The Networked Society in Spain

Annual Report 2007

GOBIERNO DE ESPAÑA
MINISTERIO DE INDUSTRIA, TURISMO Y COMERCIO
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The Networked Society in Spain

Annual report 2007

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THE INFORMATION SOCIETY IN THE WORLD

The value of the global Information and Communication Technologies (ICT) market, according to estimates from IDATE, could be more than 2.7 trillion euro in 2007, an increase of 5.4% compared to 2006, slightly below the 5.8 percent growth of the previous year. Although the majority of the market in absolute terms is in North America, with 882 billion euro, the fastest growth is in Latin America, Africa and the Middle East (9.5%). The next highest percentage is in the Asia-Pacific region (7%).

The Telecommunication Services sector, worth 1.02 trillion euro, was the sector with the most business in 2007 within the ICT hypersector, a figure that represents more that 37% of the total market. This

World ICT market

(billion €)	2003	2004	2005	2006e	2007e	Increase 2004-2005	Increase 2005-2006e	Increase 2006e-2007e
Europe	660	699	736	773	799	5.3%	5.0%	3.4%
North America	732	768	810	844	882	5.5%	4.2%	4.5%
Asia Pacific	600	649	693	739	791	6.8%	6.6%	7.0%
Rest of the world[1]	186	189	217	243	266	14.8%	12.0%	9.5%
Total	2,178	2,305	2,457	2,598	2,739	6.6%	5.8%	5.4%

Source: IDATE. DigiWorld 2007

[1] The "rest of the world" includes Latin America, Africa and the Middle East

The ICT Hypersector in Figures

(billion €)	2003	2004	2005	2006e	2007e	Increase 2004-2005	Increase 2005-2006e	Increase 2006e-2007e
Telecommunication services	819	874	924	971	1,020	5.7%	5.1%	5.0%
Telecommunication equipment	166	189	204	216	223	7.9%	5.9%	3.2%
Software and computer services	546	550	582	614	652	5.8%	5.5%	6.2%
Computer hardware	258	262	275	288	302	5.0%	4.7%	4.9%
Audio-visual services	207	223	236	250	263	5.8%	5.9%	5.2%
Consumer electronics	184	206	235	259	279	14.1%	10.2%	7.7%
Total	2,179	2,304	2,457	2,598	2,739	6.6%	5.8%	5.4%

Source: IDATE. DigiWorld 2007

is followed by the Software and Computer Services sector, a market worth 0.65 trillion euro, representing almost 24% of the total hypersector. Analysing the trends, the fastest growth has been in the Consumer Electronics sector (7.7%), followed by 6.2% growth in the Software and Computer Services sector. Telecommunication Equipment accounts for the smallest share of the market, both in absolute terms (0.22 trillion euro) and in percentage growth rate (3.2%).

In 2007, the number of Internet users in the world was over 1.4 billion, according to the ITU, which represents a penetration rate of 22% of the population. The 257 million new users means an increase of 21.2% compared to 2006.

The highest growth rates are found in developing countries, which, thanks to the introduction of new technologies, are helping to provide access to a higher percentage of inhabitants, although they are still far from the penetration levels in more developed countries. For this reason, in Europe and

Internet users in the world

	Internet users 2006		Internet users 2007		2006-2007
	Millions	%Population	Millions	%Population	Variation in %
Africa	42.3	4.59	52.0	5.4	22.7
America	341.1	37.85	375.1	41.2	10.0
Asia	503.2	13.0	690.8	17.5	37.3
Europe	310.1	38.59	334.2	41.5	7.8
Oceania	13.2	39.93	15.0	44.8	14.3
WORLD	1,209.9	18.53	1,467.0	22.0	21.2

Source: ITU

Oceania, which have the highest internaut population percentages, growth is less marked, with Europe being the only region with single figure rates.

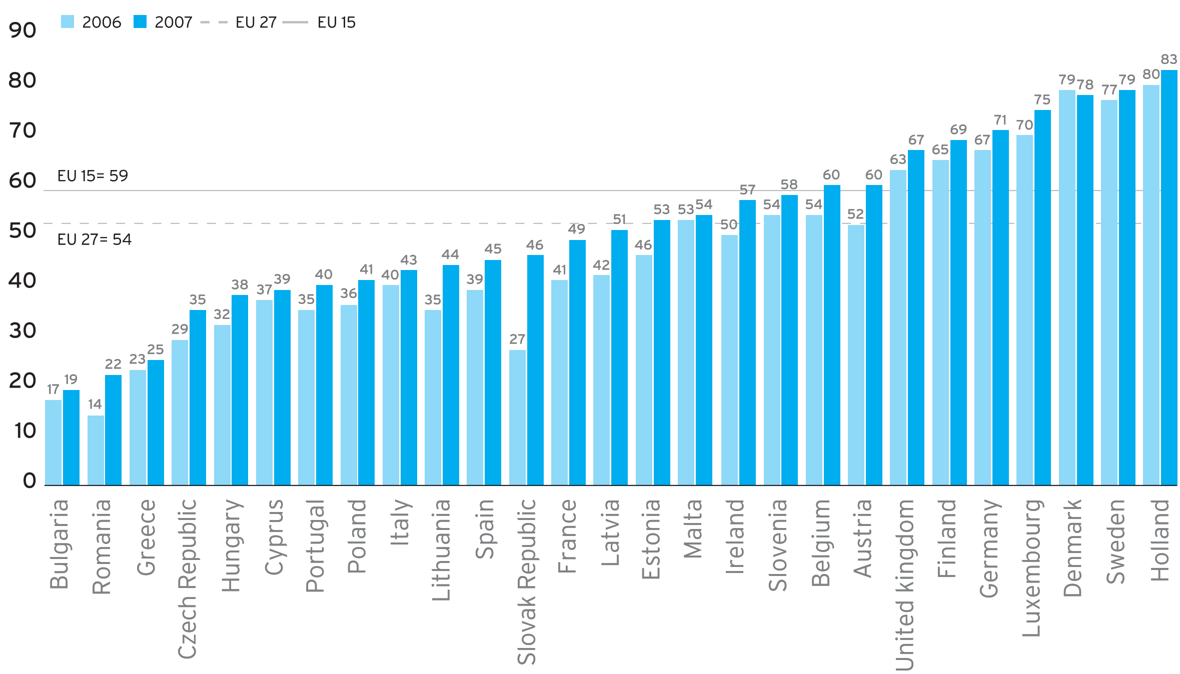
The disparities with regard to Internet penetration among the population range from 5.4% on the African continent to 44.8% in Oceania. Asia finds itself alongside Africa at the bottom of the league, with 17.5% of the population now Internet users, although in absolute terms it is the continent with the highest number of users (around 691 million Internet users).

The largest annual increase in absolute terms is in Asia, where there are around 188 million new users, of which 80 million are from India and 73 million from China. This continent, with close its 4 billion inhabitants and its still relatively low Internet penetration rate (17.5%), is an area with enormous possibilities and one of the main markets.

THE INFORMATION SOCIETY IN EUROPE

The introduction of Information and Communication Technologies (ICT) into European households is a reality that is backed up by most of the indicators referring to both infrastructures and uses. The number of home Internet users is

Households connected to the Internet in the European Union (%)



EU27 and EU15 data for 2007

Base: Total households

Source: Eurostat

Latest figure for Spain: 49,6% (estimate SETSI - Dec 2007) growing, the number of broadband lines is increasing and the Internet is increasingly being used for activities with the Administration. These are some of the main conclusions that can be drawn from the data published by the European office of statistics, Eurostat.

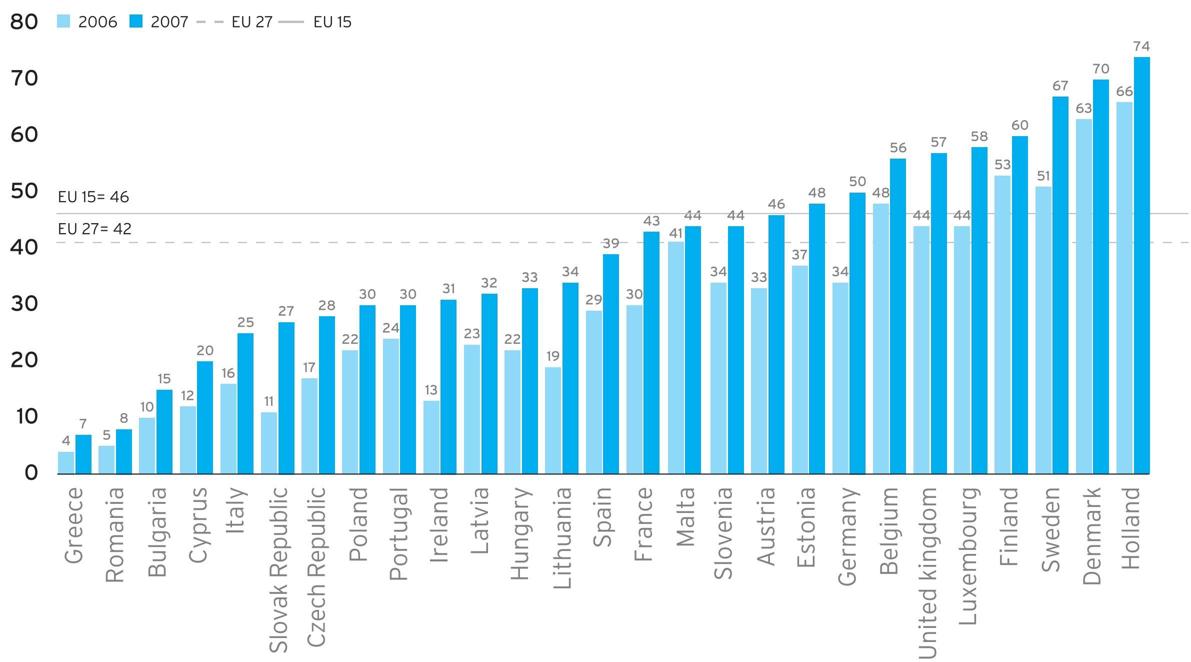
To a greater or lesser extent, the presence of the Internet in homes has experienced an upward trend in the countries of the European Union over the last few years.

Among the EU15[2] the percentage of homes with Internet access was around 59% over 2007, meaning an increase of 5% compared to the previous year. For the EU27[3] the figure is 54% for 2007 compared to 49% in 2006. This last percentage shows that the growth trend is similar in both cases, with an increase of 5 percentage points.

The European ranking is headed by the countries from central and northern Europe. Holland holds the lead position, with 83% of households connected to the Internet, followed by Sweden and Denmark, with 79% and 78% respectively.

In the domestic sphere and in the context of access

Households with broadband Internet access (%)



EU27 and EU15 data for 2007

Base: Total households

Source: Eurostat

Latest figure for Spain: 41,5% (estimate SETSI - Dec 2007)

2 EU15: Germany, Austria, Belgium, Denmark, Spain, Finland, France, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, United Kingdom and Sweden.

3 EU27: Germany, Austria, Belgium, Bulgaria, Cyprus, Denmark, Slovenia, Spain, Estonia, Finland, France, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, United Kingdom, Czech Republic, Slovak Republic, Romania, and Sweden.

infrastructures, another of the best indicators of the degree of ICT adoption is the percentage of households that have a broadband Internet connection (mainly ADSL and cable).

For the 27 countries of the European Union the average percentage of homes with broadband Internet is around 42% compared to 46% for the EU15. In both cases we can see the general upward trend experienced in all the countries analysed, with growth reaching 12 percentage points.

THE ICT SECTOR IN SPAIN

The figures for the ICT hypersector in Spain show that it experienced an upward trend in 2007. With a value that, for the first time, is in excess of 100 billion euro (101.35 billion), it has achieved growth of 6% in relation to 2006. According to the hypersector distribution percentages, 44% corresponds to Telecommunication Services, 17% to IT, 6% to Telecommunication Industries, 5% to Consumer Electronics, 3% to Electrical Components and 23% to others.

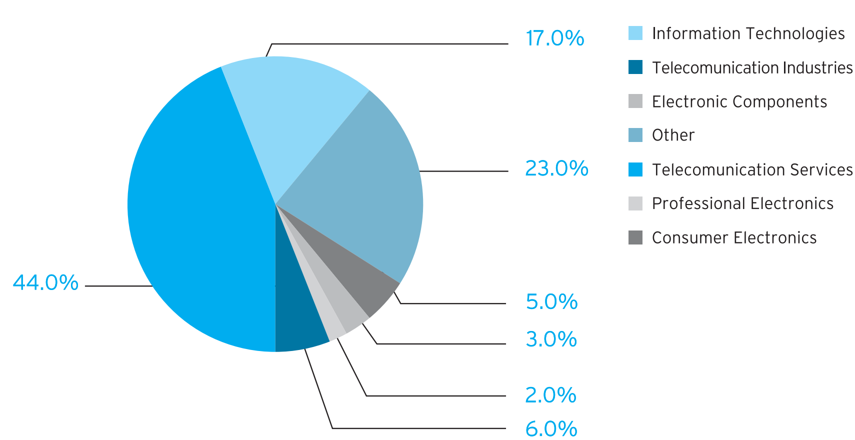
The value of the ICT market in Spain rose to 77.98 billion euro in 2007, achieving an annual growth of 5.4%, proof of the large-scale development the sector is undergoing in Spain.

The growth rate of the ICT market in Spain is in line with the European average (5% for the same period) and the global average (5.4%), although it has slowed down compared to the growth rate for 2006 (9.1%).

Practically all the activity sub-sectors that make up the Spanish ICT sector have experienced market volume growth in 2007. From an 11% increase in Consumer Electronics to 4% in Telecommunication Services. The Telecommunication Industry and Professional Electronics Industry sub-sectors both grew by 6% and IT grew by 9%. Only Electronic Components experienced a slight decrease of 2%.

With regard to sector production, in 2007 this exceeded 63 billion euro. The sub-sectors making the biggest contributions were the Telecommunication Services, with a value of 44.24 billion euro and IT, which, thanks to a 12% growth, reached 11.91 billion euro.

ICT hyspersector distribution in Spain in 2007

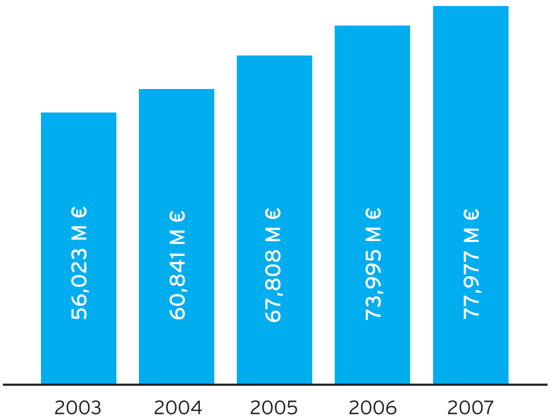


ICT hyspersector: €101.35 billion

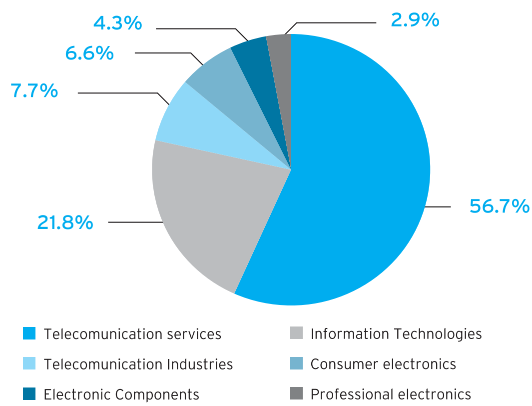
Source: AETIC

Electronics, IT and Telecommunications Market in 2007

Spanish ICT market evolution



ICT Market by area of activity



Source: AETIC

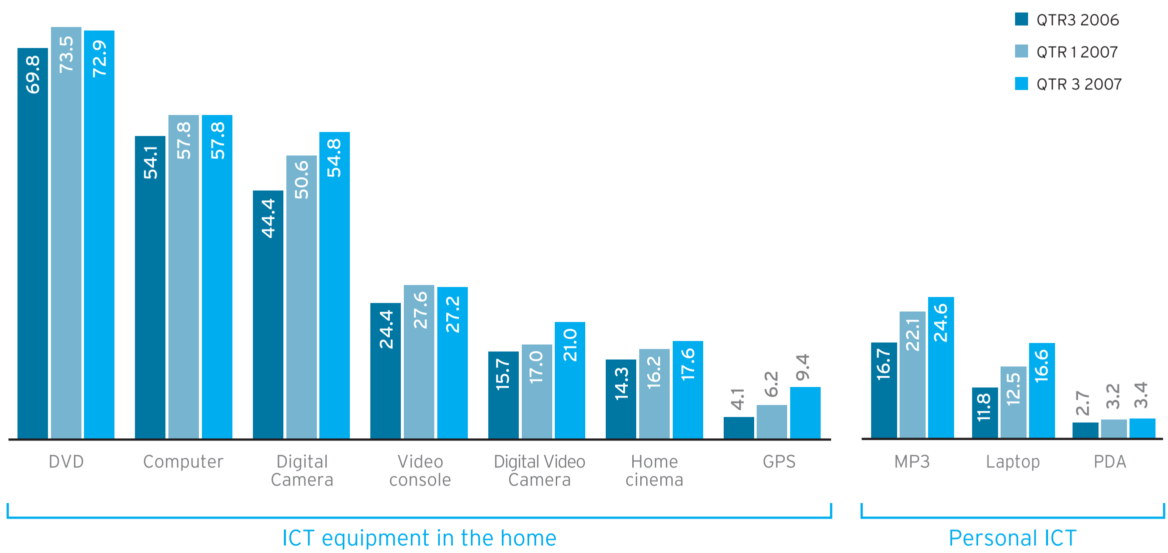
ICTs IN SPANISH HOMES

In the last year, the development of the Information Society in Spain has experienced a significant boost in access to and use of Information and Communication Technologies (ICT) in homes and by citizens. These achievements are important for the effect they have on the quality of life of citizens and on productivity and improvements in the economy. Technological equipment is increasingly widespread, with digital leisure standing out, with devices such as DVDs (72.9% of homes) or digital cameras (54.8%), which together with computers (60.4% according to the latest estimates from the INE for the first half of 2007), are the most common pieces of equipment in the residential sector. The largest increase in the last year was for digital cameras. With regard to laptop computers, these are now found in 23.5% of homes and among 16.6% of individuals. The videogames console, found in 27.7% of homes in 2007, is beginning to recover vitality after two years with a stable penetration rate.

With regard to services (landline telephony, mobile telephony, Internet and pay TV), the progressive increase in equipment can be seen in the percentage of homes with three ICT services, which, for the first time in 2007, was greater than the percentage of homes with two services (32.1% vs. 31.1%). Also, the more equipped homes, those with three or four services, made up 44.6% of the total number of homes and were responsible for 62% of expenditure on ICT services.

In 2007, for the first time, the total expenditure on end services was over 3 billion euro per quarter, with a year on year rise of 9.1% in the last quarter of the year.

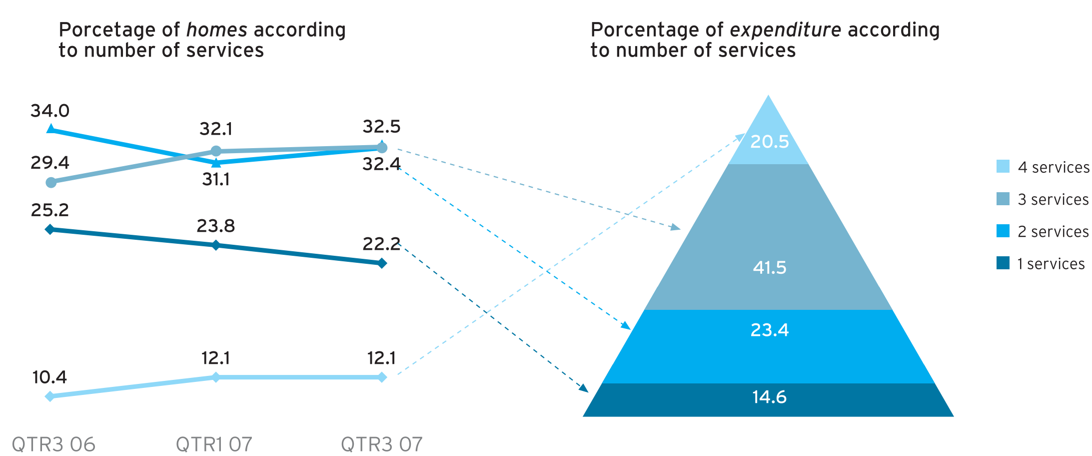
ICT equipment penetration in the home (%)



Source: ONTSI

*Latest figure computer estimate I SEM 2007 INE

ICT service expenditure distribution according to number of services signed up to (%)



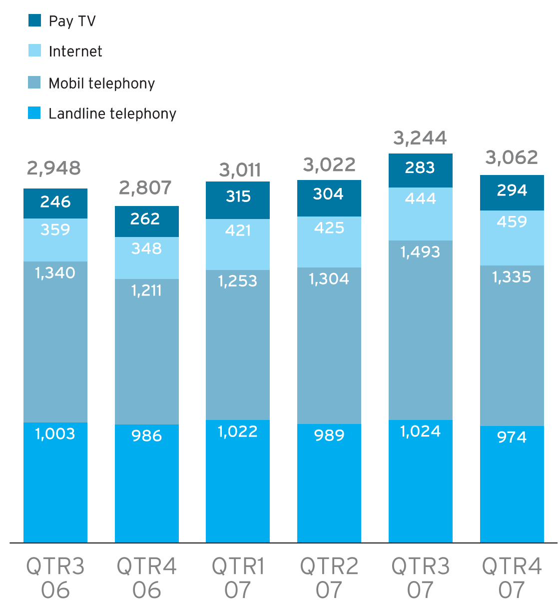
Source: ONTSI

The majority of the total expenditure, 43.6%, was on mobile telephony, with an increase of 10.2% in the last year; Internet represented 15% of the total expenditure on services and experienced the greatest year on year rise, at 31.9%; pay television consumption rose slightly accounting for around 10% of total expenditure, whilst landline telephony expenditure fell slightly compared to the same quarter for the previous year and accounted for 31.8% of the residential market for ICT services.

In fact, the downward trend that landline telephony has experienced in the residential market over the last few years seems to have slowed down and has stabilised with regard to penetration, which stands at 82.7% of homes. On the other hand, there has been a sharp fall in the number of homes with indirect access to landline telephony between 2006 and 2007, although in the last year this downward trend has slowed down to around 11.3% penetration, approximately 1.5 million homes.

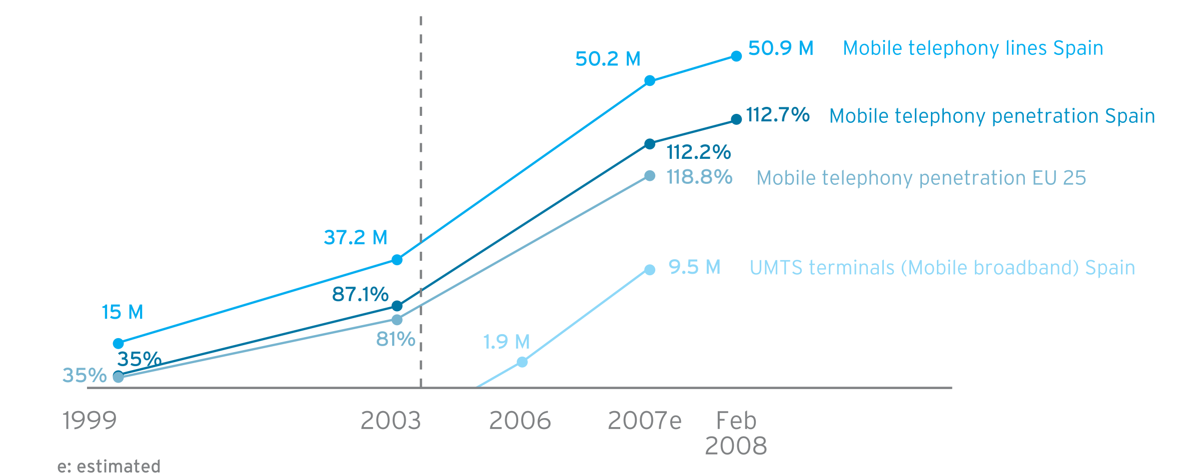
The number of mobile telephony lines reached 50.9 million in February 2008. It is also expected that the number of UMTS terminals (third generation)

Total ICT expenditure on end services (million €)



Source: ONTSI

Number of mobile telephony customers and penetration rate (million and %)



Source: Report on the development of the Information Society in Spain. SETSI will have increased fivefold in a year, going from 1.9 million in 2006 to 9.5 million in 2007. Contract mobile telephony continues to gain ground over prepay services. And with regard to use, there is still a steady rise in the daily use of mobile phones for voice calls and SMSs.

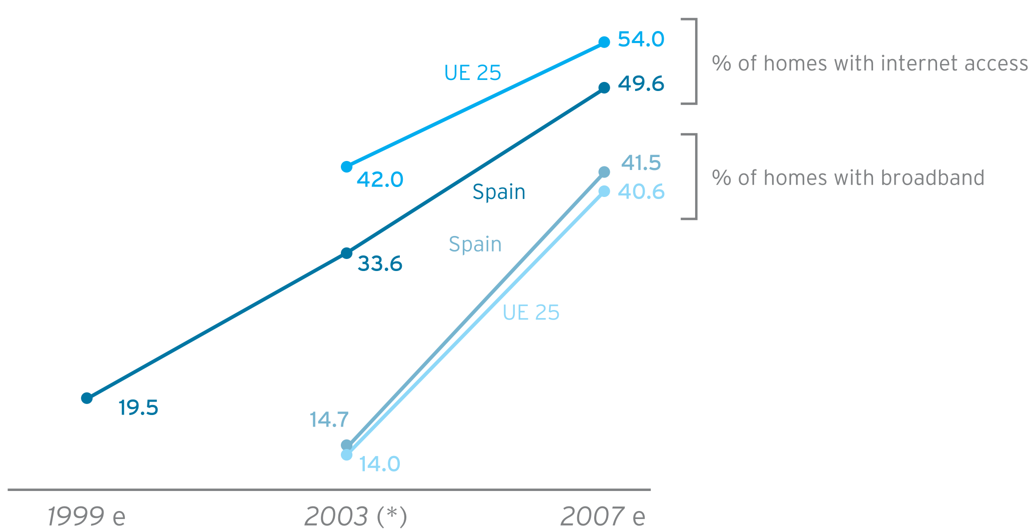
Among the mobile phone services with the highest added value is the camera phone, which is one of the most common and one of the most widely used and sought after for future handsets. Multimedia messages (MMS) and bluetooth are also among the services with the greatest mobilisation capacity among mobile users. The latter of these is one of the three most widely used services on current handsets.

It is estimated that at the end of 2007 half of all Spanish homes will be connected to the Internet. Broadband connections will reach 41.5%, which is above the European Union average (40.6%) and is a threefold increase on 2003 figures.

Consequently, the upward trend in Internet expenditure continues, reaching over 400 million euro in 2007, 459 million euro in the fourth quarter of the year. Average household expenditure was around 26 euro in the fourth quarter of 2007, in a context in which the ADSL market is growing and now accounts for three quarters of total Internet expenditure.

Taking into consideration the population aged 10 years and above, in 2007 the figure for the number of people who have used the Internet reached 22 million. Taking into consideration the population aged 15 years and above, this figure is almost 20 million people, which represents 54.3% of said population.

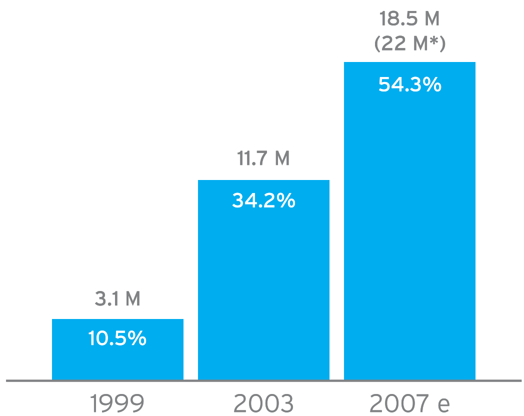
Porcentage of homes with Internet access and broadband (%)



* measured to January of the following year
e: estimated

Source: Report on the development of the Information Society in Spain. SETSI

Porcentage and number of Internet users (millions and %)



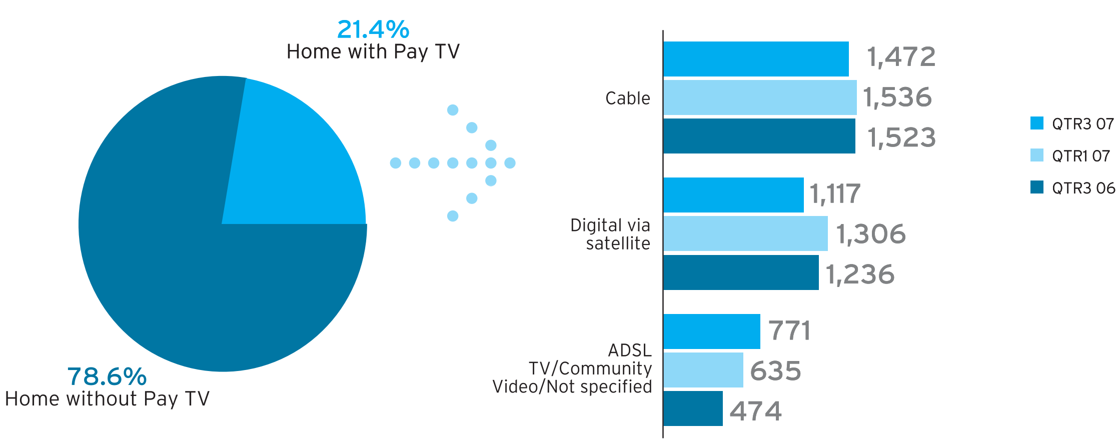
* including young people aged 10 to 15 years

Source: Report on the development of the Information Society in Spain. SETSI

The constant evolution and high potential of the residential Internet market can also be observed if we look at the use indicators. In the last year, not only did the number of Internet users rise, but also the amount of time dedicated to the Internet; more sporadic access spaces such as pay hotspots lost ground in favour of more permanent access spaces (home or work); the incidence of computer viruses fell and unwanted mail viruses fell even more sharply, while the level of security precautions taken by users increased slightly or remained about the same; the availability of e-mail also rose along with almost all the specific uses or activities performed on the Internet.

With regard to the last of the four services analysed, the pay TV market is currently in expansion, though at a slower rate than the Internet, with the emergence of pay TV via ADSL and penetration rates for satellite cable and digital technologies somewhat stable. Around 3.5 million homes have this service, a figure representing 21.4% of all homes. In the last year, pay TV received via ADSL has undergone rapid growth, with the number of homes that have this service increasing by almost 300,000 between the third quarters of 2006 and 2007.

Homes with Pay TV and distribution by type of technology (% and thousands)



Source: ONTSI

Pay TV expenditure mostly corresponds to the monthly fee and only around 4% is due to the purchase of pay per view (PPV) events and products. The impact on total expenditure of discounts applied by operators is 5.8%, a figure that, for the first time this year, was around 300 million euro a quarter, making an average expenditure per household of 33.2 euro per month in the last quarter of 2007. In homes without these leisure and content services, the reasons given for not having them included price, which came second after other reasons relating to need or interest.

In accordance with the progressive generalised development of the networked society, there continues to be a favourable attitude towards new technologies, as in previous years, with recognition of the role they play in education and the work environment and their use in solving common problems, or their contribution towards making life easier and more comfortable. The importance of these technologies for social integration and individual and collective success is also appreciated, an importance that is also projected in the need for Public Administrations to contribute to the knowledge and spreading of these technologies. There has also been an important increase in the last year in the perception of security in Internet shopping.

Internet is considered the best value service in relation to price-use and consolidates this position year after year, although in the third quarter of 2007 this fell slightly to 53.3% of individuals who considered they receive a lot or enough for what they pay for this service. After Internet, the service considered best value is pay TV, with 50.3% of individuals satisfied with what they receive in relation to what they pay.

Also, specifically in relation to Internet, analysis of the ease of use and expectations of use are two indicators with a very positive evaluation among users. A total of 90.2% of Internet users consider its use to be easy or very easy and 84.7% consider that the Internet has met or exceeded their expectations, which breaks down into 59% who believe it meets their expectations and 25.7% who believe it exceeds their expectations.

ELECTRONIC COMMERCE B2C

The value of electronic commerce is expected rise above 4.25 billion euro by the end of 2007, with a 72% increase in the last year and a business figure ten times higher than that for 2003.

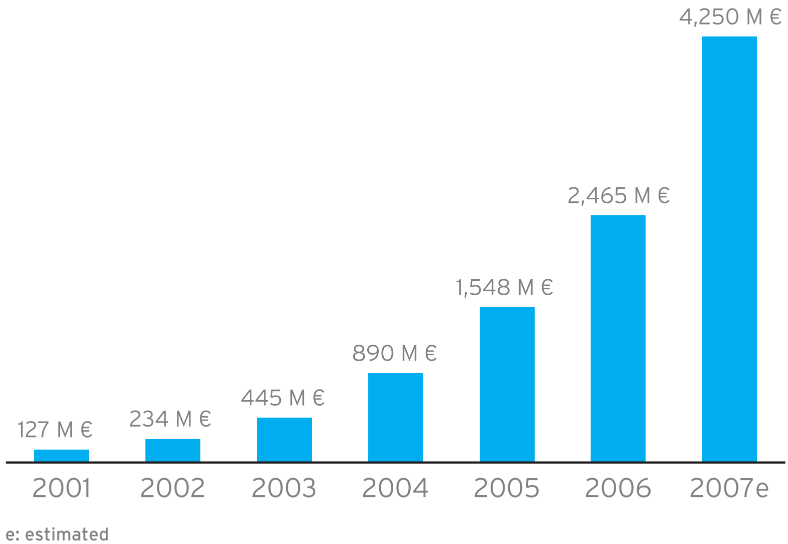
More than one in four Internet users (27.3%) aged 15 and above made purchases via the Internet in 2006. This means a total of 5.1 million on-line shoppers, equivalent to 13.6% of the population aged 15 years and above. Compared to the previous year, this figure has gone up by 17.1%. It is estimated that in 2007 the percentage of on-line shoppers will reach 37.6% of all Internet users.

The establishments where most Internet users shop are virtual shops that have a physical outlet (55.1%), followed by shops that sell exclusively on-line (40.4%). In contrast to previous years, the figures show that 10.9% of shoppers purchased goods or services via an on-line auction.

Some of the most notable aspects of B2C e-commerce in Spain are:

- Bank cards (credit and debit) are the preferred means of payment. Six out of ten (60.9%) shoppers say they prefer to pay by bank card than by other methods.
- The amount of business generated in the second quarter of 2007 was mainly divided between the following activity sectors: air transport (28.3%), travel agencies and tour operators (12.6%), gambling and betting games (5.1%), artistic, sports and recreational events (4.8%) and direct marketing (4.8%).
- The level of satisfaction generated by Internet shopping is very high. Practically all the shoppers (98.7%) said their expectations were always or almost always met with the shopping they performed via the Internet.

Volume of electronic commerce B2C (millions €)



Source: Report on the development of the Information Society in Spain. SETSI

ICTs IN SPAIN SMES AND LARGE BUSINESSES

SMEs and large businesses have almost all introduced the basic ICT components –computer, telephone, mobile telephony, Internet, broadband– while in network applications and technologies there were significant differences, which responded to the specific requirements of each business activity.

The ICT equipment with the highest penetration rate among SMEs and large businesses is the computer, found in 98.1% of these businesses and with minimal differences between sectors. Only in the construction sector is mobile phone penetration higher than computer penetration, responding to the mobility requirements of this activity.

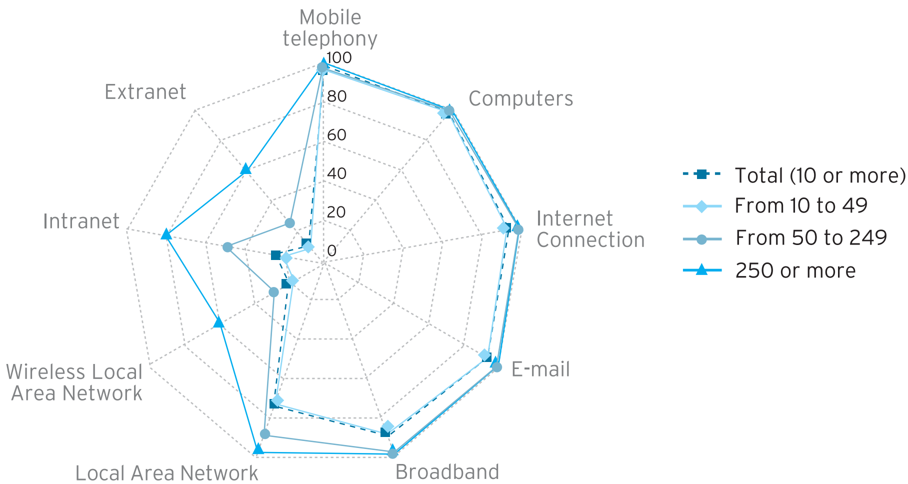
Internet, the second most widely used technology among SMEs and large businesses, stands at 94.3%, and in five of the sectors analysed it is above 98%.

The technology with the third highest penetration rate is mobile telephony, available in 92.9% of SMEs and large businesses. The construction sector, which has the lowest percentage of businesses with a computer, heads the use of mobile telephony with 97.9%.

With regard to organisations' internal communication networks and systems, the local area network is still the most widely used (found in 7 out of 10 businesses), followed by the intranet (26.6%) and the extranet (13.5%). The sectors that stand out for their use of these network technologies are computers, finance and audio-visual services.

The use of broadband is still increasing and is now found in 93% of businesses. Also, Internet connection via mobile telephony is found in a quarter of businesses, and increases significantly according to the number of employees (37.5% in medium-sized businesses and 64.2% in large businesses).

ICT infraestructure and connectivity in businesses, by number of employees (%)



Base: total number of businesses with 10 or more employees

Source: ONTSI using data from INE 2207

With regard to the proportion of employees that access a computer, almost half of all staff use one at least once a week.

Most businesses use the Internet to search for information (96.1%) and to access banking and financial services (85.8%). Around a third use it for applications designed for the business, for receiving digital products/services, for monitoring market behaviour and for training and learning.

A total of 52% of all the businesses have a web page; among medium-sized businesses, this figure rises to 68% and among large businesses, to 87%. Four of the twelve sectors analysed stand out with more than 78% of their businesses having Internet and a web page. These include the hotel sector with almost 90%.

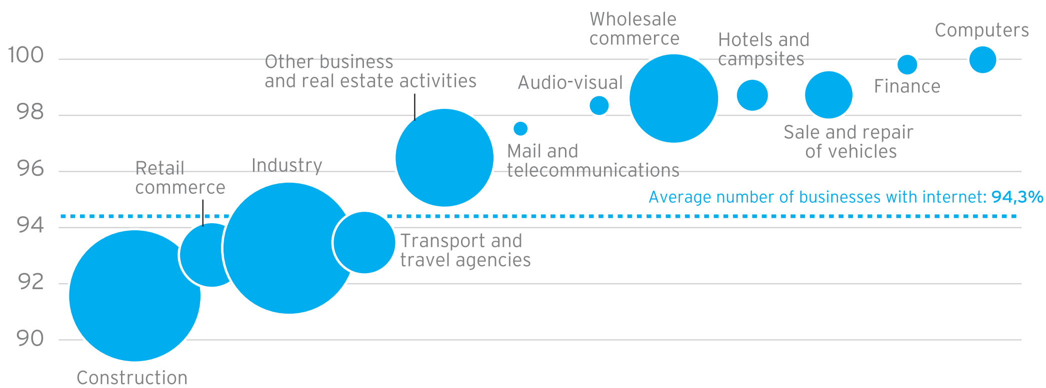
With regard to computer security, antivirus programmes are found in almost all businesses, and firewall systems in more than 70%. More than a quarter of businesses have used a digital signature in the course of the year.

The degree to which the different security measures are adopted is reflected in the four percent annual drop in the percentage of businesses that had security problems in the last year, which was 16%.

Electronic commerce is used by more than 19% of Spanish businesses to make purchases and by almost 9% for sales purposes. Among the businesses that have made purchases via the Internet, 62.7% have made on-line payments.

By sector, hotels and campsites is the only sector in which the number of businesses that sell via e-commerce (62.9%) is higher than the number of businesses that make purchases (18.4%). The computer sector has the highest percentage of businesses that make purchases using e-commerce, 65.4% - three times the average - which may indicate, not only a more interesting range of products and services for this sector via the Internet, but also a greater degree of confidence when performing operations, generated by greater knowledge of the medium.

Bussinesses with Internet connection by sector (%)



Note: The size of the bubble is in proportion to the number of businesses belonging to each sector

Base: total number of businesses with 10 or more employees

Source: ONTSI using data from INE 2007 and DIRCE 2007

Purchases made using e-commerce among SMEs and large businesses account for 11.7% of the total number of purchases made, while e-commerce sales account for 8.7% of all sales. The weight of Internet shopping is notable in the retail sector, with more than 43% of all purchases in this sector made via e-commerce.

ICTs IN SPANISH MICRO-BUSINESSES

The progress made by the Spanish micro-business sector towards the Information Society is undoubtedly determined by the economic sector to which its activity belongs, more than by its geographical location. Also, clear preferences can be identified, according to sector, with regard to the ways in which the new technologies are used.

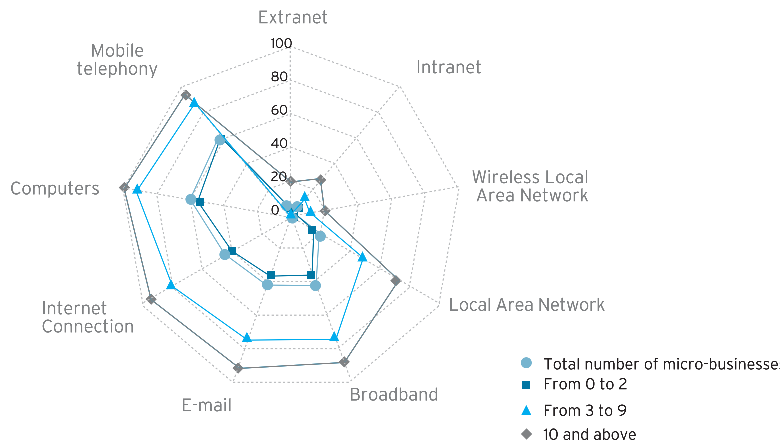
A mobile telephone for business use is the most widespread technology among micro-businesses, used in 69.6% of them, followed by the computer, found in 61.2% and Internet in 48%. One positive aspect worth mentioning is the preference for broadband; 90.3% of micro-businesses connect to the Internet using this technology, an improvement of four percentage points compared to the previous year and almost 18 points in the last two years.

The availability of ICT infrastructures varies considerably according to the number of employees in the micro-business; in micro-businesses with upwards of three members of staff, computer access reaches 89.3%, a figure close to that of SMEs and large businesses.

Taking the sector analysis further and focusing on two of the main ICT components, the computer and Internet connection, we find great differences of up to 70 percentage points between the different sectors. Three different situations can be clearly distinguished:

- In first place are the micro-business offering computer, telecommunication and audio-visual services, among which 97.6% have computers and 96.3% have an Internet connection. However, this sector only represents 1.4% of all Spanish micro-businesses.
- This is followed by a second group of activities, covering an important 40% of all micro-business activity, comprising the financial sector,

ICT infraestructure in micro-businesses, by number of employees (%)



Base: Total number of micro-businesses

Source: ONTSI using data from the INE 2007

professional and business activities (agencies, legal consultants, real estate, R&D, etc.), hotels, campsites and travel agencies, wholesale commerce and industry, where computer and Internet penetration rates are above the average for Spanish micro-businesses.

- The third group of sectors, with below average computer and Internet penetration rates, is composed of the construction, retail commerce and transport and mail sectors.

The pattern for mobile telephone use is without a doubt different to that for computers. If the average number of businesses with a mobile phone is slightly higher than the number with computers, in five out of the ten sectors considered here, this ratio is reversed, with more micro-businesses having computers than mobile phones. Such is the case for finance, computer and telecommunications, vehicle sales and repairs, business activities and hotels and travel agents. The sectors where mobile phone penetration is still higher than computer penetration include, notably, construction and transport and mail, which show the most significant difference in penetration for both devices, more than 30 percentage points, and are situated between the sectors with the highest mobile phone penetration and those with the lowest computer penetration rates.

Micro-businesses mainly use the Internet to search for information (95.7%), and for banking and financial transactions (65.7%). Other Internet uses, such as training and learning, receiving digital products and services, accessing business applications/tools and monitoring market behaviour, are used by less than a third of micro-businesses, although this differs greatly according to activity sector.

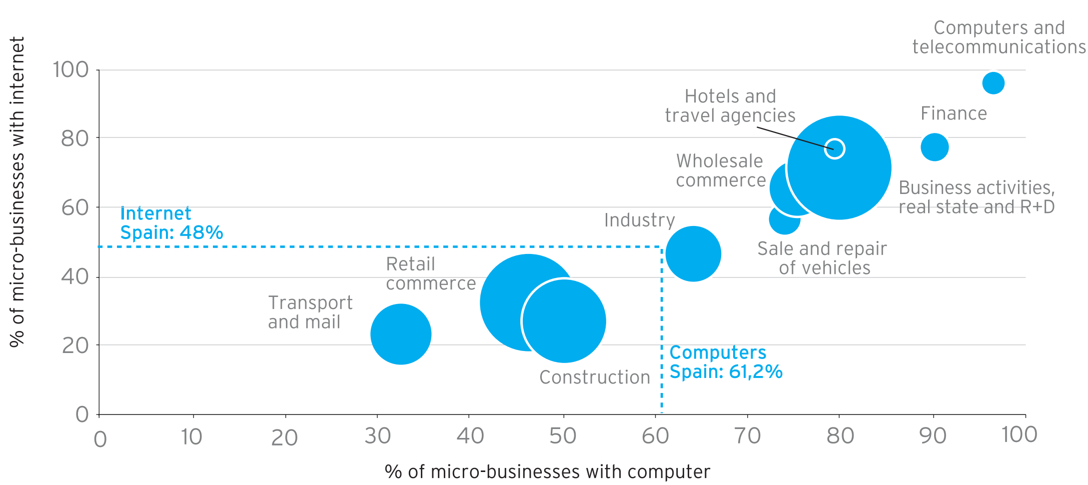
A total of 20.8% of micro-businesses with Internet have a web page, while among micro-businesses with 3 to 9 members of staff, the percentage rises to 31.8%. The distance between micro-businesses and larger businesses is greater in this parameter, exceeding 30 percentage points. However, in some sectors the percentage of micro-businesses with a web page is higher than the average for SMEs and large businesses. Such is the case for hotels and travel agents, with almost 60% of its micro-businesses with a web page, more than 40% above the average. This is followed by the computer and telecommunications sector, with 44.1%.

Spanish micro-businesses use e-commerce more as customers - that is, to make purchases via the Internet - but even so the percentages are still low. A total of 10.5% of micro-businesses buy on-line compared to 2.2% that use this medium for sales. Sales made using e-commerce account for less than 1% of all sales among micro-businesses and e-commerce purchases account for 3.5% of general purchases.

The three sectors that show the greatest use of e-commerce are computers and telecommunications, hotels and travel agents and business activities. With regard to purchases, more than 40% of computer and telecommunication micro-businesses make purchases via the Internet, among hotels and travel agencies the figure is over a quarter (25.9%), and among business activities, more than 17%.
With regard to sales, the indisputable leader is the hotel and travel agency sector with a rate ten times above the average for micro-businesses that sell via e-commerce (22%), followed by the computer and telecommunications sector (8.1%) and wholesale commerce (4.6%).

Aspects that limit a greater adoption of new technologies among micro-businesses fall into two groups: a perception that these technologies are not useful when applied specifically to micro-businesses, and economic and financial factors, both stated by more than a third of businesses.

Micro-businesses with computer vs. micro-businesses with Internet by sector (%)



Note: The size of bubble is in proportion to the number of businesses belonging to each sector

Base: Total number of micro-businesses

Source: ONTSI using data from INE 2007 and DIRCE 2007

By activity sector, the perception that ICTs are not useful for micro-businesses is mainly among the industry and retail commerce sectors. The sectors where economic and financial factors weigh more, including price, profitability, funding and grants for purchasing - and where there is a greater appreciation of the usefulness of ICTs - include the information and telecommunication sector, hotels and travel agents and business activities.

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