice services, the cost of calls to mobiles is unlikely to be a determining factor in choosing an operator or deciding to switch operators, since the impact of this service on their overall bill is not great, and in any case they can make calls directly from the mobile.

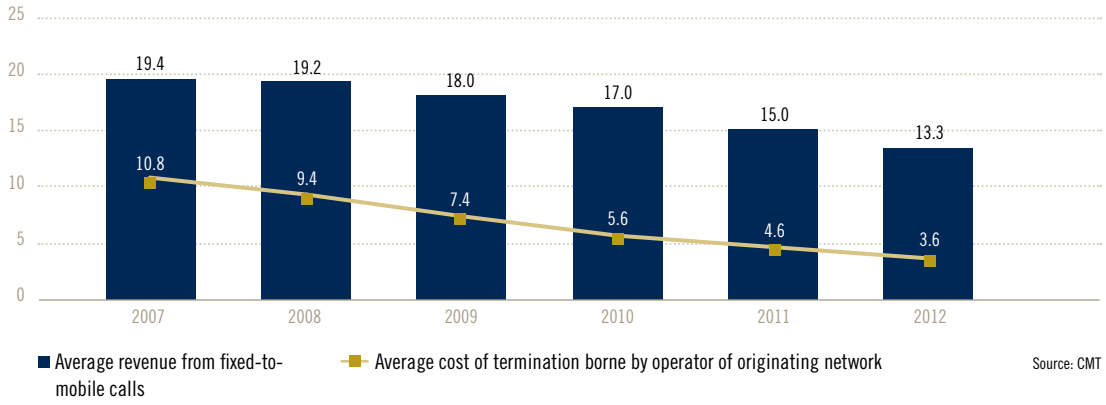
Comparison of average revenue from time-charged calls to domestic fixed lines and to mobiles, Telefónica and alternative operators (euro cents per minute)



Source: CMT

Since 2006 the price of termination in mobile networks has been regulated along a declining price path, which in this past year involved a reduction of 22%. Even so, this reduction was not fully passed on to end prices in the retail fixed market. The price of a call from the fixed network to a mobile network also came down, but by less - 11.1% average for the year.

Retention mark up of fixed-to-mobile calls[19] (euro cents per minute)



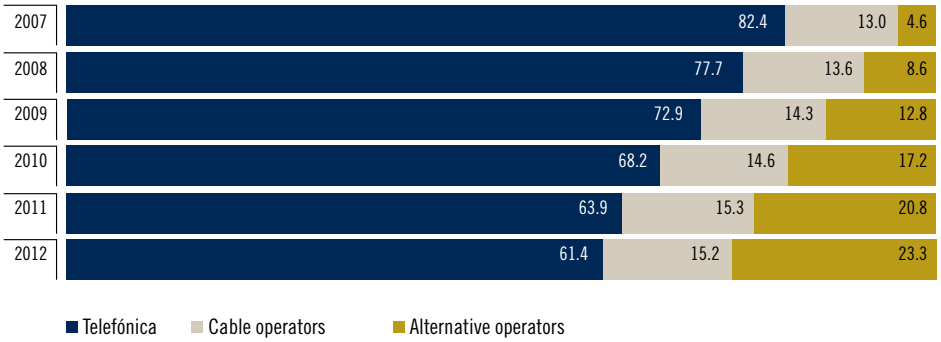
Source: CMT

Market shares

By number of lines, Telefónica achieved a market share of 61.4%. The main cable operators' market shares remained stable, while that of the alternative operators increased by 12.1%.

In analysing market shares for direct access customers, we observed that Telefónica maintained a significant position, albeit clearly decreasing over time. Telefónica accounted for 58.4% of direct access customers, representing a decline of nearly two percentage points in one year. The cable operators captured 16.9% of the total number of direct access customers, most of them in the residential segment. The other alternative operators attained 24.7%, representing a gain of more than two percentage points for the year. Jazztel and Vodafone stood out in this group.

Market shares in the fixed line market (%)



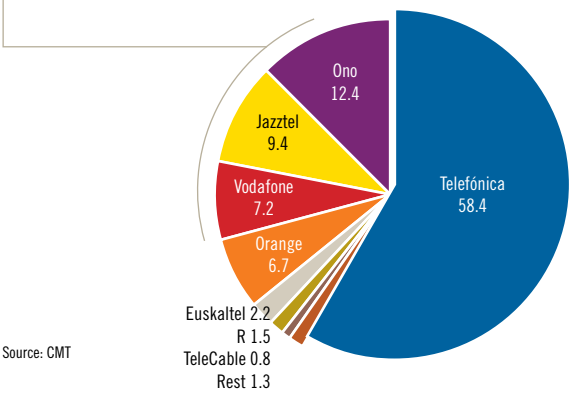
Source: CMT

Ono was the number two operator by market share, with 12.4%. Jazztel, for its part, substantially expanded its direct access customer base, and for the first time came in third, with 9.4% of the total number of direct access customers.

Indirect access continued to diminish as a way of capturing users, with a total of 799,646 customers for the year. Orange maintained its position as the operator

[19] This does not include all the costs implicit in the, since only one type of cost is broken down: that charged by other operators for the wholesale service implicit in the service.

Market shares by direct access customers 2012 (%)

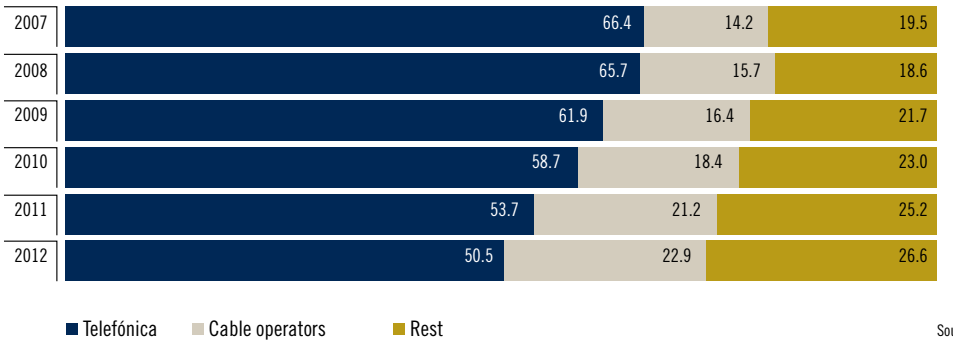


Source: CMT

with the greatest number of customers in indirect access, with 52.2% of the total. It was followed at some distance by Jazztel and Vodafone.

During 2012 Telefónica held on to its lead position as regards total traffic, with a market share of 50.5%, less than its share in the number of lines. The cable operators represented 22.9% in 2012, and the other operators gained market share, together accounting for 26.6%.

Market shares, fixed line traffic (%)



Source: CMT

2.1.2 Fixed broadband

In 2012 billings of retail fixed broadband services fell by 2.6% to 3,276.49 million euros. In contrast, the number of fixed broadband lines showed an increase of 3.2%, to 11.5 million.

Internet services as a whole – which includes not only fixed broadband but also switched-traffic access and other services – billed 3,659 million euros, which was 4.6% less than in the previous year.

The majority of alternative xDSL operators kept up their high rates of new customer acquisition. These operators provided services to end-users based on Telefónica's regulated wholesale services. Their gains in numbers of lines in the retail market was matched by an increase in revenues and number of lines in the wholesale unbundled loop service. Thus, the number

of unbundled loops increased by 13.2% to surpass 3.2 million. Wholesale broadband services as a whole billed 593.3 million euros, 8.7% more than in the previous year.

As regards indirect broadband access, there was a change of trend, with reductions in both revenues and the number of lines. The number of IP concentration lines sold by Telefónica under the name ADSL-IP fell by 5.6%. At the same time ATM concentration or GigADSL was down by 16%.

On the other hand Telefónica, which had suffered a net loss of lines in 2011, resumed positive customer acquisition figures in 2012. Nevertheless, these levels are lower than those of the alternative operators, so its market share in lines continued to shrink.

As regards connection speeds, subscriptions to higher speeds continued to increase helped by improvements carried out by operators to the access networks. At year-end, 63% of lines had a nominal speed of 10 Mbps or more, compared with 54% the year before. Moreover, more than 92% of broadband lines were subscribed to together with other services.

Lastly, the roll-out of NGA or new generation access, allowing very high speed connections, continued its advance, with practically all HFC connections updated to DOCSIS 3.0 and the roll-out of optic fibre to the home (FTTH). The number of DOCSIS 3.0 technology connections installed surpassed 9.6 million, and FTTH connections numbered 3.2 million.

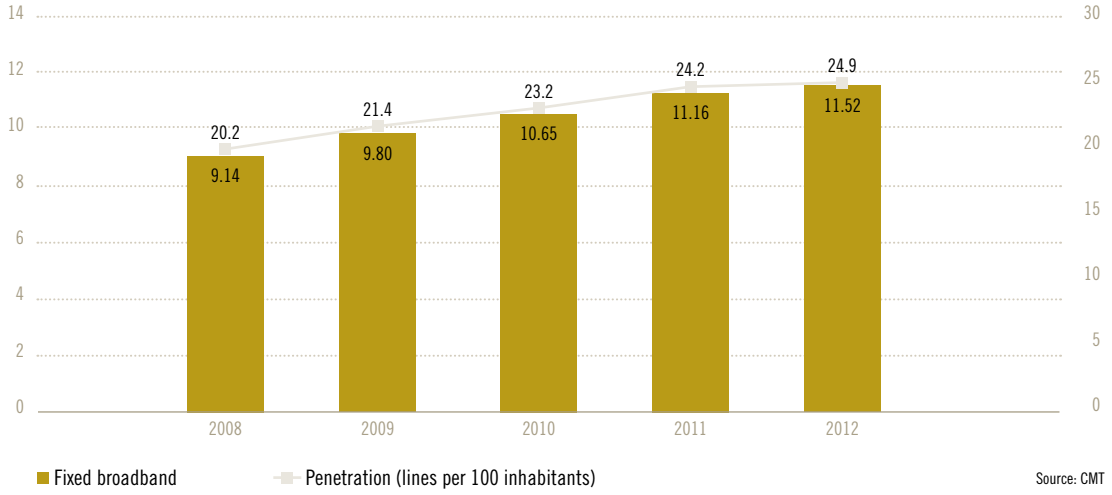
Situation of the sector

Lines and penetration

Broadband connections in fixed networks showed lower growth than in previous years. The total number of active broadband lines in fixed networks reached 11.5 million, representing an increase of 3.2% relative to the previous year. We should point out that the increase in the previous year was 4.8%.

This volume of connections brought penetration to 24.9 lines for every 100 inhabitants, with an increase of less than one line for every 100 inhabitants in this past year.

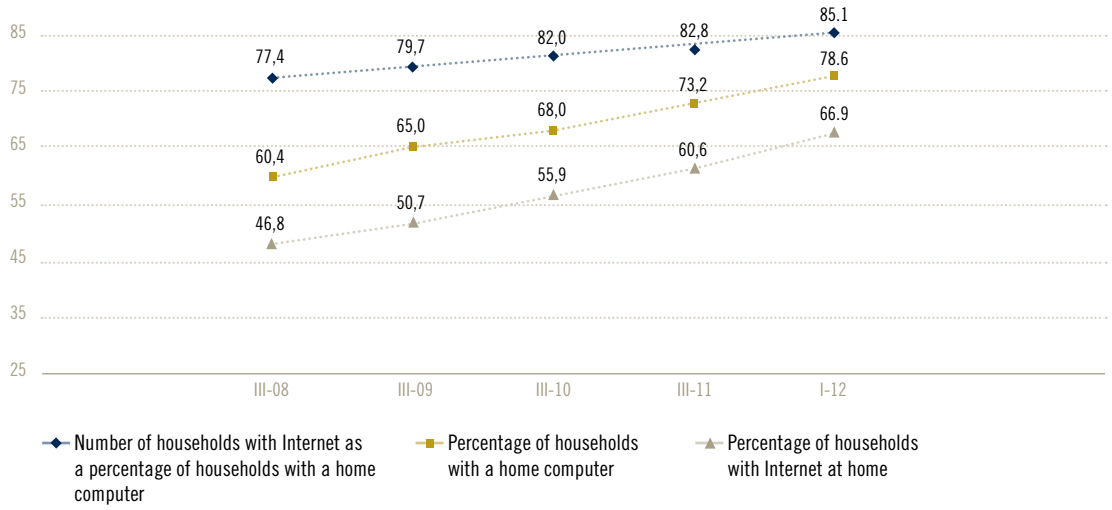
Trends in broadband lines and penetration rates (millions of lines and lines per 100 inhabitants)



Source: CMT

The CMT-Red.es Household Panel data show that in 2012 more than 66.9% of households subscribed to an Internet access service. Moreover, 78.3% of Spanish households have a computer, and more than 85% of these subscribe to an Internet access service. The following graph shows the growing trend in both Internet penetration and computer ownership in households over the past few years.

Households with Internet as a proportion of households with a computer (percentage)



Source: CMT-Red.es Household Panel (Red-es being the public body responsible for promoting the development of the Information Society in Spain)

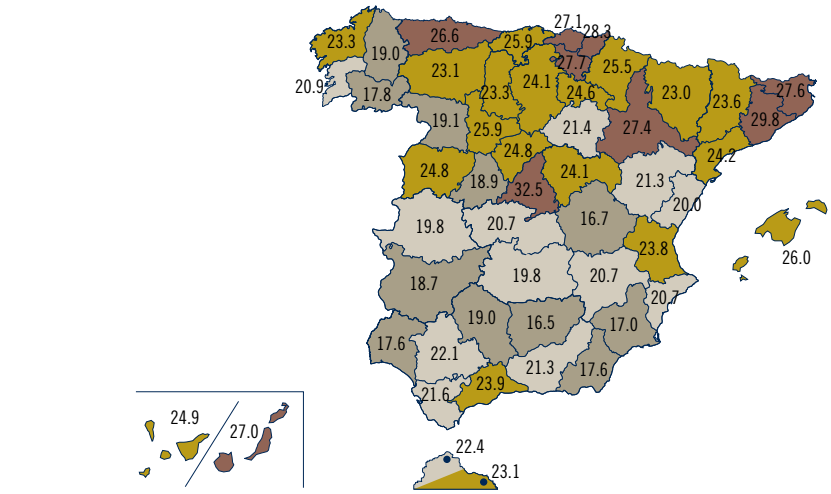
The roll-out of communications network infrastructure, and specifically the fixed broadband networks, showed notable differences from one region of the country to another. Along with other factors, operators' quest for improved returns on their investments led to greater penetration of broadband services in particular regions.

In the following sections we look at how broadband service penetration and operators' market shares vary significantly by region.

The following map shows penetration of broadband connections by province. A total of 14 provinces ended the year with a penetration rate equal to or in excess of the national average of 24.9[2] lines for every 100 inhabitants. These are the same provinces that were placed above the national average in the last two years. The highest penetration figures were posted by Madrid and Barcelona.

[20] Penetration calculated on the basis of the total number of broadband lines.

Broadband penetration by provinces[21] (lines per 100 inhabitants)



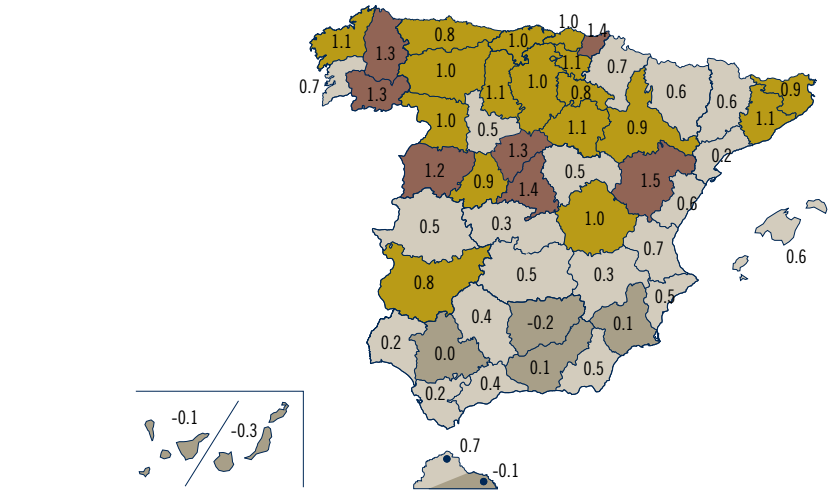
From 16.5 to 19.1 (11) From 19.2 to 22.8 (13) From 22.9 to 26.4 (19) From 26.5 to 32.5 (9)

Source: CMT

The slowdown in the increase in broadband connections was also reflected at provincial level, with only small increases in penetration and in several provinces even decreases. Specifically, 28 provinces saw growth equal to or in excess of the national average of 0.7 lines for every 100 inhabitants. The biggest increases in penetration - 1.4 or more broadband lines for every 100 inhabitants - were in the provinces of Teruel, Madrid and Guipúzcoa .

In Granada, Murcia and Seville on the other hand, penetration hardly increased at all. And in Santa Cruz de Tenerife, Melilla, Jaén and Las Palmas it actually fell.

Increase in broadband penetration by provinces[22] (lines per 100 inhabitants)



From -0.3 to 0.1 (7) From 0.2 to 0.7 (21) From 0.8 to 1.1 (17) From 1.2 to 1.5 (7)

Source: CMT

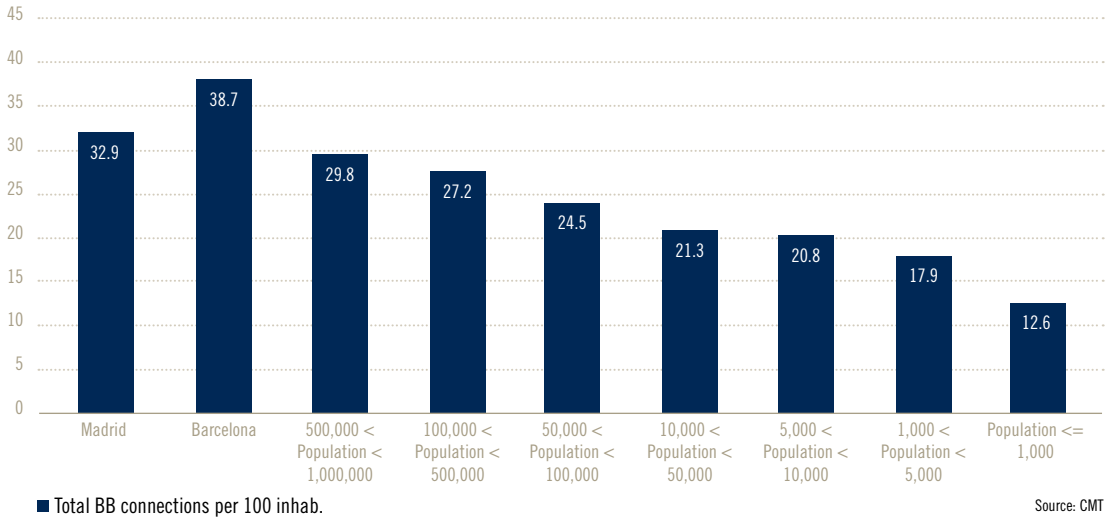
[21] The intervals were set from the mean ± standard deviation. The upper and lower extremes are determined by the maximum and minimum values respectively.

[22] The intervals were set from the mean ± standard deviation. The upper and lower extremes are determined by the maximum and minimum values respectively.

The following graph shows the penetration of broadband connections by size of municipality in December 2012. As in previous years, we see a clear tendency for penetration to fall in line with the decline in the municipality's population. Municipalities with populations of over 100,000 showed, on average, a penetration of 27.2 or more lines for every 100 inhabitants, ahead of the national average. In contrast, municipalities with fewer than 5,000 inhabitants had at most 18 lines for every 100 inhabitants.

Despite the persistence of significant differences between municipalities with large populations and those with small ones, the latter increased their penetration thanks to the increase in lines of the incumbent operator, Telefónica, and the gradually growing presence of alternative operators providing access via unbundled loop and with the use of indirect broadband access.

Broadband penetration by type of municipality[23] (lines per 100 inhabitants)



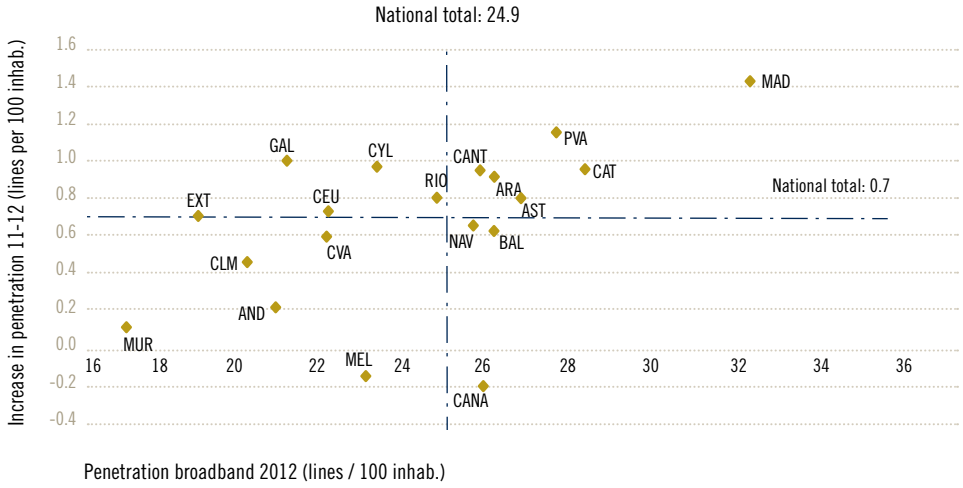
Source: CMT

Lastly, nine autonomous regions ended the year with penetration rates above the national average. Once again Madrid and Catalonia were the regions with the highest penetration rates for broadband, with respectively 32.5 and 28.6 broadband lines for every 100 inhabitants. These figures represent increases of 1.4 and 1 line for every 100 inhabitants relative to 2011. At the other extreme, Extremadura and Murcia were the regions with the lowest penetration rates, fewer than 20 lines for every 100 inhabitants, as was the case in 2011.

The biggest increases in penetration rates (more than 1 line for every 100 inhabitants) were seen in Madrid and the Basque Country. The only decreases observed were in the Canary Islands and Melilla.

[23] December 2012 data corresponding to the geographical survey carried out by the CMT.

Broadband penetration by autonomous region (lines per 100 inhabitants)



Source: CMT

Technologies

In the past few years considerable advances have been made in improving broadband access networks, both fixed and mobile, and this has undoubtedly been reflected in improved quality and in the number of services provided through them.

The many fixed network technological alternatives for providing the broadband access service can be classified into the following groups:

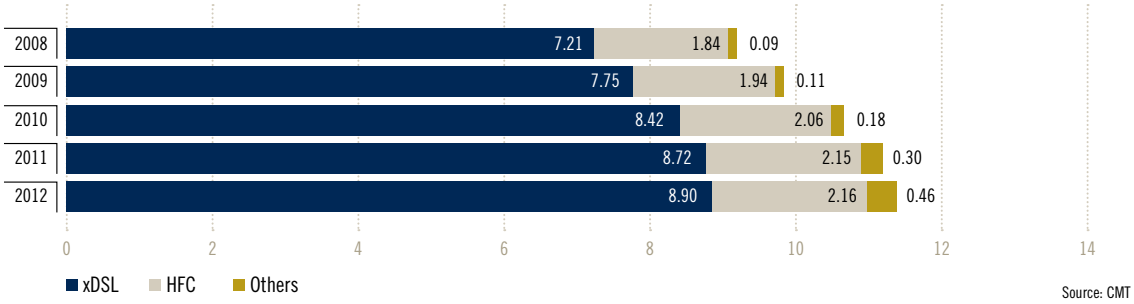
- Technologies based on fixed networks: xDSL technologies over copper twisted-pair; technologies over cable networks such as HFC networks by means of a mixed medium of optic fibre and coaxial cable; and lastly, technologies over optic fibre networks such as FTTH connections.
- Technologies over wireless networks: LMDS, WiMAX (long-distance coverage) and WiFi (reduced coverage context).
- Networks based on satellite systems such as VSAT.

In 2012, the dominant fixed network technologies for consumer access were xDSL and HFC networks, which represented 96% of active fixed broadband connections. This figure represents a reduction of 1.4 percentage points from 2011, reflecting the considerable increase in FTTH connections. Thus the remaining technologies reached 457,369 connections, and of these, a total of 336,719 were active connections by means of FTTH. This figure is almost double that for 2011.

The year thus ended with a total of 8.9 million xDSL connections, representing an increase of 2% for the year. The number of broadband connections via HFC networks hardly changed (up by 0.6%). Both these increases were below the average for broadband lines as a whole, which increased by 3.2%. In contrast, connections via the remaining technologies increased by 54.3%, as a result of the advances made by FTTH connections.

At the end of the year in the residential segment there were 9.2 million lines in total. The business segment for its part ended the year with 2.3 million lines, a percentage distribution very similar to that of previous years.

Trends in broadband by technology (millions of lines)



Source: CMT

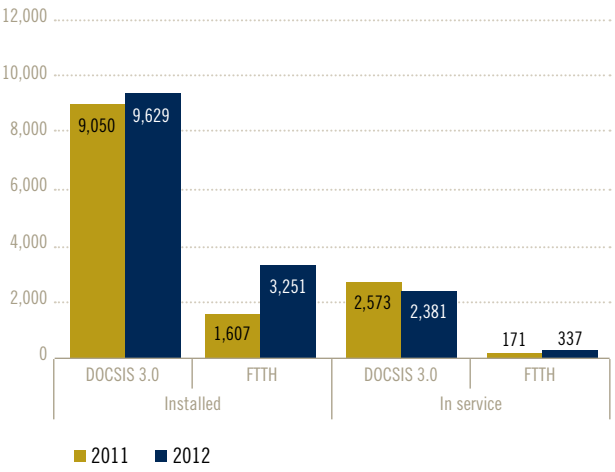
NGA

In 2012 operators continued to invest in upgrading their conventional broadband access networks, with a view to offering broadband services with faster connection speeds. Specifically, the roll-out of New Generation Access (NGA) networks made significant advances: on the one hand Telefónica rolled out its FTTH (fibre to the home) connections; and on the other hand the cable operators carried out the migration of nearly all HFC connections to DOCSIS 3.0.

Both NGA networks allow operators to provide users with fast connection speeds and thus to offer better connection quality as well as new services requiring greater bandwidth.

Installed connections surpassed 12.8 million; and of these 3.2 million were FTTH connections, twice as many as in the previous year. This important increase in FTTH coverage was also reflected in the number of active FTTH connections, which was more than 337,000. Moreover, during this past year the cable operators also increased their DOCSIS 3.0 node-dependent installed connections by more than half a million. They thus reached a total of 9.6 million connections, completing the upgrading of their HFC network so as to offer very high speed connections.

Changes in number of installed connections and in DOCSIS 3.0 and FTTH service (thousands)

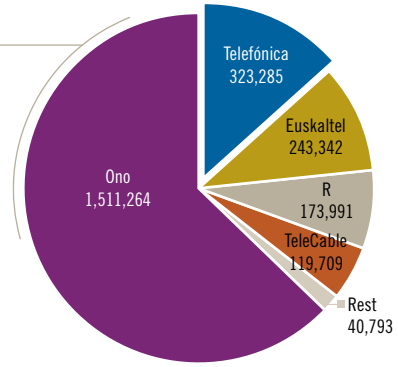


Source: CMT

At the end of the year, a total of 2.07 million HFC lines belonged to a node updated to DOCSIS 3.0. This figure represents 96% of connections. Active FTTH connections 336,719, nearly all of them corresponding to Telefónica. We should point out that the speed of these connections depends on what customers eventually sign up for, and that some of these connections still have speeds of less than 30 Mbps.

Although the remaining operators had no significant presence in active FTTH connections, towards the end of the year and in early 2013 agreements were reached among operators to push the roll-out of fibre to the home. Prominent among these cooperation agreements are those between Telefónica and Jazztel on the one hand and Orange and Vodafone on the other.

Distribution of DOCSIS 3.0 node and FTTH computer broadband lines (lines)



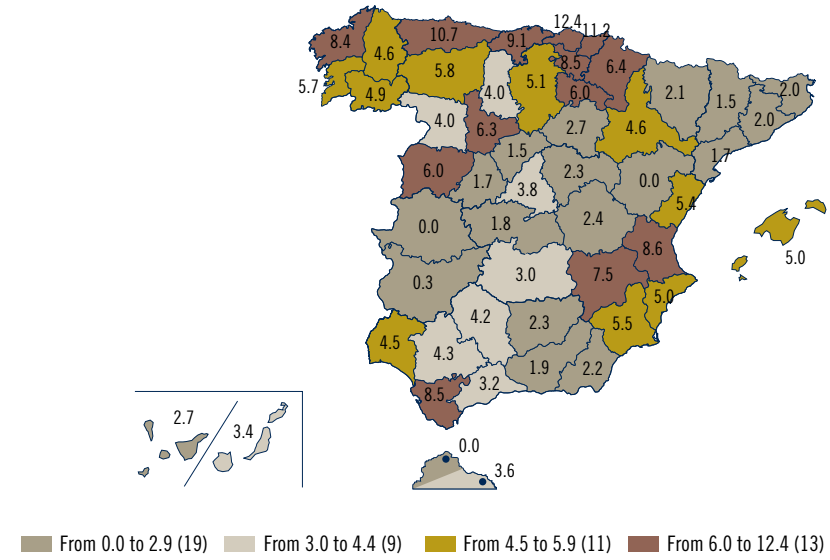
Source: CMT

At the end of the year, 21 provinces showed HFC penetration rates in excess of the national rate. As in previous years, the highest penetration rates were recorded in the Basque Country, with the presence of the cable operator Euskaltel, Galicia with R and Cantabria with TeleCable, Asturias. In the provinces of eastern Spain (Valencia, Castellón, Murcia and Alicante), Albacete and some others, the high cable penetration rates are due to the presence of Ono and other, local operators.

Specifically, the highest figures were posted in the provinces of Biscay, Guipúzcoa and Asturias, which all surpassed 10 HFC lines for every 100 inhabitants. These provinces also posted total increases in broadband above the national average.

Overall, HFC connections increased by 0.6% this past year, well below the 4.5% increase posted in 2011. The penetration rate was unchanged from 2011: 4.7 lines for every 100 inhabitants.

Broadband xDSL penetration by province[24] (lines per 100 inhabitants)



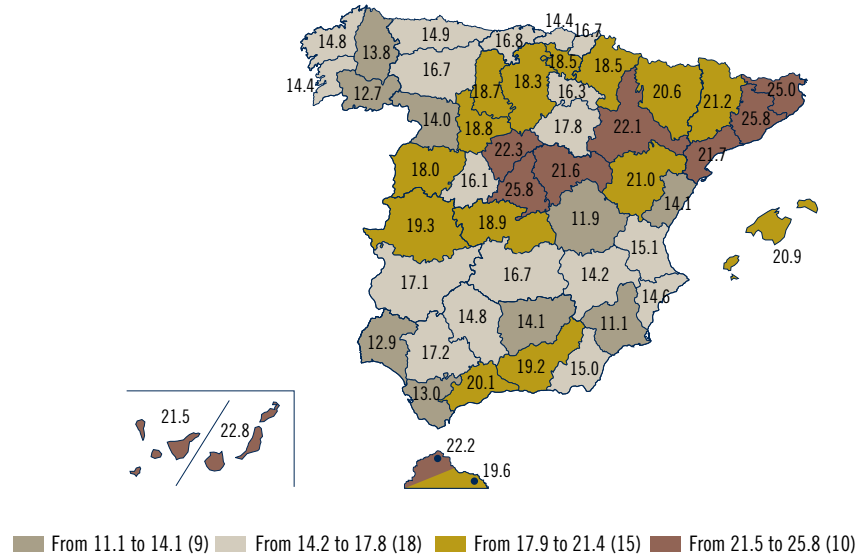
Source: CMT

[24] The intervals were set from the mean ± standard deviation. The upper and lower extremes are determined by the maximum and minimum values respectively.

The number of xDSL broadband lines grew by 2% in 2012, less than the 3.6% increase seen in 2011. We should point out that Telefónica's xDSL lines also decreased in number, although by less than in 2011. Thus the penetration rate for the whole country came in at 19.3xDSL lines for every 100 inhabitants; a total of 17 provinces posted figures in excess of the national average.

The following map shows the geographical distribution of xDSL lines. Barcelona, Madrid and Gerona are the provinces with the greatest penetration, with 25 or more lines for every 100 inhabitants. At the other extreme, the provinces of Albacete, Huelva, Murcia and Orense were below 13 lines per 100 inhabitants.

Broadband xDSL penetration by province[25] (lines per 100 inhabitants)



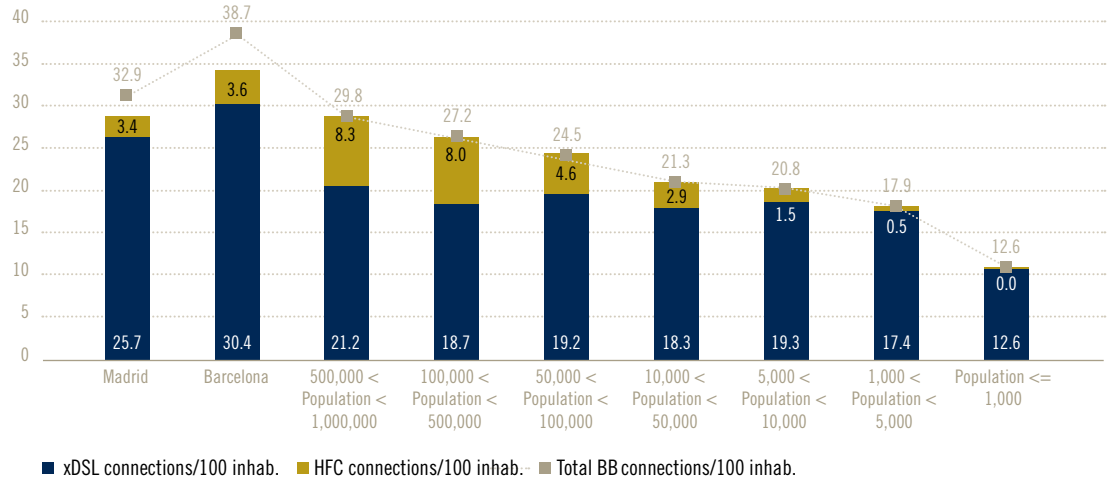
Source: CMT

The breakdown of penetration rates by municipalities, carried out using data from December 2012, shows penetration rates for broadband connections (xDSL and HFC) decreasing along with the size of the municipality. Thus municipalities with populations of over 100,000 had penetration rates above the national average, while smaller municipalities' penetration rates were below this average.

By type of technology, the penetration rate for HFC connections is considerably lower in municipalities with small populations. In contrast, it is more in evidence in municipalities with populations of between 100,000 and one million, with penetration rates of more than eight lines for every 100 inhabitants.

[25] The intervals were set from the mean ± standard deviation. The upper and lower extremes are determined by the maximum and minimum values respectively.

xDSL and HFC penetration rates by type of municipality (lines per 100 inhabitants)



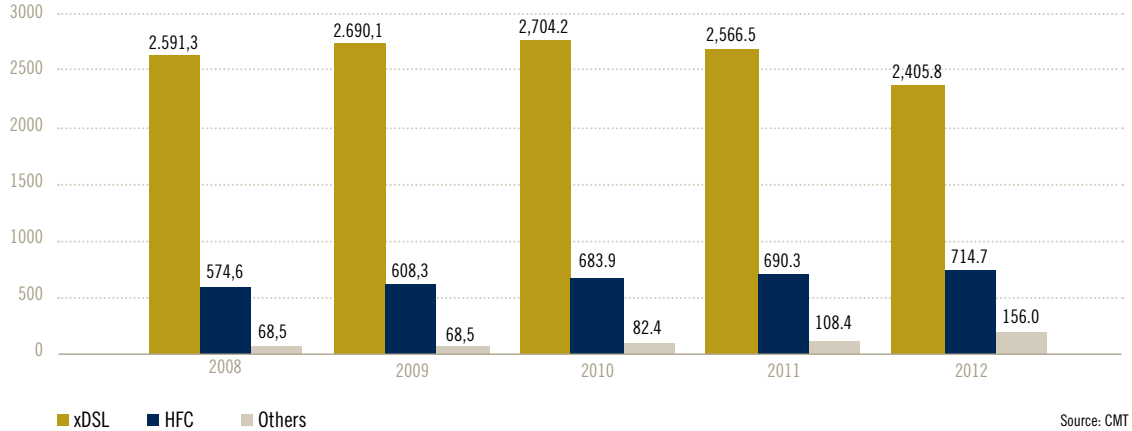
Source: CMT

Revenues

In spite of the increase in the number of lines, 2012 saw a continuation of the decline in billings that started in 2010. Thus revenues amounted to 3,276 million euros, 2.6% less than in the previous year.

By technology, revenues from xDSL connections fell by 6.3% to 2,405.8 million euros. Revenues from HFC increased by 3.5% to reach 714.7 million euros. Lastly, revenues from the remaining technologies (156 million euros) increased by 43.9%, driven by the growth in FTTH broadband connections, which doubled the number of lines and revenues this past year.

Trends in broadband revenues by technology (millions of euros)

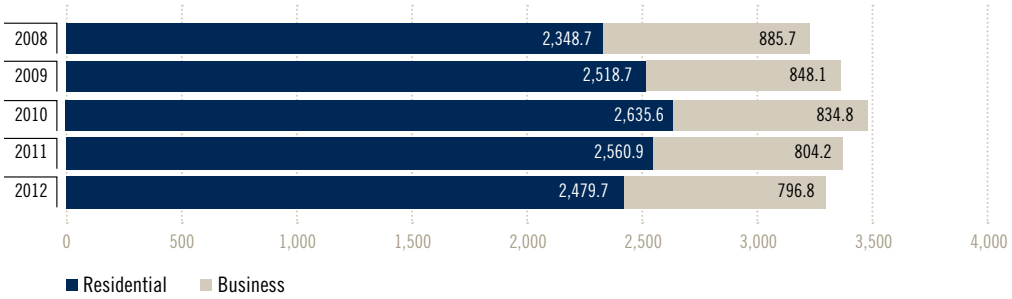


Source: CMT

The decline in revenues from broadband was seen in both the residential and business segments, although less markedly so in the latter. Revenues from the business segment fell by 0.9% to 797 million euros. This decrease is much less than in 2011, which fell by 3.7%. In the residential segment, revenues reached 2,479.7 million euros, representing a decrease of 3.2%.

In conclusion, for the third year running the decrease in revenues from the business segment was not offset by the residential segment. The residential segment has shown marked decreases for the past two years, due in part, as we shall see later, to a reduction in prices of commercial broadband offers.

Trends in broadband revenues by segment (millions of euros)



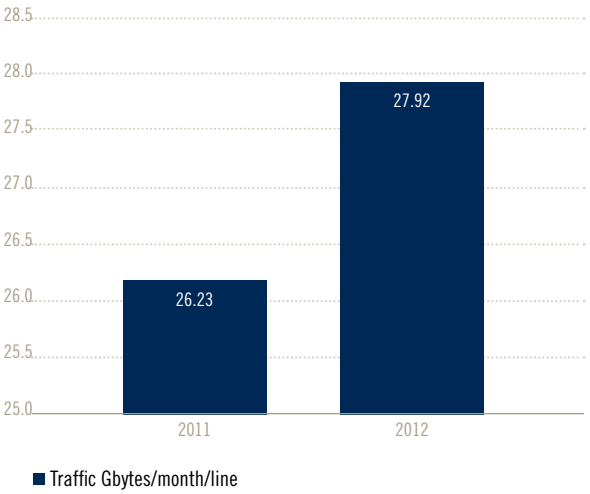
Source: CMT

Traffic

In previous sections we pointed to the capital expenditure undertaken by operators in order to improve the conventional broadband access networks and to roll out new FTTH optic fibre networks to the home. The result has been a gradual increase in broadband connection speeds. This, together with an increase in the number of subscribers, translated into an increase in data traffic. Total traffic for the year was 3.86 million terabytes, 9.8% more than in 2011.

The following graph shows the trend over the past two years in the average volume of data per broadband line in gigabytes per month. We can see that in 2012 broadband lines were used more intensively, with average traffic per line per month increasing by 1.7 gigabytes.

Trends in data traffic on broadband lines (GBytes/month/line)



Source: CMT

Competition

In 2012 the majority of alternative operators continued to make significant advances, increasing the number of fixed broadband connections. Moreover, Telefónica, which in 2011 suffered a net loss of lines, managed to end the year with 93,406 new lines. However its market share shrank in both lines and revenues.

As regards effective broadband prices, reductions were seen on the part of both Telefónica and the alternative operators. Moreover, active connections with speeds of 10 Mbps and more represented 63% of the total stock of lines, compared with 54% in 2011. And the number of lines with speeds of 30 Mbps or more exceeded 1.16 million.

As for the development of access infrastructure, we would highlight Telefónica's progress on rolling out FTTH.

Market shares

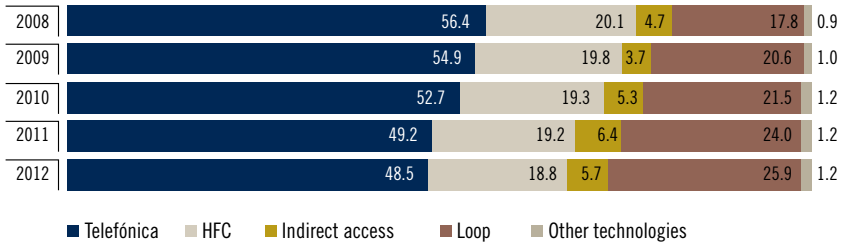
The alternative xDSL operators continued to invest in connecting to Telefónica exchanges (co-location). In this way they can offer broadband services to end-users by making use of the wholesale regulated unbundled loop service. In areas where these operators are not present in the exchanges to offer the service, they used the regulated indirect broadband access service.

At the end of the year, the percentage of broadband connections via unbundled loop was 25.9%, representing an increase of nearly two percentage points. By modes, the totally unbundled loop was the most in demand by operators, since it unlinks the user from Telefónica.

As for indirect access, the number of lines fell by 8.2% and its share of the overall market represented 5.7%. This decrease implied a change of trend relative to previous years in which we saw a recovery in demand for this regulated service.

Lastly, operators providing services with proprietary networks, Telefónica and the cable operators, showed slight declines in their market shares.

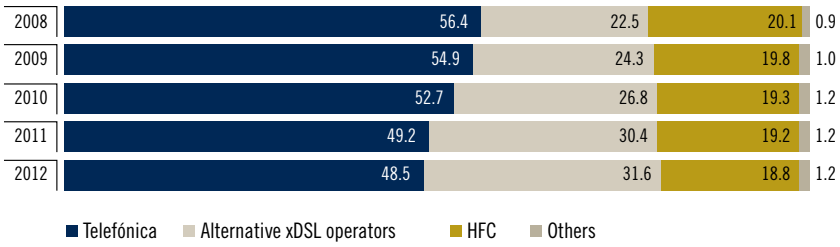
Trend in number of lines by access mode (percentage)



Source: CMT

Telefónica's market share continued to fall in 2012; however, unlike the previous year, it did show a net increase in the number of lines, so its market share shrank by only 0.7%. The alternative xDSL operators increased their market share by 1.2 points, a much lower figure than those of previous years. Lastly, the cable operators were unable to sustain the upward trend of their market share, and lost nearly half a percentage point.

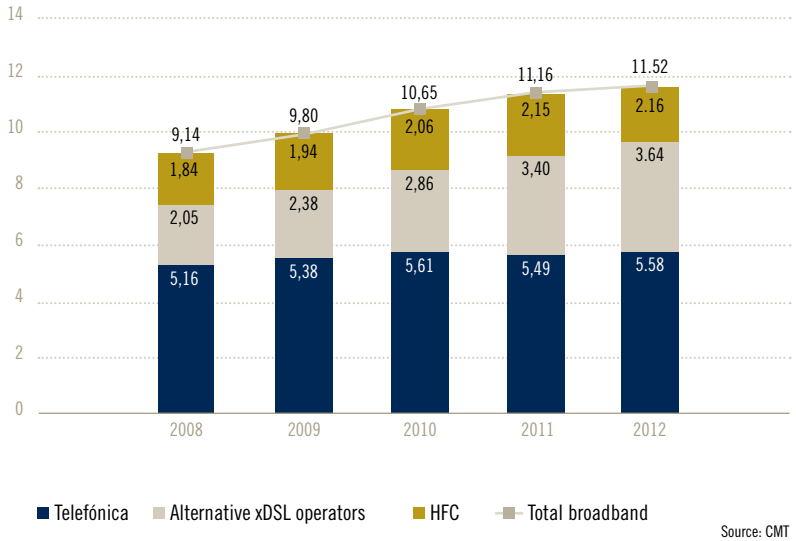
Distribution of broadband lines by type of operator (percentage)



Source: CMT

In 2012 the market added 352,031 new broadband lines. Of these the alternative xDSL operators accounted for 245,082. During this past year, Telefónica recovered and added 93,406 new subscriptions. Lastly, the cable operators scarcely increased their number of lines.

Growth in broadband lines by type of operator (millions of lines)



Source: CMT

The main operators ended the year with an increase in the number of lines, with the exception of Ono and Vodafone, which saw net losses. Telefónica's market share remained below 50%, with a loss of market share of 0.7% in spite of the fact that its total stock of lines grew by 1.7%. Cable operator Ono's loss of lines led to its market share falling by half a percentage point. Vodafone ended the year for the first time with a decrease in the number of lines (-8.5%), meaning the loss of nearly one percentage point of market share. At the other extreme, Jazztel and Orange had market shares of more than 11.5%. The gap between the three main alternative operators and Telefónica was thus reduced.

Market shares by number of broadband lines (lines and percentage)

	LINES 2011	MKT. SH. (%)	LINES 2012	MKT. SH. (%)
Telefónica	5,487,963	49.2	5,581,369	48.5
Ono	1,595,918	14.3	1,591,678	13.8
Orange	1,265,343	11.3	1,395,998	12.1
Jazztel	1,112,641	10.0	1,328,771	11.5
Vodafone	845,817	7.6	773,647	6.7
Euskaltel	248,685	2.2	249,778	2.2
R	199,741	1.8	200,395	1.7
TeleCable	119,600	1.1	120,489	1.0
Rest	289,258	2.6	274,872	2.4
Total	**11,164,966**	**100**	**11,516,997**	**100**

Source: CMT

Telefónica maintained its leadership in the business segment, in which its market share increased by half a percentage point to 74.9%. The other operators had an insignificant presence in the segment, with none of them exceeding Vodafone's 6.1% market share.

The residential segment on the other hand proved more dynamic. In this segment, Telefónica saw its market share contract from 43.3% in 2011 to 41.8%. The other operators maintained the relative positions indicated for the overall market for lines.

Market shares by number of broadband lines and segment (lines and percentages)

	RESIDENTIAL LINES	RESIDENTIAL MKT. SH. (%)	BUSINESS LINES	BUSINESS MKT.. SH. (%)
Telefónica	3,846,964	41.8	1,734,405	74.9
Ono	1,486,735	16.2	104,943	4.5
Orange	1,279,885	13.9	116,113	5.0
Jazztel	1,257,781	13.7	70,990	3.1
Vodafone	631,208	6.9	142,439	6.1
Euskaltel	209,272	2.3	40,506	1.7
R	155,865	1.7	44,530	1.9
TeleCable	106,693	1.2	13,796	0.6
Rest	226,292	2.5	48,580	2.1
Total	**9,200,695**	**100**	**2,316,302**	**100**

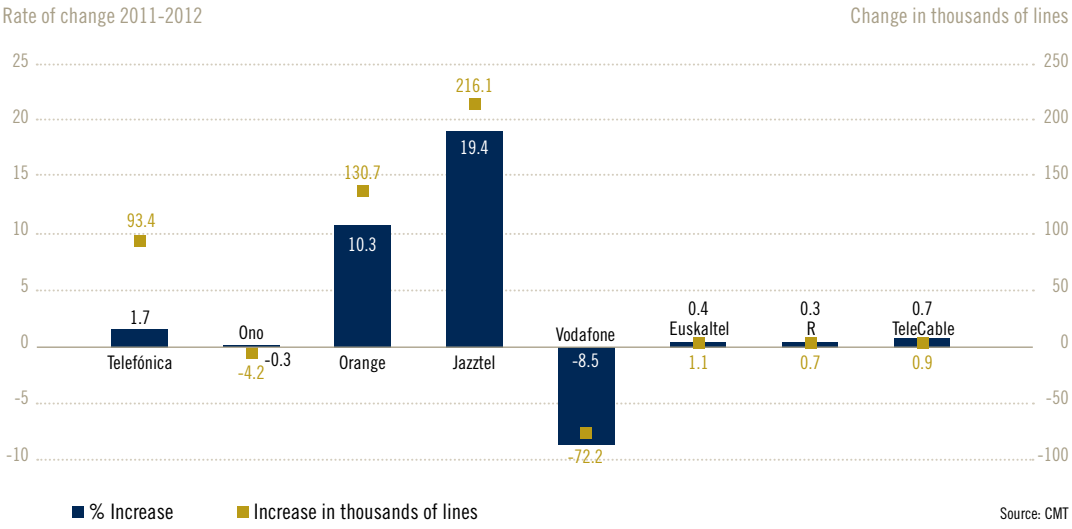
Source: CMT

Earlier we highlighted on the one hand Telefónica's positive results as regards the increase in broadband connections, and on the other the dynamic performance of certain alternative xDSL operators who obtained the highest levels of new customer acquisition. Indeed, Telefónica added 93,406 lines, in contrast with its negative data in 2011, and this situation can be seen in the following graph.

Moreover, we should point out the fact that cable operators' stock of lines grew by very little, and some, such as Ono, even saw the number of their lines decrease. In contrast with this, the alternative xDSL operators –Jazztel and Orange – posted the biggest increases, in both absolute and percentage terms. Thus in 2012 these operators added respectively 216,130 and 130,655 new connections to their portfolios,

which together represent 98.5% of new lines in the year. This led to the number of their broadband lines increasing by 19.4% and 10.3% respectively. Lastly, at the other extreme was Vodafone, with a net loss of 72,170 lines (8.5%).

Net change in broadband lines by operator and YoY rate of change (2011-2012) (thousands of lines and percentages)



Source: CMT

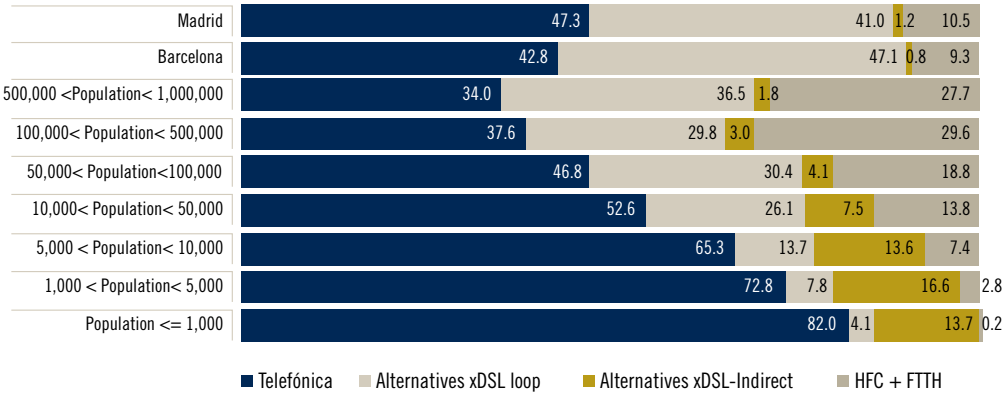
From a geographical perspective, there are significant differences in the distribution of broadband lines. From the data on broadband lines by municipality at December 2012, we deduce that Telefónica's market share increases as the size of the municipality's population decreases. In municipalities with small populations, investment by and presence of alternative operators with their own infrastructure was very limited. In the larger municipalities, such as Madrid and Barcelona, the incumbent operator's market share was less than 50%. Moreover, in the remaining municipalities, Telefónica's market share also shrank relative to 2011 figures.

On the other hand, the alternative operators which made market inroads by means of unbundled loops captured a market share of more than 26% in municipalities with more than 10,000 inhabitants, almost five percentage points more than in 2011. These operators achieved their biggest market share in Barcelona, with 47.1%. In municipalities with fewer than 10,000 inhabitants, their market share was smaller and access to consumers was by means of indirect broadband access. In these areas, Telefónica's market share was more than 65%.

Lastly, the operators that accessed the market with HFC and FTTH[26] obtained the best penetration rates in municipalities of between 100,000 and one million inhabitants, where their market share was between 27% and 30%.

[26] Telefónica includes all this operator's connections, both those based on xDSL and those made via FTTH.

Market shares of broadband by type of municipality (percentage)



Source: CMT

In general, the advances and declines in broadband lines were reflected in the trends of operators' revenues. Jazztel was thus once again the operator with the biggest increase in its billing for the year. Its revenues grew by 25.3% to 474.62 million euros. Orange's billings increased by 19.5% to 412.51 million euros. In contrast, despite adding more than 93,000 new lines, Telefónica saw its revenues fall by 16.6%.

Market shares by revenues (millions of euros and percentage)

	Revenues 2011	Mkt. Sh. 2011 (%)	Revenues 2012	Mkt. Sh. 2012 (%)
Telefónica	1,617.84	48.1	1,349.24	41.2
Ono	525.13	15.6	552.62	16.9
Jazztel	378.88	11.3	474.62	14.5
Orange	345.32	10.3	412.51	12.6
Vodafone	215.20	6.4	211.38	6.5
Euskaltel	84.67	2.5	79.59	2.4
R	46.64	1.4	45.40	1.4
TeleCable	38.95	1.2	40.14	1.2
Rest	112.52	3.3	111.00	3.4
Total	**3,365.15**	**100.0**	**3,276.49**	**100.0**

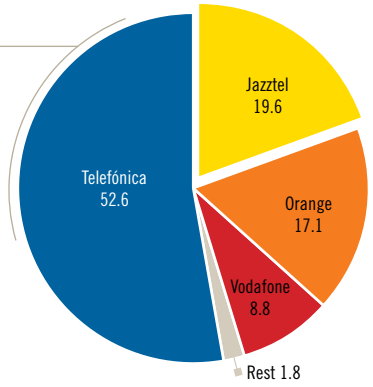
Source: CMT

As a consequence of the foregoing, Telefónica obtained a market share in revenues of 41.2%, seven percentage points below that of 2011. We should point out that the growth in FTTH lines and their revenues did not offset the reduction in revenues from billings of xDSL lines. Thus Telefónica's revenues from FTTH lines exceeded 76.6 million euros, compared with 27.5 million euros in 2011.

The downturn in revenues and market share of Telefónica in the overall market for broadband over fixed networks is accompanied by the advance of the alternative xDSL operators. Jazztel held its place as the second biggest operator in terms of xDSL revenues, with an increase of five percentage points in its market share, bringing it to 19.6%. Orange also considerably

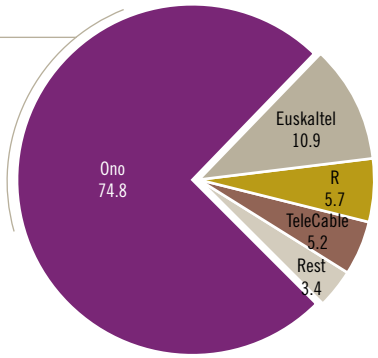
increased its share of xDSL revenues, from 13.5% in 2011 to 17.1% in 2012.

Market shares by xDSL revenues (percentage)



Source: CMT

Market shares by HFC revenues (percentage)



Source: CMT

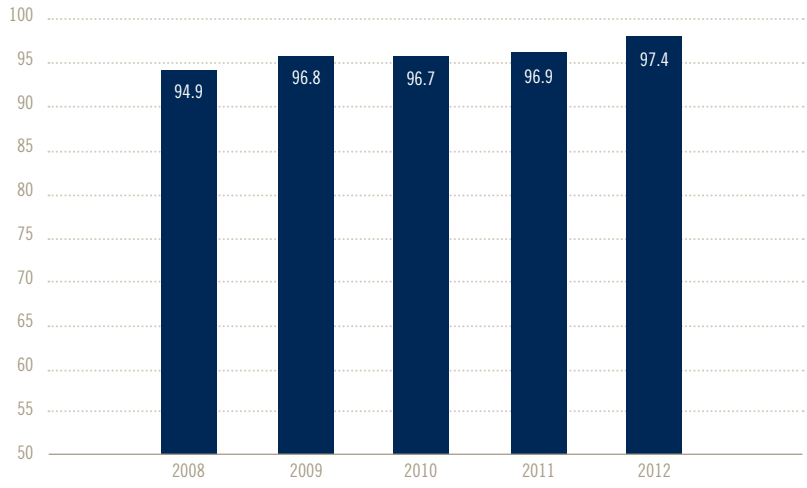
The distribution of market shares among HFC operators showed no significant change from 2011. These operators, as we have said, scarcely added any new broadband lines to the market, and this was reflected in the insignificant changes in market shares by revenue. Ono continued to be the operator with the biggest mayor market share of billings, ending the year with 74.8% of the total revenues; it should be borne in mind that this operator has a presence throughout much of the country, whereas the other cable operators provide their services only in particular geographical regions. Among the later we may mention Euskaltel and R, which posted decreased revenues in both absolute and market share terms. TeleCable for its part increased its billings and ended the year with its overall weight in the market practically unchanged.

Bundling

2012 saw the continuation of the growing trend towards joint subscription to various services. There are offers that sell broadband service and fixed telephony or television together. More and more packaged offers appeared including mobile services, or offering bigger discounts if the mobile service was subscribed to with the same operator, even if separately.

Thus in the residential segment, the number of broadband lines subscribed to together with another service was 8,959,692, representing 97.4% of the total. In the business segment, the percentage of bundling was 71.6%, with 1.66 million lines.

Residential bundled broadband lines (percentage)



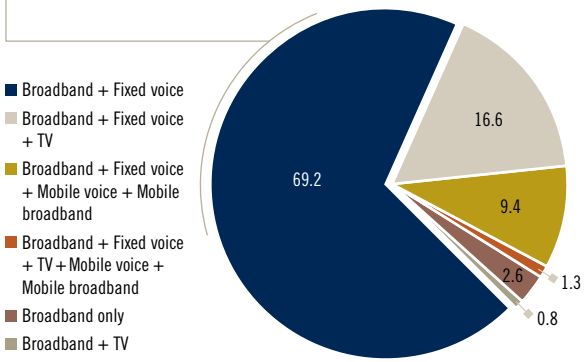
Source: CMT

An analysis of residential broadband lines by type of subscriber package highlights the fact that fixed broadband service offered together with the fixed telephony service reached 69.2%. Moreover, the quadruple play packages that also include mobile broadband and mobile voice services reached 9.4%.

In conclusion, packages that include at least fixed broadband and fixed voice accounted for 78.6% of Internet lines, compared with 75.9% in 2011.

Triple play packages, which include fixed broadband, voice and television, accounted for more than 16.6% of lines; if we also add packages with mobile voice and mobile broadband (quintuple play) this percentage rises to 18%, somewhat below the 2011 figure of 20%.

Residential broadband lines by type of package (percentage)



Source: CMT

This past year was notable for the inclusion of mobile services in the fixed service packages in most demand. Levels of subscriptions to these kinds of packages (quadruple and quintuple) were notable in both Telefónica and the alternative xDSL operators.

There is a significant difference between the types of bundling of operators who provide their services using xDSL technology over copper cable and those using HFC. Thus levels of subscription to packages with television service were low in the case of Telefónica and the alternative xDSL operators, while in contrast this same component continued to play an important part in subscriptions to packages of HFC operators.

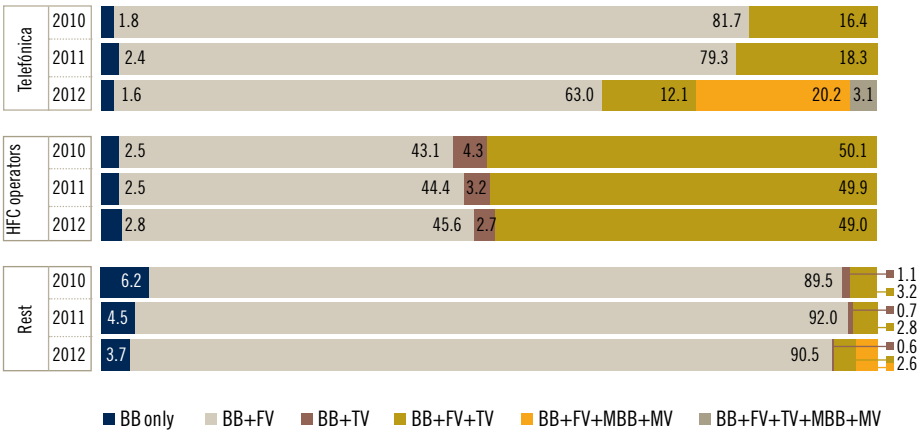
In the case of Telefónica, the number of triple play packages was 463,733, representing 12.1%. To this figure we should add the 120,518 packages that also include mobile voice and broadband services (quintuple play), which represented 3.1%. For Telefónica, packages with pay television represented 15.2%. This figure represents a decrease of three percentage points compared with 2011.

On the other hand, for the alternative xDSL operators, the percentage of packages with television service was very low. This is explained in part by the limitations of the copper cable-based access networks. Without doubt the improvement of the access networks, involving the introduction of optic fibre, will enable these operators to offer better quality services requiring grater bandwidth.

However, television continued to play a leading role in HFC operators' packages offered to users, forming part of 51.6% of lines contracted and, in absolute terms, numbering more than a million bundles.

Lastly, in the case of Telefónica, double bundles with voice and broadband represented 63% of its total residential lines. If we add the 20.2% represented by quadruple play (i.e. bundles of fixed broadband, fixed voice, mobile voice and mobile broadband), the percentage comes to 83.2%, compared with 79.3% in 2011. Meanwhile, the alternative xDSL operators ended the year with more than three million bundled fixed broadband and voice lines, representing 90.5% of double bundles. The proportion of bundles also providing mobile broadband and voice came to 2.6%.

Residential broadband lines by type of bundling and operator (percentage)

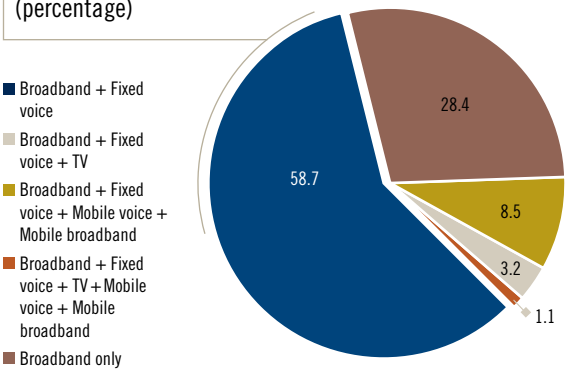


Source: CMT

In the business segment, as in the residential segment, bundles of broadband with fixed telephony were the dominant features. These bundles accounted for 58.7% of lines. Quadruple play packages, which include mobile voice and broadband, accounted for 8.5%.

Lastly, as in previous years, a notable feature of the business segment was the weight of non-bundled broadband offerings. These made up 28.4% of the total, while broadband bundles with television service accounted for 4.3%.

Broadband lines in the business segment by type of bundle (percentage)



Source: CMT

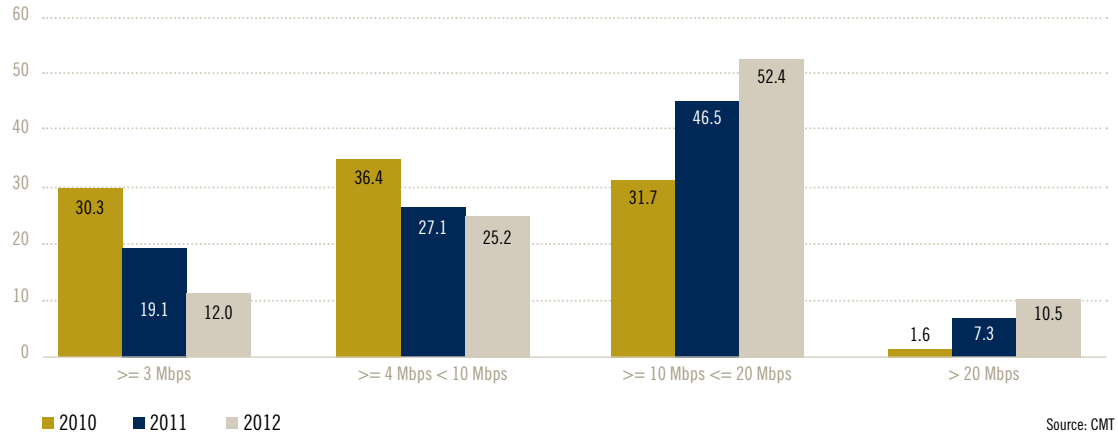
Speed of lines

Improvements to broadband access networks were reflected in greater connection speeds of active lines and an increase in the number of high-speed lines. Subscriptions to high-speed broadband lines were driven both by cable operators updating their nodes to DOCSIS 3.0 and by Telefónica's roll-out of FTTH connections.

Also, despite the limitations of the copper network, the alternative xDSL operators also launched offers of greater connection speeds (up to 30 Mbps) using VDSL technology (a DSL technology that allows faster connection speeds than ADSL).

At year-end, 63% of broadband lines contracted had a connection speed of 10 Mbps or more, compared with 54% the year before. Moreover, 10.5% of lines – more than 1.2 million – had a connection speed in excess of 20 Mbps.

Trends in broadband lines by contracted speed (percentage)

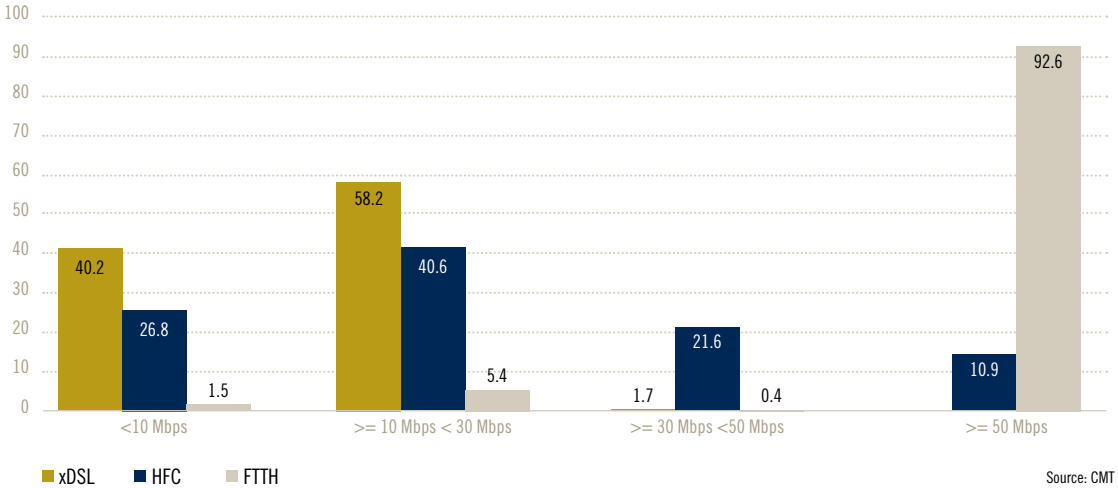


Source: CMT

Only HFC and FTTH connections had speeds of 50 Mbps or more. xDSL lines, which are subject to technical limitations in this regard, were mainly concentrated in the 10 to 30 Mbps range, with 59.8% of the total. Lastly, HFC lines showed a greater range of speeds, with 32.6% of lines now having contracted bitrates of 30 Mbps or more.

Looking at it by operator, 58.3% of lines contracted with Telefónica had connection speeds of 10 Mbps or higher. In absolute terms, there were 3.3 million such lines. It is worth noting that the number of this operator's lines with speeds of 30 Mbps or more came to 344,000, mainly using FTTH technology.

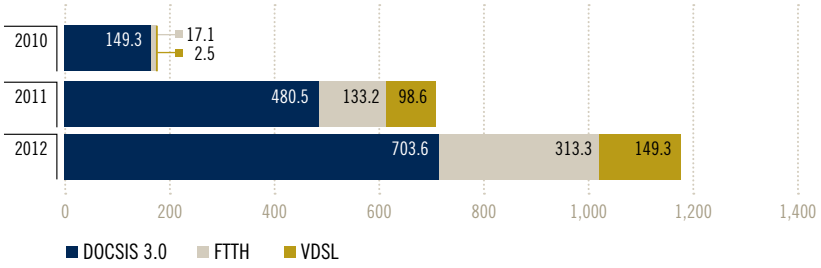
Broadband lines by contracted bitrate and technology (percentage)



Source: CMT

Broadband lines with FTTH and HFC DOCSIS 3.0 technologies have shown a considerable increase over the past few years, specifically with high-speed connections. Telefónica and the alternative operators also optimised the use of copper-pair, with offers of 30 Mbps by means of VDSL. Thus the number of lines with connection speeds of 30 Mbps or higher reached 1.16 million, 63.7% more than in the previous year. The greatest increase, in percentage terms, was in FTTH lines, nearly all of them provided by Telefónica.

NGA broadband lines with connection speeds of 30 Mbps or more



Source: CMT

Trends in prices and commercial offers

This past year was characterised by the appearance of commercial offers with a greater number of bundled services. Thus mobile broadband and mobile voice services were added to fixed broadband and fixed voice bundles, which are the most numerous in the market, with consumers being offered substantial discounts compared to the cost of contracting each service separately. Among operators launching these quadruple offers we can point to Telefónica (with its "Fusión" offer), Ono, Vodafone, Orange and Jazztel. In certain cases, even though not sold as a quadruple package, a discount is offered on fixed broadband to customers also subscribing to a mobile service.

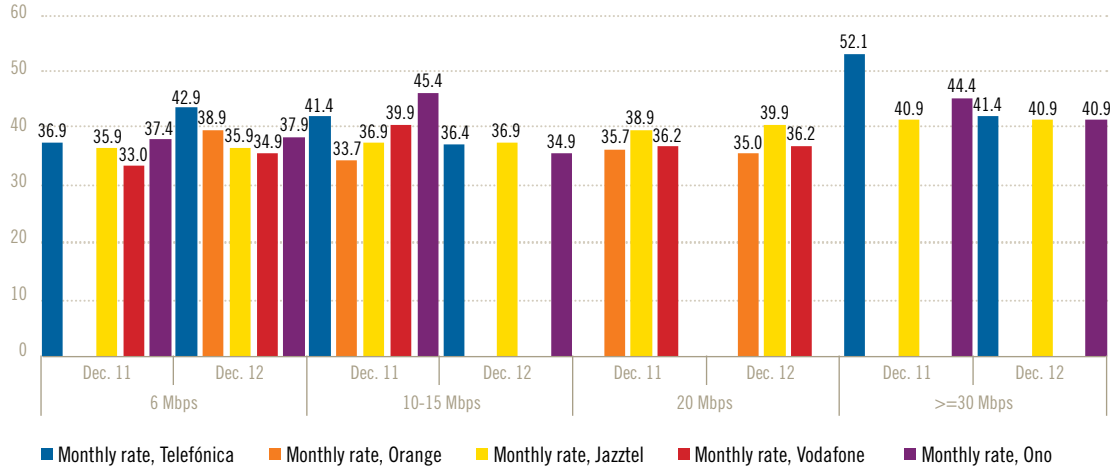
The following graph shows changes over the past two years in effective[27] prices of the major operators' most economical bundled offers[28] of broadband and voice services by contracted speed. Thus in 2012, the average effective price of offers in the 10-15 Mbps range was 36.10 euros, compared with 39.50 euros in the previous year. For speeds of 30 Mbps or more, the price decrease was rather greater: the average price was 41.10 euros, which was 10.3% less than in 2011.

By operator, average prices of Telefónica's offers fell by 7.4% to 40.20 euros. Other operators' prices fell by less - 1.9% - to 37.50 euros. Lastly, we would highlight the narrowing of the price differential between Telefónica and the other operators, which shrank from 13.8% in 2011 to 7.4% in 2012.

[27] The following formula was used to calculate the effective (discounted) price (PPD_M):
PPD_M = [PD*D + PN*(M-D)]/M. Where PD = discounted price; D = duration of the discount; PN = nominal price (without discount); M = time horizon. In this case, M was taken as being 24 months.
The promotions included correspond to discounts on the price of monthly subscriptions to the service, but do not take into account promotions for non-recurring payments (for example, connection or WiFi router fees).

[28] The prices indicated in the offers include monthly line rental.

Trends in best broadband + voice offers by bitrate for each operator
(monthly subscription in euros)

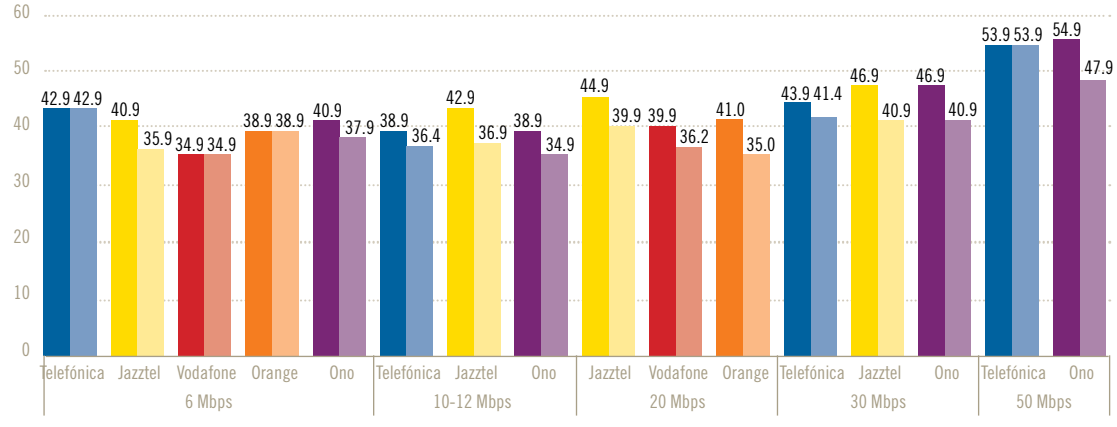


Source: CMT

The following graph compares nominal prices (i.e. before promotions and discounts) and effective prices[29] (i.e. nominal prices less discounts) for commercial offers[30] of broadband and voice with connection speeds of 6, 10, 20, 30 and 50 Mbps.

Effective prices of Telefónica's and alternative operators' offers for the speeds most in demand – those between 10 and 20 Mbps – were at the same levels. In the case of the alternative operators, some discounts reached 14%, such as Jazztel's 12 Mbps offer, or 15%, as in the case of Orange's 20 Mbps broadband and voice double bundle offer.

Comparison of the best broadband + voice offer and promotion by bitrate for each operator, with promotions (monthly subscription in euros)



Source: CMT

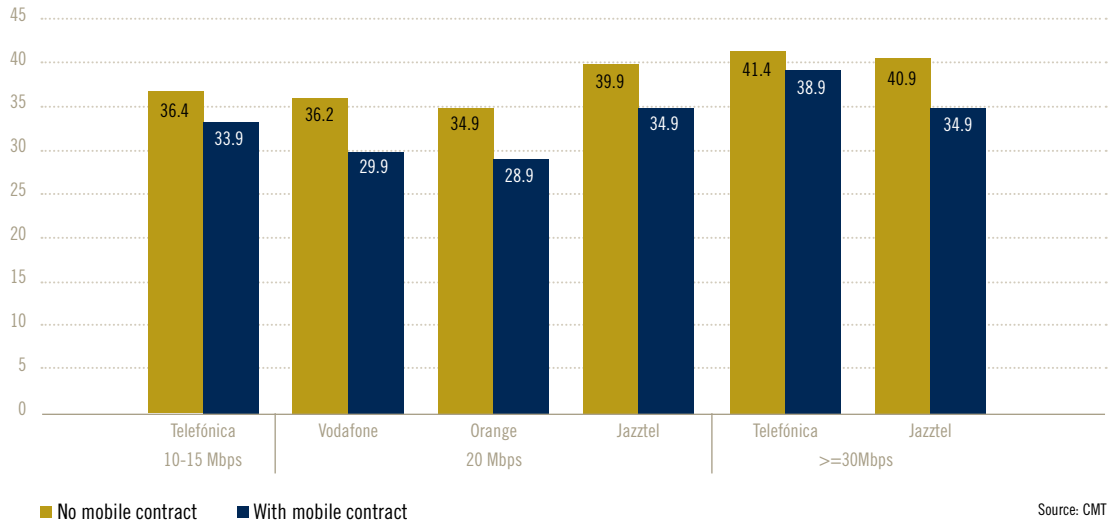
[29] The following formula was used to calculate the effective (discounted) price (PPD_M):
PPD_M = [PD*D + PN*(M-D)]/M. Where PD = discounted price; D = duration of the discount; PN = nominal price (without discount); M = time horizon. In this case, M was taken as being 24 months.
The promotions included correspond to discounts on the price of monthly subscriptions to the service, but do not take into account promotions for non-recurring payments (for example, connection or WiFi router fees).

[30] The prices indicated in the offers include monthly line rental. The offers included in the comparison are those in force in December 2012.

We mentioned earlier that 2012 saw increasingly intensive marketing of bundled offers with greater numbers of services, particularly mobile services. At the same time there were numerous commercial offers of fixed double bundles with substantial permanent discounts subject to the customer's having a mobile contract with the same operator.

The following graph shows the effective prices of some of these offers without the mobile service being contracted with the operator and those applying if it is contracted with the same operator. In these cases, the discounts on double bundle prices (broadband, fixed voice and access) were on average around 12%.

Comparison of effective prices of broadband+voice offers depending on whether mobile service is contracted with the same operator (monthly subscription in euros)



Source: CMT

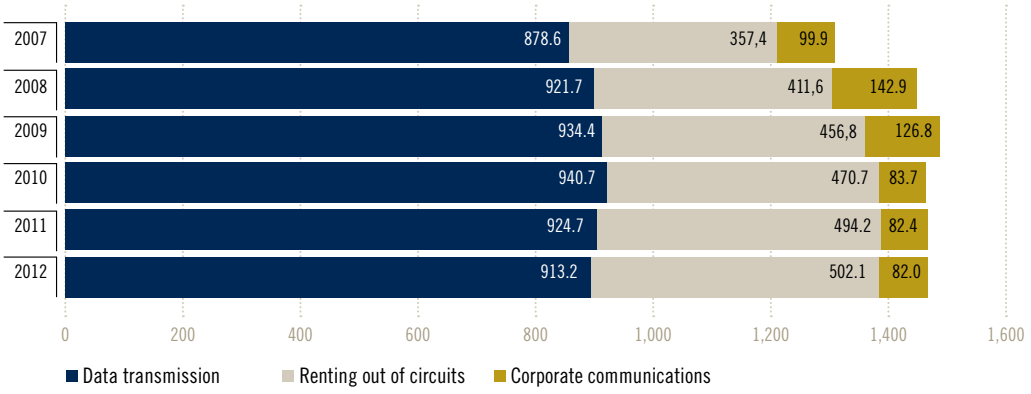
The CMT-Red.es Household Panel periodically collects information on the prices of internet services contracted by households, using bills provided by the households themselves. These bills contain information about the recurring payment for the bundle contracted by the household and about any discounts associated with it. They also provide information about households that have contracted offers recently and about those that contracted them in the past, so the indicators derived provide an approximation to the average expenditure of all households, unlike the rest of the section, which refers only to the latest prices available to consumers who switch offers or operators. According to the data for the last quarter of the year, average expenditure per household on the broadband + voice bundle – including the access fee – was 35 euros a month (compared with 37.60 euros a month in 2011). In the case of the triple bundle, i.e. including pay television, average expenditure was 51.70 euros a month, compared with 54.50 euros a month in 2011.

2.1.3. Business communications

Business communications comprise corporate communications (virtual private voice networks), and circuit rental and data transmission services for the business segment. This sector generated turnover of 1,497.3 million euros, representing a slight decrease of 4.1 million euros compared with the previous year.

The 7.8 million euros increase in billings for circuit rental services was not enough to offset the decreases in revenues from data transmission services (11.5 million euros) and in revenues from corporate communications.

Revenues from business communications services (millions of euros)

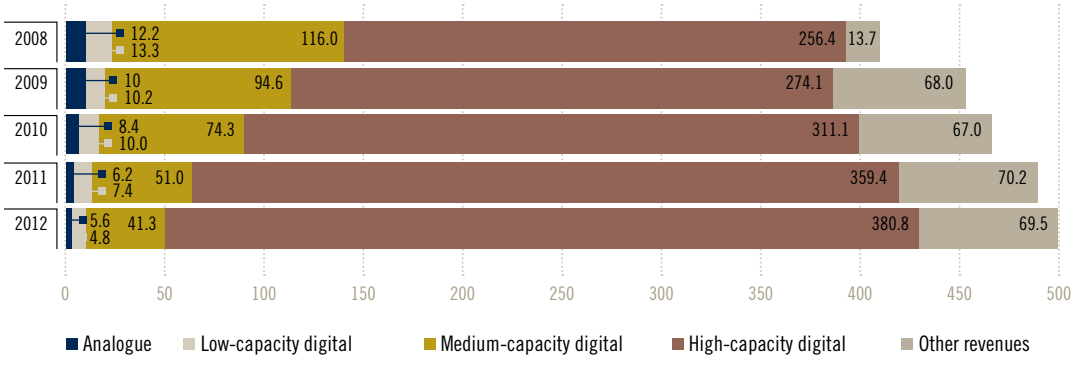


Source: CMT

Telefónica continued to lead the field in terms of revenues from data transmission, with revenues of 497.5 million euros and a market share of 54.5%, which was 1% lower than in 2011. It was followed by BT Spain, with a market share of 22.6% and billings of 206.8 million euros. Colt came in third, some way behind, with 40.1 million euros in revenues and a 4.4% market share for the year.

Revenues from renting out circuits increased slightly – by 1.6% – to exceed 500 million euros. High-capacity circuits, which include Ethernet technology, accounted for 380.8 million euros, more than 75% of total revenues from this service.

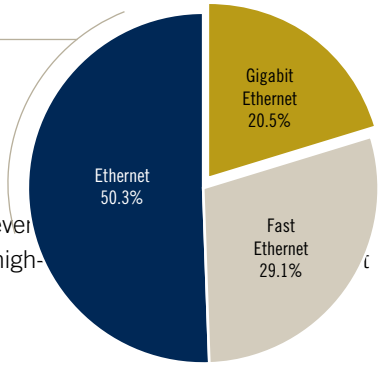
Revenue from circuits rented out (millions of euros)



Source: CMT

The breakdown of revenues from circuit rental by technology shows that the majority of billings for high-capacity circuits concerned those running on Ethernet technology – with billings of 337.2 million. Among these high-capacity circuits, Ethernet (10 Mbps) circuits predominated, representing half of total revenues, although revenues from circuits Fast Ethernet (100 Mbps) and Gigabit Ethernet (1,000 Mbps) showed the biggest increases relative to 2011 - 18% and 12.7% respectively.

Distribution of circuits with Ethernet technology (%)



Source: CMT

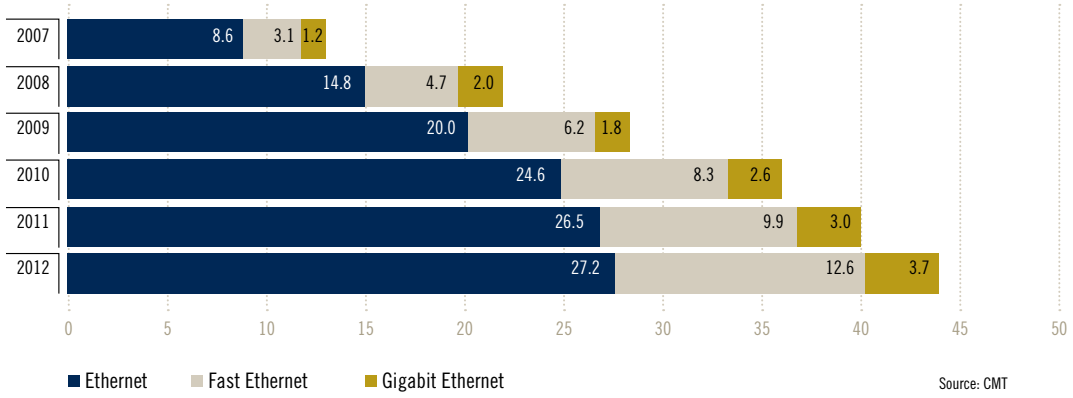
This increase in reve
of circuits, with high-

and Gigabit Ethernet, being the only ones to grow in number in 2012. This increase in the number of circuits using Ethernet technology could well be as a result of the updating of the ORLA (Reference Offer for Rented Lines) carried out in 2010, the price-reduction effect of which was felt in 2012.

As regards operators, the incumbent operator's presence in this market is very significant: Telefónica's market share by circuit rental revenue was 78.9%. The second biggest share was that of Euskaltel, with 5.6%, followed by Orange with 4%; both holding their market shares relatively steady compared with the previous year.

In 2012 a total of 43,453 Ethernet circuits were registered, representing growth of 10% on the previous year. The following graph shows a breakdown of the types of Ethernet circuits and their historical development.

Change in the number of Ethernet type circuits rented out (thousands of circuits)



Source: CMT

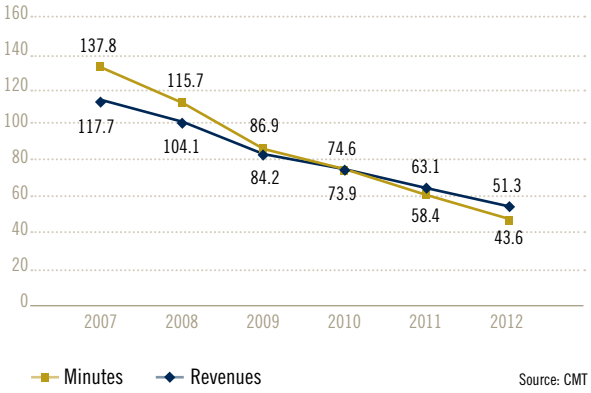
2.1.4. Telephone information services

Telephone information services are offered by different fixed network or mobile companies, or by companies that do not have their own networks and use other means of distribution, such as Internet, to offer end-users information about subscribers to fixed network services.

One reason for the downward trend in the demand for these services is that similar or equivalent services are available on the Internet free of charge. The data in this section refer only to revenues of fixed network operators that provide telephone information services.

Billings for the year for these services totalled 51.3 million euros, 18.7% less than in the previous year. The decrease in revenues was 11.8 million euros. This decline was similar to that seen in previous years. In volume of minutes (43.6 million) and calls (20.6 million) the decreases were 25.4% and 32.3% respectively.

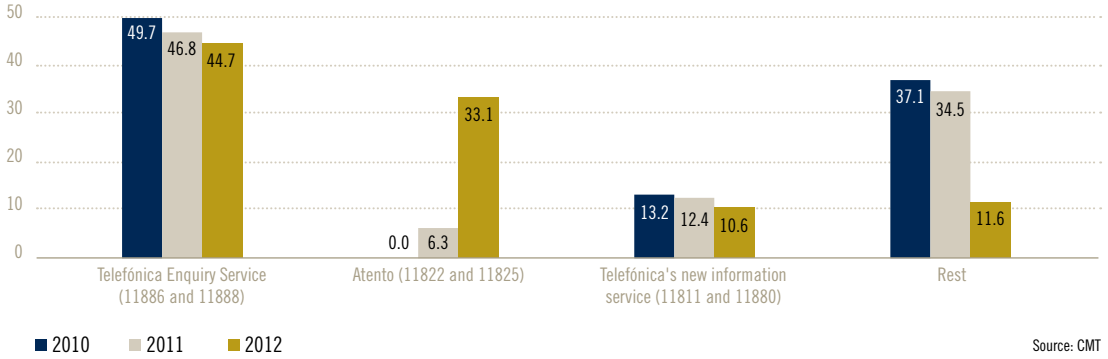
Revenues and traffic of information service providers (millions of euros and millions of minutes)



Source: CMT

The main player in this market was Telefónica's Enquiry Service (11888 for domestic enquiries and 11886 for international), representing 44.7% of market revenues. In second place was Atento (11822 for domestic enquiries, 11825 for international), with a 33.1% market share. Third was Nueva Información Telefónica (11811 for domestic, 11880 for international), with 10.6%.

Information service providers' market shares by revenue (%)



Source: CMT

2.2 Wholesale fixed communications

2.2.1. Wholesale voice services

Billings for wholesale interconnection services amounted to 1,679.3 million euros; 10.9 million euros more than in the previous year. The proportion of transit services within interconnection services continued to increase. These services accounted for 65.6% of total revenues from interconnection.

The exchange of traffic originating in the network of one operator and with a destination in that of another operator is made possible by network interconnection. For example, origination and termination services are interconnection services. With origination, the operator providing the line to the subscriber receives revenue for providing the interconnected operator with operator selection traffic, short numbers, narrow-band Internet access (909) and the access component of special-rate (intelligent network) services for its network. The termination service consists in the operator (with its own fixed network) obtaining revenue for calls to customers in its network. These services are complemented by the transit service, which allows one operator to deliver calls to another with which it is not directly interconnected, via an operator that has an interconnection with both. There are also other services such as special rates, telephone number information, short numbers, etc. for which interconnection services are necessary.

There are two ways to bill for interconnection: time-based and capacity-based. With the time-base method the traffic exchanged is billed in minutes, whereas with the capacity-based method it is billed by the capacity of the contracted connection, regardless of the volume in minutes of use. Accordingly, average revenue per minute using this method varies with actual use of the connections.

Telefónica is the only operator obliged to offer its origination and termination interconnection services in both billing modes.

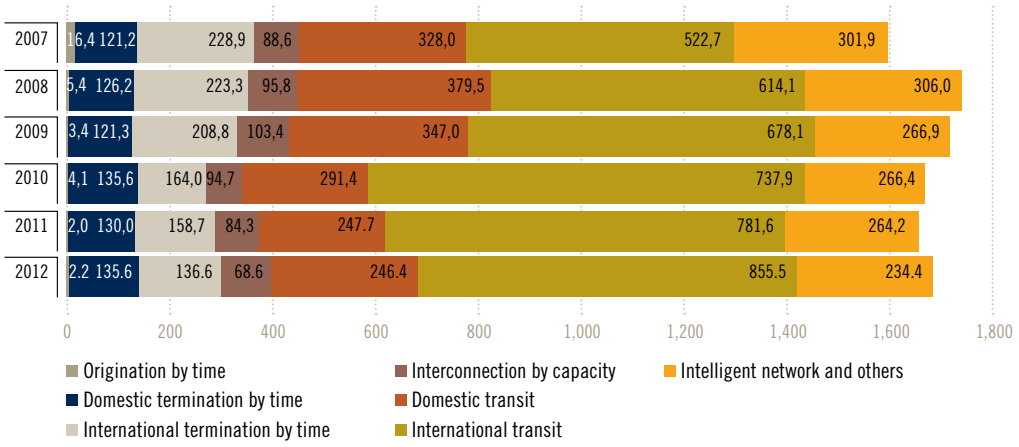
There are currently 11 fixed operators interconnected with Telefónica using this method at different points of interconnection. In 2012 the total number of operators interconnected was 60 (including time and capacity-based methods).

Revenues

Revenues from interconnection services amounted to 1,679.3 million euros, 0.7% more than in the previous year.

Capacity-based interconnection, time-charged international termination and domestic transit services all showed declines during the year.

Revenues from interconnection services[31] (millions of euros)



Source: CMT

[31] Telefónica restated its 2011 revenues from domestic time-charged origination and termination.

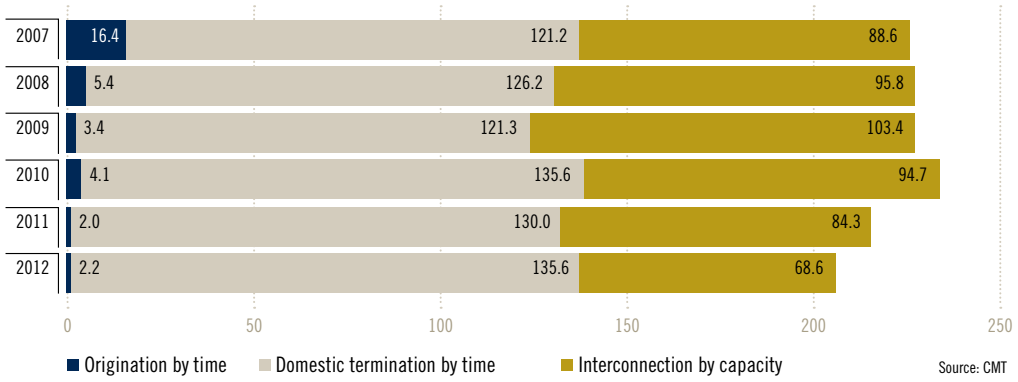
Revenues from domestic interconnection

Total revenues from domestic origination and termination services, both time and capacity-based, were 206.5 million euros. This figure represents a 4.5% fall relative to the previous year, also linked to a fall in associated traffic for the same period.

Time-charged domestic termination continued to be the service generating the most revenues, with 65.7% of the total. Revenues from time-charged termination services also increased by 4.4%. In contrast, capacity-based interconnection showed a very sharp decrease of 18.6% compared with 2011.

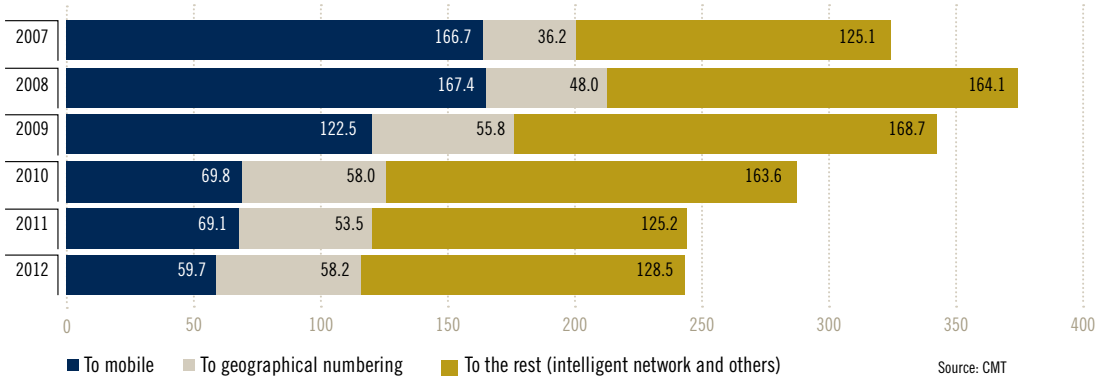
The majority of termination services were time-charged. This is due to the traffic originated by the mobile operators, who do not use the capacity-based method to terminate in fixed networks.

Changes in revenues from origination and termination by mode (millions of euros)



Billings for domestic transit services amounted to 246.4 million euros. We would highlight the drop in revenues from transit to mobile, down 13.7% on 2011, to 59.7 million euros in 2012. In contrast, revenues from transit to geographic numbers and intelligent networks and others grew by 8.9% and 2.7%, respectively.

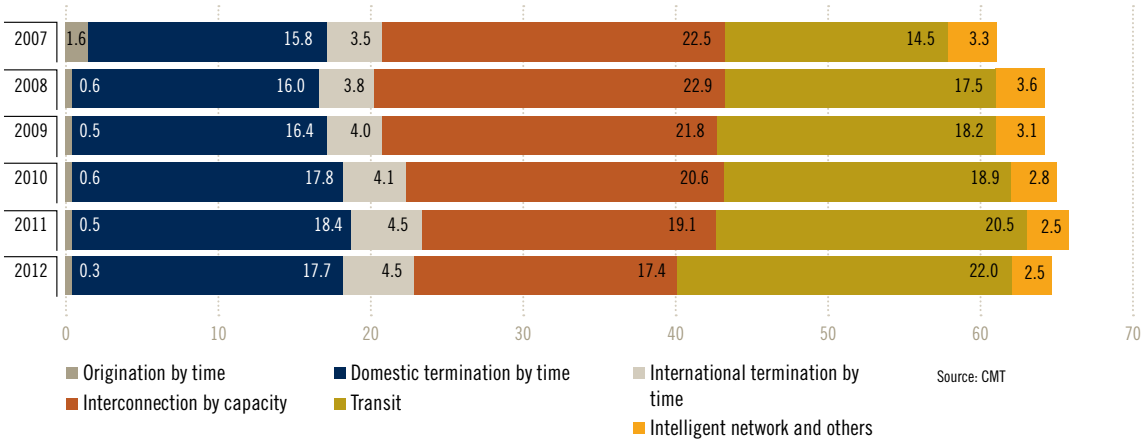
Revenues from domestic transit services (millions of euros)



Traffic

The volume of interconnection services traffic was 64.4 billion minutes, 1.7% down on the previous year.

Interconnection services traffic (billions of minutes)



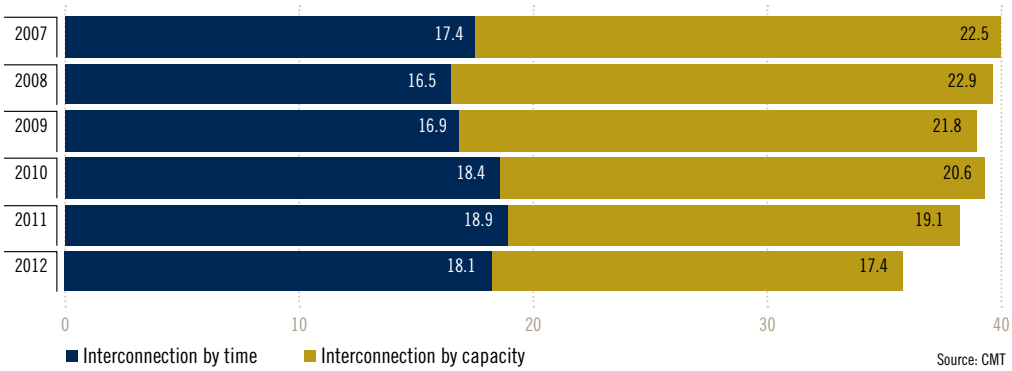
Breakdown of traffic

Total domestic interconnection traffic (origination and termination) fell by 6.7% compared with the previous year.

Origination traffic fell by even more: 22.7%. This decrease was the result of the gradual reduction in the number of indirect access customers (call-by-call operator selection and preselection), and it came about in spite of an increase in the number of customers with AMLT[32].

Time-charged and capacity-based traffic behaved similarly, the former decreasing by 4.2% and the latter by 9.3%.

Interconnection traffic by mode of domestic access and termination services (billions of minutes)

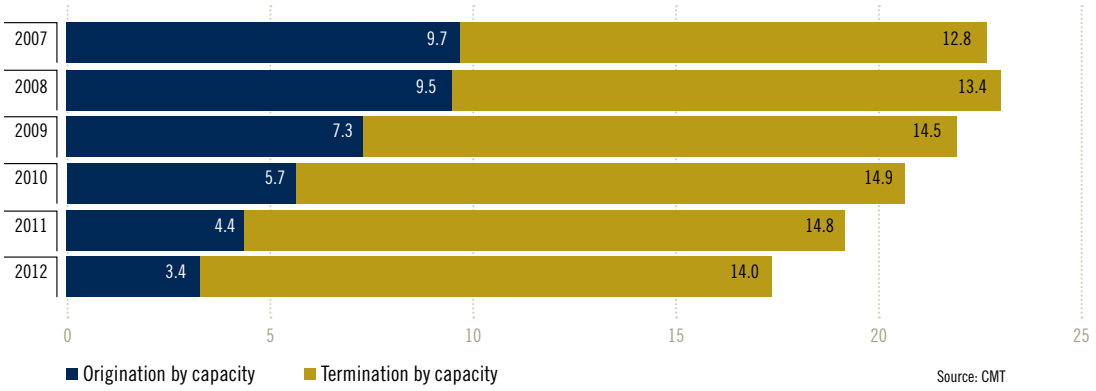


[32] AMLT customers' traffic uses origination-type interconnection services, since technically the rental of the wholesale line is by means of preselection.

For the first time, capacity-based traffic accounted for less than half of total traffic - 49% to be precise, of total origination and termination traffic.

80.7% of total capacity-based traffic concerned termination, and the remaining 19.3% was origination traffic. This is in line with the trend of previous years, in which termination increased its traffic volume relative to origination. All this is in spite of the fact that capacity-based termination traffic fell by 5.3% compared with 2011.

Distribution of interconnection traffic by capacity (billions of minutes)

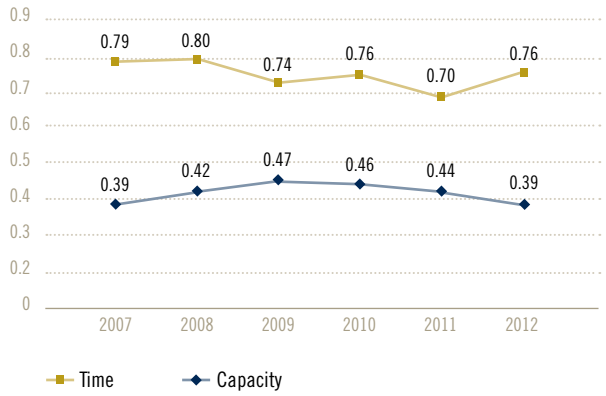


Source: CMT

Average revenues

Consolidated average revenues from termination services were 0.58 euro cents per minute. As shown in the following graph, the capacity-based method represented almost half of average time-charged revenues.

Average revenue from domestic termination by mode (euro cents per minute)

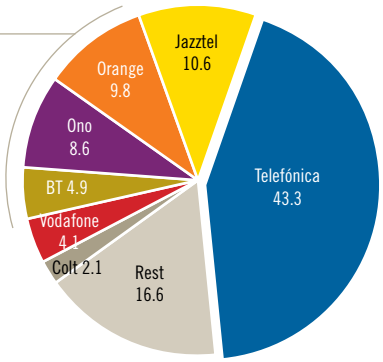


Source: CMT

Market shares

Telefónica's market share in revenues was 43.3%. Jazztel and Orange increased their share of total billings, with 10.6% and 9.8% of the market respectively. Ono had a market share of 8.6%. BT Spain and Colt increased their presence in the interconnection market.

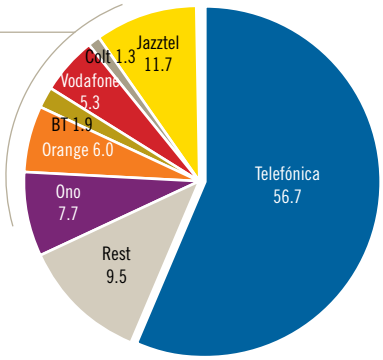
Market shares of interconnection service by revenue (%)



Source: CMT

Market shares by volume of traffic for interconnection were similar to those of previous years, with a decrease in the incumbent operator's share. Thus Telefónica came to represent 56.7% of the total market. Jazztel increased its market share to 11.7%, while Orange saw its share fall to 6%. Ono represented 7.7% of total traffic in the market for interconnection services.

Market shares by interconnection service traffic (%)



Source: CMT

2.2.2. Wholesale fixed broadband services

Turnover for wholesale services reflected the trend already observed in the retail market analysed previously. Thus both revenues and number of lines of certain wholesale services showed gains, driven by demand from the alternative xDSL operators.

As mentioned previously, operators can access the broadband market either through a proprietary network or by using regulatory mechanisms that facilitate the entry of new players. New players can make partial use of the incumbent operator's network to reach the end-consumer.

In this regard, the ex ante obligations established in the wholesale markets regarding broadband services, which the CMT approved in January 2009, remained in place in 2012. There are two markets concerned: the wholesale market for access (physical) to network infrastructure (including shared and fully unbundled access) at a fixed location (market 4), and the wholesale market for broadband access (market 5).

Regulation of market 4 enables alternative operators to offer fixed broadband services directly to users by guaranteeing them wholesale access to the physical infrastructure of the operator with significant market power (SMP), which is currently Telefónica. This mode of access involves alternative operators making investments, since they have to install their equipment in the exchanges in order to unbundle the last section of the network and connect it to their own.

Telefónica offers three access modes for this unbundled loop service. Firstly, fully unbundled access: whereby Telefónica grants the operator the use of the copper-pair throughout the pair's frequency range. Secondly, shared unbundled access: Telefónica grants the operator use of the pair's high frequencies - above the band used by the telephone service - while retaining the low frequencies in order to offer basic POTS telephony or basic ISDN access Lastly, the shared access mode without PSTN, i.e. without a telephone subscription with Telefónica, which is thus equivalent to a fully unbundled loop.

This regulation of market 4 also includes access to the passive infrastructure (ducts, channels, manholes, etc.) through which Telefónica's network is deployed, in order to allow alternative operators to save time and costs in rolling out their fibre networks to households. In fact alternative operators continued to gain gradual access to Telefónica's ducts and other civil infrastructure in accordance with the obligations imposed by the CMT on the incumbent operator in the framework of the relevant Reference Offer ("MARCo"), which includes regulated maximum prices.

Additionally, the regulation of market 5 (wholesale access to broadband) allows alternative operators to connect to a number of access points in Telefónica's network. In this way, these operators can provide broadband services to end-users throughout the country, even in areas that their own networks do not reach. This connection to the incumbent operator's network can be made at ATM or IP level; Telefónica sells these types of wholesale service under the trade names GigADSL and ADSL-IP respectively. As in the case of shared loop access without PSTN, it is possible to contract the indirect access service without necessarily having a telephone service with Telefónica.

As regards wholesale broadband access services, in 2010 a new Ethernet indirect access broadband service (NEBA) was established, and in 2011 the CMT approved Telefónica's Reference Offer. This service, which will gradually replace the current ones, provides wholesale access to Telefónica's new fibre-optics network and allows services with higher added-value to be offered with quality guarantees in order to provide voice over IP telephony. With NEBA, the CMT is aiming to improve competition in broadband services available to users who live in areas where there is as yet no competition in infrastructure and where alternative operators make use of indirect access.

During 2012 the prices for NEBA were provisionally set and the calendar of milestones for this service was adjusted: the date for commercial availability was set at 1 October 2012.

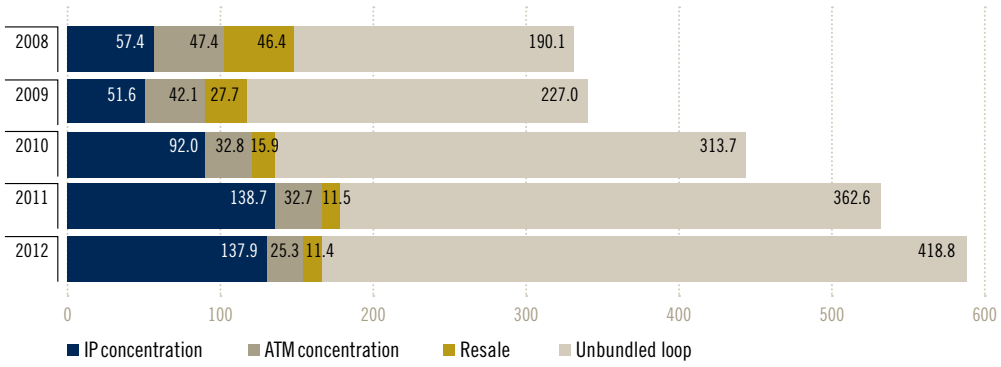
a) Revenues

Total revenues from wholesale broadband services amounted to 593.3 million euros, representing an increase of 8.7%, less than the 2011 increase of 20%.

This increase in billings of wholesale services was driven by the unbundled loop service. In contrast, the fall in demand for indirect access to broadband via the IP concentration service, the ATM concentration service and the non-regulated resale service was reflected in a decrease in associated revenues.

The service category generating most revenue was unbundled loop, which showed an increase of 15.5% compared with the previous year, reaching 418.8 million euros. The second biggest category by billing – wholesale IP concentration – posted a decrease of 0.6%, as against the 50.7% growth it had shown in 2011. Lastly, revenues from ATM concentration services and resale fell by 22.8% and 1.6%, respectively.

Revenues by access mode to wholesale broadband wholesale (millions of euros)

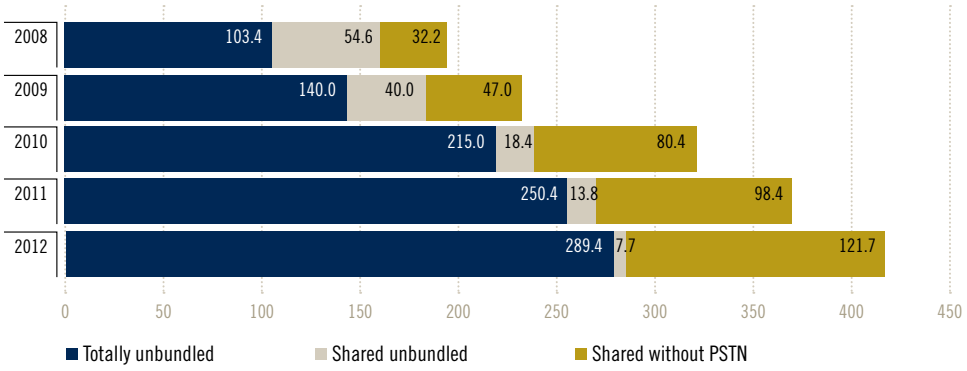


Source: CMT

Looking at the breakdown of revenues from the loop unbundling service, once again this past year we note a significant increase in billings for the completely unbundled modes and shared loop without PSTN. Both allow alternative operators to offer broadband and voice services removing the link between the consumer and the incumbent operator.

This past year, revenues from fully unbundled subscriber loops reached 289.4 million euros, representing an increase of 15.6% on the previous year. Revenues from the shared loop without PSTN service amounted to 121.7 million euros, 23.8% more than in 2011. Both methods avoid the consumers having to pay Telefónica for the telephone service, and are the most used by alternative xDSL operators such as Jazztel, Vodafone and Orange. Lastly, revenues from shared loop services fell by 44.5%.

Trends in revenues from the unbundled loop service (millions of euros)

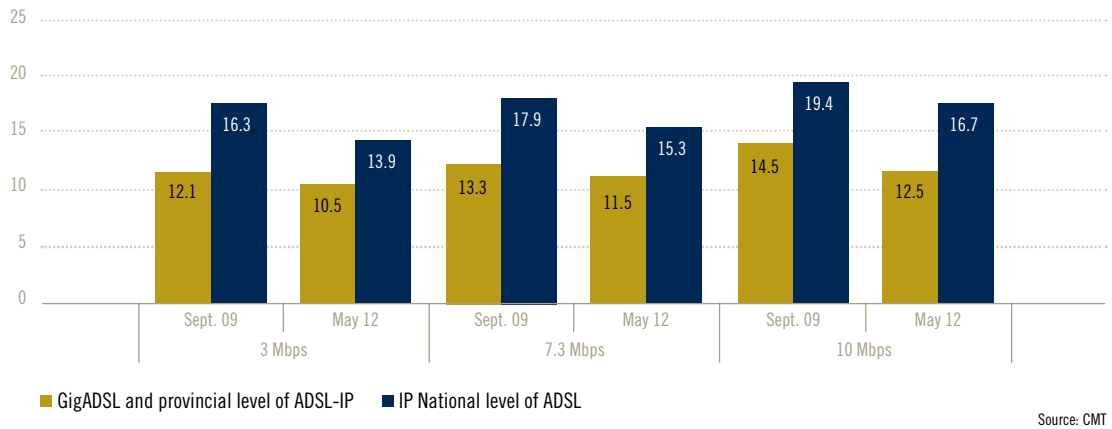


Source: CMT

As regards regulated prices for indirect access, we would point out that in May 2012 the CMT applied a price reduction which represented a decrease of 13.7% in the case of GigADSL and 14.2% in that of ADSL-IP compared with the prices set in September 2009.

Once again these regulatory measures adopted by the CMT were aimed at offering the alternative operators wholesale services at prices allowing them to enter the market in regions where they do not have their own infrastructure, without discouraging investment in the improvement of access networks.

Movements in regulated prices of the main indirect broadband access modes (euros per month)



Source: CMT

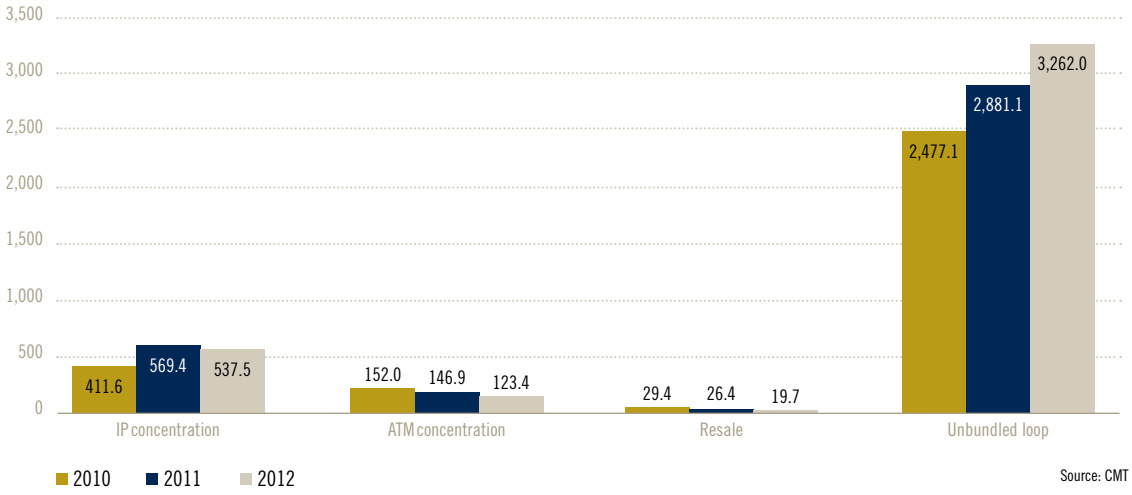
b) Lines

In analysing which players gained broadband lines, we see that the alternative xDSL operators captured the greatest percentage of new connections. This was reflected in the wholesale broadband markets by an increase in unbundled loops and a decrease in lines contracted with the indirect broadband service and the resale service.

We would point out that in spite of the decrease in indirect broadband access services, this method enabled the alternative operators to sell broadband services in geographical areas where they had no infrastructure of their own.

At the end of the year, the number of indirect access and resale connections stood at 680,611, compared with 742,727 in 2011, representing a decrease of 8.4%. Thus the IP concentration service (sold by Telefónica under the name ADSL-IP) showed a decrease of 5.6%. At the same time ATM concentration or GigADSL was down by 16%. Lastly, the resale service declined by 25.2%.

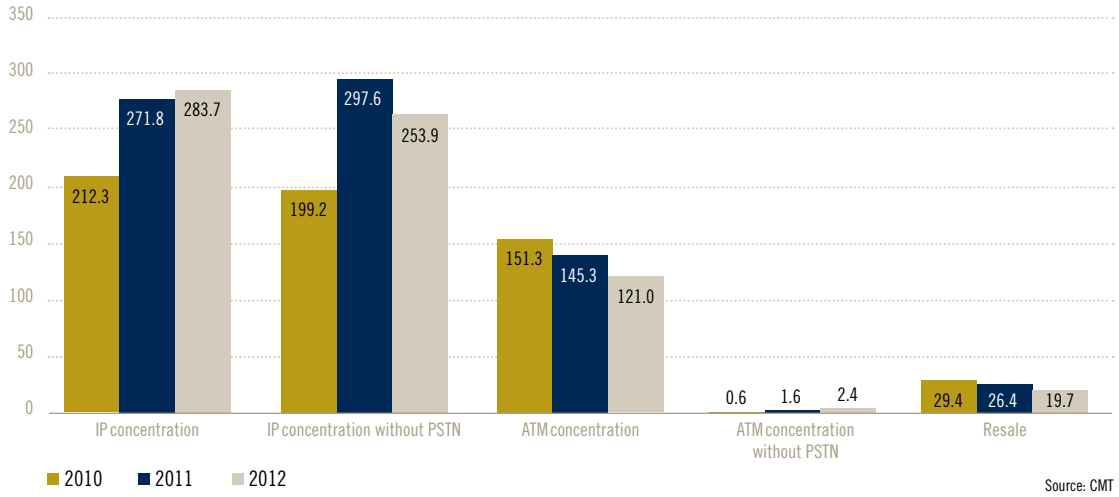
Lines by access method to wholesale broadband (thousands of lines)



Source: CMT

The following graph shows a breakdown of lines by the various modes of indirect access. The IP concentration service mode increased by 4.4% compared with the connections existing in 2011; but this was not enough to offset the decrease in IP concentration without PSTN, which lost more than 43,000 lines. Lastly, ATM concentration and resale services also saw their total number of lines decrease.

Lines by indirect access method (thousands)



Source: CMT

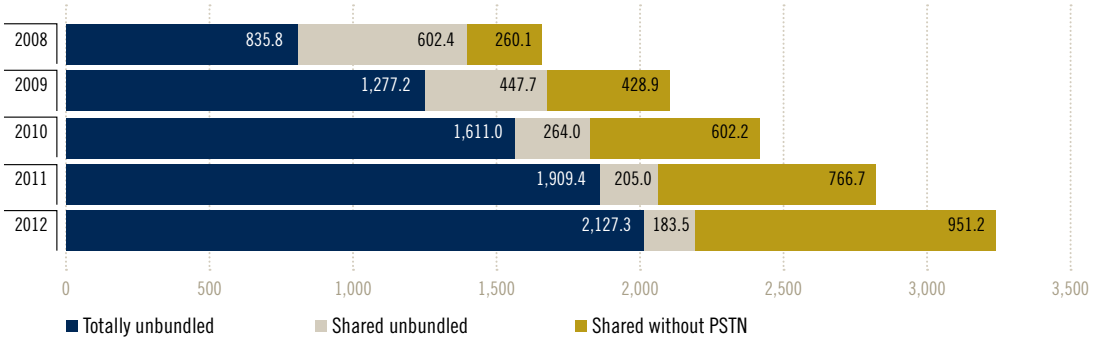
The number of Telefónica exchanges in which alternative operators were also present continued to grow in line with the increase in unbundled loop services. In other words the alternative operators undertook capital expenditure to increase the coverage of this service and so reach municipalities with relatively small populations.

In 2012 the number of unbundled loops reached 3.26 million, representing an increase of 13.2% relative to 2011 and 380,817 new connections. The increases in numbers of lines were seen in the fully unbundled loop and shared without PSTN modes. On the other hand, shared unbundled loop fell by 10.5%.

As shown by the trend of the following graph, in 2008 operators offering broadband by means of shared access to the loop – with Telefónica providing the telephony service – started to make use of the new method of shared access without PSTN and started offering their own telephone services.

Thus, wholesale shared loop service without PSTN reached 951,164 lines, an increase of 24.1% on the previous year. These lines almost all correspond to Orange. The number of fully unbundled loop, which is the mode used by Jazztel and Vodafone, reached 2.12 million, 11.4% more than in the previous year. So 217,874 new connections were signed up. This increase was smaller than that of 2011 due partly to Vodafone's losing lines in the retail market.

Trend in unbundled loops (thousands of units)



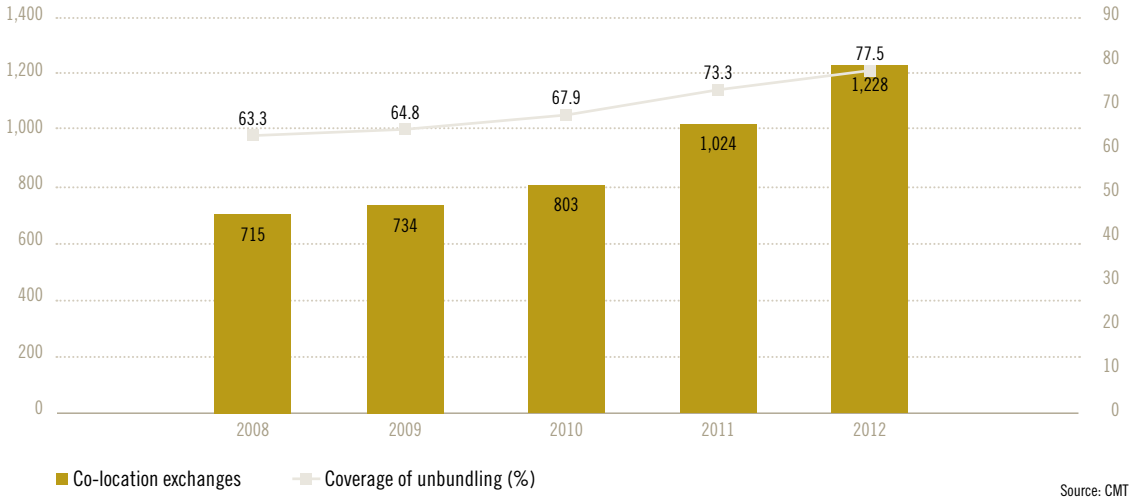
Source: CMT

The alternative xDSL operators continued to invest in connecting to new exchanges so as to co-locate and be able to reach a greater number of users. By means of co-location, these operators rent space in Telefónica's exchanges in order to install the equipment they use to provide services through local loop unbundling.

In 2012 the total number of exchanges in which an alternative operator was co-located reached 1,228. This figure represented an increase of 204 exchanges. This group of connected exchanges brings the number of potentially accessible pairs to 11.15 million, which is equivalent to a 77.5% coverage of the total number of Telefónica pairs.

We would point out that the price review under ORLA (Reference Offer for Rented Lines) in December 2010, which brought signal delivery costs down, together with a reduction in the costs borne by operators for the power consumed by their equipment, undoubtedly represent an incentive to invest in unbundled access. Similarly, the review of the market for wholesale terminal rented lines, expected to be approved in June 2013, provides reductions of up to 20% in current prices. This reduction in prices will once again facilitate the connection of exchanges in areas where operators do not have their own infrastructure.

Changes in local co-location exchanges and unbundling coverage (units and percentage)



Source: CMT

The following map shows the geographical distribution of the exchanges in which at least one operator is co-located. Investment made in connecting new exchanges – to a total of 1,228 – have enabled operators to gain greater presence and coverage throughout the country. Thus in 2012 newly connected exchanges made it possible to provide broadband services by means of unbundled loop to a total of 241 municipalities in which the alternative operators had no presence in 2011. Moreover, 53 of these new municipalities had fewer than 1,000 inhabitants.

Geographical distribution of co-location exchanges

Source: CMT

Geographical distribution of unbundled loops

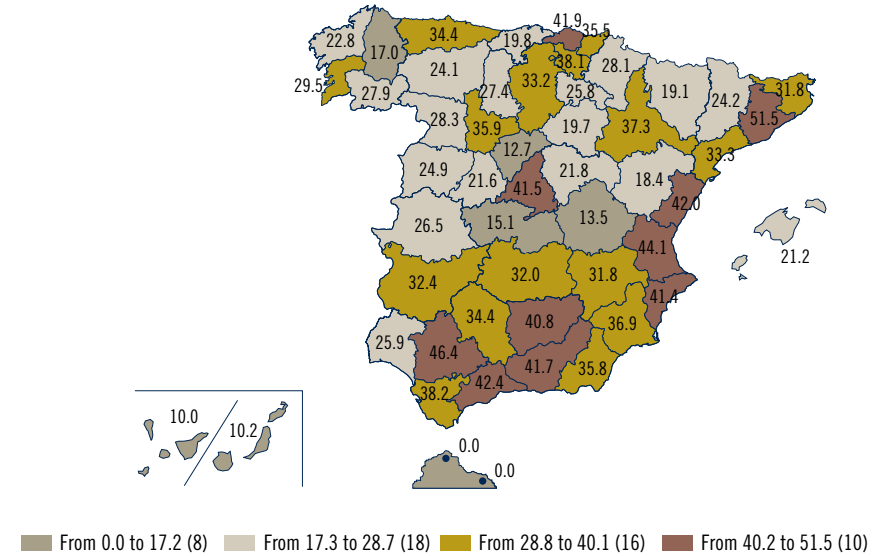
The analysis of sector trends highlighted the advances made by alternative xDSL operators. On the one hand, we saw an increase in the unbundled loop as the main means of access, and on the other hand considerable investment was undertaken for the connection of new exchanges –204 in the past year– with the corresponding increase in their stock of retail lines.

We also highlighted that in 2012 the newly connected exchanges increased their service coverage in municipalities with relatively small populations. Despite this, the most densely populated areas, in which an exchange covers a greater number of potential consumers, proved a more attractive way for alternative operators to achieve a return on their investments. Thus, as we have seen in the various geographical breakdowns of previous sections, penetration rates for broadband by means of unbundled loop continued to vary widely from one region to another.

The following map shows the distribution of unbundled loops for xDSL broadband lines in the retail market. In 2012 the number of unbundled loops nationwide per 100 xDSL lines reached 36.7, which was 3.7 more than in 2011. Barcelona and Seville continued to be the provinces with the greatest penetration, surpassing 46 unbundled loops for every 100 xDSL lines.

A total of 14 provinces ended the year with a higher percentage than the national total, headed by Jaén, Huelva, Las Palmas and Santa Cruz de Tenerife, which all increased the number of unbundled loops for every 100 xDSL lines by more than eight. In the provinces of Las Palmas and Santa Cruz de Tenerife a figure of 10 unbundled loops for every 100 xDSL lines was reached, as against only two loops in existence in 2011. This was due to an increase in the number of exchanges with co-located operators in both provinces.

Penetration of unbundled loops by province[33] (loops per 100 xDSL lines)



Source: CMT

2.2.3 Renting out of circuits and data transmission for operators

In order to provide services to their end-customers, operators that do not have their own infrastructure ask other operators for transmission capacity – terminal or trunk – as well as data lines or international Internet access.

Renting out of circuits

Wholesale circuit rental services are rentals between operators to provide specific transmission capacity between two points. Wholesale circuit rentals are divided into two categories: terminal circuits, intended to make up part of the access network of the operator that requires the services, and trunk circuits, which connect two nodes of the operator's trunk network.

This section includes aggregate data on the trunk lines, terminals and lines used to connect SLO (subscriber loop offer) facilities. The lines that Telefónica provides to Telefónica Móviles are also included. Therefore, lines provided on regulated terms (the majority of terminals plus connections for SLO facilities) and on commercial terms (the majority of trunk lines and those provided by Telefónica to Telefónica Móviles) are included.

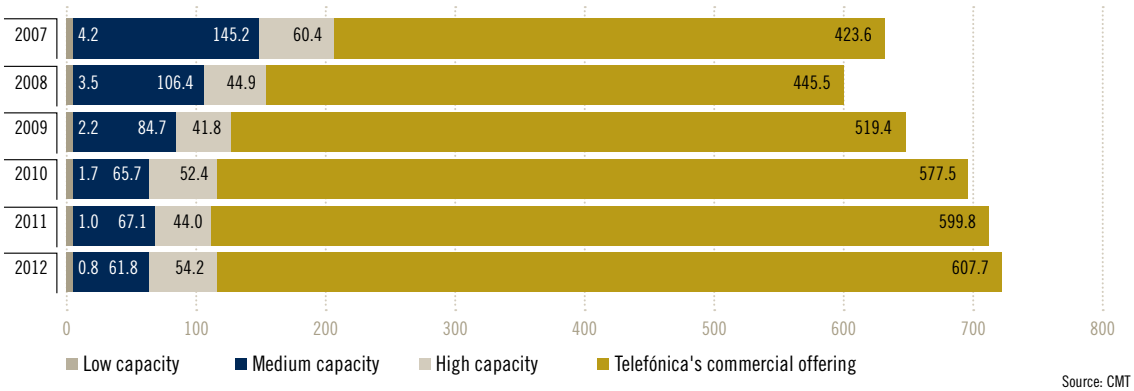
Revenues

Total revenues from renting out low, medium and high-capacity circuits, together with Telefónica's carrying capacity, were 724.5 million euros, 2.5% more than in the previous year.

The major part of these revenues came from Telefónica's commercial offering of circuit rental, also known as carrying capacity. These revenues accounted for 83.9% of the total, representing an increase of 1.3% compared with 2011. Revenues from high-capacity circuits increased by 23.3%. Revenues from low and medium-capacity circuits fell by 26.9% and 8% respectively.

[33] The intervals were set from the mean ± standard deviation. The upper and lower extremes are determined by the maximum and minimum values respectively.

Revenues from circuits rented out to operators[34] (millions of euros)



Source: CMT

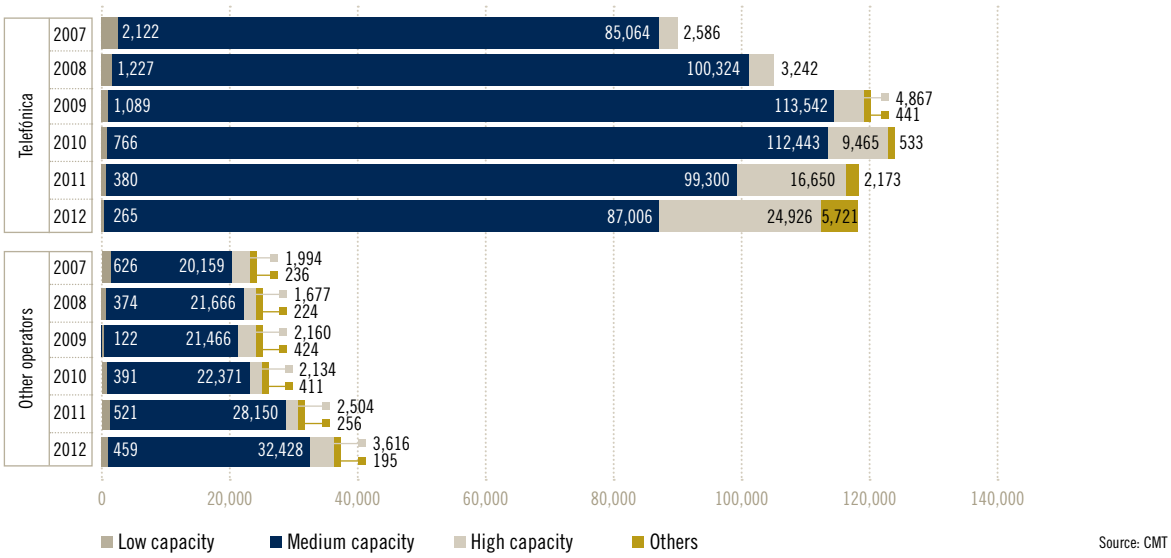
Number of circuits

The number of circuits rented out remained stable relative to the previous year, showing slight growth of 3.1% with a total of 154,616 circuits. Telefónica's circuits represented 76.3% of the total[35]. Circuits offered by the rest of the operators increased by 16.8% with 88.4% of them concentrated in medium speeds of between 128 Kb and 2 Mb.

As regards the type of circuit, during 2012, the total number of high-capacity circuits (speeds of 10 Mb and up) increased by 49% to account for 18.5% of the total number of circuits at year-end. Medium capacity circuits for their part accounted for 77.2% of the total, although they fell by 6.3% relative to the previous year. These circuits have maintained their dominance since 2006, despite the gradual loss to high-capacity circuits, which offer better quality of service at a higher price.

High-capacity circuits provided by Telefónica decreased by 0.5% (585 circuits). At the same time Telefónica's low- and medium-capacity circuits posted declines of 30.3% and 12.4% respectively. Telefónica's other circuits increased by 163.3%, although they represented only 4.9% of the total number of circuits, prominent among which are the circuits for interconnection services, with more than 4,000 circuits.

Number of circuits rented out to operators by speed (units)



Source: CMT

[34] Revenues from other circuits and other revenues are not included.

[35] Telefónica's circuits also include the breakdown of the circuits with carrying capacity.

We should point out that circuits rented out are playing a fundamental role in the increase in coverage of loop services nationwide, especially in medium and small-sized exchanges. Indeed, whereas the alternative operators connect to the major exchanges of Telefónica with their own resources, to access the smaller exchanges they use the SLO signal delivery service by means of rented circuits. With this service, operators can connect SLO facilities to regulated circuits in the ORLA (Reference Offer for Rented Lines). The number of co-located exchanges increased by nearly 24% relative to the previous year. The following table shows the number of exchanges connected to the various capacities of rented-out circuits (the total number of co-located exchanges is about 1,240, representing nearly 78% of Telefónica's coupling infrastructure):

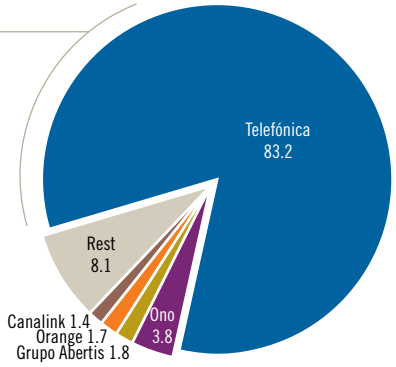
Circuit speed	Number of stations[36]
2 Mbps	1
34 Mbps	2
155 Mbps	279
Gigabit Ethernet (100 Mbps)	177
Gigabit Ethernet (1,000 Mbps)	620

Also, since the last market review the use of ORLA circuits has been permitted for connecting to mobile operators' base exchanges. Mobile operators are using this facility to extend their 3G network coverage.

Market shares

Telefónica held on to its lead position in the wholesale circuits market, with 83.2% of total revenues.

Market shares by revenues from circuits rented out to operators (%)



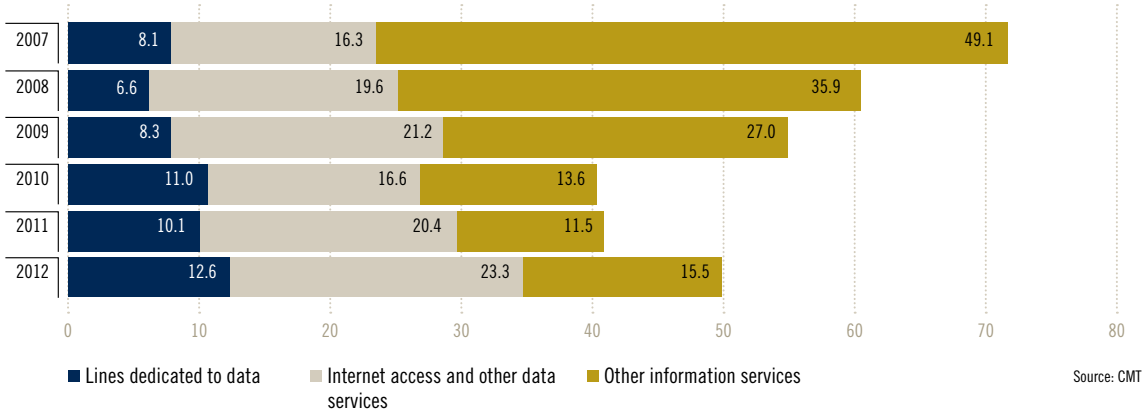
Source: CMT

Data transmission

Wholesale data transmission services include the provision of lines dedicated to data of any type of technology as well as Internet access services provided to operators.

Billings for data transmission services amounted to 51.4 million euros, 22.4% more than in the previous year. At the same time the 12.6 million euros associated with revenues from lines dedicated to data grew by 24.4% YoY, while Internet access and other services increased by 14.3%, with total billings of 23.3 million euros. Lastly, revenues from other information services increased by 34.9% to reach 15.5 million euros.

Revenues from data transmission services to operators (millions of euros)

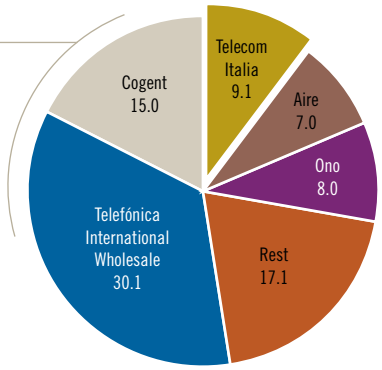


Source: CMT

[36] Data updated to April 2013.

Market shares by data transmission revenues place Telefónica Wholesale Services as market leader, followed by Cogent, which has a substantial lead over the remaining operators. Between them they captured 45.1% of total revenues for data transmission.

Market shares by revenues from data transmission to operators (%)



Source: CMT

2.3 Retail mobile communications

In 2012, the recession continued to have a negative effect on the mobile phone market. Total revenue fell 15.9%, mainly due to lower revenue from voice and messaging services. Nevertheless, the expansion in mobile internet services helped to compensate at least partially for the drop in business in other services.

The mobile customer base - excluding lines associated with exclusively data machines and services - fell by 3.7%, with a market penetration of 109.7 mobile lines per 100 inhabitants. Over the same period, there was a moderate (2.9%) drop in voice service traffic via mobile communications networks.

In the present recessionary context, there was a mass change of the initially assigned mobile numbering among consumers. In 2012, mobile portability transfers reached 5.2 million, slightly down on the previous year's record, which registered 5.6 million cases of portability transfers.

However, mobile broadband performed very well. The number of active broadband subscriptions increased by 7.7 million, with a penetration of 54 subscriptions per 100 inhabitants. Revenue from data grew 29% over the year, representing 9.5% of the total sector turnover for final services.

2.3.1 Mobile telephony

In 2012 revenue corresponding to final mobile telephony services - including telephone and message services - stood at 9,504.5 million euros. This was 15.9% down on the previous year, representing a fall which was almost double the 2011 drop.

For the first time since records began, the total number of mobile phone lines fell with respect to the preceding year, which in 2012 stood at 50.7 million lines. The downturn was the result of a decrease in demand in the residential segment, which fell by 2.1 million lines. On the other hand, the business segment grew by almost 210,000 lines over the year.

These variations meant that mobile telephony service penetration fell back compared to the previous year. In 2012 there were 109.7 mobile phone lines per 100 inhabitants, a 3.7% fall on 2011 figures. On the other hand, non-telephony mobile services - for example, lines associated with machines (telemetry and remote control systems) - increased 12.3% to 2.8 million lines.

It should be highlighted that consumers made intensive use of portability services in order to change operator. The main beneficiaries in this process were Yoigo and Mobile Virtual Network Operators[37] - hereinafter MVNOs - which increased their market share to 16% of all active lines.

Sector situation

a) Revenue

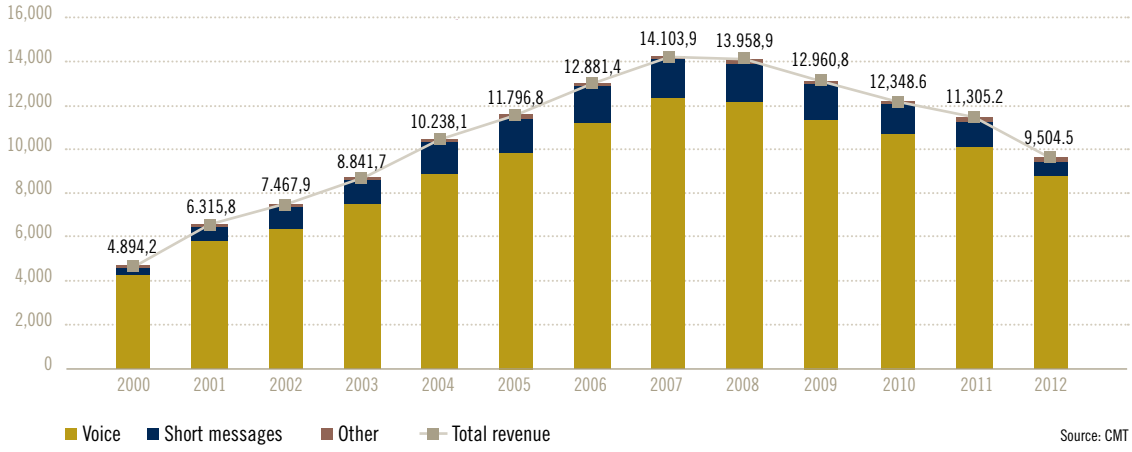
As we have said, 2012 revenue corresponding to final services stood at 9,504.5 million euros, 15.9% down on the previous year. This fall took revenue back to a pre-2004 level, some time before the recession kicked in.

Telephone and message services registered a revenue drop of 14.4% and 37.5%, respectively. As far as this last figure is concerned, SMS and MMS messaging services have been seriously affected by the prolifera-

[37] The mobile virtual network operators (MVNOs) are as follows: Euskaltel, Lebara Móvil, Ono, MÁSmovil, Digi Mobil, British Telecom, Jazztel, FonYou, Telecable, E-Plus, Lycamobile, R, Carrefouronline, Pepephone, Día Móvil, Hits Mobile, Happy Móvil, RACC Móvil, Moreminutes, Eroski Móvil, You Mobile, Tuenti and Orbitel.

tion of instant messaging apps such as *Whatsapp* and *Line*, which operate via a permanent mobile internet connection. This high substitution rate, together with the lower cost of the services offered by these apps in relative terms, has seen a fall in revenue from the traditional SMS and MMS messaging system. It is estimated that 23% of mobile telephony service users in Spain habitually use over-the-top (OTT) services.

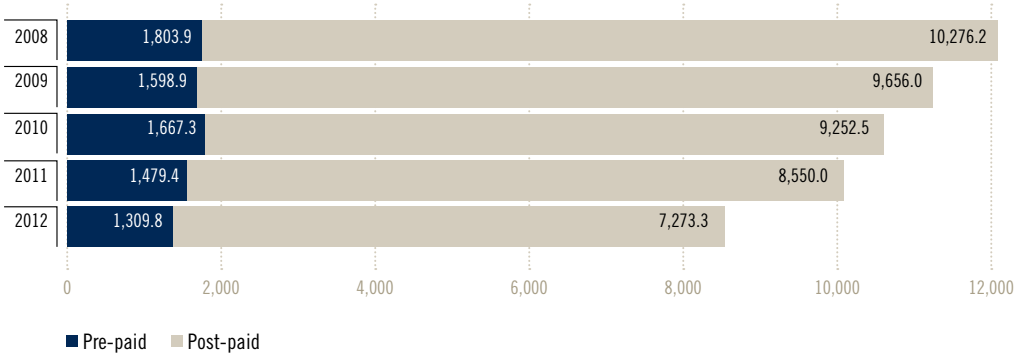
Evolution of revenue from final services[38] (millions of euros)



Source: CMT

The fall in voice traffic revenue was noted in both the post-paid and pre-paid segments, down 14.9% and 11.5% respectively on the previous year. In contrast, income from subscriber and monthly charges almost doubled in just a year, now representing 30% of total voice traffic revenue. These results confirm the multitude of flat-rate mobile voice offers such as those which bundle voice and mobile internet services.

Evolution of revenue from voice traffic (millions of euros)

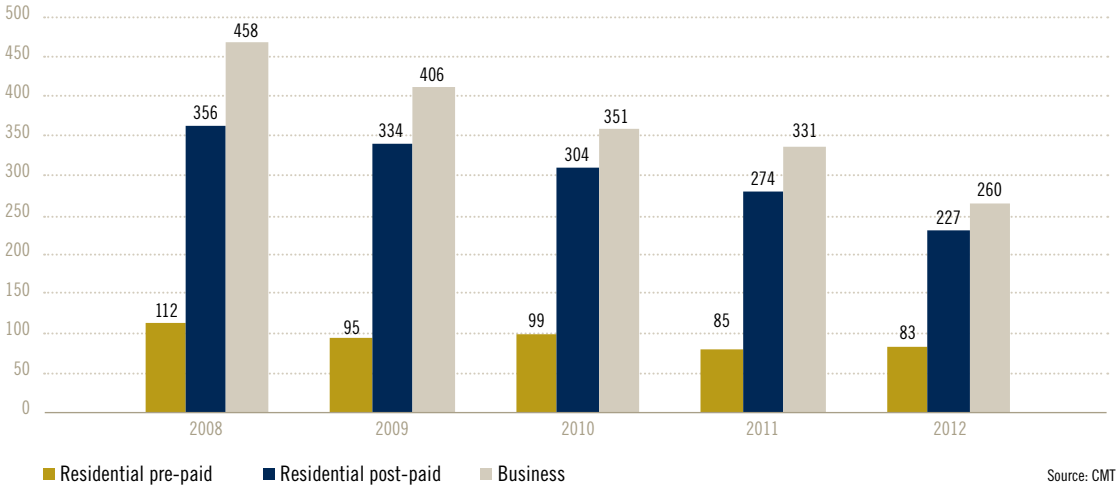


Source: CMT

[38] Final services analysed include voice (which in turn includes revenue from voice traffic and registration and subscriber charges), short messages and other services (with the exception of less-important services such as the TETRA private mobile radio system, the SPICA network and telemetry and remote control systems).

The following graph shows how average revenue per user (ARPU) has fallen in recent years. ARPU for the residential post-paid segment was down 17.2%, while the business segment fell 21.6%. In the pre-paid segment, the fall in revenue per user was far less pronounced, just 1.5%.

Average revenue per user (ARPU) (euros/user)



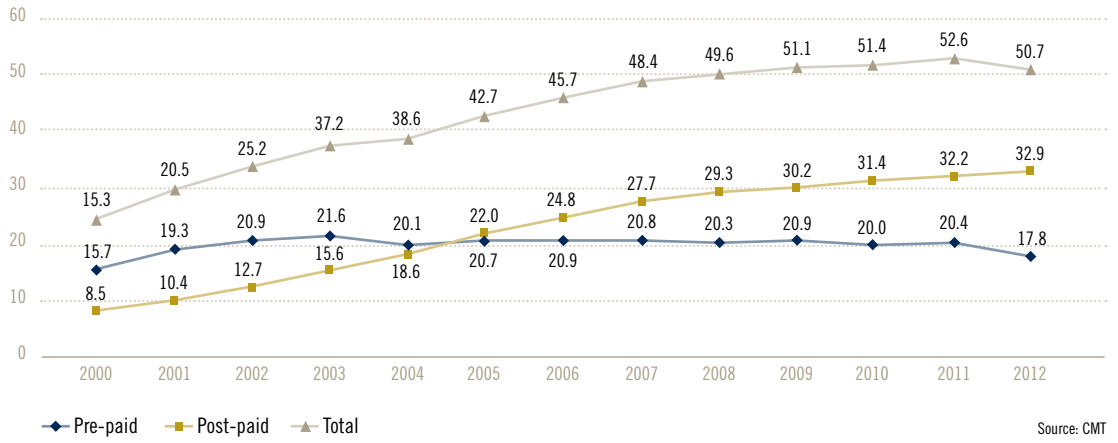
Source: CMT

b) Users

In 2012 the mobile customer base stood at 50.7 million users, a loss of approximately 1.9 million users on the previous year. The pre-paid segment was the root cause of this fall off, which was down 12.5% (2.6 million users) with respect to 2011. In contrast, user volume in the post-paid segment was up 2%, equivalent to 629,659 more lines.

Mobile telephony lines - excluding those linked to datacards or machines - reached a penetration of 109.7 lines per 100 inhabitants, down 3.7% on 2011.

Evolution of mobile users (millions)

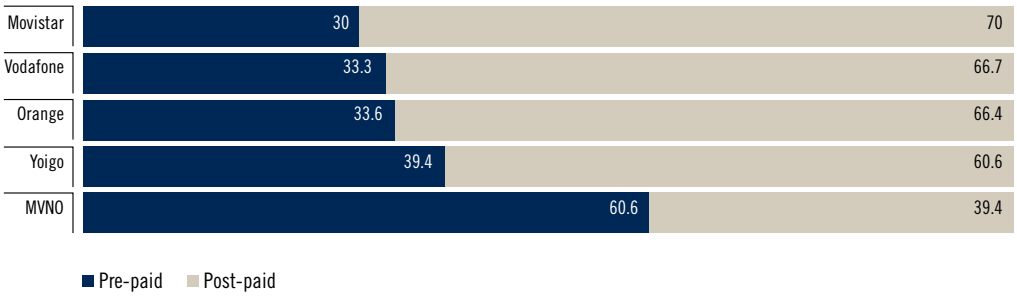


Source: CMT

Machine-associated users - lines used for telemetry and remote control systems - stood at 2.8 million, an increase of 12.3% on the previous year.

The structure of the customer base for the various operators is linked to their respective market share. A certain positive correlation can therefore be noted between the operator's market share and the relative weight of contract customers in their portfolio. The majority of the customers from Movistar and Vodafone - the two operators with the highest market share - are in the post-paid segment. This weight diminishes as the operator's market share becomes less significant. It is important to highlight the fact that the post-paid segment generates greater revenue per user. In the residential segment for example, post-paid user invoices are 2.85 times more than those for pre-paid users.

Total users per contract type (%)



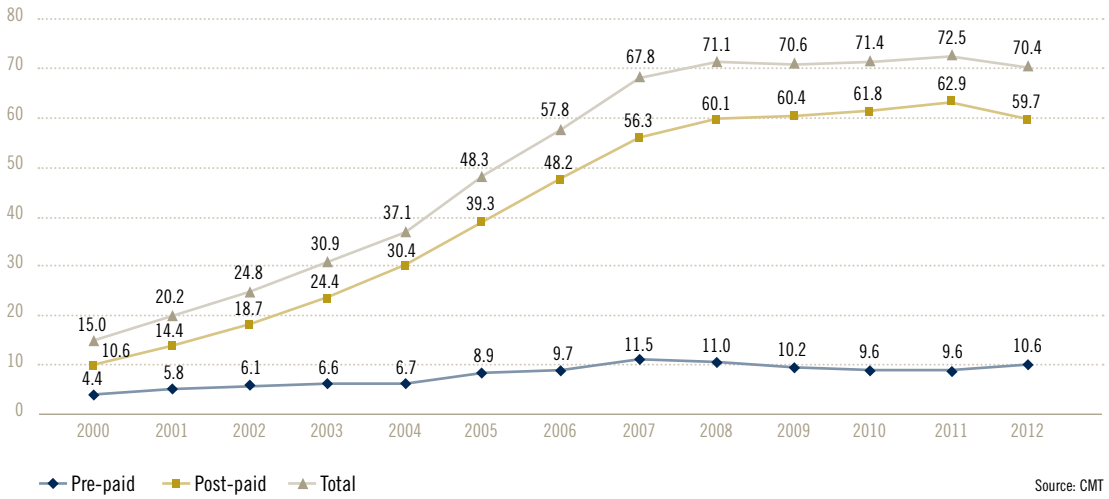
Source: CMT

c) Traffic

VOICE[39]

For the first time since the start of the mobile telephony business, voice traffic has dropped, down 2.9% on the previous year. Nonetheless, in contrast to what has happened with the user base, it is the post-paid segment that has registered a drop in traffic (down 5%), while the pre-paid segment was up 10.8%. This increase in traffic was mainly concentrated in the MVNOs.

Evolution of mobile communication networks (billions of minutes)



Source: CMT

[39] Voice traffic has been calculated using the effectively consumed minutes (not nominal minutes) as a base.

Traffic exclusively between mobile communication networks fell 3.6%, with traffic within the same network (on-net traffic) down 5%, a drop which is clearly greater than the fall in traffic between different mobile communication networks (off-net traffic), which was only down 1.7%. A better performance from off-net traffic has been observed in recent years, probably a consequence of the continuing growth in smaller operators, with a subsequent reduction in market concentration. In contrast, mention should be made of the increased traffic in calls to the domestic land-line network, up 4.3% on the previous year. The proliferation of flat-rate contracts which include traffic to fixed networks has been an incentive to users to increase the volume of calls to such destinations.

It is important to point out that on average, 34.6% of domestic traffic to both fixed and mobile networks, fell within a flat rate (or semi-flat rate) voice tariff. This statistic shows the success there has been in marketing flat-rate tariffs, which were extremely rare just a few years ago. This marketing has been made possible thanks to the continued reductions in the termination price paid by operators, which has been regulated by the CMT since 2001.

As far as international communications are concerned, which may be classified as international roaming calls where they originate from foreign mobile networks, or international calls to another country, there were conflicting trends in traffic. In the former case, volume in terms of call minutes fell 20.7% whereas in the latter it rose 18.5%. With regard to this latter service, the attractive pricing policy introduced by some MVNOs has encouraged use of this service in recent years.

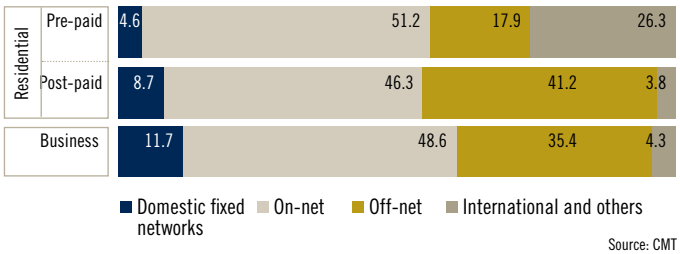
If traffic consumption per user is analysed in terms of contract type, it can be seen that the post-paid segment saw a fall of 6.8%, while the pre-paid segment - where MVNOs have focused their offers - increased by 26.6%. Nevertheless, the intensity of use of these two segments continue to perform very differently: post-paid user traffic was, on average, three times greater than pre-paid traffic.

Minutes per user per year based on contract type[40] (minutes/user)

Source: CMT

The disaggregation of traffic between the various market segments shows clearly distinctive consumer patterns. The percentage of international call traffic in the pre-paid segment is, for example, significantly higher than that of other segments. Similarly, the business segment saw the greatest concentration of calls to fixed networks.

Traffic distribution (%)

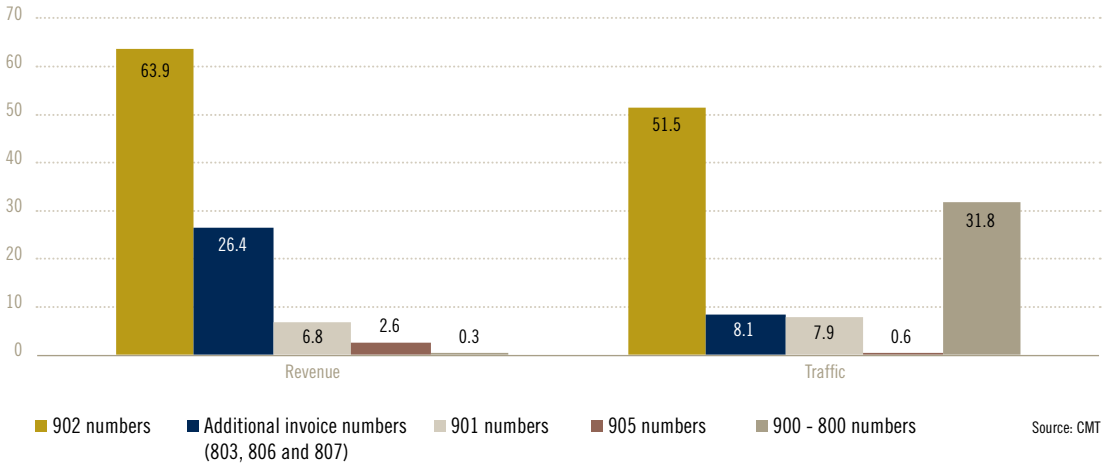


Source: CMT

[40] The concept "Total" reflects average consumption per market user and takes into account the current weight of each segment (pre-paid and post-paid).

As far as additional invoiced services were concerned, in 2012 these totalled 268 million euros. This figure is 8% down on the 2011 figure. To summarise therefore, the following graph shows the weight of additional invoiced services, both in terms of revenue and traffic.

Distribution of the various special tariff services (%)



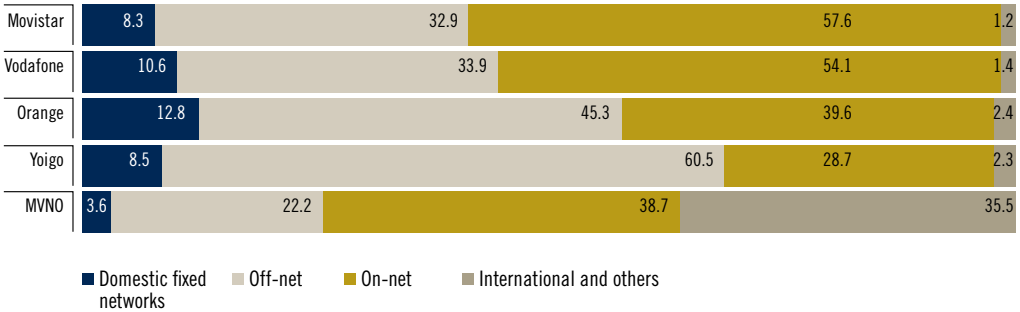
Source: CMT

As can be seen, 902 numbers were the service with highest revenue and traffic volume, paid in full by the user making the call. In terms of revenue volume, the services corresponding to 803, 806 and 807 numbers ranked second, third and fourth. These numbers cover a range of services, including leisure, entertainment and adult content. These were followed by 905 number mass-call management services. The next important in terms of revenue volume are the 901 number services, the main characteristic of which is that payment is divided between the person making the call and the person receiving it. The 900-800 number services are in last place in terms of total revenue volume, due to the fact that they are free to end users. Nevertheless, traffic here represents 31.8% of the total.

The traffic distribution of the various mobile operators showed significant differences. Voice traffic generated by the operator with the largest market share, such as Movistar and Vodafone, generally ends up in the same mobile network. In contrast, traffic generated by operators with less market share mainly went to an external telecommunications network. This is the logical outcome, given that the larger the operator's market share, the greater the probability that one of its customers will be communicating with another from the same company.

It is also worth highlighting the significant weight of international calls as part of total MVNO traffic. This phenomenon is largely due to the numerous MVNOs who specialise in this kind of service, such as Lycamobile, Lebara Móvil, Orbitel, Happy Móvil and Hits Mobile, among others.

Distribution of traffic by destination (%)



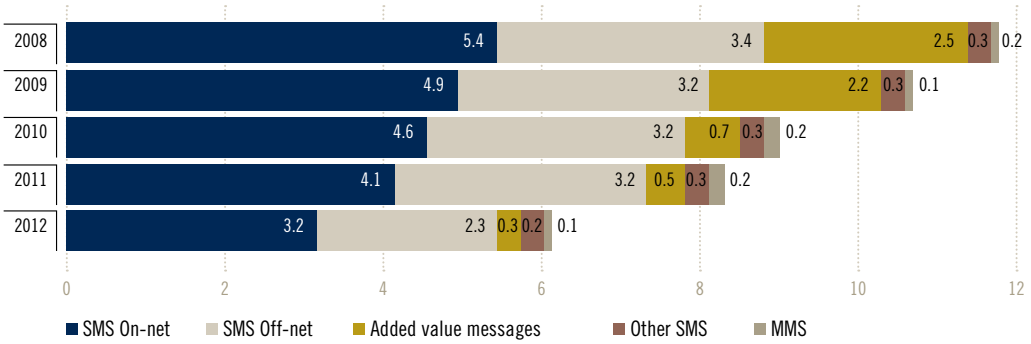
Source: CMT

d) Messages

As was the case in previous years, there was a significant drop in short message (SMS and MMS) traffic. Specifically, in 2012, SMS subscriber message traffic - excluding added-value SMS services - fell 24.9%. The trend that had been noted over recent years has therefore become more pronounced.

5,459 SMS were sent in 2012, with far fewer MMS - just 94.1 million. Based on these figures, as far as the Spanish market is concerned, one MMS was sent for every 58 SMS.

Evolution of message traffic (billions)



Source: CMT

As far as these results are concerned, it should be pointed out that the boom in broadband mobile on handsets will probably lead to a process of substitution of traditional SMS for mobile internet instant messaging apps such as WhatsApp and Line, among others. The use of these over-the-top (OTT) apps explains the drop in message volume to a large extent.

COMPETITION

In 2012, users were once again active in terms of changing their mobile service providers, with 11.7% of users changing company. Almost all opted for portability, with an average of 435,000 such changes per month. Through this process, the new operators (Yoigo and the MVNOs) gained a significant volume of users from more established companies.

This dynamism has produced significant variations in market share. The two main market operators - Movistar and Vodafone - saw a combined net loss of 1,542,323 transferred users, while Yoigo and the MVNOs as a whole gained 1,149,247 lines. Orange was the only established operator with a net increase in transferred users (393,076 lines).

This new competition led to the emergence of flat-rate voice tariffs, new service bundles - with lower prices - and a reduced revenue per customer. Operators with a network, launched services with new brands and "SIM Only" subscriptions, allowing them to compete more directly with MVNOs. In order to reduce customer acquisition costs, some operators have eliminated the handset subsidy, which had until then been used as a strong selling point for a large number of operators.

a) Portability and change of operator

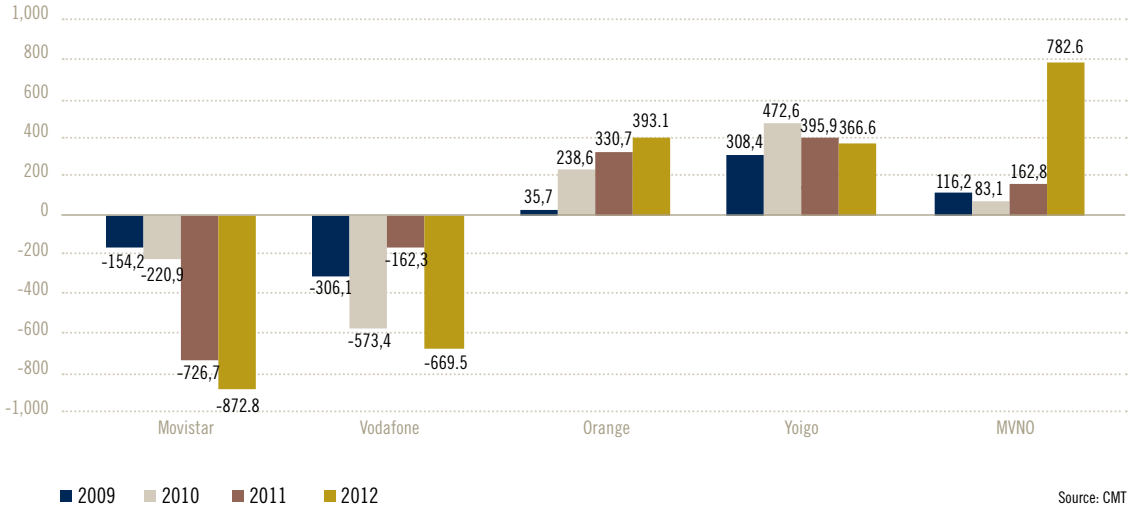
In recent years, the portability of mobile telephony numbers - in other words, the option for consumers to change operator and keep their phone number - has proved to be one of the most effective mechanisms to encourage competition among operators. In June 2012, the CMT approved a new regulation which cut the time needed for mobile portability to become effective to just one day. This measure sought to reduce the substitution costs that users had to assume when changing mobile communications provider.

In 2012 a total of 5.2 million portability transfers were processed. Despite the fact that this figure is slightly down on 2011 (-3.7%), Spain is still one of the lead-

ing European countries in terms of portability transfer volume.

The following graph shows the net balance of lines transferred from one mobile operator to another. The two main operators on the market, Movistar and Vodafone, had a negative balance of 1.5 million portability transfers. At the other end of this equation we have the MVNOs taken as a whole, with a net gain of 782,000 transferred lines in 2012.

Net portability transfer balance per operator thousands of lines)

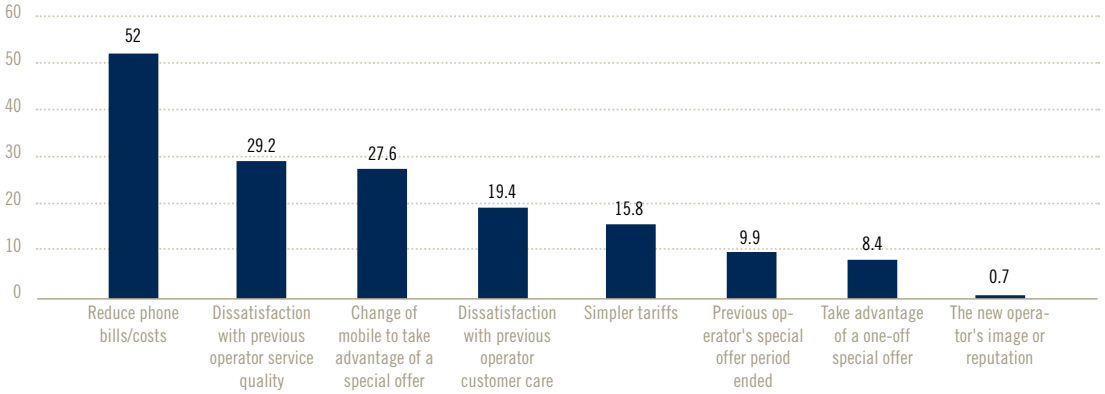


Source: CMT

Consumers made intensive use of the option to change mobile service providers (with or without number portability). As a representative sample of mobile service users in the residential segment shows, 11.7% changed operator over the past twelve months, with the vast majority - 90% - keeping the initially assigned number.

The following graph shows the reasons users give when changing operator. It is worth highlighting the fact that approximately half of all users are seeking to reduce their bills while a third want to take advantage of a special offer in order to change handset. The larger operators used to subsidise the cost of handsets in order to attract customers from other providers. However, earlier this year some operators announced they were abandoning this practice in order to reduce the cost of acquiring customers.

Main reasons why consumers change operator (%)



Source: CMT-Red.es Domestic Panel

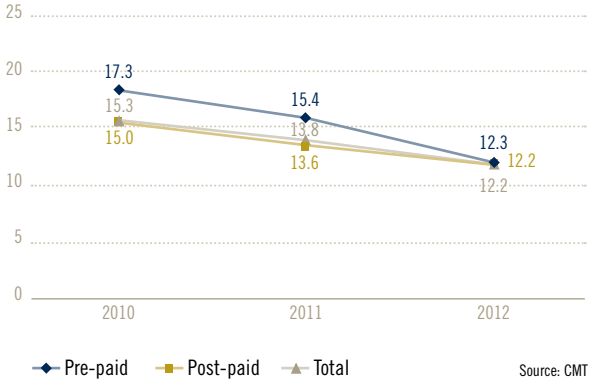
c) Evolution of unit revenue[41] per service and final price

Mobile telephony services can be characterised by the wide variety of tariffs on offer, much of which are not lines. In other words, the price of a user's calls may depend on the applicable time tariff or destination, or may be affected by volume-based discounts, bonus vouchers and flat and semi-flat rates. One of the new developments over recent years has been the large number of flat-rate voice offers and even offers that bundle up voice and broadband services. Given this variety and complexity as far as tariffs are concerned, it is difficult to summarise the cost of calls with a single indicator. Nevertheless, it can be used as an approximate indicator of the average revenue per minute ratio, in other words, the coefficient between total voice traffic revenue and total minutes consumed by users.

For the seventh consecutive year, average voice service revenue per minute[42] was down on the preceding year. In 2012 it fell 11.8%, situating average revenue at 12.2 cents per minute. Over the past ten years, the total fall off in call revenue has been over 50%.

As was the case last year, average revenue from the various market segments (pre-paid and post-paid) were very similar: 12.3 cents per minute for the former and 12.2 cents per minute for the latter.

Evolution of average revenue per minute
(euro cents/minute)



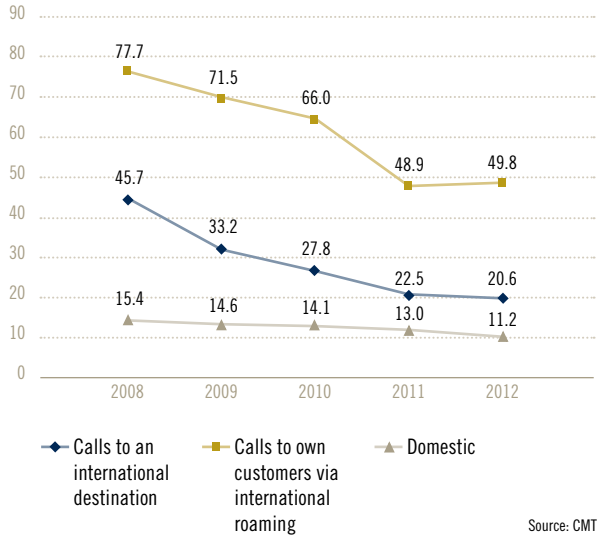
Source: CMT

[41] In this section we have opted to use average revenue per minute and average revenue per message - revenue units - as approximate measures of final market prices.

[42] The "voice services" concept includes domestic calls (to mobile or land-line networks), international calls, additional tariff calls and international roaming services.

Traditionally, the services which are most in demand as far as mobile telephony users are concerned are those related to domestic communications, in other words, services that integrate calls to land-line and mobile networks, either within the operator's own network (*on-net*) or other networks (*off-net*), within the domestic context. In recent years, the price of these services has fallen considerably. In 2012 prices fell an average of 13.8% with respect to 2011. This includes services which are marketed as flat-rate tariffs and those based on tariffs billed to the customer based on time consumed.

Evolution of average revenue per minute service (euro cents/minute)



Source: CMT

The regulation governing termination price - the service that allows an operator to finalise a call on an external telecommunications network - has been a key element in explaining the drop in domestic prices. The CMT, like other EU national regulatory authorities (NRAs) has been regulating termination prices since 2001, with a continuously downward trend over this 12-year period. In 2006, the CMT also introduced the obligation to provide access to existing mobile communications networks. This obligation paved the way for new players to enter the market: the MVNOs. In recent years, both these regulatory measures have had an evident effect on the market: increased competition from the greater number of operators, reduced market concentration year on year, lower prices for end services and the massive launch in 2011 of flat-rates which combine voice and data services in one bundle.

As far as international communication services are concerned, calls to international destinations and calls made through international roaming have followed a divergent path. Average revenue for the former was 8,4% down. In contrast, the latter increased by 2%. The downward average revenue trend for international calls over recent years can be largely explained by the emergence in 2007 of numerous MVNOs which specialise in international call services at very competitive prices.

As far as international roaming services are concerned, the falling prices seen over recent years is mainly due to EC regulations passed in June 2007 (Regulation 717/2007), establishing lower prices for voice roaming services across Europe. These regulations have been regularly updated in order to gradually extend the number of regulated services. In fact, in June 2012, a new regulation was passed which extended the regulation of these services until 2016. Regulations governing roaming within the EU for the coming years are shown in the following table.

Retail market

		July 2012-June 2013	July 2013-June 2014	July 2014 onward
Voice call (euros/minute)	Call made	0.29	0.24	0.19
	Call received	0.08	0.07	0.05
SMS (euros/SMS)	Sending SMS	0.09	0.08	0.06
Data service (euros/MB)		0.70	0.45	0.20

Wholesale market

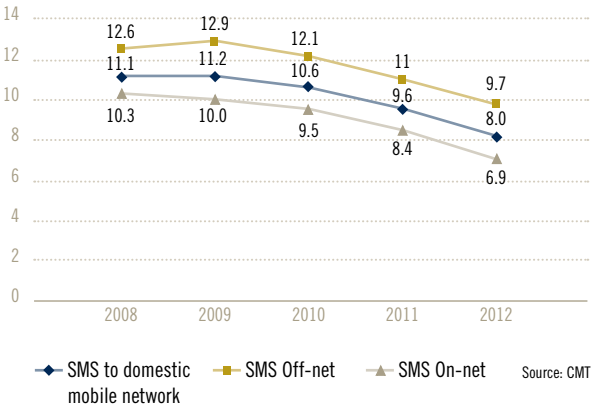
	July 2012-June 2013	July 2013-June 2014	July 2014 onward
Voice call originating in a domestic network (euros/minute)	0.14	0.10	0.05
SMS originating in a domestic network (euros/minute)	0.03	0.02	0.02
Data traffic via a domestic network (euros/MB)	0.25	0.15	0.05

One of the most important new developments in these Regulations was the introduction of a structural measure which it was hoped would encourage new offers in the roaming market: the possibility of selling the roaming service in the EU separately from other services. It is expected that any operator, with or without their own network, will be able to independently sell their voice and data roaming services in any EU country.

However, the previous graph anterior shows that in 2012, the price of international roaming services increased slightly. This increase can be explained by the evolution of prices linked to roaming services outside the European Union.

Finally, average domestic SMS service revenue fell for the third consecutive year, down 16.2% on 2011 to stand at 8 cents per SMS sent. This fall was accompanied by a very significant drop in registered SMS (down 24.9%), undoubtedly due to the substitution effect of certain OTT instant messaging apps, such as *Whatsapp* and *Line*.

Evolution of the average revenue per message (euro cents/message)

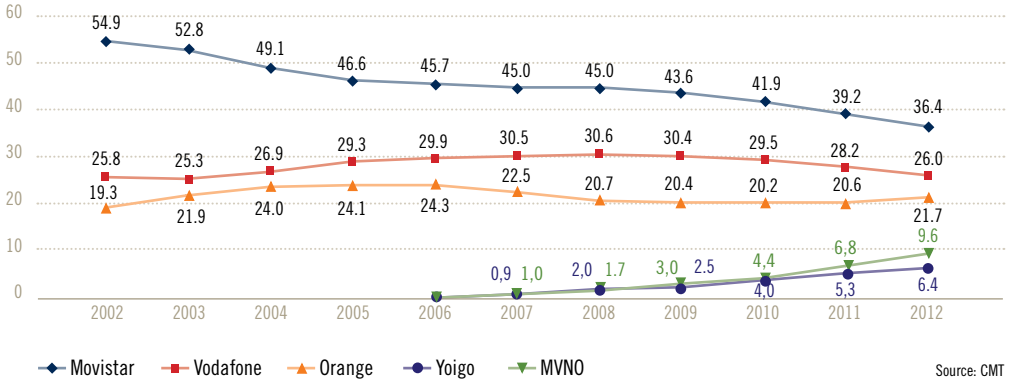


Source: CMT

d) Market share

In 2012, the two main operators saw their market share per number of mobile voice users fall while the other operators (Orange, Yoigo and the MVNOs) increased theirs. The new operators (Yoigo and the MVNOs) gained most over the year, with their market share reaching 16%.

Evolution of market share by active lines (%)

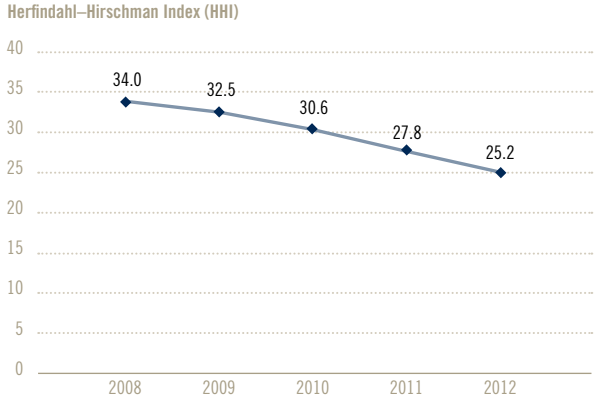


Source: CMT

The MVNO group includes 23 operators. It should, however, be pointed out that some of these are controlled primarily by a mobile network operator. Movistar, for example, owns Tuenti while Orange owns the Amena brand. In December 2012, Orange announced the takeover of Simyo in an operation worth 30 million euros. These developments show that some network operators have opted to segment their offer between different commercial brands based on the target public the operator is seeking to attract.

In order to analyse levels of market concentration we need to consider the existence of business groups with various brands and subsidiaries. The Herfindahl–Hirschman Index is therefore used to group operators together based on the function of the business group they belong to. The results show that in 2012, market concentration maintained its downward trend (HHI = 25.2), below that registered for 2011 (HHI = 27.8).

Evolution of market concentration (HHI)

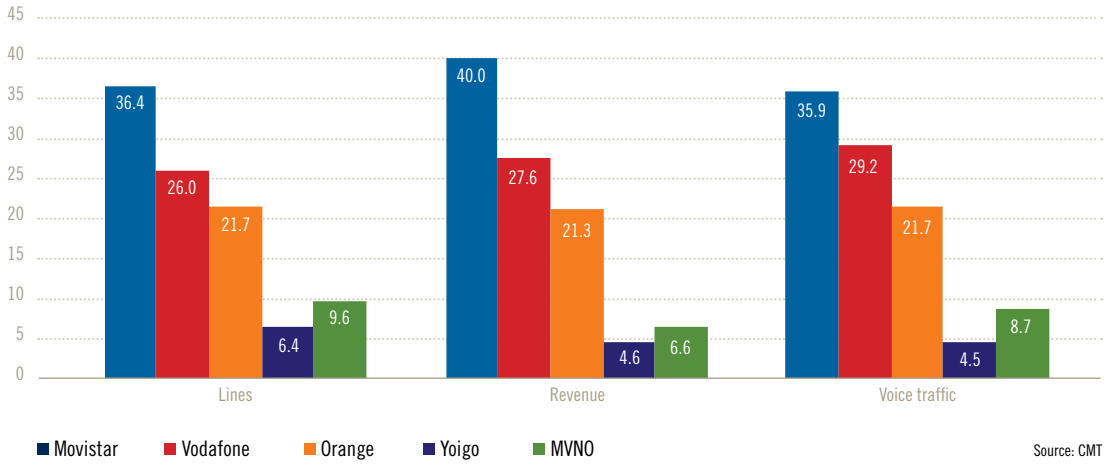


Source: CMT

Nevertheless, events such as the purchase of Simyo - one of the more dynamic MVNOs on the market - or the acquisition of RACC Móvil by its host operator, Euskaltel announced for early 2013 - make a market concentration foreseeable in the near future.

Traffic quotas and operator revenue showed significant differences with respect to quotas calculated based on the mobile customer base. If we focus attention on revenue obtained or on traffic managed, greater market concentration levels were found in relation to the two largest market operators. In contrast, if the calculation is based on telephone lines, smaller operators show a greater relative weight. The main cause of this is that the customers of the two largest operators tend to have greater consumption patterns than those of other operators.

Market share 2012 (%)



Source: CMT

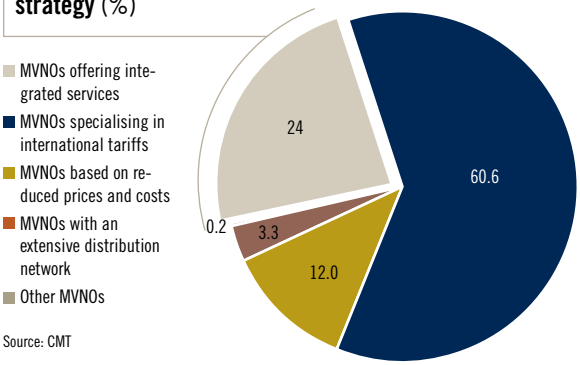
In 2012, total revenue from MVNOs in the retail mobile market rose to 626.2 million euros. This figure represents growth of 37.1% when compared to 2011's revenue.

MVNOs have wide ranging strategies which can be classified as follows:

1) Operators which specialise in competitive international tariffs.
2) Operators based on an integrated mobile offer together with other services also provided by fixed networks.
3) Operators with extensive commercial distribution networks through which they can offer their mobile services to a large number of customers.
4) Operators whose key selling point is their very competitive domestic tariffs made possible by the elimination of complementary services, allowing the operator to make important cost savings.

As can be seen in the following graph, operators with competitive international tariffs had the greatest percentage of total revenue of all MVNOs. Despite still having a reduced market share, some of these operators had an international call volume that was greater than that declared by the main mobile operators.

Market share of MVNOs based on their business strategy (%)



Source: CMT

2.3.2 Mobile broadband

In recent years, the mobile internet service has become the driving force for growth in the sector, with important increases both in terms of penetration and the number of connections per handset. In 2012, a total of 24.9 million mobile users actively accessed internet via their mobile. As was the case in 2011, this telecommunications service was the only segment to experience significant revenue growth, with an increase of 29% on the previous year with a turnover of 2,766.6 million euros.

It should be pointed out that there are various mobile internet access options: 1) Connection via a mobile device exclusively used for data traffic, such as datacards, USB modems, tablets etc. and 2) connection via a mobile phone which also offers voice, SMS and internet access services, among others. This latter category includes smartphones .

In 2012, there were 22.4 million lines associated with mobile phones from which an active internet connection has been made[43]. In other words, approximately 44.2% of mobile handsets actively connect to mobile broadband.

In contrast, the exclusively data user base - mainly USB modems and tablets - stood at 2.5 million, representing a significant drop of 25.6% compared to the previous year. This shows that users with such devices, mainly tablets, have chosen to connect to the internet in this way rather than via a fixed network using wi-fi technology. Users who connect directly via mobile phone networks were a minority.

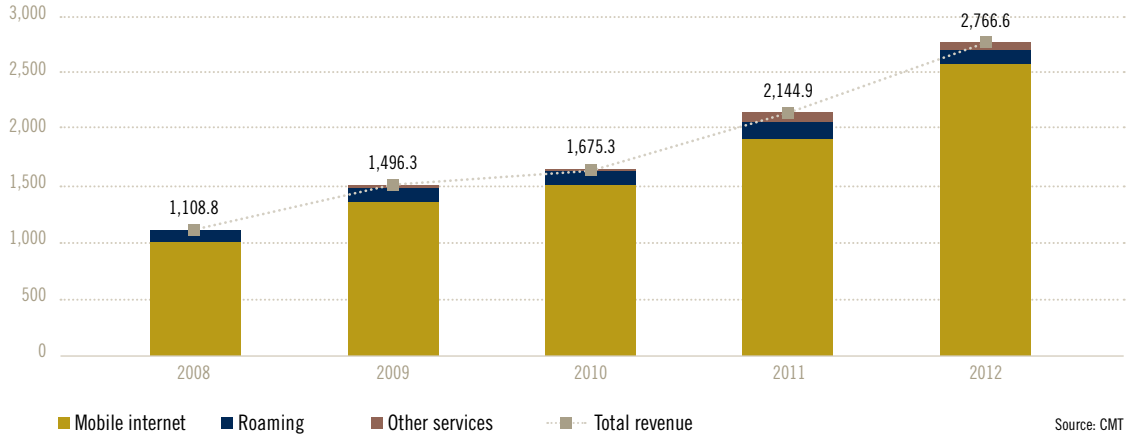
Consequently, most mobile internet connections - 89.9% - were made via voice handsets, with exclusive data devices (datacards and tablets) some way behind.

Sector situation[44]

a) Revenue

Turnover for broadband services stood at 2,766.6 million euros. If this revenue is broken down into the various services, it can be seen that domestic internet connection carries the most weight. In second place was internet connection via international roaming. Finally services with lesser impact, such as, for example, the downloading of content or other transactions undertaken via m-commerce apps.

Evolution of revenue from mobile broadband (millions of euros)



Source: CMT

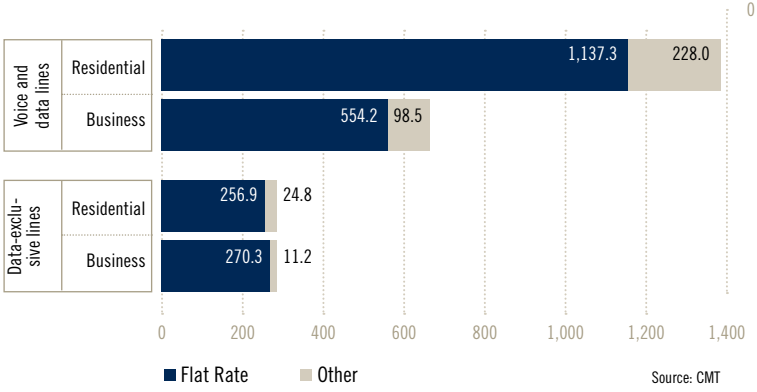
[43] Active access to internet mobile is understood to mean one of two cases: 1) If the line is associated with payment of a regular fixed amount for internet access or 2) If, without being associated with payment of a regular fixed amount, the user has connected to an internet access service over the past three months and has been billed for that connection.

[44] Telemetry and remote control systems via lines linked to machines (M2M) are excluded here.

The following is a breakdown of total revenue based on the device type used to access the mobile internet service. The "voice and data user" concept refers to mobile phones, while the "data-exclusive lines" concept refers to datacards, tablets and USB modems.

We can see that most revenue originated in the residential segment - 63.8% of total revenue. The business segment generated 36.2%.

Mobile internet revenue by device type and business segment (millions of euros)

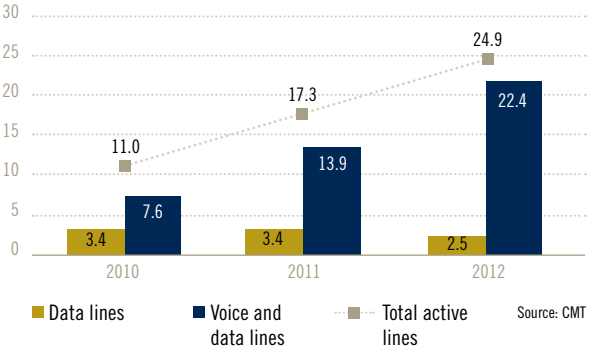


The broadband service has undergone exponential growth in revenue from flat-rate tariffs. In fact, 85.8% total revenue came from such tariffs. In contrast, revenue based on billing by connection has fallen off considerably over recent years.

b) Users[45]

In 2012, 24.9 million users connected actively to mobile internet, representing a service penetration of 54 users per 100 inhabitants. The following graph shows the variation in the number of these users - based on the access device - over the past three years.

Evolution of active mobile broadband lines (millions of lines)



In 2012, 22.4 million lines linked to voice and data - mobile phones and smartphones - which actively connected to the internet. This figure represents an increase of 61.1% with respect to the number of active lines in 2011.

As far as data-exclusive lines are concerned - mainly USB modems and tablets, in 2012 2.5 million users actively connected to mobile internet, representing a drop of 25.6% on 2011 figures.

One area which has clearly performed well has been the greater commercial bundling in the mobile segment. Mobile operators declared that 17 million mobile users were tied in to a flat or semi-flat rate data tariff. Of this total, 8.9 million (52%) corresponded to tariffs which bundle mobile broadband with other telecommunications services, mainly voice. The joint marketing of voice and data services was undoubtedly inspired by other "double offers" on fixed networks. In this sector, the bundling of internet and calls is a very common practice.

Later in the year, four-way bundles appeared, offering voice and broadband services on both mobile and fixed networks. In December 2012 there were a minimum of 1.2 million packages combining mobile broadband and fixed network services.

[45] When calculating the volume of active lines associated with this type of service, all lines associated with a tariff with a regular fixed payment (for example, payment of a flat-rate tariff) have been included, as well as lines on a data tariff not subject to a regular fixed payment but which have accessed the internet over the past ninety days.

c) Traffic

The increase in mobile internet access subscribers represents a significant growth in traffic in registered data in mobile communications networks. This type of service registered a total of 97,236.6 terabytes, 7.3% up on traffic registered in the previous year.

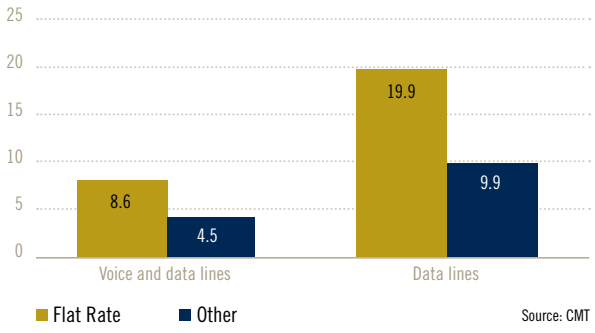
Competition

a) Prices

The data outlined above shows that voice and data are the areas that have shown the greatest growth over recent years, both in terms of the number of active lines and the revenue obtained from broadband services. However, the data analysed shows that average revenue per user (ARPU) from broadband services is greater for data-exclusive lines than for voice and data lines. This is because the customers who contract a data-exclusive line make a more intensive use of these services and, consequently, need to contract a tariff which allow a greater volume of data traffic.

As far as international roaming data traffic is concerned, the trend is for the average revenue per megabyte to decrease over time. In 2012 the EC passed a new regulation covering international roaming services. Among other new introductions, the regulation established a maximum price of 70 cents per megabyte for roaming data traffic within the European Community. The establishment of this ceiling meant that the price of these services fell 47% with respect to the previous year, standing at 1.2 euros per megabyte.

Average revenue per user (ARPU) (euros/user)



b) Market share

The following graph shows the market share of the various operators in relation to the total mobile broadband user base, both in terms of voice and data devices (mobile phones) and data-exclusive lines (USB modems).

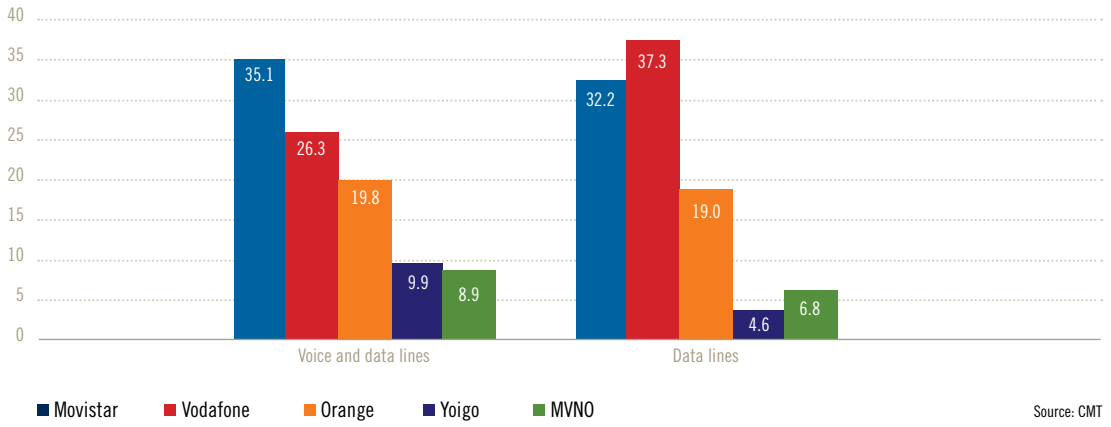
Evolution of average revenue per MB and international roaming traffic volume (euros/MB and TB)

Firstly, the internet service via voice and data lines have a level of concentration which is less than that of mobile telephony. The new operators - Yoigo and the MVNOs - have 18.8% of mobile broadband lines.

Secondly, the internet service via data-exclusive lines was led by Vodafone, with the largest market share (37.3%), followed by Movistar (32.2%). The market share of MVNOs is also significant (6.8%). The high presence of MVNOs in the mobile internet service is

due to the fact that a number of these have focused their activity on this business segment in order to offer complementary services to internet access via fixed networks. As an example, in December Ono stated that their volume of lines associated with datacards and USB modems was practically the same as their mobile phone customer base.

Market share of active lines, 2012 (%)



Source: CMT

2.4 Wholesale mobile communications

The wholesale mobile telephony market is made up of a number of services which offer third-party access to a mobile communications network, interconnecting all networks, fixed and mobile.

The most important interconnection services are as follows: termination of domestic and international traffic - in other words, the services that allow mobile communication that originates in a network other than the domestic or international destination to be finalised, international roaming services, which allow customers to use mobile services in countries in which they do not reside through access to a domestic network, despite the fact that the operator of origin has no infrastructure in the country in question and, finally, the access and call origination service used by operators who do not have their own infrastructures.

Revenue from these wholesale services was down 17.4%. In contrast, total traffic increased by 21.2%. This growth is mainly due to the increase in recent years in MVNO mobile communications network traffic.

a) Revenue

Total revenue from the wholesale market stood at 2,019.5 million euros, a figure which, as we have said, was down 17.4% on 2011. 2012 was the sixth consecutive year to register a fall in invoicing. In absolute terms, taking wholesale revenue from 2006 as a point of reference, 2012 revenue represented a drop of 52.3%.

The termination of domestic mobile traffic service - the most important wholesale service in terms of volume - showed a revenue drop of 23% compared to the previous year. The main cause of this fall off is the EU regulation and the falling price of call termination services. The price of this service has fallen from 4.59 euro cents per minute in 2011 to 3.58 cents in 2012, down 22%.

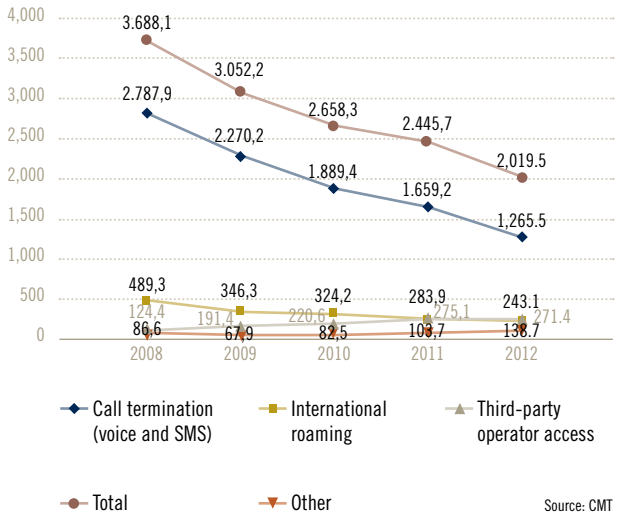
Revenue from the international roaming service also fell 14.4%. These results confirm the downward tendency which began in 2007. In this case, the fall was due to the introduction in June this year of an EC reg-

ulation which fixed international roaming service retail and wholesale prices in the European Union.

The third-party operator mobile network access service - mainly affecting MVNOs - recorded billings of 271.4 million euros. It was therefore the highest service in terms of invoicing in 2012, after the call termination service.

Access to mobile networks is integrated a set of technical procedures which guarantee that the operators which do not have their own mobile network can nevertheless offer voice and data services to the end user.

Evolution of wholesale revenue (millions of euros)



Source: CMT

This saw the introduction in 2006 of the obligation to ensure access which led to the appearance and expansion of numerous MVNOs in the mobile telephony market. In 2012, the Spanish market had 23 active MVNOs, representing a market share of 9.6% of the total number of mobile phone lines.

Distribution of mobile virtual network operators based on their host operator

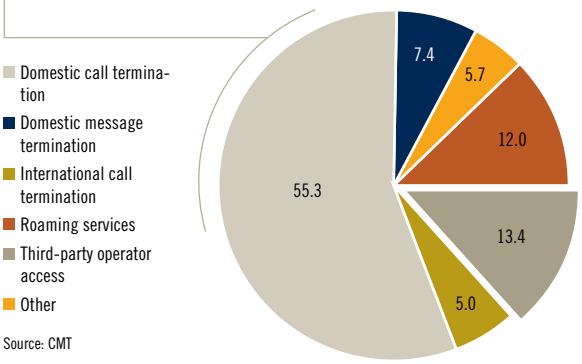
Movistar	Vodafone	Orange
Full MVNOs		
Ono	Euskaltel	Jazztel
Digi Mobil	TeleCable	E-Plus (Simyo)
FonYou	R	
	Lycamobile	
MVNOs offering services		
Tuenti	Lebara[46]	Carrefouronline
	Pepephone	Día Móvil
	Hits Mobile	Happy Móvil
	BT[47]	Moreminutes
	RACC Móvil[48]	You Mobile
	Eroski Móvil[49]	MÁSmovil
	Orbitel[50]	

Source: CMT

It is expected that new MVNOs such as LCR and IO will enter the mobile telephony market in 2013.

In spite of the drop in revenue, the domestic voice call termination service had the greatest revenue volume on the wholesale market. In contrast, the international roaming service lost ground to the third-party operator access service.

Revenue by connection service (%)



Source: CMT

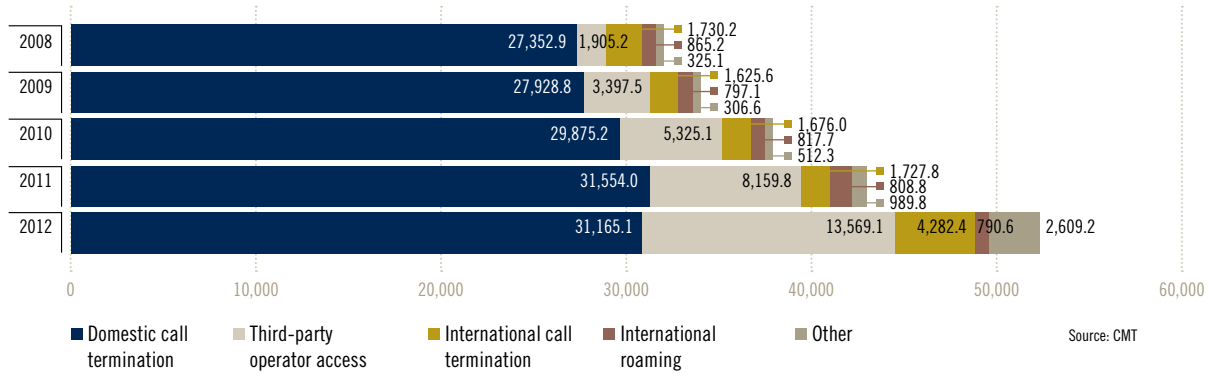
[46, 47, 49, 50] Eroski Móvil, BT, Lebara and Orbitel access Vodafone's network thanks to an agreement signed with the MVNO Vodafone Enabler, part of the Vodafone group.

[48] RACC Móvil accesses Vodafone's network thanks to an agreement signed with the MVNO Euskaltel.

b) Traffic

The volume of traffic in the wholesale market showed positive signs of growth compared to what was noted in terms of revenue. The total volume of traffic was 52,416.1 million minutes, an increase of 21.2% compared to 2011. As we have argued earlier, this result reflects a decrease in wholesale revenue due to the fall in prices which now tend to be subject to regulation. The other main factor has been the increased market share enjoyed by MVNOs which have seen a greater volume of wholesale voice service traffic.

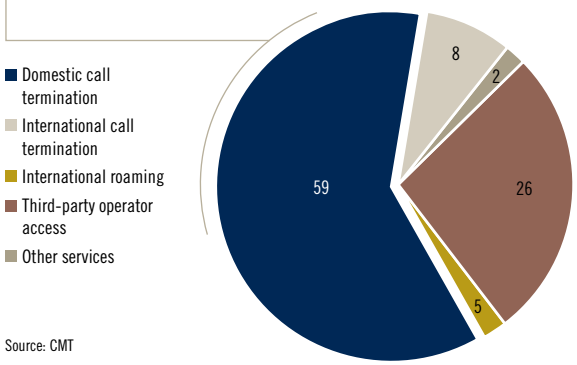
Distribution of wholesale service traffic (millions of minutes)



Source: CMT

If we break down traffic based on the service in question, it can be seen that the domestic call termination service had the greatest volume, 59% of the total. In second place was the third-party operator access service, which also registered the largest annual increase, up 66.3%. The international roaming service was affected by the negative macro-economic situation, falling slightly to finish down 2.1%, in terms of total traffic volume.

Distribution of traffic volume by wholesale service (%)



Source: CMT

c) Evolution of prices

The prices applied by the various operators in call termination services were of fundamental importance to the development of the mobile telephony market. In 2012, the CMT analysed the call termination market on individual mobile networks. All network operators (NOs) were identified, as were full MVNOs, as being operators with significant market power. Consequently, the CMT imposed a series of regulations on these operators as they had done following prior analyses. The most important new development was a new downward trend as far as prices were concerned, relating to the call termination service. A target price of 1.09 euro cents per minute was set, to be met by operators with a significant market power as of July 2013.

Call termination price (cents/minute)

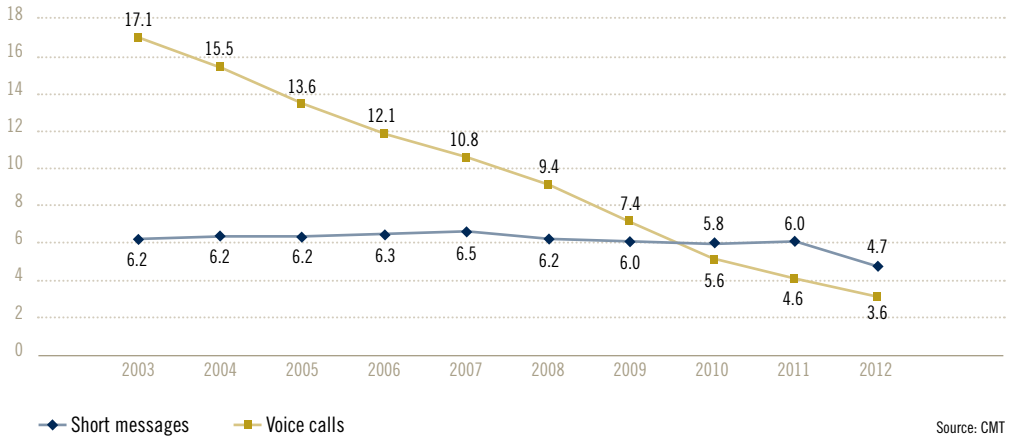
	From 16/04/2012 to 15/10/2012	From 16/10/2012 to 29/02/2013	From 01/03/2013 to 30/06/2013	From 1/07/2013 onward
Movistar, Vodafone and Orange	3.42	3.16	2.76	1.09
Yoigo	4.07	3.36	2.86	1.09

Source: CMT

The following graph shows the effect that the decreasing price trend established by the CMT (the Spanish Telecommunications Market Commission) has had on call termination this year, in terms of average revenue per minute. In 2012, average revenue from call termination originating in an external network was down 22% to 3.6 cents.

As far as SMS termination is concerned, there was a sharp drop in average revenue with respect to 2011. This is the third consecutive fall in price and is undoubtedly related to the impact that instant messaging apps have had on traditional messaging services. Mobile phone operators may have modified their connection contracts in order to reduce message termination costs, in an attempt to avoid further falls in this service to the benefit of OTT apps. However, despite this trend, terminating a message on an external network is, for the second year running, more expensive than a minute of conversation.

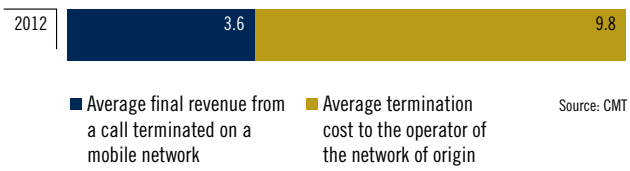
Average revenue by minute of domestic call & message termination (cents/minute and cents/message)



Source: CMT

It is also interesting to analyse average revenue for calls to a mobile network together with the termination cost to be paid by the operator. The call termination cost, which used to be 3.6 cents per minute, represented 36.7% of the average revenue obtained from a voice call terminated on a mobile network, where the average revenue per minute was 9.8 cents. It should be pointed out that in recent years, the margin of retention has increased notably, in other words, the weight of the termination cost to be borne by operators for terminating a call on an external network has fallen in respect of the final price that said operators apply to customers for this service.

Retention margin for a call whose destination is a mobile communications network (cents/minute)

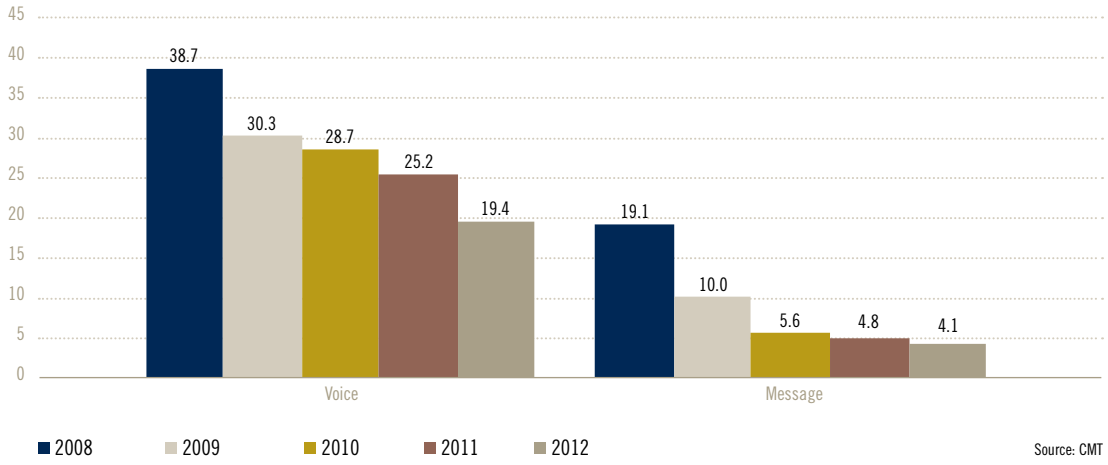


Source: CMT

EC Regulation 531/2012 of the European Parliament and of the Council, passed in June 2012 regulates wholesale international roaming services provided by EU operators. The following graph shows the effect that this regulation has had on average roaming revenue. Average revenue per minute fell 23.3% with respect to 2011, down 74.6% on 2005 figures.

Average revenue for the messaging service in international roaming registered a drop of 13.6% compared to 2011, priced at an average 4.1 cents per message.

Average revenue by international roaming (cents/minute and cents/message)



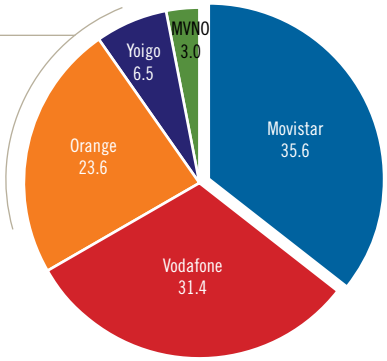
Source: CMT

d) Market share

Traditionally, the level of concentration of revenue from the wholesale market is greater than that seen from the retail market. This is due to the fact that a percentage of MVNOs do not have their own infrastructures and, as a result, their connection traffic is concentrated on the networks of the three largest operators which, receive financial compensation in exchange.

It is worth highlighting the fact that Vodafone[51] (31.4%) and Orange (23.6%) have shown, in relative terms, a market share which is greater than their share of the retail market. This is due to the fact that these two companies are the network operators with the largest number of MVNO access contracts. The new operators (Yoigo and the MVNOs) maintained their level of participation within the total business volume.

Market share of wholesale revenue (%)

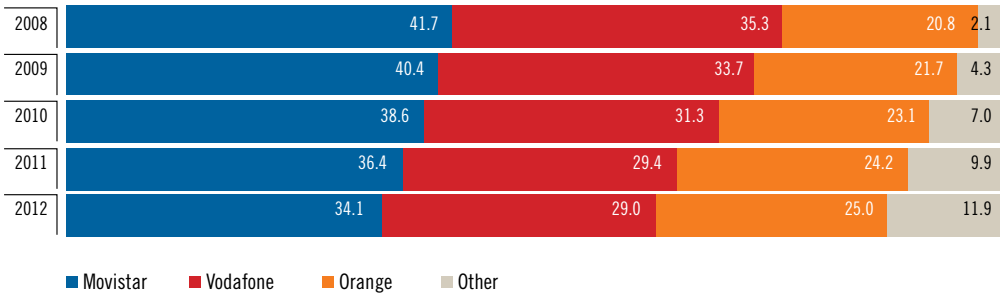


Source: CMT

[51] Vodafone's total revenue is the sum of its own revenue and those obtained by the company's subsidiary, Vodafone Enabler.

The domestic voice call termination service was distributed between the various operators in a very similar way to the distribution across the mobile user base. Movistar therefore concentrated 34.1% of domestic call termination traffic, followed by Vodafone, with 29%. There is a parallel between the evolution of the final market - showing a drop in Movistar and Vodafone's market share - and the evolution of the wholesale market - in which the percentage share of these operators also fell. Orange, Yoigo and the MVNOs increased their final market share. As a result, their share of the domestic call termination service also grew.

Market share of domestic call termination traffic (%)



Source: CMT

2.5. Audiovisual services

2.5.1 Television and radio services

The evolution of the television sector in recent years shows a marked trend toward an ongoing fall in revenue. From the outset of the recession in 2008, commercial revenue from free-to-air television has fallen from 2,998.3 million euros to 1,665.8 million euros in 2012, mainly as a result of reduced advertising activities. In spite of the fact that the national public television service RTVE, ceased to feature advertising in 2010, the other TV channels did not see their revenue increase as a result, but rather saw it fall. While the transition to DTTV opened up the possibility to allow numerous new channels and players, the marked drop in advertising revenue, together with a concentration process meant a reduction in the number of operators in the audiovisual sector.

Furthermore, in 2012, as a consequence of the current context of reduced public spending, subsidies in the sector also dropped 8.3%. This, together with the decrease in commercial turnover, especially important for regional public television operators, led to a need for these companies to make significant cutbacks, both in terms of staffing levels and the service they offer to viewers. It should be mentioned here that the main general interest TVE channel, *La 1*, has gone from leading the share table to now occupying third place, after Telecinco and Antena 3.

The pay-TV segment was also affected by the same circumstances. The recession, with its adverse effect on family incomes, led to a reduction in the number of subscribers, although revenue did increase moderately. In this segment, initially dominated by a single satellite platform, the entry of telecommunications operators has resulted in less market concentration. The operators offering broadband, telephone and television gained presence through 2012, finally standing at over 50% of the total number of pay-TV subscribers.

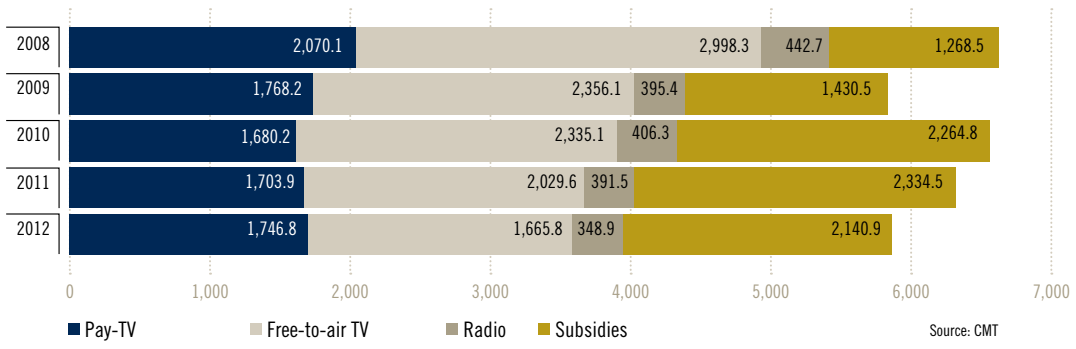
A clear trend that has been detected in recent times is the presence of new players offering content and services via internet. These are the so-called OTT (over-the-top service) providers. The latest INE Survey on Equipment and Use of Information and Communication Technologies in Households indicates that, in the final quarter of 2012, 50.6% of internet users had consumed radio or television content via network streaming. OTT content providers have business models which are very distinct to traditional models, as it is the user who chooses the moment, content, terminal and place. This is an expanding distribution channel, especially among younger people. Services of this type have been included in this report only in such cases where they are offered by free-to-air television operators and pay-TV platforms.

a) Sector situation

The recession that has affected all aspects of the economy had an impact in 2012 on the revenue obtained by television and radio operators, with a turnover of 3,761.4 million euros. This figure is 8.8% down on 2011 business volume.

It does not include subsidies received by public national and regional operators. In 2012 these subsidies were worth 2,140.9 million euros[52] (a YoY fall of 8.3%). If the subsidies were included, total revenue for the audiovisual sector would rise to 5,902.4 million euros, 8.6% less than the previous year.

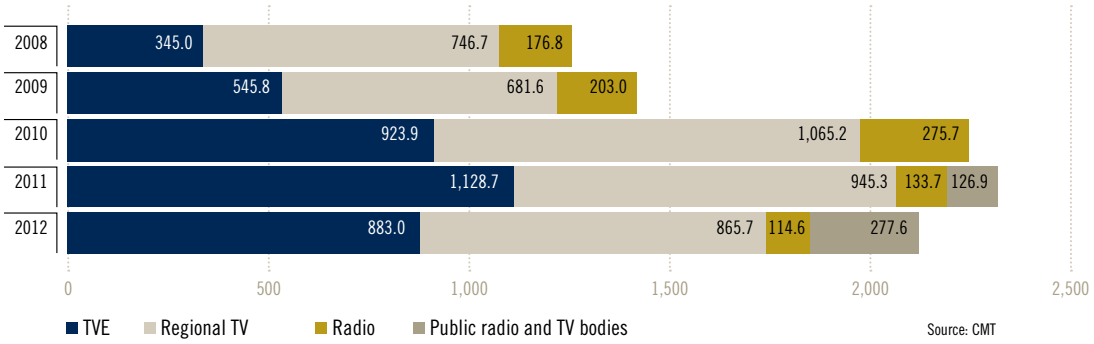
Audiovisual sector revenue, including subsidies (millions of euros)



Source: CMT

In general terms, all operators said that revenue was down on 2011. Public operators saw the amount of subsidies slashed, in addition to the fall in income from advertising. Some of these operators cancelled broadcasts or shelved their second channels, as well as cancelling broadcasts due to be aired on other platforms such as satellite television. Private operators were also affected by lower advertising revenue and a shrinking pay-TV service subscriber base.

Breakdown of subsidies in the audiovisual sector (millions of euros)[53, 54]



Revenue from various business areas

The greatest drop in revenue with respect to the previous year was in the free-to-air television segment (DTTV). This segment, where income is mainly derived from advertising, fell 17.9% compared to 2011 with a total revenue of 1,665.8 million euros.

Pay-TV services, whose business model is based on income from subscribers (in the form of subscriber fees), performed in the opposite way. In 2012, pay-TV revenue exceeded free-to-air television business volume for the first time. Having experienced slight growth - up 2.5% on the previous year - the pay-TV segment had an overall turnover of 1,746.8 million euros. Nevertheless, it should be pointed out that this increased revenue did not represent an increase in the customer base. There was in fact an overall fall of 351,635 in the number of subscribers, including those signed up to mobile television.

[52] Includes all subsidies granted by various public bodies to public operators. Links to contract-programme execution were therefore considered, as were one-off or extraordinary subsidies.

[53] The 2011 Financial and Industry Sector Report introduced a new category to cover subsidies received by public radio and television broadcasters intended to aid both services indistinctly. In earlier periods, these subsidies were divided between "radio" and "television", based on estimates provided by the operators themselves.

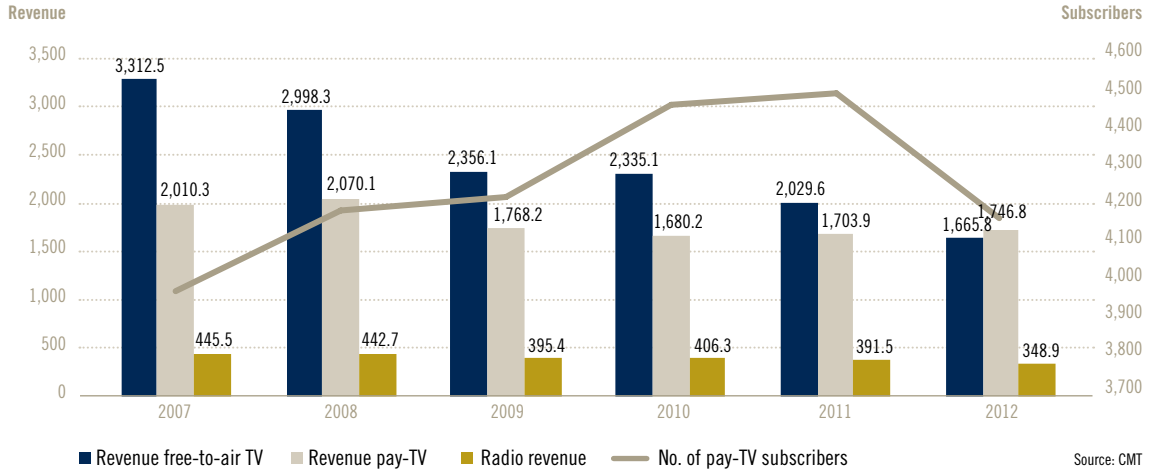
[54] In 2009 the RTVE Corporation Financing Act 8/2009 was passed, removing advertising from the Corporation's broadcasts. From this moment, Spanish public radio and television was to be exclusively financed by public funds (there is also residual income from the commercialisation of products and cultural or sporting sponsorship). After the Act was passed, the subsidies received by the RTVE corporation came from the General State Budget, a percentage of the public radio frequency reservation fee and telecommunications operator fees, as well as television licensee companies.

The decrease in the pay-TV customer base could be related to two facts - the recession and fall in GDP which has had a parallel adverse effect on families and the 2012 increase in indirect taxes that affect services of this kind[55].

In 2012 the revenue volume for free-to-air TV services and pay-TV services converged. This convergence was not due to the increase in pay-TV revenue, but rather the fall in free-to-air TV income over recent years.

The third and final main business area within the field of audiovisual services - radio - also experienced a drop in advertising revenue, which stood at 348.9 million euros in 2012, down 10.9% on 2011 levels. Once again, the main cause of this downturn was the fact that advertising agencies were investing less in the communication media as a channel for publicity.

Revenue per business area and number of subscribers (millions of euros and millions of subscribers)



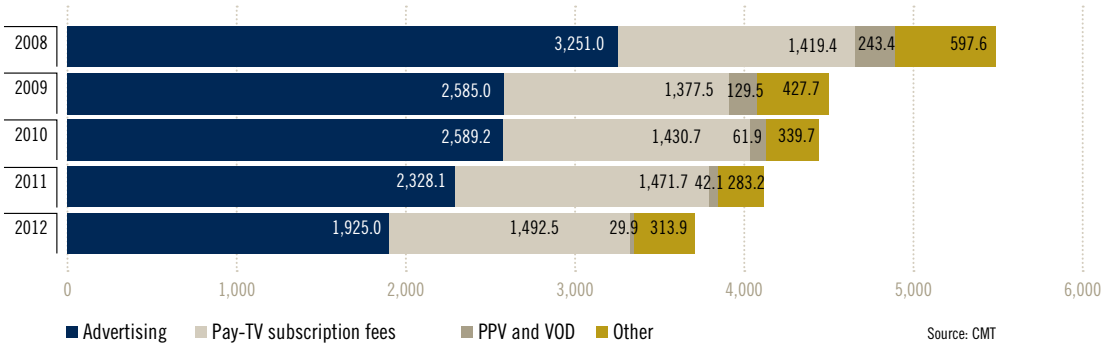
Sector revenue based on concepts

If we analyse the origin of audiovisual sector revenue, we can see that the element that experienced the most dramatic drop in terms of revenue in 2011 was advertising. Down 17.3% on the previous year, it stood at a total of 1,925 million euros, 403 million euros less than the preceding year.

The other major revenue element as far as the audiovisual sector is concerned - pay-TV subscriber fees - was slightly up (1.4%) in 2012 to stand at 1,492.5 million euros, despite the loss of 351,635 subscribers.

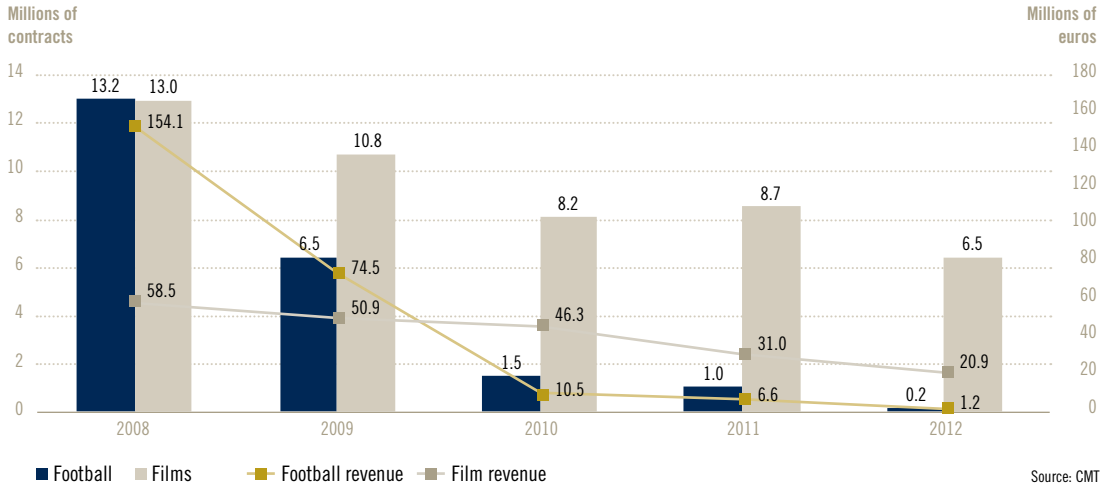
[55] In September, pay-TV services ceased to pay VAT at the reduced rate (8%) and instead had to charge the standard rate, which under new legislation rose from 18 to 21%. Studies undertaken by the CMT Household Panel have shown that in many Spanish homes, the high price is the major obstacle preventing them from contracting pay-TV services.

Distribution based on audiovisual sector commercial revenue concepts (millions of euros)



Pay-per-view and video on demand continued the downward trend that began in 2008, due mainly to the renting of films and other events (concerts, television series and non-football sports). In 2012 this element fell once again, down 28.9%, with overall revenue of 29.9 million euros. Of this total, 20.9 million euros were payments to watch films, 7.8 million euros for "other events" and "other sports" and 1.2 million euros for football events. It should be mentioned that since 2010, football-related content was mainly marketed through monthly channel subscriptions and not on a pay-per-view basis.

Number of contracts and amount of revenue derived from pay-TV
(millions of contracts and millions of euros)

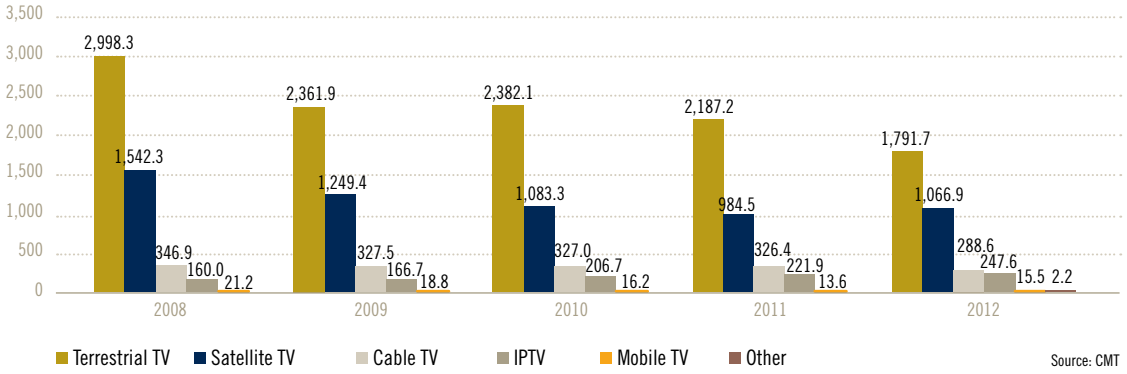


Sector revenue by technology

The platforms which increased revenue compared to the previous year were satellite television (8.4%), IP television (11.6%) and mobile television (14.6%), compared to the revenue drop experienced by DTTV (-18.1%) and cable television (-11.6%).

It should be pointed out that satellite television's increased revenue was not the result of a greater number subscribers as their numbers fell in 2012 but rather an increase in the average revenue per subscriber which was made possible thanks to a pay-TV's recovery of exploitation rights in the form of Canal+[56], through an agreement with Mediapro in August.

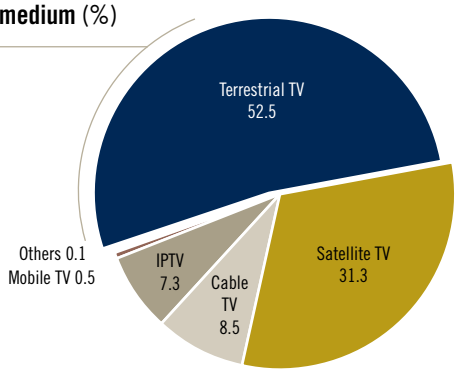
Commercial television revenue per broadcast medium[57] (millions of euros)



Source: CMT

The greatest business volume came from DTTV services, generating 1,791.7 million euros, 52.5% of the total business figure for television services.

Distribution of commercial television revenue by broadcast medium (%)



Source: CMT

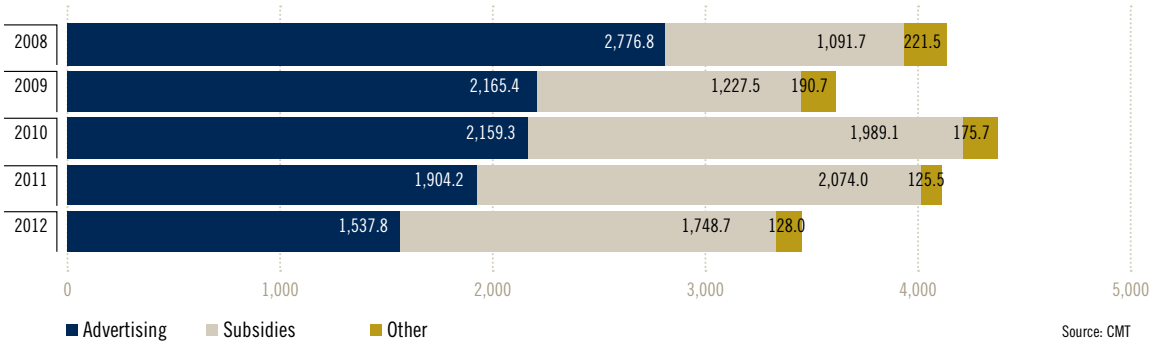
b) The free-to-air television segment

As far as revenue is concerned, the most notable aspect was the drop in income experienced by the majority of operators. In overall figures, total free-to-air television revenue rose to 3,414.5 million euros, which can be broken down into 1,665.8 million euros of commercial turnover and 1,748.7 million euros of public television subsidies. Both elements saw a significant drop with respect to the previous year - 15.7% down in the case of public subsidies and 17.9% down with regard to commercial turnover, due mainly to a fall in income from advertising.

[56] In 2011 Canal+ entered into agreements with third-party operators (Telefónica, Ono, Orange, Telecable, Euskaltel and R) to distribute its channels as Premium Content channels across various platforms. This agreement was extended in September to include distribution of the football premium content channel Canal+ Liga.

[57] The section "other" includes revenue from online TV services and WebTV offered by radio and pay-TV operators.

Free to air television revenue, including subsidies (millions of euros)



Source: CMT

92.3% of commercial turnover - 1,537.8 million euros - was derived from advertising, sponsorship, teleshopping and product placement. The remaining 128 million euros corresponded to other areas, including income from the broadcaster's own productions, the sending of SMS, calls to special tariff numbers, electronic sales, the renting out of extra capacity and revenue from non-advertising audiovisual services.

Advertising revenue from free-to-air television

In the free-to-air television segment, the majority of commercial turnover came from advertising. Television audiences are an important factor in free-to-air television revenue, for both private and public channels. In contrast, pay-TV operators, which are also competing for audiences, scarcely broadcast any advertising, with their revenue coming mainly from subscribers who benefit from broader programming and specific content. Since 2010, RTVE has not featured advertising[58], with only limited cultural sponsorship.

As far as advertising revenue is concerned, the most notable aspect to highlight was that this income fell for most operators. Specifically, private television operators - with a revenue of 1,410.6 million euros[59] - generated 301.1 million euros less from advertising in 2011. Public television, which had an advertising turnover of 127.2 million euros saw revenue in this area fall by 65.3 million euros. In comparison to the previous year, these figures represent a decrease of 17.6% for the private television segment and 33.9% for the public television segment.

Since 2010, free-to-air television advertising revenue has fallen off significantly, down 26.2% in the case of private TV operators and down 48.6% for regional public television broadcasters. This is due to a number of reasons. Firstly as a result of the recession that has seen a decrease in advertising spending by the companies concerned. Secondly, television operators are increasingly suffering the effects of competition from other audiovisual platforms, mainly those that distribute content via the internet. Finally, since the transition to DTTV, the appearance of new channels has represented a greater audience share.

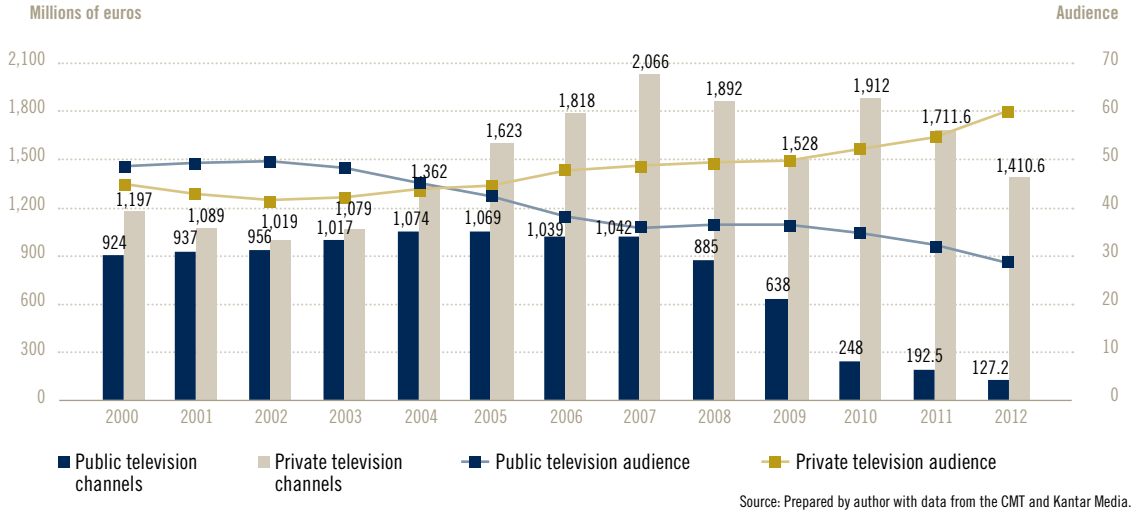
In this context, we have seen a relative consolidation of the market place. In 2010, Gestevisión Telecinco and Prisa TV's free-to-air channels merged while in 2012 there was a merger by acquisition between Antena 3 and Gestora de Inversiones Audiovisuales La Sexta[60], effective from October. At the close of the financial year therefore, in the free-to-air segment on a national level there was one public operator (RTVE) and four private operators: Mediaset, Atresmedia, Unidad Edi-

[58] Except the sponsorship authorised in Article 7 of Act no. 8/2009.
[59] Does not include pay-TV advertising revenue (39 million euros in 2012).
[60] After the merger, in 2013 this group changed its name to Atresmedia

torial (Veo Tv) and Vocento (Net TV), handling a total of 29 DTTV channels.

Private operators had a 91.7% share of free-to-air advertising. Public television only accounted for 8.3%. Of this figure 8.1% corresponded to regional public television operators in the FORTA group.

Advertising revenue and ratings by operator group (millions of euros and percentage)[61]



Source: Prepared by author with data from the CMT and Kantar Media.

Regional public television segment

In 2012 the regional public television operators as a whole generated a total revenue of 1,005.6 million euros, which can be broken down as follows: 865.7 million euros through subsidies and 140 million euros from commercial turnover, including advertising (125.3 million euros) and revenue from other concepts such as the sale of the operator's own productions (14.7 million euros).

Taken together, in 2012 these operators experienced a fall of 33.8% in advertising revenue as well as a 8.4% drop in subsidies. In the case of the latter this represented 79.6 million euros less than the overall subsidies received in 2011. In total, these operators saw their 2012 revenue fall by 143 million euros on the previous year.

Given this scenario of decreasing revenue, regional public television operators continue to suffer significant budget cuts, reduced staffing and a lower output, both in terms of cutting back on the number of channels and cancelling the broadcast of its channels via complementary DTTV technologies such as satellite and IP television.

With respect to the regulations that govern this group of operators, it is worth highlighting the passing of new legislation in August that relaxes and facilitates the management of regional audiovisual communications services[62].

[61] Only includes DTTV channel audiences. It does not include pay-TV advertising revenue, which in 2012 rose to 39 million euros.

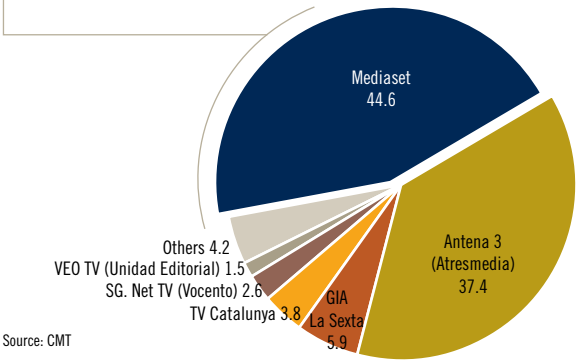
[62] Act no. 6/2012, of 1 August, amending the General Audiovisual Communication Act 7/2010 of 31 March, on General Audiovisual Communication, relaxing and facilitating the management of regional audiovisual communications services.

Advertising market share of free-to-air television operators

As has been seen, 91.7% of advertising revenue was captured by private operators, mainly by the large operators in this segment. Mediaset and Atresmedia[63] jointly captured 82% of total advertising revenue with market shares of 44.6% and 37.4% respectively. In absolute terms, the advertising revenue captured by these two operators rose to 685.9 and 575.6 million euros respectively.

The third largest operator in terms of revenue volume was La Sexta, which captured 5.9% of advertising in the sector, a total of 90.6 million euros. This operator was only present in the market for the first three quarters of the year. In the fourth quarter it became a part of the Antena 3 Group, which in early 2013 changed its business name to Atresmedia.

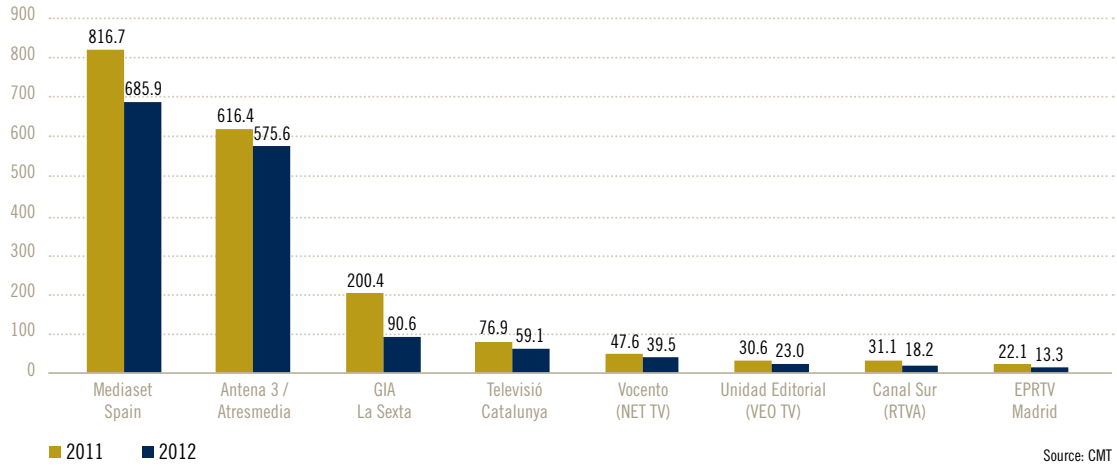
Advertising revenue from the main free-to-air TV operators (%)[64]



Source: CMT

Behind these three operators came the group of public television companies. Together, these captured 8.3% of advertising revenue, a total of 127.2 million euros. The other private operators are shown in this graph.

Advertising revenue from the main free-to-air operators[65, 66] (millions of euros)



Source: CMT

[63] Atresmedia (previously Antena 3) includes SGIA data for La Sexta from the 4th quarter 2012 onward.

[64] Only includes advertising revenue from free-to-air television operators and excludes 39 million euros of advertising revenue obtained by all pay-TV operators.

[65] Revenue corresponds to the group of channels operating free-to-air via broadband for each group, regardless of whether the channels are exploited directly or are leased to another operator.

[66] In late 2012 the merger by acquisition of Antena 3 (which later changed its name to Atresmedia) and Gestora de Inversiones Audiovisuales La Sexta. The data shown in this graph for GIA La Sexta refer to the first three quarters of the year, from the fourth quarter onward, GIA La Sexta's results are included in with Atresmedia's.

The above representation of advertising revenue share corresponds to the television audience share, one of the determining factors in terms of advertising demand. Mediaset had the largest audience share, with 8 channels broadcasting. Later in the year, the Antena 3 Group and La Sexta channels, which operated separately in the first three quarters of the year, became part of Atresmedia, whose combined audience rose to 25.8%. In third place was Radio Televisión Española, whose programming had an audience share of 18.9%.

DTTV market share[67] (%)

Operator	Advertising revenue share	Audience share
Mediaset	44.6%	28.1%
Atresmedia	37.4%	25.8%
GIA La Sexta	5.9%	
CRTVE	-	18.9%
G. Vocento	2.6%	4.4%
G. Unidad Editorial	1.5%	3.2%
FORTA	8.1%	9.8%

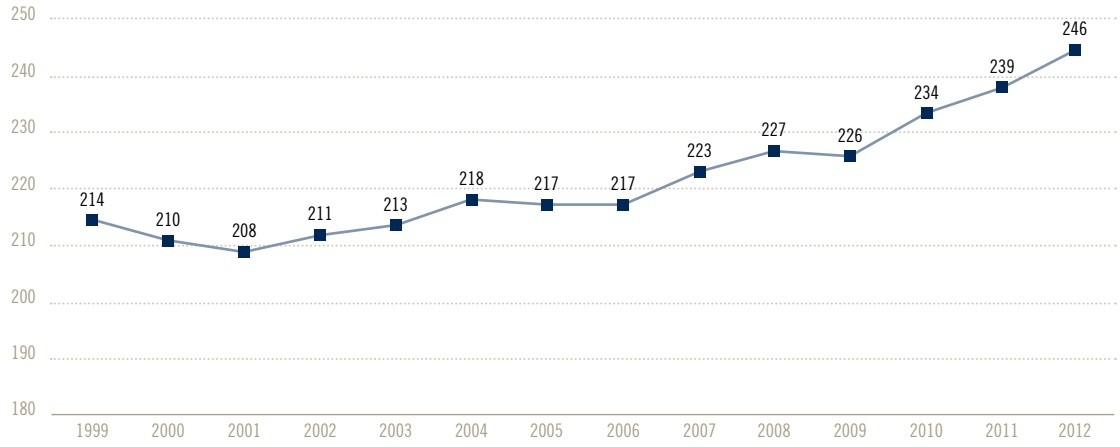
Source: CMT

As far as the channel share is concerned, the three most watched channels in Spain in 2012 all belonged to one of these three groups. The most watched channel throughout the year with an audience of 13.9% was Telecinco. In second place, was Antena 3, with an audience share of 12.5%. In third place, was the RTVE channel La 1 with a market share of 12.1%.

Audiences and TV consumption

With respect to the time that the audience dedicated to television in 2012, average television consumption in Spain grew by 2.9%, reaching a new high of an average of 246 minutes per day per viewer (slightly more than four hours). This is 7 minutes per day more than the previous high in 2011.

Average daily television consumption (minutes)

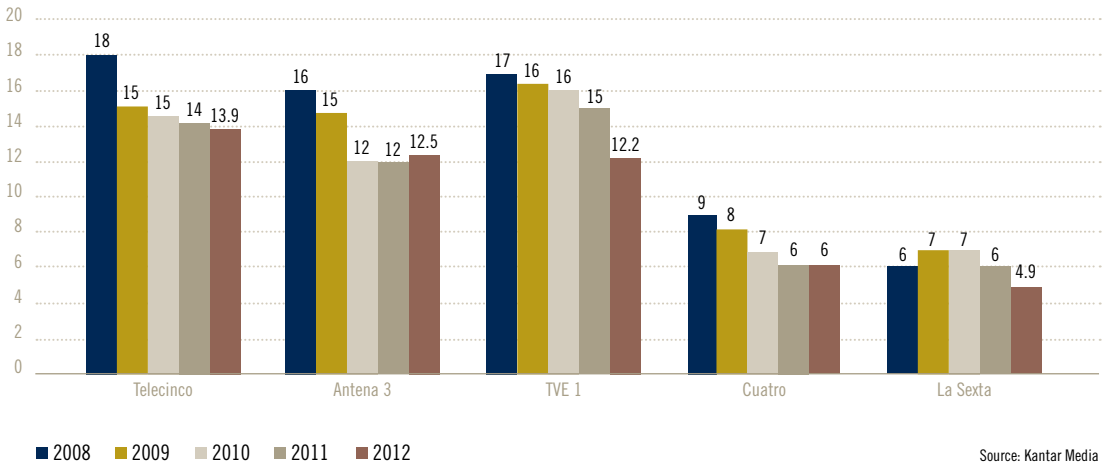


Source: Kantar Media

[67] Atresmedia's audience share refers to Antena 3 Group and GIA channels. Although La Sexta operated separately for the first three quarters, by the end of the financial year it was part of the same group. The data for GIA La Sexta refers to the first three quarters, from the fourth quarter onward, GIA La Sexta's results are included in with Atresmedia's.

Television audiences continued to be shared across the new channels with a readjustment of the new DTTV offer. In 2012 the so-called fragmentation or "atomisation" of audiences continued. The most-watched channel in 2012 (Telecinco) had a maximum audience of 13.9%. This percentage represents a record low point, 0.6% down on the previous year's maximum audience (14.5%, obtained by La 1).

General channel audiences (%)



Source: Kantar Media

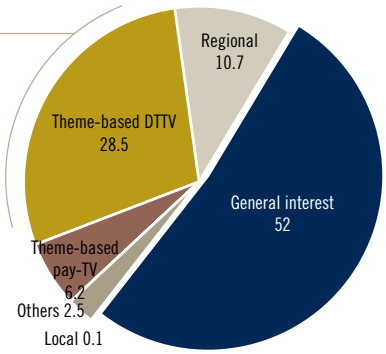
The fragmentation phenomena resulted in a drop in average audiences and lower ratings for channels offering traditional programming (those that existed before migration to DTTV). This benefited the theme-based channels which have recently entered the market. The traditional general interest channels recorded record low ratings.

Within this context, the new theme-based DTTV channels obtained an audience share of 28.5% (almost 4% up on 2011) compared to a 52% share for general interest channels. The four theme-based channels with the largest audience share in 2012 were FDF with 2.9%, Neox with 2.6%, Clan TV with 2.5% and Boing with 1.7%.

Among the pay-TV theme-based channels - which together represented a 6.2% of the audience share -the most watched over the year were FOX, Canal+1, AXN, TNT and Paramount Comedy.

As far as the group of regional television operators, these public broadcasters obtained an average audience share of 9.8% (0.9% less than in 2010), although the drop wasn't felt equally across the board. The group of private regional operators only captured 0.9% of the total domestic audience share.

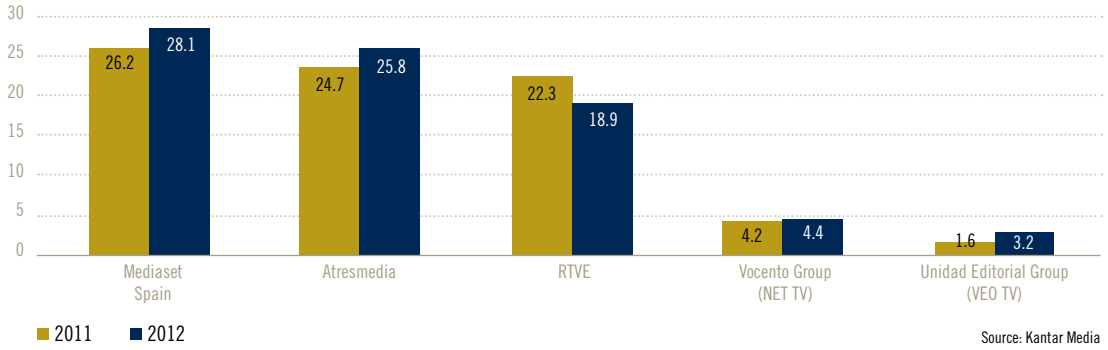
Audience by channel type[68] (%)



Source: Kantar Media

[68] The regional television audience is the sum of public (9.8%) and private (0.9%) regional television operators.

Audiences per operator[69] (%)



Source: Kantar Media

Audience per platform

In 2012, television consumption by transmission medium was very similar to the previous year. 81.3% of the time was for free-to-air DTTV services, with the remaining 18.7% for pay-TV services across the various platforms (satellite, cable and IPTV). The variation with respect to 2011 was a slight (1.7%) move from pay-TV platforms to free-to-air operators. This shift in audience share coincided with the loss of subscribers experienced by pay-TV platforms last year.

c) The pay-TV segment

In 2012, pay-TV services recorded a revenue of 1,746.8 million euros, an increase of 2.5% on 2011. However, this increase in revenue was not accompanied by a corresponding increase in subscribers, as in 2012 pay-TV services lost 351,635 subscribers overall.

Among the causes behind this loss it is worth stressing the fall in internal demand due to an overall downturn in domestic consumer spending, with such services deemed non-essential and the third-quarter increase in VAT due on pay-TV services[70].

According to the CMT-Red.es Domestic Panel, 24.2% of homes have a pay-TV service.

As far as the number of operators offering pay-TV services in 2012, it should be pointed out that by late 2012 Vodafone cancelled its mobile TV and IPTV services.

Revenue by technology type

The satellite pay-TV platform showed an increase in turnover. With an increase of 8.4%,this platform recorded a revenue of 1,066.9 million euros. In terms of subscribers and revenue, it was Spain's leading pay-TV platform.

[69] In order to make a fair comparison of Atresmedia audiences, for both periods the combined audiences of Antena 3 channels and La Sexta channels have been included.

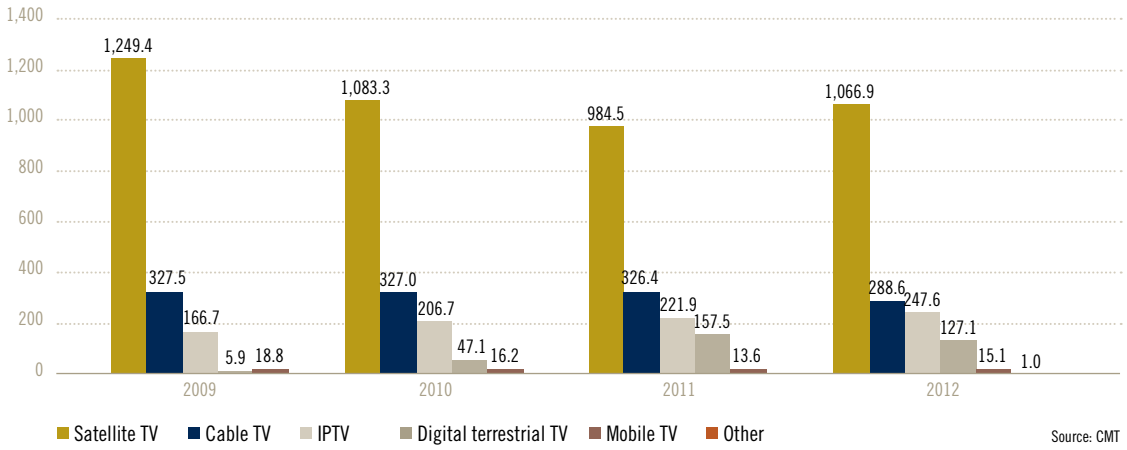
[70] With the new tax reforms, pay-TV services ceased to incur VAT at the reduced rate of 8% and began to be charged the normal 21% rate.

[71] In 2012, pay DTTV services were mainly based on the Premium sports channel Gol Televisión. In August, Gol reached an agreement with Canal+ regarding football rights. From September onward, the latter would be the only operator to exploit these rights.

Cable TV and pay-DTTV[71] saw their business shrink by 11.6% and 19.3% respectively compared to the previous year. The two platforms which registered the highest growth were mobile TV, which was 14.6% up and IPTV, which grew 11.6%, both in respect to 2011.

Advances in billing were not reflected in a greater subscriber base, as all platforms lost customers in 2012.

Pay-TV revenue per broadcast medium[72] (millions of euros)

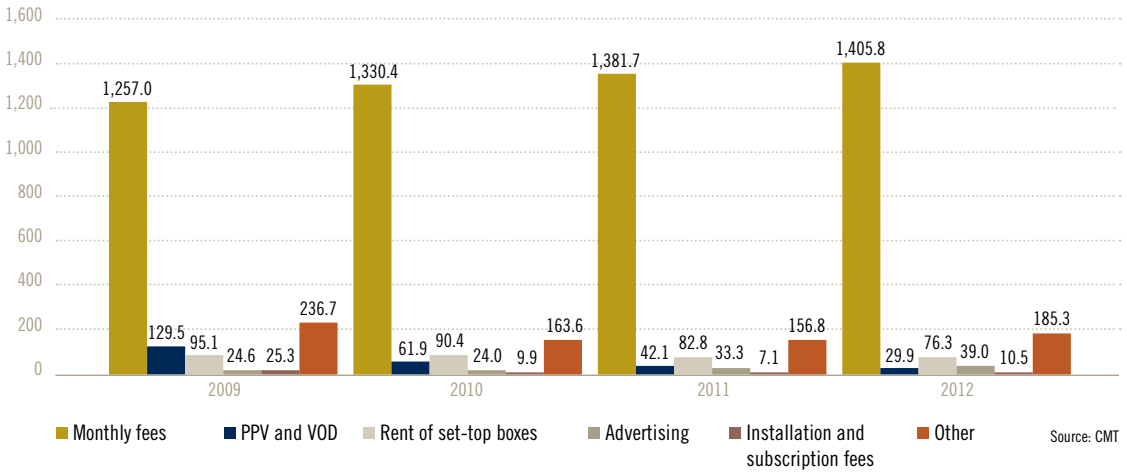


Source: CMT

Pay-TV revenue by item

By item, the revenue received by pay-TV operators in 2012 was mainly from the monthly subscription fees paid by customers. These fees, which in 2012 represented 80.5% of the total, rose to 1,405.8 million euros, a growth of 1.7% with respect to the previous year.

Pay-TV revenue by item (millions of euros)



Source: CMT

[72] The "Other" category includes revenue from online pay-TV services and from web-based TV offered by pay-TV operators.

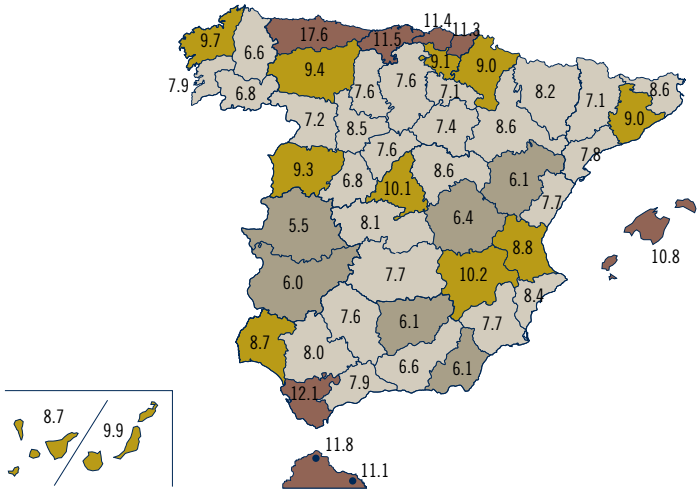
Advertising revenue from the pay-TV segment, which rose to 39 million euros, was minimal. In contrast to the situation with free-to-air television channels, this revenue represented just 2.2% of total income from subscriber television services. This is due to the fact that, unlike free-to-air television, operators in this segment base their business on programming of higher quality accompanied by little or no advertising.

Finally there is revenue from other areas. In 2012 this stood at 185.3 million euros, 10.6% of total pay-TV revenue. This area, which increased 18.2% compared to the previous year, includes revenue for various items such as the sale of the operator's own productions, the transmission of third-party channels and the sale of channels to other platforms.

Pay-TV subscribers and service penetration

Pay-TV penetration stood at 9 subscribers for every 100 inhabitants. In terms of the technology used, the greatest penetration came from satellite TV. By the end of the year, the service had an average of 3.7 subscribers per 100 inhabitants. Satellite television was followed by cable and IPTV, with 3 and 1.7 subscribers per 100 inhabitants respectively. In fourth place was pay-DTTV with a penetration of 0.6.

Pay-TV penetration per province[73] (subscribers/100 inhabitants)

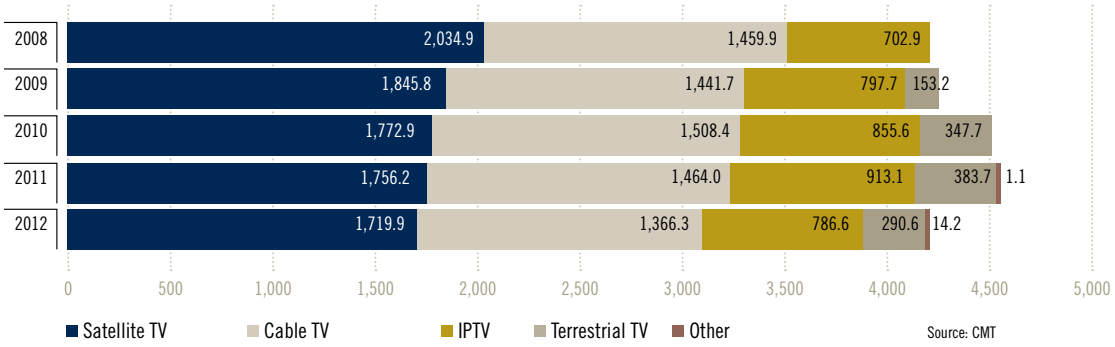


Source: CMT

[73] Does not include mobile television. The population figure is from official INE statistics taken from the latest census, from 2001. Total population in Spain as of 2012 rose to 46,116,777 inhabitants. Intervals were set based on average ± standard deviation. The lower and upper ends of the range were determined by the minimum and maximum values respectively.

Ceuta, Cádiz and Asturias - with a penetration superior to 11.7% - were the three regions with greatest pay-TV service penetration. At the other end of the scale were Cáceres and Badajoz, with a penetration of 5.5% and 6%, respectively. In general it could be seen that lower pay-TV penetration occurred in areas in which there were no cable operators or where their presence was very limited.

Evolution of the number of pay-TV subscribers by broadcast medium[74] (number of subscribers in thousands)



Number of subscribers by technology type

By late 2012, there were a total of 4,177,603 subscribers to pay-TV services in Spain, not including mobile television services. This figure represents a loss of 340,522 subscribers compared to 2011. Expressed as a percentage, this is a drop of 7.5%.

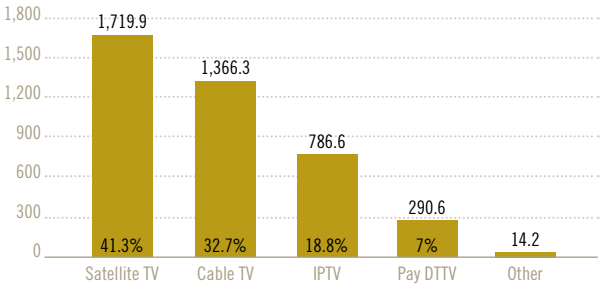
If we add mobile television subscribers (a service offered by mobile communications operators via their 3G networks) the figure rises to 4.367.403 subscribers. This figure represents a loss of 351,635 customers.

The drop in the number of subscribers was a common trend across all TV platforms. The services which lost most subscribers were IPTV (down 126,566 subscribers), cable television (down 97,665 subscribers) and pay DTTV (down 93,157 subscribers). These were followed by the satellite television platform, which lost over 36,000 subscribers. The mobile pay-TV platform also experienced a drop in its customer base. At the close of 2012, it had 189,800 subscribers, 11,113 less than in 2011.

Number of subscribers by operator

All operators lost customers, except R and Orange. The satellite operator Canal+[77], has the largest num-

Subscriber share between pay-TV services based on technology [75, 76] (thousands of subscribers)

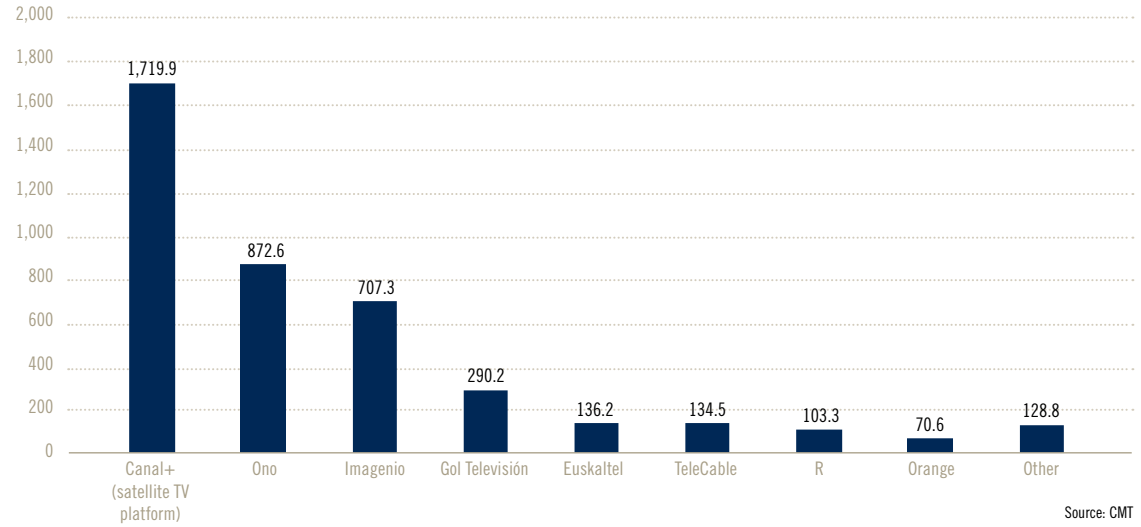


[74, 76] Does not include mobile television.

[75] The category "other" includes subscribers to online pay-TV services or Web TV.

ber of subscribers, although it also lost 36,266 customers. Ono was 58,895 subscribers down on 2011 while Telefónica lost 122,586. Gol Televisión, which began its activities in late 2009, lost 93,157 subscribers in 2012.

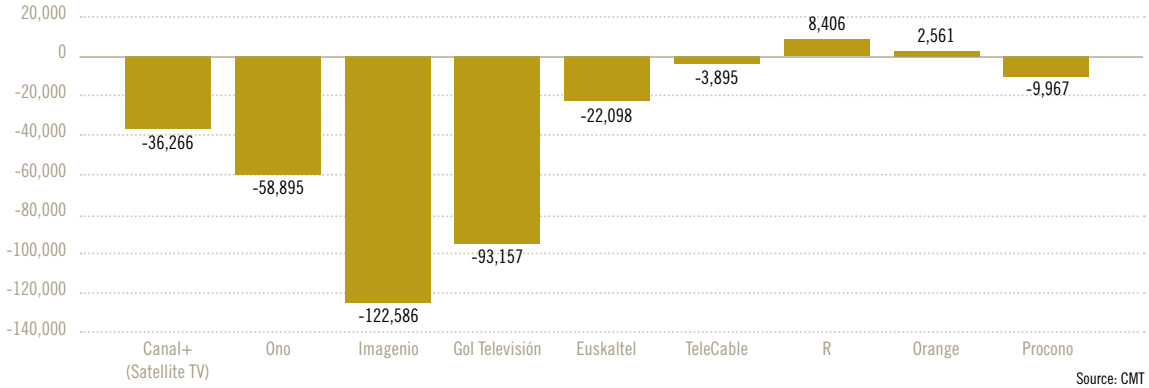
Number of subscribers for the main pay-TV operators[78] (thousands of subscribers)



Source: CMT

It is worth pointing out that the Galician cable operator R and Orange were the only two which increased their customer base, by 8,406 and 2,561 subscribers, respectively. These figures only cover pay-TV services through fixed networks. If we include mobile television services, Orange's subscriber gains would have been 18,653 (2,561 fixed network television customers and 16,092 mobile TV customers).

Net subscriber gain per operator[79] (thousands of subscribers)



Source: CMT

[77] The pay-TV platform Canal+ is owned by Prisa TV (with 56% of shares), Telefónica (with 22%) and Mediaset España (with the remaining 22%).

[78, 79] Does not include mobile television or Web TV subscribers.

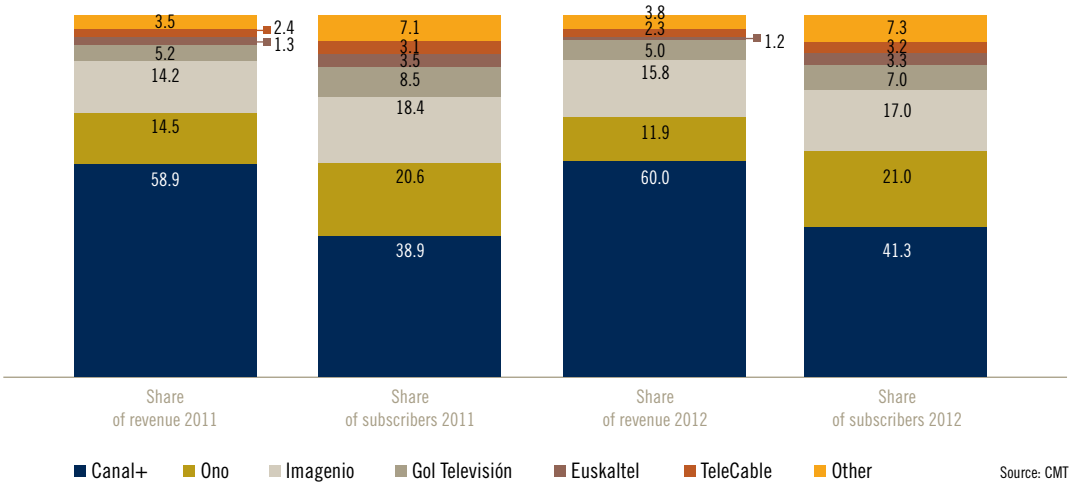
Pay-TV revenue and subscriber share

There is a high concentration of revenue and subscribers in the three main market operators: Canal+, Ono and Telefónica (through its Imagenio service). Together they account for 87.7% of revenue and 79.3% of subscribers, figures very similar to 2011 levels.

On an individual basis, the operator with the largest market share was Canal+ through its satellite TV platform. It accounts for 60% of pay-TV revenue and 41.3% of all subscribers.

Since 2010 it has been noted that the market's four most important operators use different technological platforms: Canal+ offers its services via satellite, Ono through cable networks Imagenio uses XDSL technology and Gol Televisión uses DTTV. This level of competition between platforms offers consumers alternative forms of access to pay-TV services. Nevertheless, the choice is sometimes dependent on the telecommunications services that are contracted in a bundle through multiple play offers.

Market share per operator based on revenue and subscribers[80] (%)



Source: CMT

Commercial offers

In the pay-TV market two types of operators coexist: those who are strictly pay-TV service operators, such as the satellite platform Canal+ and the pay-DTTV channel Gol Televisión, and other operators whose main business is not pay television (generally these are telecommunications companies) and who with time and as telecommunications networks have improved, have entered the pay-TV market.

In the case of telecommunications operators, pay-TV services are generally contracted in packages which combine voice, data and television services using fixed and mobile networks. The joint contracting of services is more economical than contracting services separately. The contracting of pay-TV services

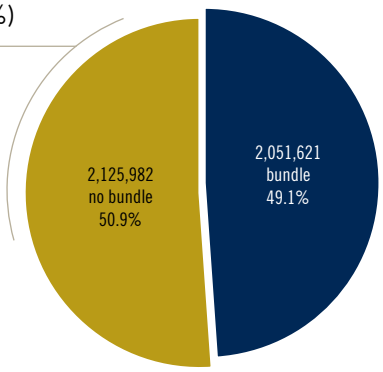
[80] Mobile and online or web television services are not taken into account when calculating subscribers or revenue. The data used to prepare this graph only considers subscriber revenue. The calculation of the market share does not include the effect of an operator's other activities, such as the marketing of wholesale channels or the sale of its own productions.

is therefore closely tied in to the contracting of combined offers in double and triple play bundles. More recently, quintuple play packages began to appear with the launch of Telefónica's Fusión offer. These bundles offer discounts in land-line voice, mobile voice, land-line broadband, mobile broadband and pay-TV if five services are contracted together.

As can be seen in the accompanying graph, of the 4,177,603 pay-TV subscribers (a figure that does not include mobile pay-TV subscribers) a little over half - 50.9% - contracted the pay-TV service individually.

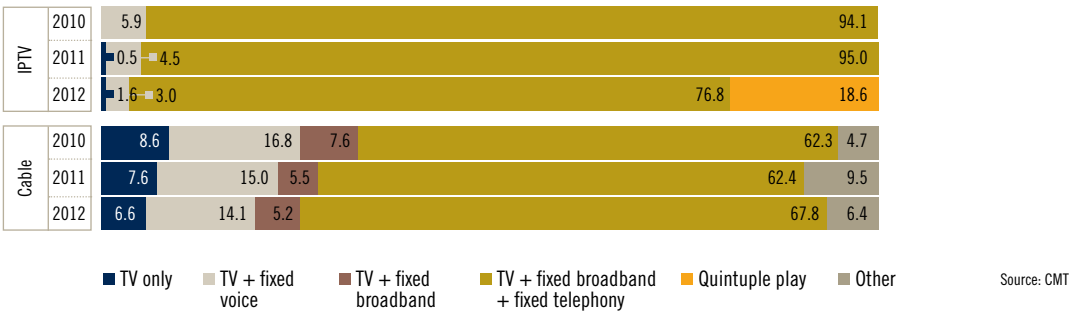
The remaining 49.1% contracted a package which included other telecommunications services.

Subscribers to pay-TV based on contract type
(subscribers and %)



Source: CMT

% of pay-TV subscribers based on bundle type and broadcast medium[81]



Source: CMT

The most common service combination in 2012 was the triple bundle, which includes pay-TV, fixed telephony and broadband services. In the case of IP operators, these offers represent 76.8% of television subscribers, and, in the case of cable operators, 67.8%. Nevertheless, in the case of IP pay-TV, it is worth mentioning the sizeable response to quintuple play offers. At the close of the year 18.6% of subscribers to IPTV had signed up to such a bundle.

As far as satellite and DTTV pay-TV are concerned, not being able to offer combined television, telephone and internet services may represent a disadvantage. However, since 2010, Canal+ has a combined offer with the telecommunications operator Jazztel, whereby both offer discounts if customers sign up to the former's television services and the latter's telecommunications services, although each operator invoices separately for their service.

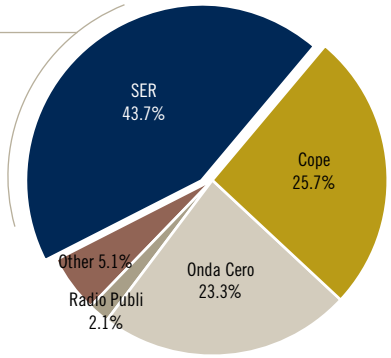
Similarly, in 2011 both Canal+ and Gol Televisión began to market their Premium channels to other pay-TV platforms in exchange for part of the business that these channels generate.

[81] "Other combinations" includes bundles of retail services: "TV + fixed voice + mobile voice"; "TV + fixed broadband + fixed voice + mobile voice"; "TV + mobile voice" and "TV + fixed broadband + mobile voice".

d) The radio segment

In 2012, the market for radio services had a commercial turnover (excluding subsidies) of 348.9 million euros, down 10.9% on 2011. This shrinkage was mainly due to a reduction in advertising revenue over the year. If we add the government subsidies received by radio operators to this sum - 114.6 million euros - total revenue for the sector was down 11.8%, standing at 463.5 million euros.

Revenue for main radio groups (%)



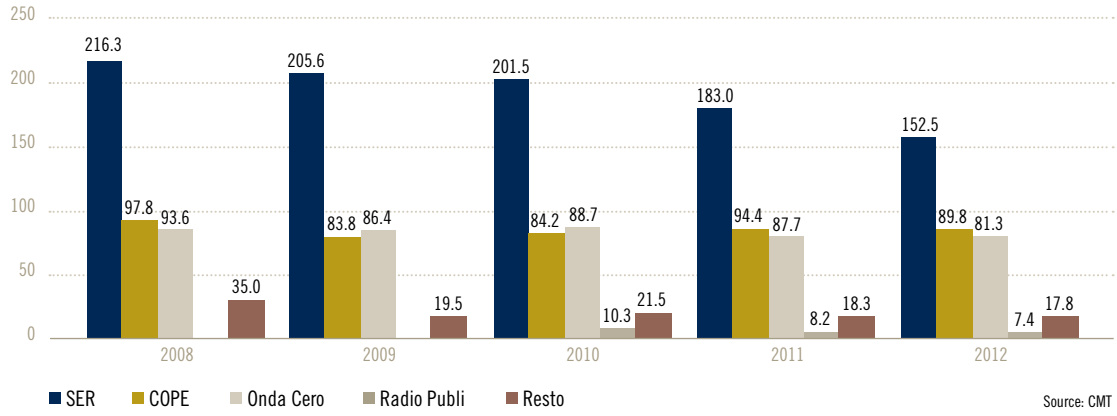
Source: CMT

Concentration in the radio market

Advertising revenue was markedly concentrated in the three largest private operators broadcasting nationally: Sociedad Española de Radiodifusión (SER) belonging to the Prisa Group, Onda Cero, belonging to the Uniprex Group and COPE[82], belonging to Radio Popular. Together they represent 92.8% of all commercial turnover, with the three operators accounting for a business volume of 323.7 million euros.

Some way behind is the fourth placed operator, Radio Publi (Punto Radio), with a revenue of 7.4 million euros (down 9.8% on 2011). The other operators, with a market share of 5.1%, recorded a turnover of 17.8 million euros, 2.3% less than in 2011.

Revenue for main radio groups (millions of euros)



Source: CMT

[82] Cadena COPE and Punto Radio reached an agreement in late December whereby Punto Radio (part of the Vocento Group) would broadcast programming and advertising managed by COPE. In early 2013, the CNC authorised the first phase of a merger of the two broadcasters.

Radio revenue by operator

In terms of revenue, the Cadena SER group still leads the sector with 43.7% and a commercial turnover of 152.5 million euros. This is a fall of 16.6% with respect to the previous year, in other words, 30.4 million euros less.

The second largest revenue-wise was Radio Popular's COPE. Their turnover stood at 89.8 million euros, 4.8% down on 2011. This figure represents a 25.7% revenue share for the sector. COPE is followed by Onda Cero, part of the Uniprex Group with a market share of 23.3% and revenue of 81.3 million euros (7.3% less than in 2011).

2.5.2 Transport and transmission of the audiovisual signal services

Transport and the transmission of the audiovisual signal are electronic communications wholesale services that radio stations contract from network operators in order to broadcast content and ensure it reaches their audiences. In its latest market analysis[83], the CMT defined television transmission services as those which include all the technical activities that an operator offers to third parties in order that they may best shape their offer to television companies. These activities consist of making audiovisual content produced by the various broadcasters available to the public through telecommunications services such as distribution channels.

Audiovisual signal transmission services are divided up into signal transport services - ensuring the signal reaches broadcasting centres - and broadcast services, which send the signal to repeater centres and on to the viewers' homes.

The main difference between these two services from a market competition point of view is that signal transport can be effected through various channels such as cable, radio-link and satellite. Any operator who has suitable networks that meet the transmitters requirements may potentially offer transport services. Consequently transport services can be offered in competitive conditions, as there are numerous telecommunications companies that can provide the service via national infrastructures (cable, radio-link and satellite).

In contrast, the broadcast service - which in the case of DTTV is tied in with the use of the radio spectrum - can only be provided by operators with terrestrial networks that feature installations and infrastructures suitable for transmission, requiring substantial investment. This explains the existence of a reduced number of agents who specialise in offering these services.

The audiovisual signal transport business is a wholesale market and therefore its economic evolution is tied in with what happens elsewhere in the market. Therefore, in times in which radio broadcaster activity is expanding there is increased revenue from these services while, when this activity shrinks there is a stagnation and even a drop in audiovisual signal business activities.

Signal transport and transmission revenue

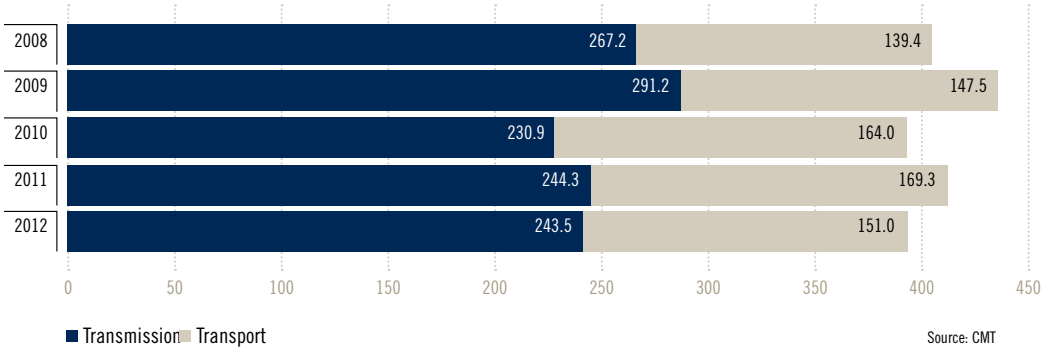
As far as revenue is concerned, audiovisual signal transport and transmission were not immune to the recession. Revenue from this market, which in 2012 stood at 394.5 million euros, fell 4.6% with respect to the previous year.

Of the two main activities undertaken by signal carriers, the greatest drop was experienced by revenue from signal transport. Down 10.8% on 2011, this seg-

[83] "Ruling passing the definition and analysis of the wholesale signal carrier market, the designation of the operator with significant power in the market and the imposition of specific obligations, with reference to the European Commission and the Body of Europeans Regulators for Electronic Communications (BEREC)" (MTZ 2012/1442).

ment had a turnover of 151 million euros. This figure represents 38.3% of the total income from wholesale services generated by the transmission of audiovisual signals. Transmission services, which accounted for the remaining 61.7% of overall, had levels of revenue which were very similar to those of the previous year. Commercial turnover stood a 243.5 million euros, just 0.3% down on business volume for 2011.

Revenue from the transport and transmission of the audiovisual signal services (millions of euros)



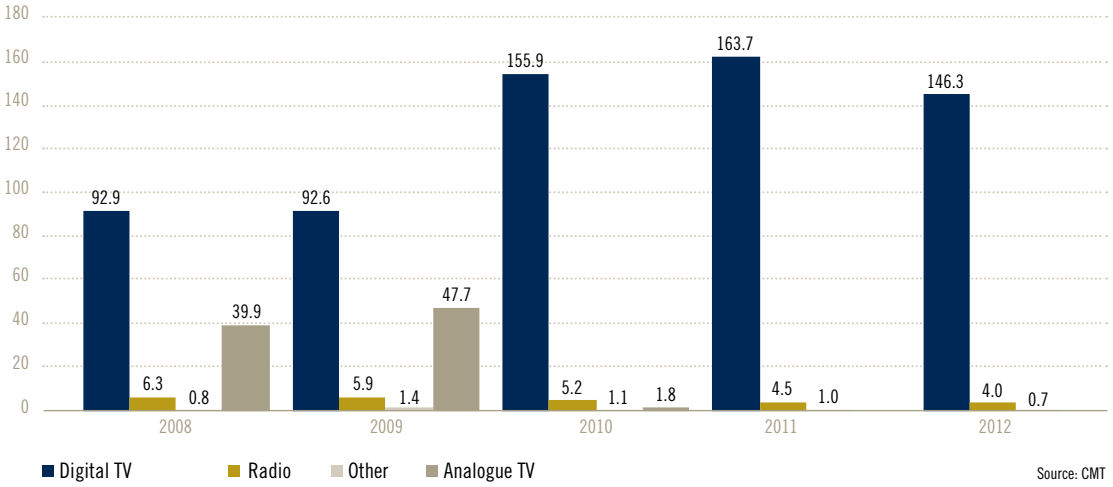
a) Audiovisual signal transport services

Audiovisual signal transport services cover the activities undertaken by telecommunications operators in order that third part signals are transmitted by their backbone networks from the production centre to the broadcast and repeater centres. In 2012, these activities represented a business volume of 151 million euros.

Signal transport revenue by technology type

If we analyse the sector based on the audiovisual service type they are supporting, in the case of signal transport, the greatest revenue came from digital television. Revenue stood at 146.3 million euros, representing 96.9% of total income from audiovisual signal transport. Radio signal transport fell compared to the previous year. This is in line with the decrease in demand for digital radio signals after the amendment to the National Technical Plan for Terrestrial Sound Broadcasting.

Revenue from audiovisual signal transport, based on technology (millions of euros)

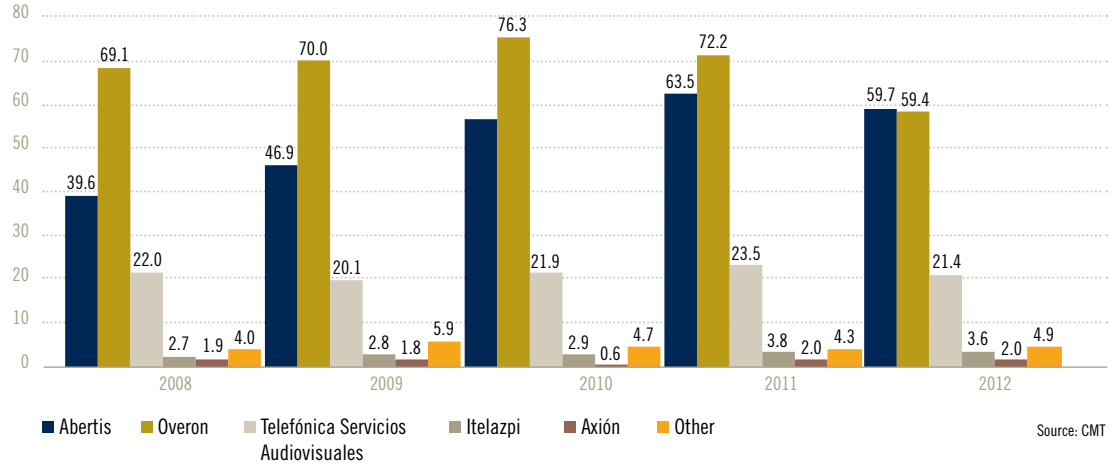


Source: CMT

Revenue per operator and market share for the transport of audiovisual signals

Abertis and Axión are the two largest operators, both in terms of revenue and size of client base. Both companies had very similar revenue figures: 59.7 million euros for the former and 59.4 for the latter. In terms of the total turnover for signal transport, these sums represented 39.5% and 39.3% of the market, respectively. The third largest operator nationally was Telefónica Servicios Audiovisuales, with a turnover of 21.4 million euros, 14.2% of the total. Next come the other regional operators, who account for the remaining 5% of overall revenue, in other words, 10.5 million euros.

Revenue from audiovisual signal transport, by operator[84] (millions of euros)



Source: CMT

[84] Overon is owned by Mediapro and the Abertis Group.

b) Audiovisual signal transmission services

Wholesale audiovisual signal transmission services are those offered by signal carriers who ensure that radio broadcasting reaches our homes. The service consists of point-to-multipoint communication systems, from broadcast and repeater centres to the listeners' radios.

In the most recent analysis of the audiovisual signal transmission service wholesale market[85], the CMT defined a digital terrestrial television broadcasting carrier service as one that includes technical activities consisting in making telecommunications services (such as the distribution of audiovisual content produced by broadcasters) publicly available via terrestrial waves.

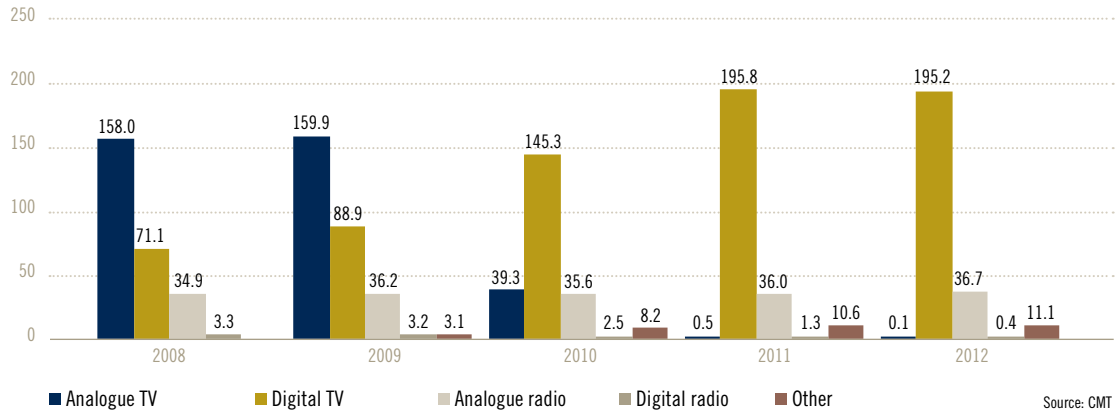
In 2012, revenue from the transmission of audiovisual signals via terrestrial waves stood at 243.5 million euros, a figure that is very similar to turnover in 2011, a fall of merely 0.3%.

Transmission revenue by technology type

The largest portion of the revenue corresponded to digital television services, which accounted for 195.2 million euros. Revenue from these services fell 0.3% compared to the previous year, representing 80.2% of the total for the transmission of audiovisual signals.

Next comes the transmission of radio signals, at 37.1 million euros. This can be divided into 36.7 million euros for analogue radio services and 0.4 for digital radio services. These services, as is the case with television signals, were very stable compared to the previous year, only slightly down by 0.7%. Together, radio services represented 15.2% of transmission revenue.

Revenue from audiovisual signal transmission services, by technology type (millions of euros)



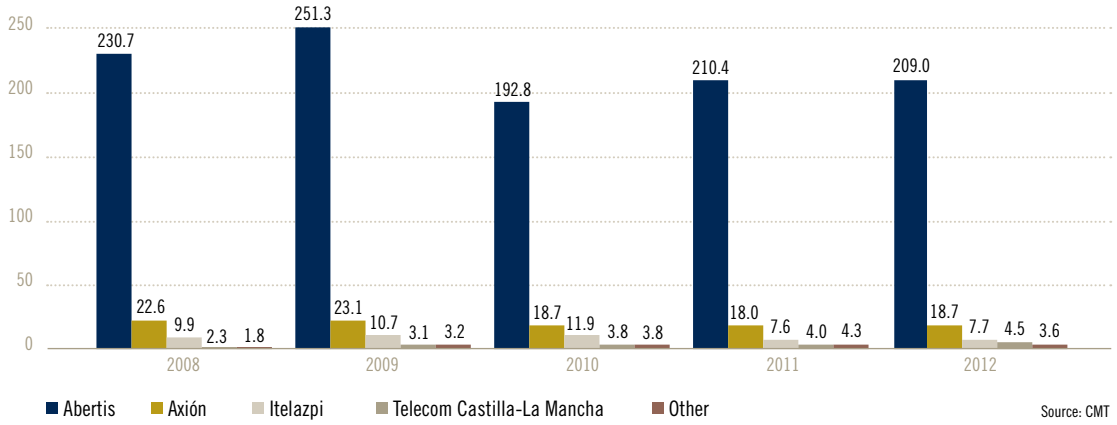
Source: CMT

[85] Ruling of the CMT Council, MTZ 2012/1442, 30 April 2013.

Revenue by operator and market share for the transmission of audiovisual signals

The Abertis Group[86] - the largest in the market and the only company to operate on a national level - registered a turnover of 209 million euros, 0.7% down on 2011. Nevertheless, the Group maintained its revenue share of 85.8%. Next on the list, we have the other operators which operate on a regional basis. Worthy of mention here are Axión, from Andalusia, with a turnover of 18.87 million euros (3.8% more than in 2011) and the Basque operator Itelazpi, whose revenue stood at 7.7 million euros.

Revenue from audiovisual signal transmission services by operator (millions of euros)

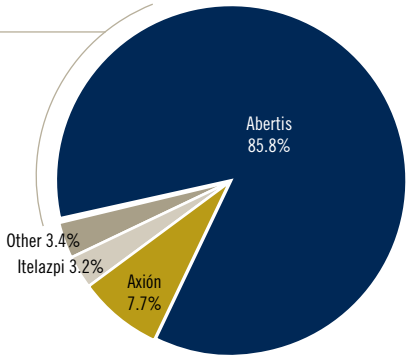


Source: CMT

Competition in the market place for audiovisual signal services

The market for audiovisual signal services is one which is highly concentrated. There is one operator, Abertis Telecom, which operates on a national level and represents 85.8% of overall revenue. The other operators operate on a regional level and together account for the remaining 14.2% of total revenue.

Audiovisual signal transmission market share based on revenue (%)



Source: CMT

[86] Grupo Abertis revenue includes income for its subsidiaries Retevisión I, S.A.U. and Tradia Telecom, S.A.

On a national scale, Abertis offers its services to five national operators, namely RTVE and four private operators: Mediaset, Atresmedia (which since the October merger includes both Antena 3 and La Sexta), the Vocento Group (Net TV) and the Unidad Editorial Group (Veo Televisión). In 2012, 7 of the 13 regional public radio broadcasters belonging to regional television operators had contracted Abertis' services and six had contracted these services through regional operators[87].

Regulation of the television signal transmission wholesale market

In April 2013, the CMT concluded the third round[88] of analysis of the television signal transmission wholesale market. It concluded that Abertis continued to have a significant power in the national transmission market, where it has a market share of 100%. The ruling establishes a series of operator obligations, including:

- The obligation to lease spaces in their broadcast centres (co-location) which offer 93% national coverage.
- The obligation to offer interconnection to other sites on their network.
- The obligation to publish a reference offer (ORAC).

The regulation imposed by the CMT will only affect the market which covers DTTV signal transmission to domestic homes. Signal transport is therefore excluded, as is other types of television signal transmission.

[87] It is worth highlighting the existence of operators, generally publicly funded, who offer their services to regional television channels. This circumstance has meant that those granted television licences in each region contract the operator providing services in the region in question. To this end, these operators have a business strategy with a clear focus on the territory covered by that region.

[88] The first two reviews were passed by the CMT in their rulings of 2 February 2006 and 21 March 2007, respectively.

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