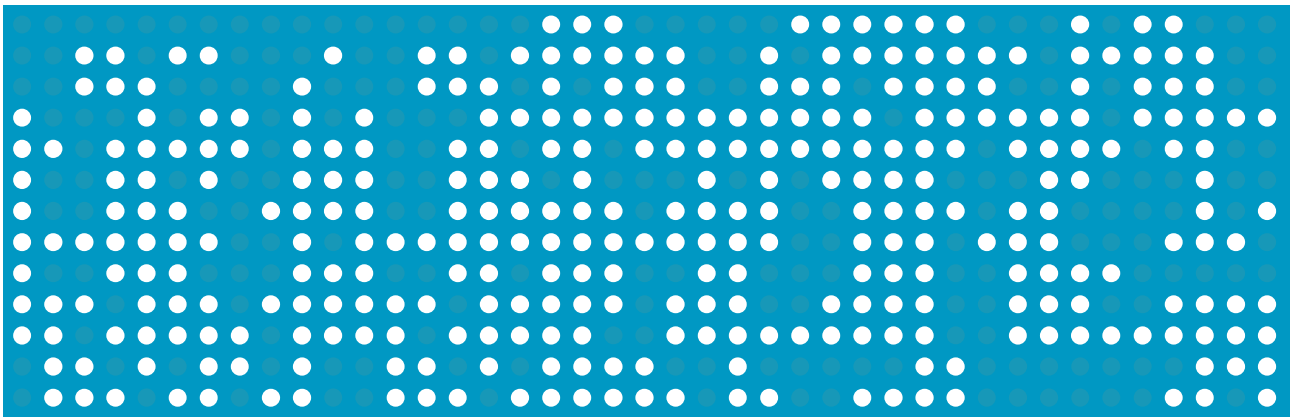


# **The Networked Society 2009 Annual Report. 2010 Edition**

## **Executive Summary**



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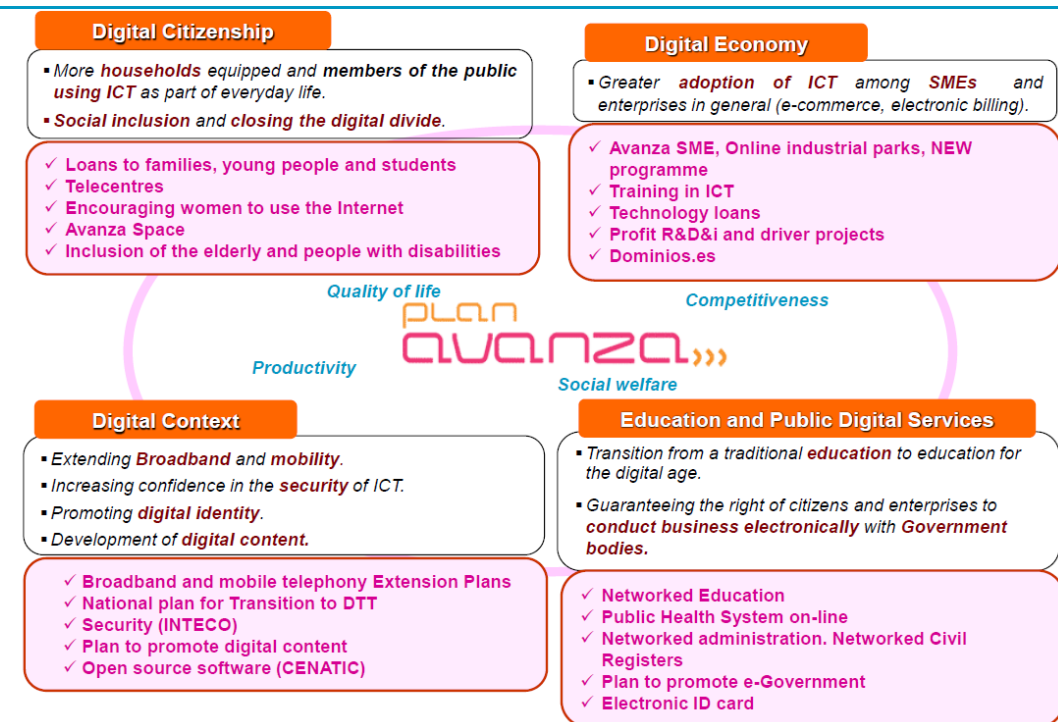
## EXECUTIVE SUMMARY

### PLAN AVANZA

Plan Avanza is a historical landmark in the development of Information and Knowledge Society, since it represents the Spanish government's and society's first real commitment to this objective. The budget for the Plan in the period 2005 – 2009 reached almost €6.6 billion and was provided by the Ministry of Industry, Tourism and Trade through the State Secretariat for Telecommunications and the Information Society.

Plan Avanza was organised into four main lines of action in the period 2005-2008: Digital Citizenship, Digital Economy, Digital Public Services and Digital Context. The objectives, budget and specific initiatives of these are summarised in the following table.

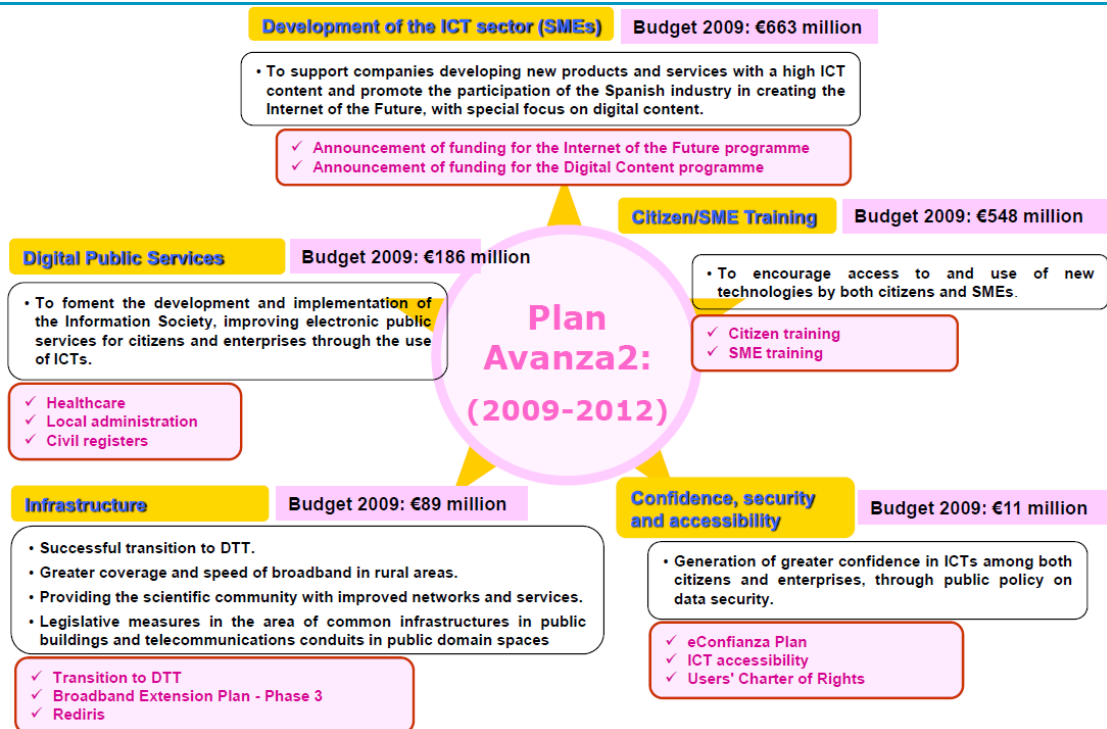
#### Plan Avanza lines of action:



Source: SETSI

Plan Avanza2 has been defined with the aim of consolidating the milestones achieved in the Avanza project and reinforcing certain strategic lines based on the diagnosis and evaluation undertaken. Avanza2's initiatives can be summarised into 5 major lines of action: Development of the ICT sector; ICT Training; Digital Public Services; Infrastructure; and Confidence, Security and Accessibility. These are summarised in the following chart.

### Plan Avanza2 lines of action and objectives



Source: SETSI

## THE INFORMATION SOCIETY IN THE WORLD

Information and Communication Technologies (ICTs) are a sign of the technological culture prevailing in the world today. ICTs are characterised by their evolving nature and by following the beat of the continued scientific advances in the context of economic and cultural globalisation. They are the cause of continual transformations and new values in different spheres of life (economic, social, cultural).

The great impact of ICTs on the Information Society can be explained by many reasons, for example, they facilitate access to large amounts of information and allow fast and reliable data processing, immediate communication, storage of great amounts of information and process automation, among other.

One of the most important indicators when analysing the situation of ICTs in the world, is the number of Internet users. The following table shows Internet users in the world by regions. The number of Internet users in the world reached 1.8 billion in 2009, recording an average annual growth rate of 15.2% with respect to 2003. In absolute terms, Asia accounted for the greatest number of Internet users with 786 million. North America and Western Europe recorded 266 million and 284 million users respectively. In relative terms, North America stands out with 76 users per 100 inhabitants. It is followed by Western Europe with 72 users per 100 inhabitants. The lowest density is found in Africa, where the ratio is 12 users per 100 inhabitants, way below the world average of 27 users

per 100 inhabitants. Less advanced regions account for the sharpest rises in average annual growth rate, while the most developed regions account for the lowest rates.

### Internet users in the world by region

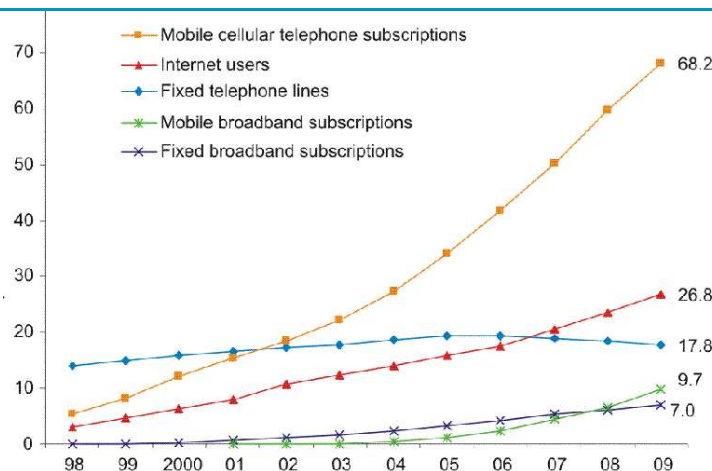
Region	Internet users (thousands)		AAGR (%)	Growth % 2003-2009	Internet users/100 inhab. 2009
	2003	2009			
North America	203,443.00	266,118.50	4.6%	30.8%	76.4
Latin America and the Caribbean	63,647.40	183,253.40	19.3%	187.9%	28.1
Asia	257,036.80	786,503.70	20.5%	206.0%	19.4
Western Europe	179,933.60	284,673.70	7.9%	58.2%	71.9
Eastern Europe	48,924.70	179,460.90	24.2%	266.8%	43.0
Oceania	14,612.50	19,969.20	5.3%	36.7%	56.4
Africa	16,091.90	113,766.40	38.5%	607.0%	12.0
<b>Total in the World</b>	<b>783,689.90</b>	<b>1,833,745.80</b>	<b>15.2%</b>	<b>134.0%</b>	<b>26.8</b>

AAGR: Average Annual Growth Rate

Source: Own elaboration based on ITU data

As previously noted, the ICT market is mainly characterised by its dynamic and changing nature, caused by the innovations and the constant evolution of information and communication technologies that are translated into new processes and products. Recently, one of the most noteworthy developments has been Internet access via mobile broadband.

### Evolution of mobile broadband and other ICT indicators globally



\* Estimated data

Source: ITU

Internet access via high-speed technologies, that before was only possible through fixed devices, is available nowadays via mobile devices that allow the user to access the Internet anywhere, anytime. These advantages are the reasons for the great growth of mobile technologies in the last years. In fact, for the first time, the number of mobile broadband users per 100 inhabitants (9.7 per 100) surpasses the number of fixed broadband users per 100 inhabitants (7.0 per 100) according to the data of the International Telecommunications Union for 2009.

The turnover of the global ICT market in 2008 reached €2,670 billion, 4.6% more than in 2007. Figures for 2009 show a slight market contraction, with a fall of 1.5%. A positive upward trend is expected for 2010. The greatest falls of this market have been seen in

North America and Europe, with rates of 3.7% and -3.3%, respectively. The most dynamic market last year was that of Africa and the Middle East, which has grown by 4.2% with respect to 2008.

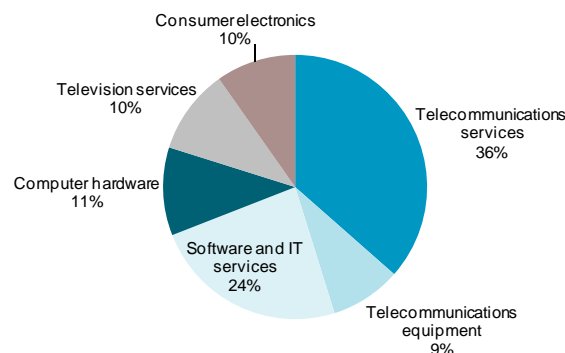
#### World ICT market

Billion €	2007	2008	2009	2010e	Incremento 2007-2008	Incremento 2008-2009	Incremento 2009-2010e
North America	804	832	801	803	3.5%	-3.7%	0.2%
Europe	854	878	849	854	2.8%	-3.3%	0.6%
Asia/Pacific	608	639	646	671	5.1%	1.1%	3.9%
Latin America	179	201	208	222	12.3%	3.5%	6.7%
Africa/Middle East	107	120	125	135	12.1%	4.2%	8.0%
<b>Total</b>	<b>2,552</b>	<b>2,670</b>	<b>2,629</b>	<b>2,685</b>	<b>4.6%</b>	<b>-1.5%</b>	<b>2.1%</b>

Source: IDATE. DigiWorld 2010

Telecommunications Services accounted for 36% of the total ICT market. With 10 percentage point difference with respect to the software and IT services segment, these are one of the main motors of the market. Computer hardware, television services, telecommunication equipment and consumer electronics have percentages of around 10%.

#### Distribution of the global ICT market by sector in 2009



Source: IDATE. DigiWorld 2010

The analysis of the situation and evolution of the digital content industry, a sector that has been growing steadily in recent years both in terms of sales and uptake by citizens and enterprises, is necessary to get the full picture of new technology markets.

#### Global sales evolution for digital content-generating industries

Million €	Sales 2003	Sales 2004	Sales 2005	Sales 2006	Sales 2007	Sales 2008	Δ% 2007-2008
<b>Publications</b>	271,478	279,922	290,435	295,364	302,325	305,998	1%
<b>Audiovisual*</b>	202,293	221,847	235,369	252,252	267,618	290,878	9%
<b>Cinema</b>	62,448	66,914	65,086	66,776	68,468	70,839	3%
<b>Video Games</b>	18,863	21,407	22,632	26,265	33,434	38,514	15%
<b>Music</b>	28,875	29,112	28,506	27,785	26,650	25,648	-4%
<b>Advertising**</b>	10,017	14,142	20,309	29,618	39,446	50,365	28%
<b>Total</b>	<b>593,974</b>	<b>633,344</b>	<b>662,338</b>	<b>698,061</b>	<b>737,941</b>	<b>782,243</b>	<b>6%</b>

\* Includes Television (includes advertising)

\*\* Only online advertising

Source: "Global Entertainment and Media Outlook 2008-2012", PWC

Digital content market turnover in 2008 reached €782.243 billion, which represents an increase of 6% compared to the previous year. The audiovisual and publishing sectors account for 76% of the total market, with respective increases of 1% and 9%. The most positive trend is observed in the advertising segment, which experienced in 2008 a turnover increase of 28% compared to 2007. Music was the least favoured segment of the market, experiencing a new turnover fall in a year.

**Evolution of active Internet users who have performed the following activities at some time**



Base: active Internet users (accessing the Internet daily or every two days)

Source: "Power to the people – Social Media Tracker Wave 4", Universal McCann 2009

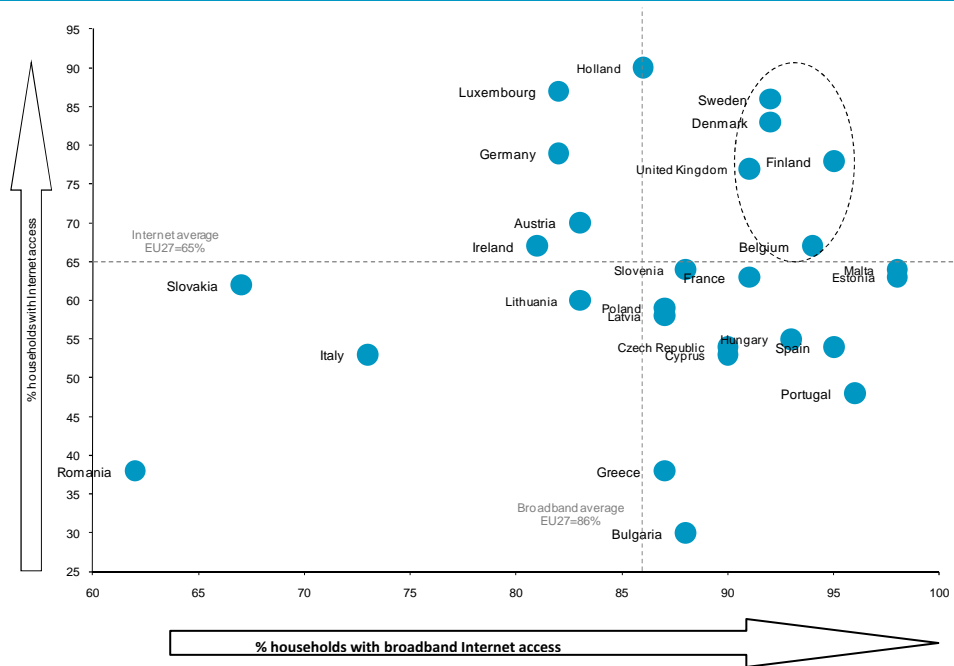
The digital content sector is very broad and makes it possible to carry out a wide range of activities on the Internet. According to the last data corresponding to March 2009, watching videos online stands out with a percentage of more than 80% of users who do so. It is followed by listening to the radio/other audio online, with a percentage around 80%. Uploading videos to a website to share them is the least common activity and recorded a decrease in the number of users that do so. The most substantial increase was observed in activities related to social networks (visiting friend profiles, managing profiles and creating profiles in social networks).

**THE INFORMATION SOCIETY IN EUROPE**

The study of the Information Society in European households and enterprises is organized into five central themes: development of broadband, advanced services, adoption of ICTs by enterprises, inclusion and, lastly, public services (eGovernment).

The technological revolution we are living is the cause of the importance of the Internet both for households and enterprises in the EU. In fact, 65% of EU-27 households with members aged between 16 and 74 have Internet access, 5% more than in 2008. Another relevant element is broadband, which is therefore a central theme of the analysis.

**Households connected to the Internet vs. households connected to the Internet via broadband in the European Union (%)**



Base for households with Internet: Total households

Base for households with broadband: Total households connected to the Internet

Source: Eurostat

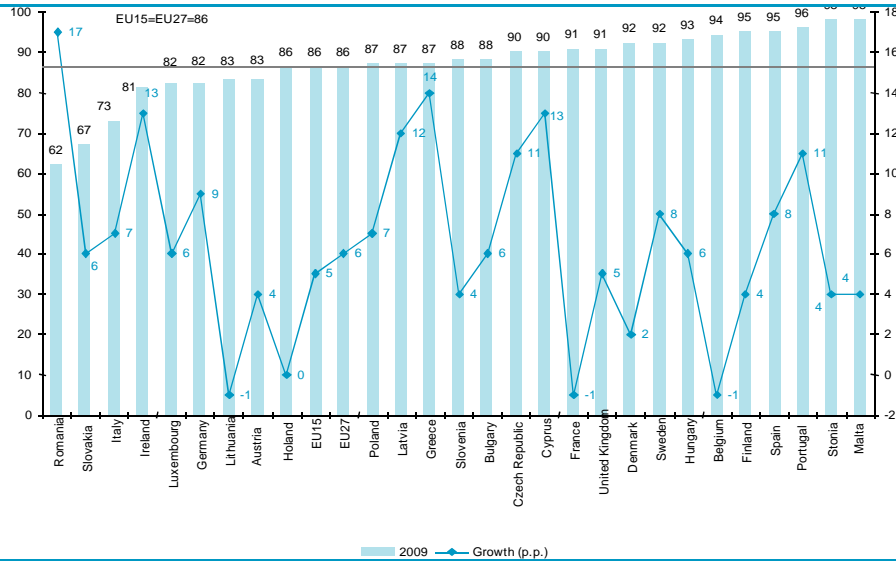
Broadband has become a widespread technology for Internet access. A total of 86% of EU-27 households have broadband Internet access. The relationship between Internet availability and broadband connection is shown in the previous figure. The group of countries composed of Sweden, Denmark, Finland, United Kingdom and Belgium are positioned as the leaders of the European Union, with high percentages of households connected to the Internet and also high percentages of households connected to the Internet via broadband.

Some countries such as Malta, Estonia, Portugal or Spain have percentages of Internet penetration in households below the EU27 average but, on the contrary, have high percentages of broadband penetration.

Malta and Estonia hold the top positions in the European ranking of households with broadband Internet access, with a penetration rate of 98% in both cases. Eleven countries more in the European Union record percentages equal or above 90%. Romania holds the last position but has experienced the highest growth compared to the previous year data, with a rise of 17 points. Other relevant increases are those of Greece with 14 points, and Ireland and Cyprus with 13 points each. Spain plays a major role and is fourth in the European ranking, with 95% of households with broadband Internet access, recording an 8 point increase with respect to the value recorded in 2008.



### Households connected to the Internet in the European Union (% penetration and growth p.p.)

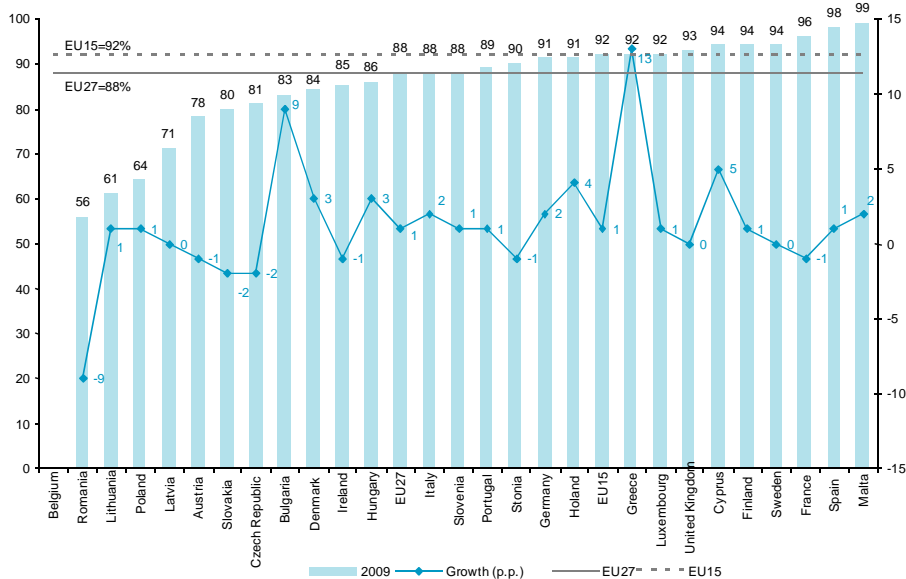


Base: Total households connected to the Internet

Source: Eurostat

Broadband Internet connection is more widely extended in enterprises than in households, with a penetration ratio of 88% for the EU27 in 2009. Spain maintains its position within the leading group with 98%, only behind Malta with 99%. France also holds a good position (96%). Romania is the only country with a penetration rate in respect to total enterprises with an Internet connection below 60%. Finally, Lithuania and Poland, despite having a penetration rate above 60%, are included in the group of countries with the lowest percentages.

### Enterprises connected to the Internet via broadband in the European Union (% penetration and growth p.p.)



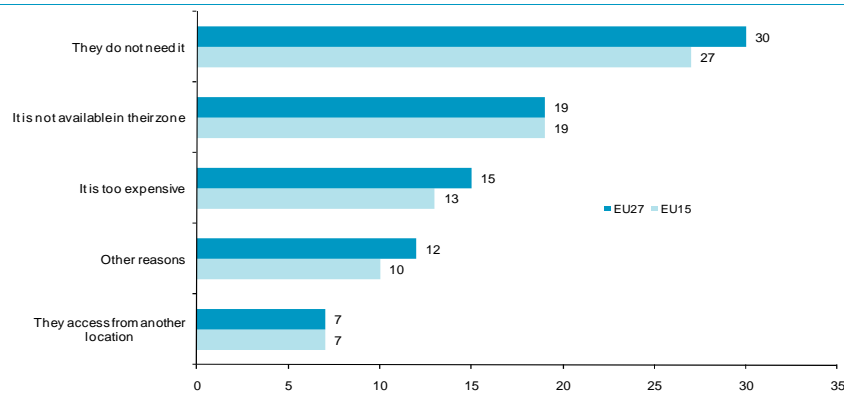
Base: Total companies with Internet

Source: Eurostat

In growth terms, the rise of 13 percentage points of Greece in one year is noteworthy. It is followed by Bulgaria with an increase of 9 points, while, at the other extreme, Romania shows the greatest decrease in growth terms, compared to the previous year. Latvia, United Kingdom and Sweden have maintained a steady trend, with the same penetration rates for enterprises accessing Internet via broadband as the previous year.

Regarding e-Inclusion, the main reason for not having broadband Internet in the EU is the lack of need followed by the lack of availability of the service in certain geographical zones. In this sense, price is not a very significant reason for not having broadband Internet access.

**Reasons for not having broadband Internet in households (%)**



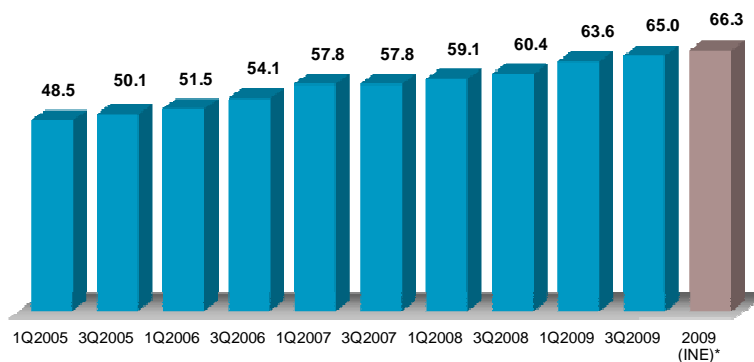
Base: Total of households without Internet access

Source: Eurostat

## ICT IN SPANISH HOMES

In 2009, Spanish households experienced a new significant increase in ICT equipment services and devices. Among these devices, the PC stands out as the most widely used in households and also for its ability to increase the number of households connected to the Internet.

**Percentage of households with a computer of some kind**



\* households with members aged between 16 and 74

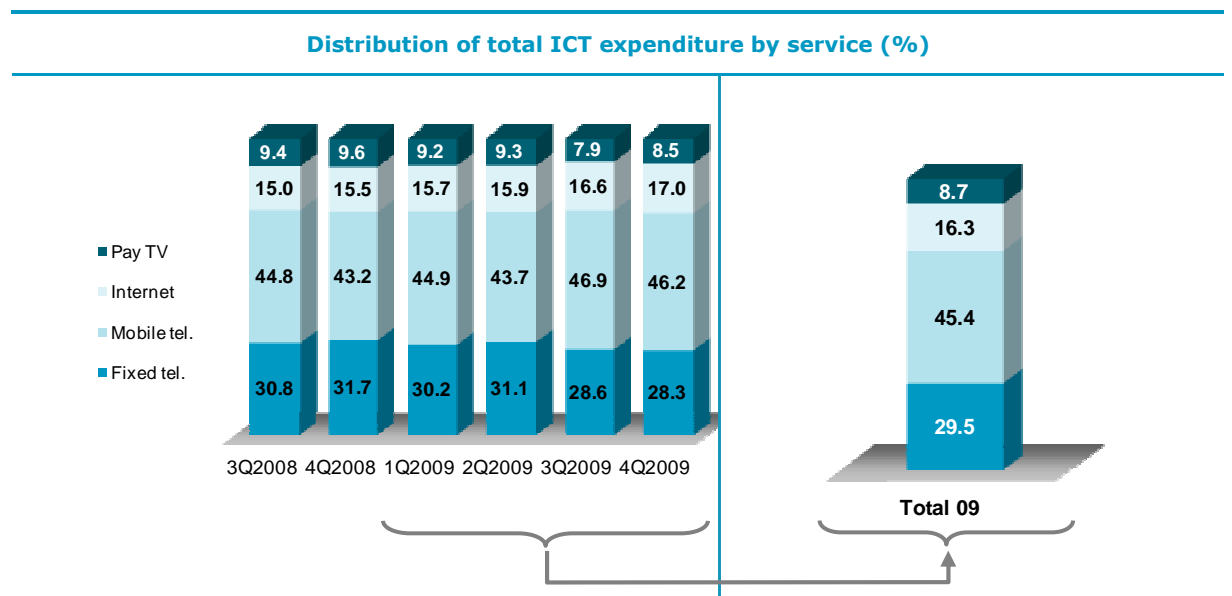
Base: Total households

Source: Report on the Development of the Information Society in Spain SETSI

Upon analysing the evolution of PC penetration by quarters, an increase of 1.4 points has been detected from the first to the third quarter of 2009 in the percentage of households with a computer of some kind, going from 63.6% to 65%, which represents a rise of 5 points with respect to the previous year. According to the last data provided by the Spanish National Statistics Institute, the penetration in households with members aged between 16 and 74 reached 66.3% in 2009.

In 2009, total expenditure by Spanish households in ICT services amounted to €13.735 billion, out of which 45.4% corresponded to mobile telephony, 29.5% to fixed telephony, 16.3% to Internet access and 8.7% to pay TV.

Overall, this distribution of the expenditure has remained stable in the last few years, so mobile and fixed telephony, in that order, are the services that concentrate most ICT expenditure. All services show an upward trend, except fixed telephony that has gone from representing 31.7% of total ICT expenditure in 4Q2008 to 28.3% in the same quarter of 2009.

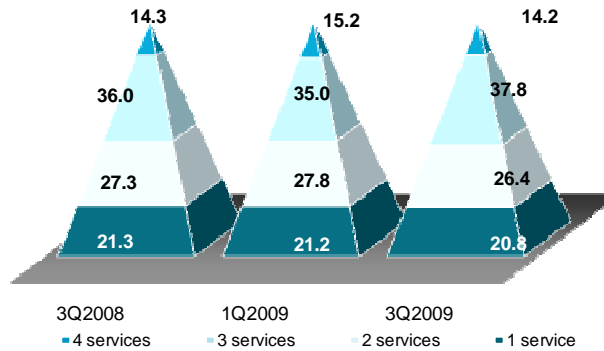


Source: Household Panel, ONTSI

Upon the classification of households by the number of hired services (mobile telephony, fixed telephony, Internet access and pay TV), households with three services represent, since some years ago, the highest percentage of the total, and are followed by those with 2 services. In terms of representativeness, in the third quarter of 2009, 37.8% of all households had 3 ICT services, while 26.4% of them had 2 ICT services. Those with only 1 ICT service accounted for 20.8% of the total, and households with 4 ICT services accounted for approximately 14%.

In the same quarter of the previous year, households with three services was the only segment that increased its representativeness, going from 36% to 37.8% of the total. On the contrary, the percentage of households with fewer services showed a negative trend and households with four services remained stable. Overall, the trend is an increase in ICT equipment in households in the last years.

**Households according to number of hired services (%)**



Source: Household Panel, ONTSI

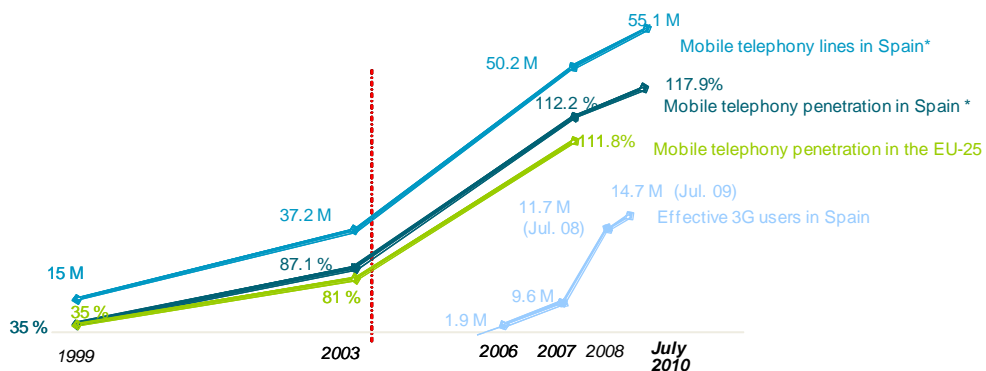
In terms of expenditure, we observe that households with three services account for the greatest percentage of the total ICT expenditure. In the last three months of 2009, two-thirds of the total expenditure by households corresponded to households with three or four services.

In particular, in 2008 there was a predominance, which will probably last, in the proportion of households with three hired services, which now includes the Internet among the services in a typical equipment profile, apart from fixed and mobile telephony.

The progressive increase in equipment in Spanish households can be clearly observed in the third quarter of 2008, when the percentage of better equipped households, those with 3 or 4 services, exceeded half (50.3%) of the total Spanish households. This percentage grew to 52% in the same quarter of 2009.

The total figure for mobile lines in Spain exceeded 55 million, which evidences the consolidation of mobile telephony, together with television, as one of the ICT services with the greatest penetration rates in our country. Despite the high penetration level of mobile telephony, it seems not getting bogged down and maintains its upward growth trend.

**Number of mobile telephony customers and penetration (millions and %)**



\* lines to telemetry and/or telecontrol (M2M) services are included to allow comparison with the European Union

Source: Own elaboration based on CMT, Eurostat and EC data

The number of households that access the Internet via mobile phone has doubled in a year so that, in the third quarter of 2009, Internet access via a mobile phone accounted for 4.1% of all connected households.

From a global perspective, mobile telephony expenditure during the fourth quarter of 2009 rose to €1.595 billion, showing a predominance of the contract option (71.2%) over pay as you go (28.8%). From a more specific point of view, in 2009 average monthly consumption for mobile telephony exceeded €41 per month per household (including VAT), except in the second quarter of the year, in which average expenditure fell to €38 per month.

Mobile telephone features with the highest added value include the camera, which is the most common, the most used and the most desired characteristic for future handsets, together with bluetooth.

Broadband remains as one of the most important advances in the sphere of ICTs in households. In the last seven years the number of broadband lines has increased from 2.1 million in 2003 to 10.22 in July 2010, an increase in absolute terms of 8.1 million new lines, which translates as a 4-fold increase in volume with respect to the reference period.

In 2009, 54% of Spanish households were connected to the Internet. Connections via broadband reached 51% of households with Internet access, which represents an increase of 36 percentage points compared to 2004.

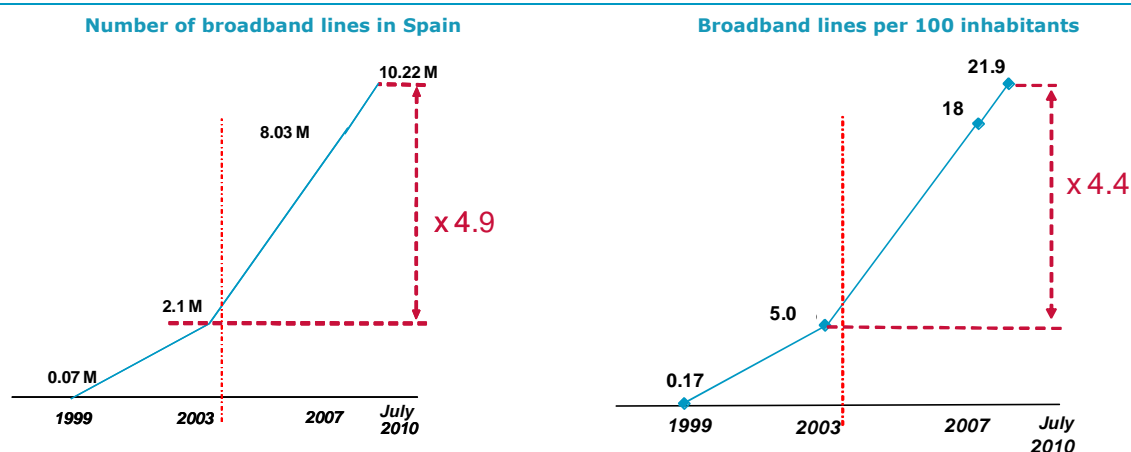
In relation to the number of broadband lines per 100 inhabitants, this indicator also showed a significant growth, with an increase of 4.4 compared to the value of 2003.

From a global point of view, Spain is ranked the 10th in number of broadband subscribers (according to the OECD's broadband portal, on December 2009).

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**Broadband deployment in Spain**

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*Source: CMT*

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Sending or receiving email and searching in search engines remain as the most popular activities on the Internet, with 60% of Internet users aged 15 and over who did so in 3Q2009.

Moreover, electronic mail is one of the activities that records the most growth (3.2 points) in number of users compared to the previous year, while in the case of search engines, the year on year increase is not so pronounced (0.6 points).

Two other noteworthy activities (with percentages of use above 30%) are reading news and instant messaging, with 42% and 33%, respectively. The first of those activities recorded an increase of 1.6 points, while the second experienced a decrease of 0.7.

Overall, download activities recorded a decrease in the number of users. The greatest fall was recorded in music downloads, with users reduced by 2.8 points compared to 2008, in the third quarter of 2009. It was followed by the reduction of almost two points in the number of users who downloaded videos.

#### Main uses of the Internet during the last week (%)

	1Q2008	3Q2008	1Q2009	3Q2009	Annual trend
E-mail	64.0	63.0	67.8	66.2	↑
Search engine	61.9	61.3	66.4	61.9	↑
Checking news	41.2	40.4	44.3	42.0	↑
Instant messaging	34.8	34.0	38.4	33.3	↓
Checking account balances	23.8	23.0	25.7	27.3	↑
P2P downloads	23.6	21.8	23.3	20.5	↓
Use other users' content	---	---	20.5	18.0	↓ *
Music download	20.4	19.3	20.4	16.5	↓
Other downloads	18.5	15.9	18.3	16.3	↓
Managing a profile in a social network	---	---	13.1	15.5	↑ *
Video download	17.4	16.2	18.0	14.4	↓
Forums	12.3	12.2	14.3	13.6	↑
Chat	12.4	11.2	11.5	12.7	↑
For learning purposes	17.5	10.2	19.1	12.0	↑
Visiting other administrations' sites	11.3	8.5	12.2	11.1	↑
Play online	9.6	11.4	11.6	10.9	↓
Visiting a local administration site	7.5	6.7	8.0	9.9	↑
Online banking and finances	8.4	9.4	9.9	9.8	↑
Reading blogs	7.5	8.1	8.6	9.7	↑
FTP transmission	4.6	4.8	5.2	5.0	↔
Videoconference	5.2	3.3	5.0	5.0	↑
Telephone calls	3.8	3.3	4.6	4.7	↑
Other purchases	2.9	2.5	3.6	3.7	↑
Buying tickets, holidays	3.3	3.3	4.0	3.6	↔
Blogging	3.8	3.2	3.3	3.6	↑
Training courses	5.1	3.2	6.6	3.4	↔
Telework	-	2.2	2.4	2.0	↔
Buying entertainment	2.2	1.9	2.7	1.8	↔
Buying books, music, films	1.8	2.0	2.4	1.7	↔

Base: Internet users aged 15 and over  
\* 6 month trend

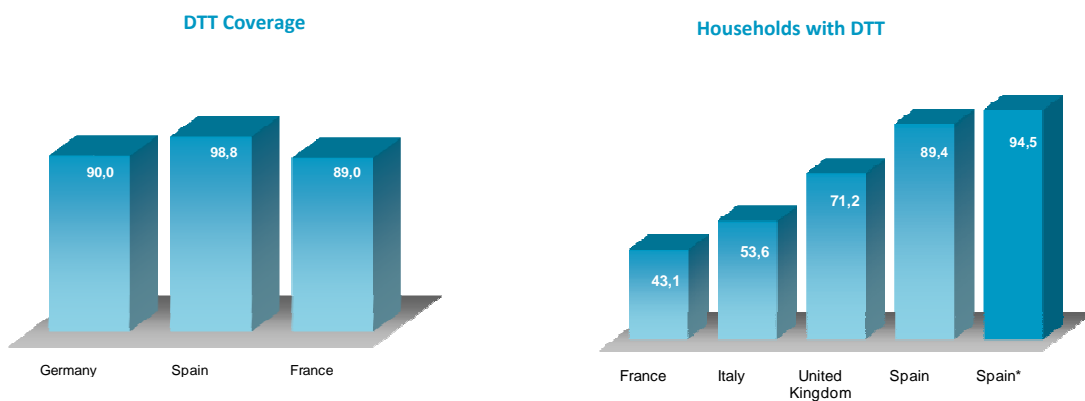
Source: Household Panel, ONTSI

On April the 3rd, 2010, the so called "analogue switch-off" took place in Spain, which meant the switch-off of analogue broadcasting and the total replacement of the latter with digital terrestrial television (DTT), providing users with a better quality television, more channels and a greater number of related services.

The two main highlights of DTT are coverage on the one hand, and percentage of households with DTT on the other.

By the end of March 2010, DTT coverage in Spain reached 98.5% of the Spanish population. The percentage of households with access to digital television via DTT technology was 89.4%. Including other technologies as cable, IPTV and satellite, this percentage rises to 94.5%.

**DTT coverage and households with DTT (%)**



\*Spain: Households accessing digital channels (DTT, satellite, cable, IPTV)

Source: Germany: November. 2008 (T-System) / Spain: March 2010 (Impulsa TDT) / France: August 2009 (TNT Groupement)

Source: France: October 2009 (CSA) / Italy: December 2009 (DGTVI) / United Kingdom: September 2009 (Ofcom) / Spain: March 2010 (MITyC)

The perception of DTT by citizens is very positive in general terms. 89% of individuals aged 16 and over consider that DTT is as good as/better than analogue TV, around 85% think that switchover to DTT was easy/very easy, and approximately 81% believes that the information received was good/very good.

**Perception of DTT by citizens (%)**

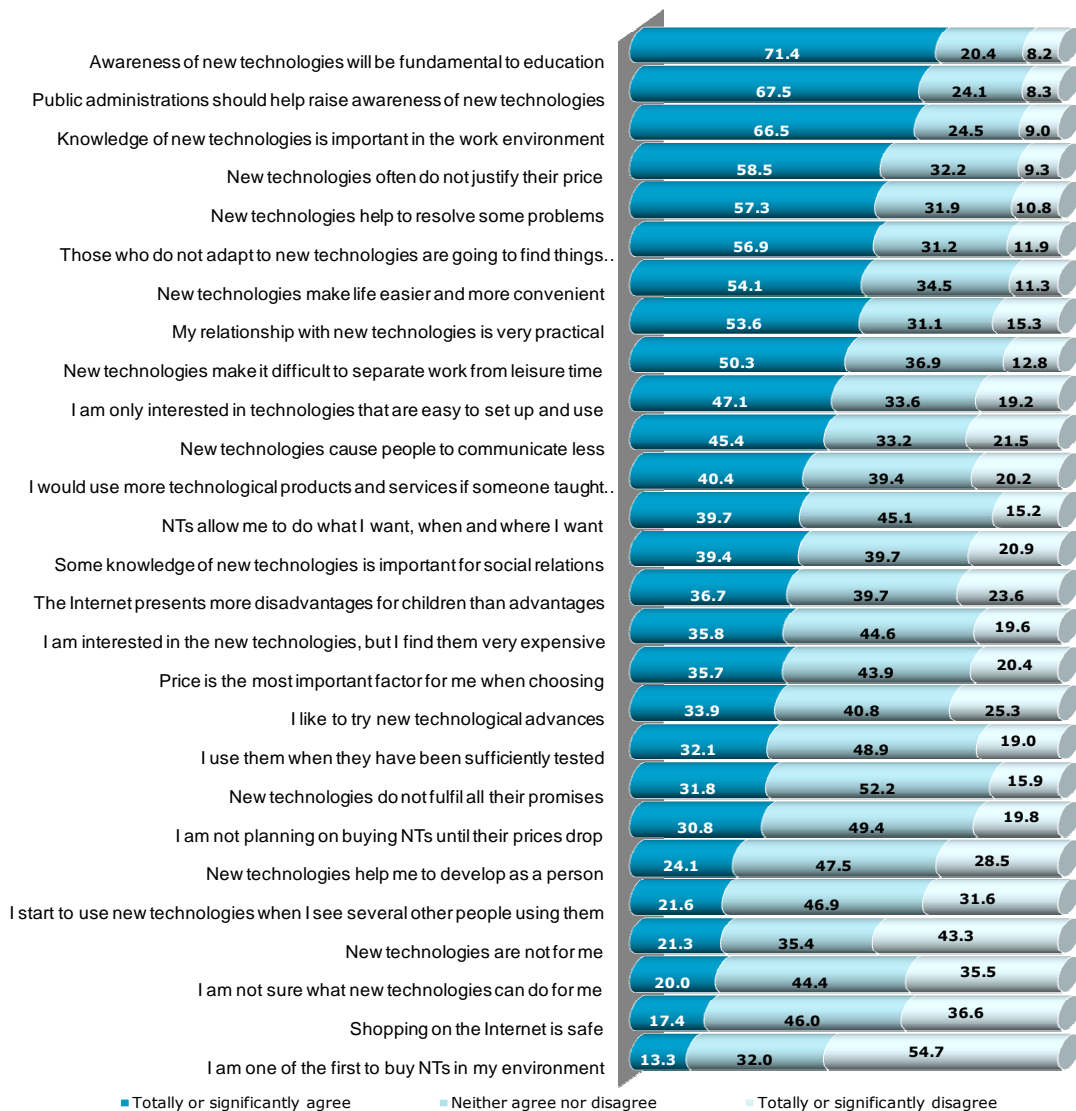


Base: Individuals aged 16 and over

Source: MITyC

Upon global analysis of citizens' opinions and attitudes toward ICTs, we conclude that education holds a prominent position. In fact, 71.4% of the population believes that awareness of new technologies will be fundamental to education. This is the only case with a percentage over 70%. With percentages between 60% and 70% we find opinions such as "the administrations should contribute to dissemination of ICTs" (67.5%) and "ICTs are fundamental in the world of work". Practicity is another ICT quality that was highly-rated by users. 57.3% of users believe that new technologies help to resolve some problems, 54.1% consider that they make life easier and more convenient, and 53.6% state that their relationship with new technologies is very practical. Lack of security, does not have a very positive assessment.

**Frequency distribution of attitude items towards new technologies 2009Q3 (%)**



Base: Total individuals

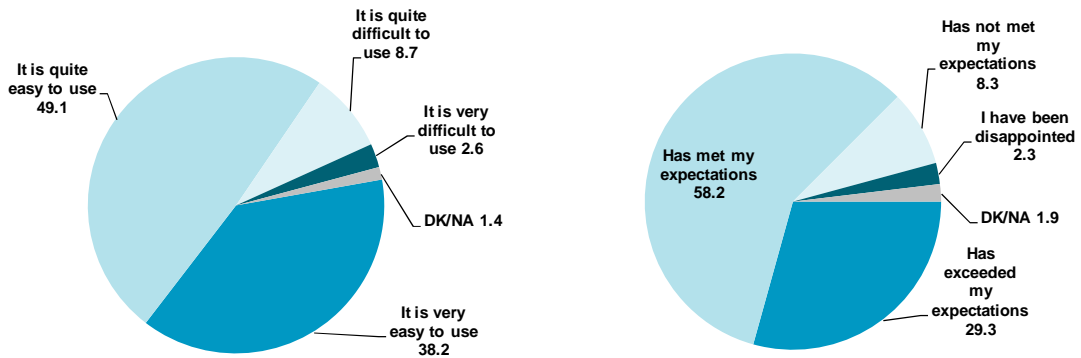
Source: Household Panel, ONTSI



Ease of use of the Internet is an important asset for its expansion. Almost 5 out of 10 users think that the Internet is quite easy to use, and 4 out of 10 that it is very easy to use. Only around 10% believes that this tool is difficult to use.

For these reasons and others, almost 60% of Internet users assert that the Internet has met their expectations and 29.3% that it has exceeded them.

**Simplicity and use expectations of the Internet. 2009Q3 (%)**



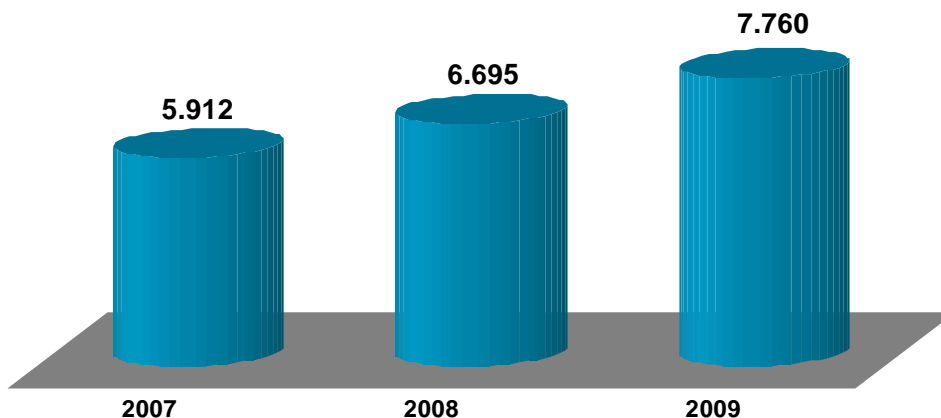
Base: Internet Users

Source: Household Panel, ONTSI

**ELECTRONIC COMMERCE B2C**

The business volume generated by electronic commerce B2C in 2009 reached €7.76 billion, which represents an increase of 15.9% compared to 2008.

**Volume of B2C electronic commerce (billion €)**



Source: ONTSI

The rise in B2C sales was accompanied by an increase in the number of purchasers. The number of Internet users who had ever purchased over the Internet was 10.4 million, representing an increase of 16.9% compared to 2008. In relative terms, 41.5% of Internet users had ever made a purchase over the Internet.

## ICT IN SPANISH HOUSEHOLDS BY AUTONOMOUS REGION

Mobile telephony was the most widespread ICT service in Spanish households, with a penetration of around 96% at best regions and of 90% at worst regions. In this sense, apart from being the indicator with the highest rates, the differences between regions are very small and the national average is 93.5%. Another technology which shows little differences between regions in terms of penetration, despite not being very widespread, is TV-over-ADSL with a maximum penetration of 10% and a minimum penetration of 2%.

The penetration of fixed telephony in Spain is 80.3%, with the Basque Country (90.3%) and Madrid (88.5%) standing out as the regions with the highest rates. In general terms, it seems that the highest penetrations are observed in the North and North East of the country, together with Madrid.

Regarding Internet penetration, the greatest concentration of users is found in North-eastern and Central Spain. Madrid and Catalonia are the regions with the highest percentage of households with Internet, with values exceeding 60% in both cases (64.3% and 62.7%, respectively).

Broadband, the most widely used Internet access technology, is present in 95.1% of households with an Internet connection, a figure that reflects the universality of this service in Spain. Melilla records the highest percentage of broadband, with 100% of households with Internet Access, followed by the Balearics, Madrid and Ceuta, which record 97.4% each. The lowest percentage is found in Galicia (90.3%).

As to usage, around 69% of Spanish citizens have ever used a PC, out of which 88.5% have done so within the last month, and 91.4% in the last three months. The regions that obtained the highest percentages were Madrid, Catalonia and Navarra, with percentages around 75%.

Additionally, in 2009, six out of ten individuals (59.8%) aged between 16 and 74 had used the Internet in the last three months, according to the Spanish National Statistics Institute. The regions of Madrid, Catalonia, Navarre, Balearic Islands, and Aragon recorded the highest percentages of Internet users out of the target population. Most notable among them is Madrid where 67.8% of users had accessed the Internet in the last three months, 5 pp more than Aragon, which, with a figure of 62.8% is at the bottom of the main of regions.

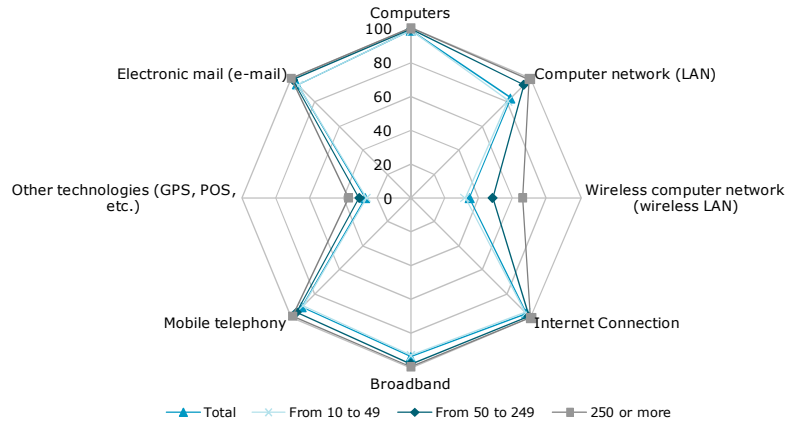
## ICT IN SPANISH SMEs AND LARGE ENTERPRISES

ICT infrastructures are increasingly widely extended among SMEs and large enterprises. The PC, one of the most commonly used ICT equipment, is present in 98.6% of all SMEs and large enterprises. It is followed by Internet connection (96.2%), e-mail (94.7%) and broadband (93.8%).

A size-based breakdown highlights that in large enterprises (250 or more employees) the penetration of the PC reaches 100%. In this segment, Internet access, e-mail and broadband penetration reaches almost 100%. In 98.7% of cases, medium-sized

companies choose broadband Internet connection, three points above small businesses making the same choice. Percentages are equally high with regard to e-mail (98.4% of medium-sized and 94.1% of small enterprises).

**ICT infrastructure and connectivity by type of enterprise (%)**

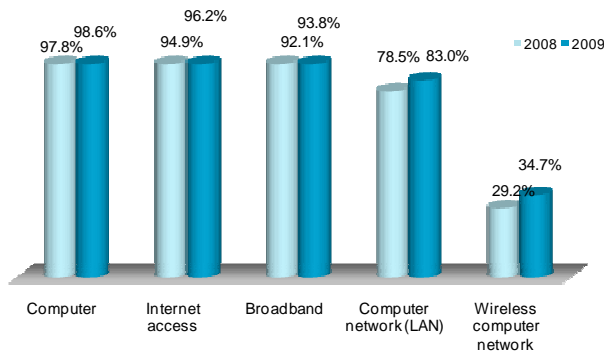


Base: all companies with 10 or more employees

Source: ONTSI using data from the INE 2009

Local area networks (LANs) and wireless LANs are the ICT infrastructure indicators with the greatest growth in a year, with increases of more than 4 and 5 percentage points, respectively. The most significant increases are found in indicators with a lower base level. In those where penetration encompass nearly all companies in recent years, increases are less marked.

**Evolution of the main ICT indicators 2008-2009**



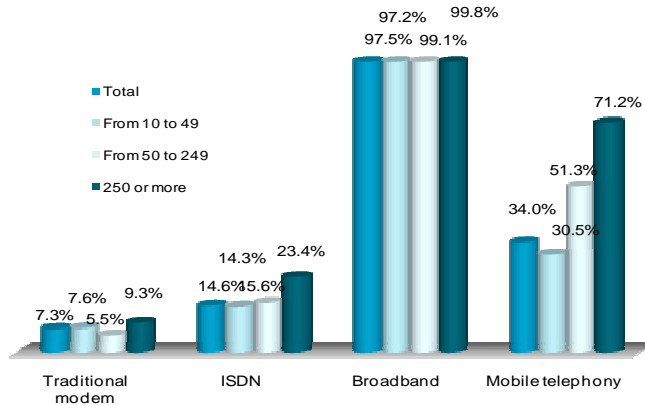
Base: all companies with 10 or more employees

Source: ONTSI using data from the INE 2009

Broadband is the most widely used Internet access technology in SMEs and large companies, with a penetration of 97.5%. In the case of medium-sized and large enterprises, the percentage is almost 100%. It is followed, in second place, by mobile telephony. Data obtained reflect that 7 out of 10 large enterprises connect to the Internet via mobile phone. A total of 51.3% medium-sized companies and 30.5% of small businesses connect in this way. The average number of businesses connecting via

mobile phone reaches 34%. In growth terms, Internet connection via mobile phone grew by 4.6% over the last year and by 10% in two years.

**Type of Internet connection (%)**

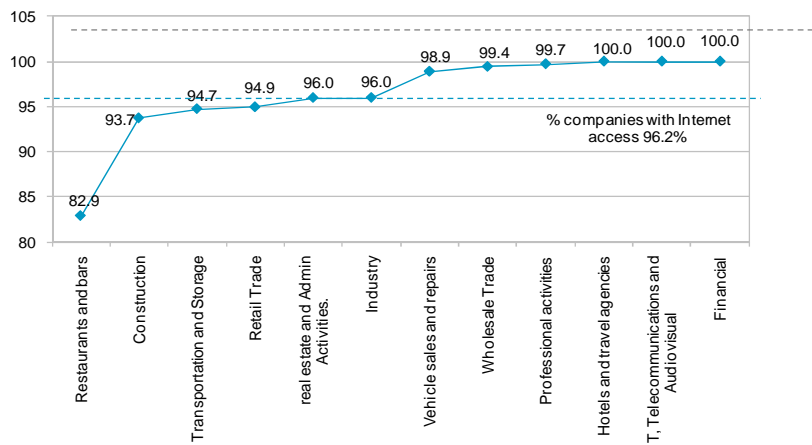


Base: all companies with 10 or more employees with Internet

Source: ONTSI using data from the INE 2009

At a sector level, all SMEs and large companies from the following sectors have Internet access: financial, IT, telecommunication and audio-visual activities, hotels and travel agencies.

**Internet access by sectors (%)**



Base: Enterprises with 10 or more employees

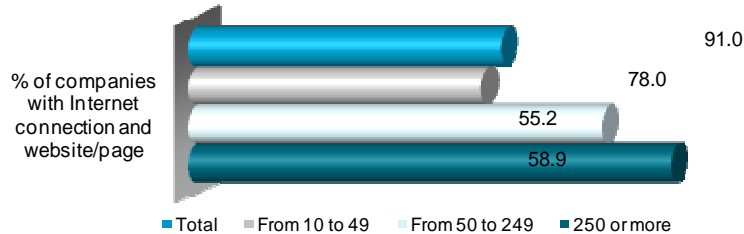
Source: ONTSI using data from the INE 2009

Another group of enterprises that record percentages above the average (96.2%) are those dedicated to professional activities and wholesale trade, with over 99% of enterprises with Internet access in both cases. Restaurants and bars are relegated to the lowest position, although this sector records a percentage of around 83% of SMEs and large companies with Internet.

On average, around 6 out of 10 enterprises with 10 or more employees with Internet have their own website. In those with 250 or more employees, the proportion is 9 out of 10. Medium-sized enterprises with Internet access (78%) have recorded a 5.3 point

increase over the previous year.

### Companies with website (%)

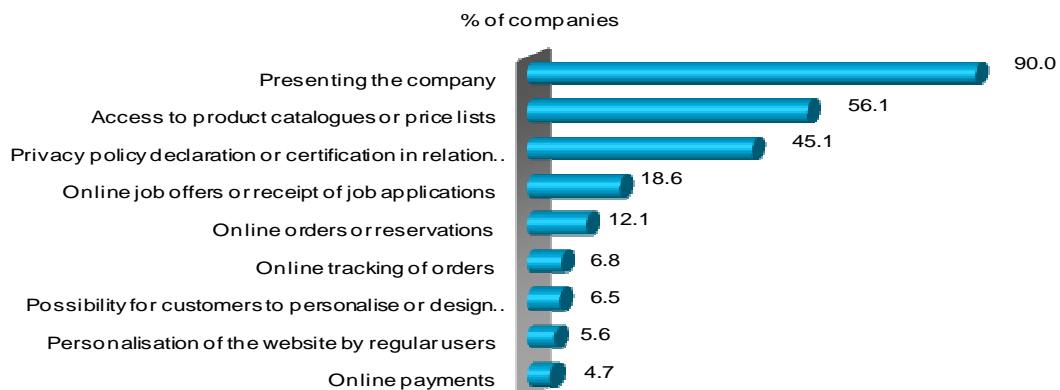


Base: companies with 10 or more employees with Internet

Source: ONTSI using data from the INE 2009

Web pages are an ICT tool of great utility in the enterprise world. 90% of enterprises with 10 or more employees use their websites for presenting the company, which is the most common use, followed at a considerable distance by 56% of SMEs and large enterprises that use it for accessing to product catalogues and price lists.

### Objectives /services offered on company websites (%)

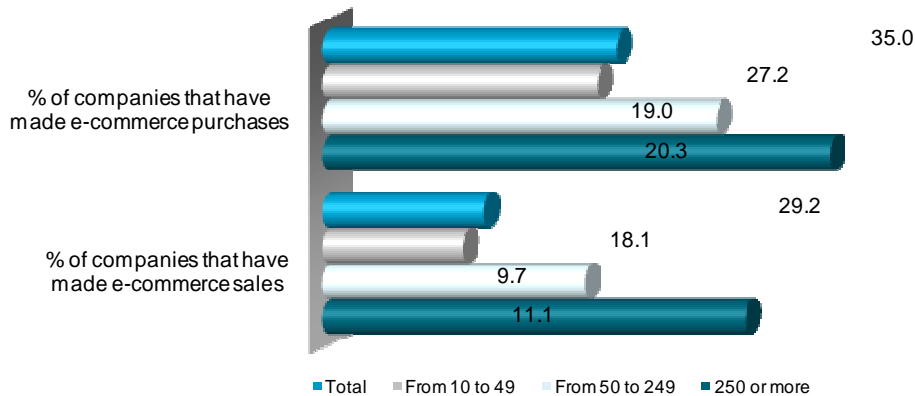


Base: enterprises with 10 or more employees with Internet access and website

Source: ONTSI using data from the INE 2009

The percentage of enterprises with 10 or more employees buying through electronic commerce is 20.3%, over nine points above those selling through this channel. In large enterprises (with 5.8 points) the difference between those buying (35%) and those selling (29.2%) through electronic commerce is the least significant. This difference reaches up to 9.3 points in the case of smaller enterprises. In general terms, the trend is the same of the previous year.

**Enterprises buying and selling using e-commerce (%)**

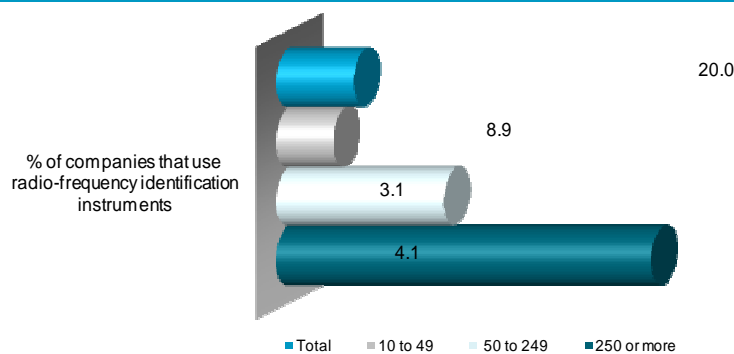


Base: all companies with 10 or more employees

Source: ONTSI using data from the INE 2009

Use of RFID technology is closely linked to the size of the company. A total of 20% of large enterprises use this technology, while the percentage goes down to 8.9% for medium-sized enterprises and to 3.1% for small ones. The global average for SMEs and large companies is 4.1%.

**Use of Radio Frequency Identification technology (RFID) (%)**



Base: all companies with 10 or more employees

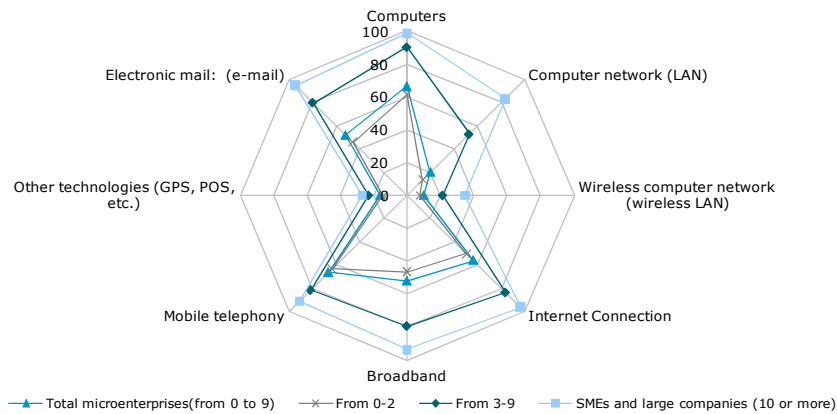
Source: ONTSI using data from the INE 2009

**ICT IN SPANISH MICRO-ENTERPRISES**

Mobile telephony and PCs are the ICT infrastructures most widely-used by microenterprises, with percentages of 66.3% in both cases. Other three important indicators are Internet access, e-mail availability and broadband connection, with penetration rates of 55.9%, 51.7% and 52.1 respectively. Local area networks (LANs) and wireless LANs are present in 20% and 10% of enterprises with 10 or more employees, while intranets –with 3%– and extranets –with 2.1%– lag behind.

By business size, microenterprises with 3 to 9 employees have better ICT infrastructures than those with 0 to 2 employees. Only 50.3% of microenterprises with 0 to 2 employees have Internet access compared to 83.5% of larger ones. The differences by size are similar in the cases of email and broadband.

**ICT infrastructure and connectivity by type of enterprise (%)**

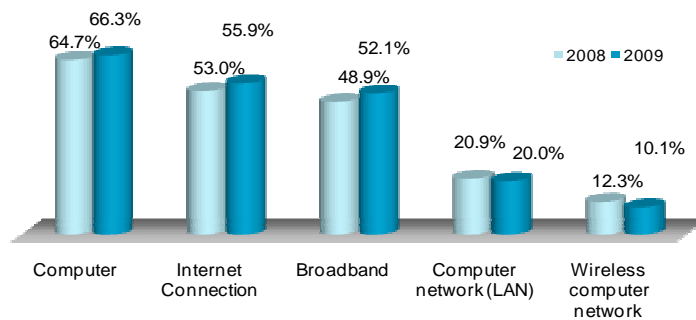


Base: all companies

Source: ONTSI using data from the INE 2009

In terms of evolution, we observe that the percentage of enterprises with broadband recorded the greatest growth with respect to 2008, with a penetration increase of 3.2 points. Internet access increased by 2.9 points and the presence of computers rose by 1.6. Local area networks (LANs) and wireless LANs recorded slight decreases.

**Evolution of the main ICT indicators 2008-2009**

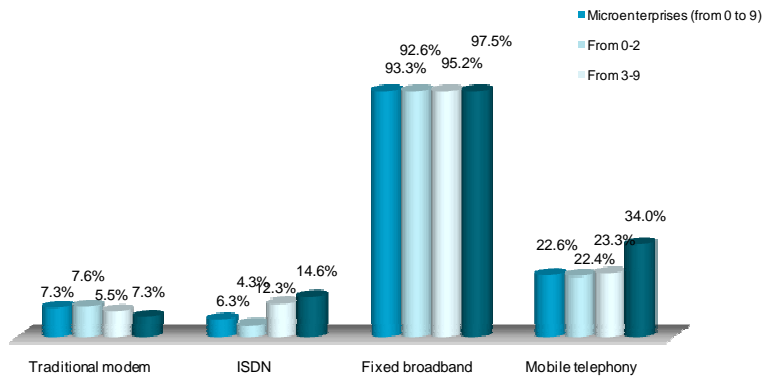


Base: all microenterprises

Source: ONTSI using data from the INE 2009

As in the case of SMEs and large enterprises, broadband stands out far away from mobile telephony, traditional modem or RDSI as Internet access technology. 93.3% of microenterprises with Internet access connect via broadband. The percentages for microenterprises of 0 to 2 and 3 to 9 employees are 92.6% and 95.2%, respectively. The second most widely-used Internet access technology, behind broadband, is mobile telephony, which recorded a growth of more than 4 points in microenterprises in one year, reaching a penetration of 22.6% in respect of total enterprises with Internet. In the case of microenterprises with 3 to 9 employees, this figure rises to 23.3%.

**Type of Internet connection (%)**

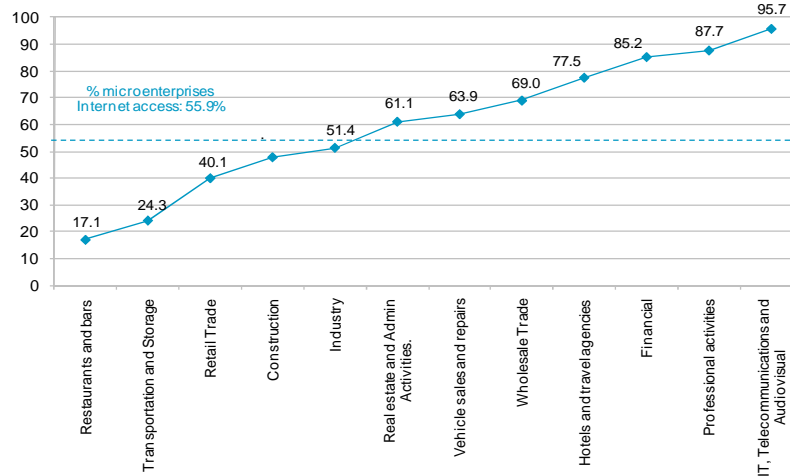


Base: total companies with Internet

Source: ONTSI using data from the INE 2009

Around 96% of micro-enterprises in the IT, telecommunications and audiovisual sector have Internet access. This is the sector with the highest percentage. These are followed by enterprises in the professional activities sector, where the percentage of microenterprises with Internet access is 87.7%. The financial sector, with 85.2%, closes the group of sectors with penetrations above 80%.

#### Microenterprises with Internet access by sector (%)



Base: all microenterprises

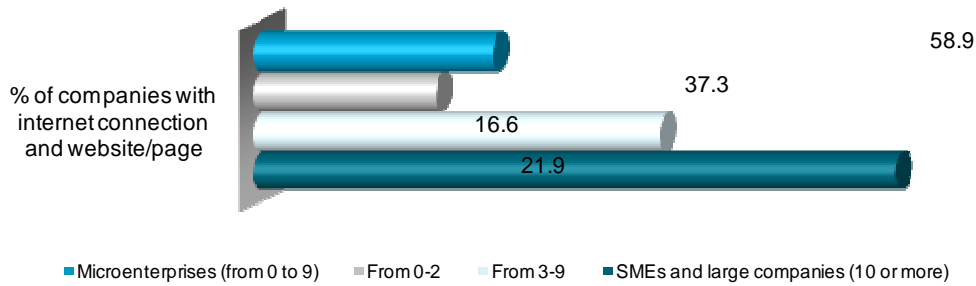
Source: ONTSI using data from the INE 2009

Other sectors that record percentages above the average are hotels and travel agencies, wholesale trade, sale and repair of vehicles, and real estate and administrative activities, with percentages higher than 60% in all cases. Restaurants and bars, with 17.1%, are the only case with a penetration rate below 20%.

Nearly 4 out of 10 microenterprises with 3 to 9 employees and Internet access have their own website, a difference of more than 20 points compared to microenterprises with 0 to 2 workers that record a percentage of 16.6%. The global average is 21.9%.

#### Enterprises with website (%)



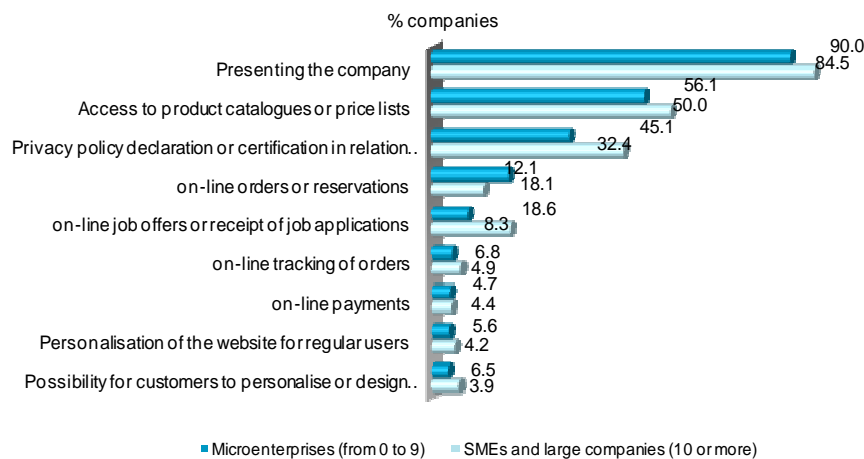


Base: total companies with Internet

Source: ONTSI using data from the INE 2008

The main aim of the website is to present the company. Almost 84.5% of microenterprises use it for this purpose. Following the same pattern as SMEs and large enterprises, the following reasons for microenterprises to have a web page are, in order of importance, access to product catalogues or price lists, and to privacy policy statements or certifications.

#### Objectives /services offered on company websites (%)



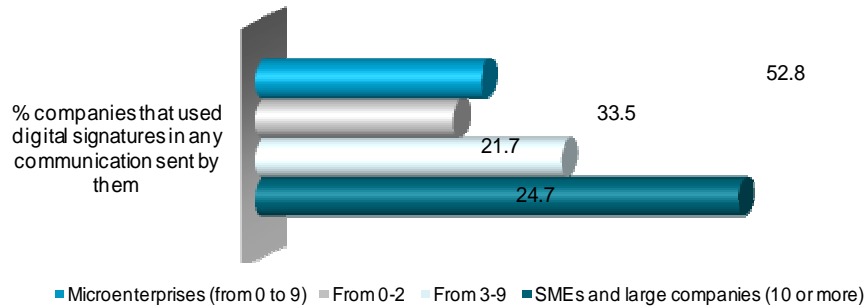
Base: all companies with Internet and a website

Source: ONTSI using data from the INE 2009

One quarter of microenterprises have used digital signatures for communications sent from the company. In the case of microenterprises with the largest number of employees, the percentage reaches 33.5%, while in those with 0 to 2 employees the percentage is 21.7%.

The digital signature is more widely-used in the area of dealings with the Public Administration (85.32% of microenterprises) than in relations with customers and/or suppliers (21.45%).

#### Enterprises using digital signature (%)

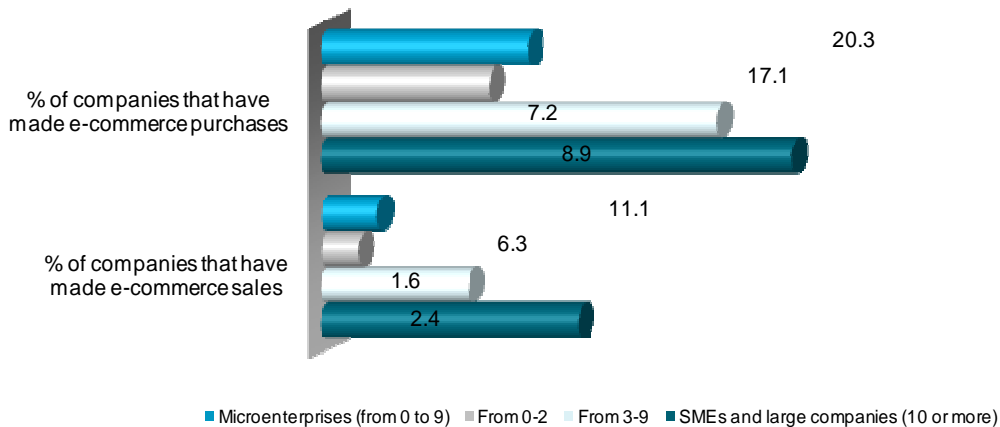


Base: total companies with Internet

Source: ONTSI using data from the INE 2009

Overall, 8.9% of microenterprises buy through e-commerce, compared to 2.4% that sell via this means. Irrespective of size, the percentage of microenterprises making purchases using e-commerce is higher than that of microenterprises selling via this means. In the case of microenterprises with 3 to 9 employees, there are 17.1% of them making Internet purchases and 6.3% selling online. For those of a larger size, the percentages are 7.2% and 1.6%, respectively.

#### Enterprises buying and selling using e-commerce (%)



Base: all companies

Source: ONTSI using data from the INE 2009

## E-GOVERNMENT

One of the priority objectives of the European Commission for all the State Members is the achievement of an inclusive Information Society, with better public services that allow enhancing citizens' quality of life and improving organizations' efficiency. For both purposes, the role of Information and Communication Technologies and their implementation in the public administration (e-Government) is essential.

According to the results included in a report of the United Nations Department of Economic and Social Affairs, "United Nations e-Government Survey 2010: leveraging e-government at a time of financial and economic crisis", supported by a set of simple and

complex indicators, Spain has made notable progresses in terms of e-Government. In fact, Spain is one of the reference countries in the world, occupying the third position out of 192 countries in the e-Government readiness ranking (The United Nations Government index, EGDI), and the third position out of 157 countries in the UN eParticipation index, climbing up 31 positions compared to 2008. Another highlight is that Spain is ranked 5<sup>th</sup> according to the Online Services indicator.

### e-Participation Index (2008-2010)

2008		2010	
Country	Score	Country	Score
1 USA	1	1 Republic of Korea	1,00
2 Republic of Korea	0.98	2 Australia	0.91
3 Denmark	0.93	3 Spain	0.83
3 France	0.93	4 New Zealand	0.77
5 Australia	0.89	4 United Kingdom	0.77
6 New Zealand	0.79	6 Japan	0.76
7 Mexico	0.75	6 USA	0.76
8 Estonia	0.73	8 Canada	0.73
9 Sweden	0.66	9 Estonia	0.69
10 Singapore	0.64	9 Singapore	0.69
11 Canada	0.61	11 Bahrain	0.67
11 Japan	0.61	12 Malaysia	0.66
11 Luxembourg	0.61	13 Denmark	0.64
14 Ukraine	0.57	14 Germany	0.61
15 Jordan	0.54	15 France	0.6
16 Holland	0.52	15 Holland	0.6
16 Norway	0.52	17 Belgium	0.59
16 Vietnam	0.52	18 Kazakhstan	0.56
19 Bhutan	0.5	19 Lithuania	0.53
20 Austria	0.48	20 Slovenia	0.51
20 China	0.48	21 Austria	0.5
20 Lithuania	0.48	21 Norway	0.5
23 Argentina	0.45	23 Cyprus	0.49
23 Brasil	0.45	23 Sweden	0.49
25 Colombia	0.43	25 Croacia	0.46
25 Mozambique	0.43	26 Colombia	0.44
25 United Kingdom	0.43	26 Ireland	0.44
28 Belgium	0.41	28 Kyrgyzstan	0.43
28 Bolivia	0.41	28 Mongolia	0.43
28 Lebanon	0.41	30 Finland	0.41
28 Switzerland	0.41	30 Israel	0.41
32 El Salvador	0.39	32 China	0.37
32 Malta	0.39	32 Mexico	0.37
34 Costa Rica	0.36	34 Chile	0.35
34 Spain	0.36	34 Malta	0.35

Source: United Nations 2010. e-Government Reports 2008 and 2010

The main axes of e-Government in Spain are eEducation, eHealth, eJustice, Plan to promote eAdministration, and e-ID.

In 2010, over 97% of the procedures that citizens perform with the public administration are accessible on the Internet, according to the State Secretariat for Civil Service of the Ministry of the Presidency.

According to the data of the European Commission for 2009, 80% of the 20 basic electronic public services were available in Spain in 2009, a percentage quite above the EU-27 average (71%), which represents a significant increase from 50% in 2003. Over 1,300 services of the central administration and 1,200 of the regional administrations are

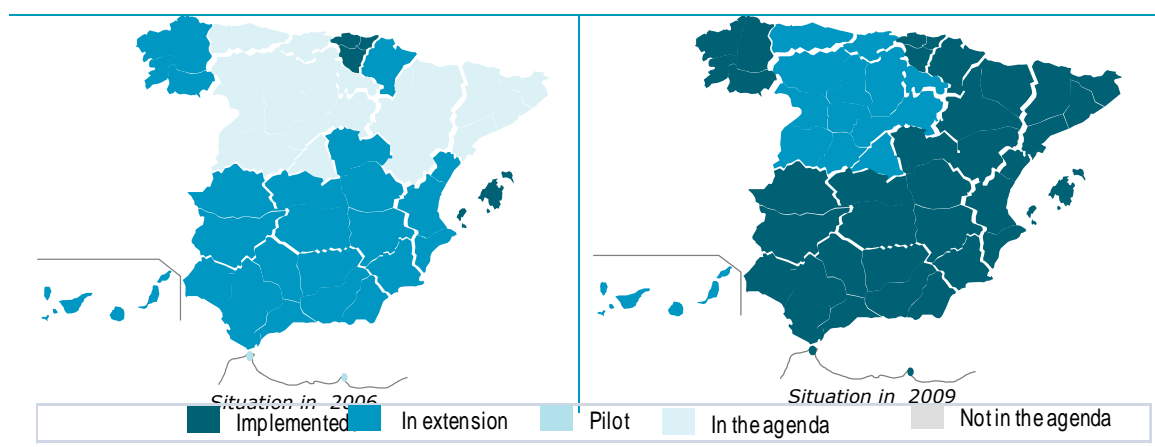
available online and access to them is enabled through the use of the e-ID, which places Spain 11th, together with France and Norway, out of 31 countries.

The eHealth program has a total budget of €448 million for the period 2006-2012, 54.3% funded by the central government and 45.7% by the autonomous region. This program has enabled, to January 2010, the installation of 102,379 pieces of equipment (PCs, printers, servers, screens), and has benefited 6,521 health centres, 201,139 health professionals and over 39 million patients. These figures point at Spain as the leader of the EU in eHealth services readiness.

Some specific applications of ICT in the health system are e-prescriptions, EHRs (electronic health records) and online appointments. Electronic prescription recorded a positive overall balance in the period 2006-2009, since it was 100% implemented in three autonomous regions (Andalusia, the Balearics and Extremadura), is becoming extended in other 5 regions, and is in its first stage in the rest.

At the same time, health centres of ten autonomous regions, together with Ceuta and Melilla, have EHRs already in place and the rest of the regions are deploying solutions to implement this service. In general terms, the system is available in 98% of all health centres in the NHS (National Health Service).

#### EHR implementation in the National Health System (2006-2009)



Source: Red.es using data from the National Health System Health Services

As well as health, education is another priority axis in the field of ICT. Within the framework of Plan Avanza, €453 million have been allocated to the promotion of ICT in education through the program 'Internet en el Aula' (Internet in the Classroom), which is targeted at primary and secondary education centres. To 2009, 10,314 centres have benefited from the program, a 9% increase with respect to 2008. 126,416 computers and 18,321 Internet access points have been installed with the subsequent benefit for over 2.8 million students in more than 131,000 classrooms.

In the field of justice, the incorporation of ICTs has significant implications, since it allows improving the agility and the efficiency of the justice system. The budget allocated to this in the context of Plan Avanza amounts to € 68.8 million.

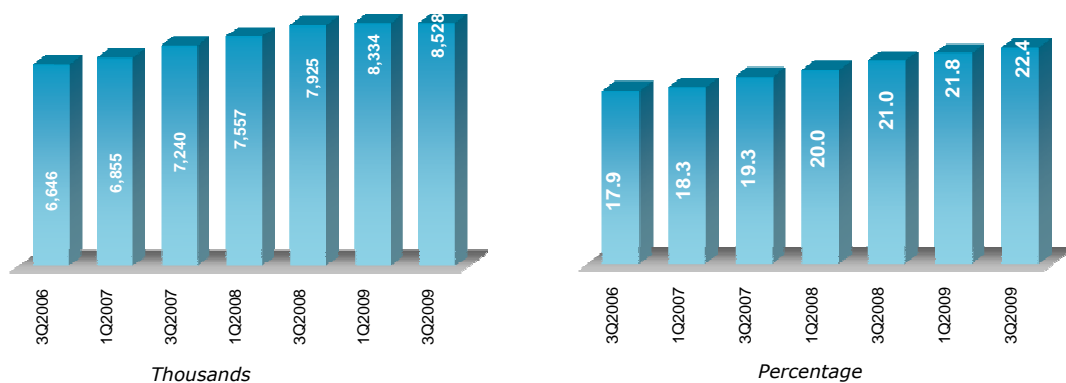
To 2009, ICT infrastructures have been deployed in 1,596 out of the 7,677 target courts, 20.8% of the objective value. Additionally, 110,363 Registrar Books have been digitalised at civil registers and magistrates' courts.

One of the most noteworthy facts in 2010 is that over 17 million Spanish citizens already hold their e-ID Card, which positions our country at the forefront of the world in number of electronic identifications.

All the economic efforts are being rewarded, which is clearly evidenced by the use level of e-Government both by citizens and enterprises. However, there is still plenty of room for improvement, specially in the case of citizens.

In accordance with the data collected in the 26th edition of the Household Panel prepared by Red.es, 8.5 million people had contacted the public administration via the Internet in the third quarter of 2009, a figure that represents 22.4% of the population aged 15 and over and an increase of more than 600,000 individuals compared to the same period of the previous year.

**Individuals who have contacted the administration via the Internet (Thousands and %)**



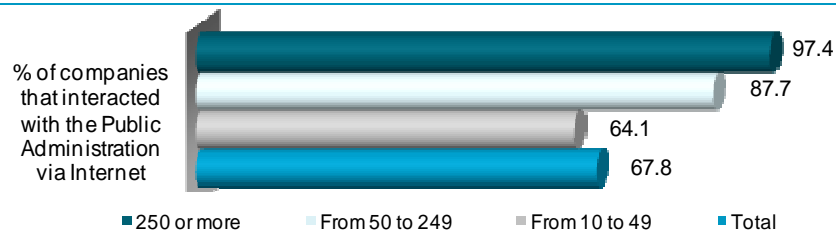
Base: Individuals aged 15 and over

Source: ONTSI

Regarding the procedures that citizens perform with the public administration via the Internet, payment of taxes, tax returns, etc. stands out in the first place with a percentage of over 40.8% of all Internet users who have contacted the e-Administration in the third quarter of 2009. It is followed by request for documents, certificates, etc. that records a percentage of 37% in the same period of time.

In the case of companies, 68% of SMEs and large enterprises interact with the public administration via the Internet. This figure rises to 97.4% in the segment of enterprises with 250 or more employees. The main reasons for interacting are obtaining information (62%) and downloading forms (61.3%). By sectors, the financial sector makes a more extensive use of e-Administration than others, and makes a more sophisticated use of it.

**Enterprises that interact with the public administration via the Internet (%)**



Base: all enterprises of 10 or more employees with Internet access

Source: ONTSI using INE 2009 data

If we focus the analysis on microenterprises (those with 0 to 9 employees), we find that around 39% of them interact with the public administration via the Internet. This percentage goes up to 45.6% in the largest ones (from 3 to 9 employees) and down to 36.5% in those with only 0 to 2.

The two main reasons for interacting, namely obtaining information (34.6%) and downloading forms (33.1%), produce one-way interactions. Additionally, 21% of microenterprises return completed forms and 17% carry out complete electronic management.

By sectors, microenterprises engaged in professional activities record the highest percentage of interaction with the public administration via the Internet and are the only case that exceeds 50%. Enterprises involved in IT, telecommunications and audiovisual activities record 46.9%, followed by real estate and administrative activities with 41.6%. Sale and repair of vehicles has the lowest percentage of microenterprises that interact with the public administration via this channel.