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Report on the State of Communications 2006

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Introduction

According to ICP-ANACOM's statutes, approved by Decree-Law no. 309/2001 of 7 December, it is up to this Authority to produce a report on the state of communications, namely to be presented to the member of the Government overseeing the sector, and to be publicly released.

The current report intends to fulfil the above-mentioned statutory obligations.

This document maintains the same structure adopted the year before. However, some of the contents were modified taking into account the suggestions stated in the opinion of ICP-ANACOM's Advisory Council on the State of Communications' report regarding 2005. Specifically, the Advisory Council suggested that it should “[focus on] *the international comparisons* [and] *the growth's evolution in percentage*”. On the other hand, the report was complemented with an integrated analysis of the electronic communications' sector and its consumer. In general, the reference period for the analyses made is 2000-2006.

Thus, the current report, after an initial analysis of the international framework, in which the evolution of the electronic communications sector in the European Union (EU) is analysed, contains an integrated view of the sector and characterizes the electronic communications' consumer in global terms. Following that, a chapter is dedicated to each of the main electronic communications retail services: telephone service at a fixed location (FTS), mobile telephone service (MTS), Internet access service (IAS) and paid television signal distribution service. The second part presents the evolution of postal services.

For each of the considered services, the service itself is characterized, as well as its providers and its users profile, the barriers to service subscription are described, the level of service use, level of prices, and the consumers'

evaluation of these services is presented, and the evolution of competition is assessed.

As mentioned previously, whenever possible, international comparisons were used in order to evaluate the service's evolution in Portugal.

An annex contains a set of statistical elements on the sector and the analysed services. In previous years, these items were presented on the Communications Statistical Yearbook. However, it was now decided to publish this data together with the State of Communications, which will allow for their quicker release and provide a more detailed analysis of the main trends described in the Report.

Chapter 1 – Framework

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- 1. Framework: Electronic communications in the European Union (EU). 4**

Framework: Electronic communications in the European Union (EU)

This chapter presents the evolution of the electronic communications sector in the EU, identifying the main aspects of its recent evolution as well as the factors explaining it.

According to the European Commission¹, electronic communications services are the main segment in the Communications and Information Technology (ICT)'s sector, standing for 45 per cent of its overall revenues.

In 2006, the electronic communications sector generated a 289 billion Euros profit and grew some 2.3 per cent. This growth is below that registered the previous year (in 2005, the sector's revenues had increased between 3.8 per cent and 4.7 per cent).

Currently, the mobile sector revenues stand for about 45 per cent of total revenues, having largely overcome fixed vocal telephony services' revenues (30 per cent). Broadband already stands for about 20 per cent of sector's revenues. Cable television distribution services complete the list of the main services provided (5 per cent).

Although voice services make up the largest part of electronic communications services' revenues, the trend is the increase in the weight of data services, due to the ongoing technological transformations, and to the current stage of the traditional services' life cycle.

This trend is already clear regarding investment. Investment on the sector increased about 5 per cent and was mainly driven by the high demand of broadband data services, which fostered investment in the technological update

¹ European Commission, European Communications Regulation and Markets 2006 (12th Report)

of the offers (e.g.: the transition to broadband networks based on fibre optics, the increasing access speeds, and the creation of new generation networks). The development of offers over unbundled lines also contributed to the increase of investment in some markets.

This trend was also registered at the commercial level, with the development and package offer of voice, video and data services - multiple play offers. We following present the main aspects of the evolution of fixed, mobile and broadband services in the EU, during 2006¹.

Fixed voice telephony

Concerning fixed voice telephony, 2006 witnessed a fall in revenues of this the service. Revenues decreased between 4.5 and 5.1 per cent, thus reinforcing the trend registered in previous years. Nevertheless, fixed voice telephony is still the fixed operators' main revenue source, namely incumbent operators.

The evolution of fixed voice telephony in the EU has been mainly influenced by the phenomenon called fixed-by-mobile replacement, the growing competition between the service's operators, and also the development of innovative ways of providing the service, such as the voice over Internet Protocol (VoIP).

Regarding competition, it is largely based on indirect access. However, some countries register a decrease in the demand of these regulated offers as operators invest on their own infrastructure or migrate to regulated offers that make it possible to provide services with more attractive profit margins.

Given this segment's decreasing revenues, operators launched multiple play offers, in some cases promoting migration from broadband and speeding up convergence between services. About 19 per cent of European households already consume package offers, the double play offer made up of voice and

Internet being the most popular package. 2006 also registered a slowing down of the downward trend on service prices and even their stagnation.

Mobile services

Revenues generated by mobile services in the EU increased about 4.6 per cent, a figure below that of the previous years. At the same time, mobile voice traffic is overcoming fixed voice traffic in most EU countries.

On the other hand, MTS penetration in the EU overcame for the first time the 100 per cent figure. In 2006, MST penetration reached 103.2 accesses per 100 inhabitants, 8.2 per cent more than in 2005.

These clear signs of the service's maturity are accompanied by an increase in competition and a decrease in the service's prices – prices decreased 13.9 per cent in 2006.

In this stage of the traditional mobile services' life cycle, operators have been promoting data services, namely those based on 3rd generation (3G) mobile technologies. It is estimated that between 10 and 15 per cent of EU's mobile subscribers already have a 3G device. Broadband Internet access or Mobile TV are examples of higher value added services launched by mobile operators.

Broadband

Broadband revenues increased between 7.8 and 8.5 per cent in 2006.

In terms of accesses, broadband increased around 38 per cent. Average broadband penetration in the EU got close to 16 accesses per 100 inhabitants.

Some EU countries – Holland, Denmark and Finland, for example – are worldwide leaders in this field.

The new package offers, lower price offers, and the increase of transmissions speeds – which make it possible for to access contents consuming higher bandwidth – also contributed to this evolution.

Competition is also growing. In 2006, for the first time, the sum of the alternative operators' the market shares took over the historical operators' access shares. The regulated offers should be the main responsible for this evolution, while at the same time making it possible for operators to reach higher levels in the so-called '*investment ladder*'.

Chapter 2 – The evolution of electronic communications services and the consumption of electronic communications services – integrated view

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2. The evolution of electronic communications services and the consumption of electronic communications services – integrated view

The following chapters will present the state of the electronic communications services in 2006. The report's structure is based on the regulatory definitions of the services. However, these services' consumption, production and distribution is often made together. The presentation scheme used in this report may possibly overshadow this fact.

In order to avoid possible misinterpretations or partial interpretations of the information provided, we following present, in broad and approximate terms, an integrated view of the global evolution of electronic communications. We also characterize the electronic communications residential consumer, in global terms².

2.1. Global evolution of electronic communications

In this section we adopt an approach that considers electronic communications services to be voice services (fixed and mobile telephone services), data (mainly Internet Access) and video (TV signal distribution) services. These services are distributed over several access networks, namely: mobile networks, traditional fixed network, cable and satellite TV distribution networks, and other radio means.

This a first approach to a new way of structuring the existing information.

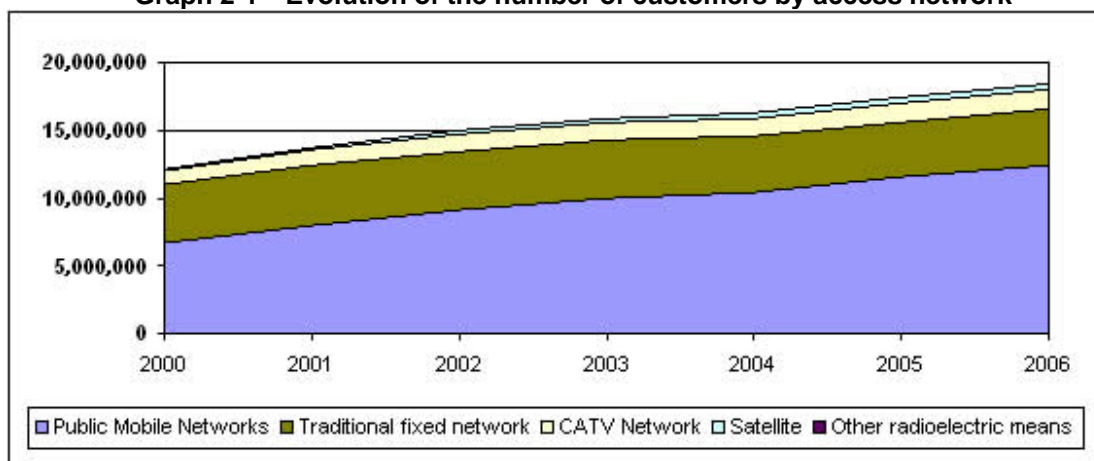
² One does not intend to anticipate or support any decision concerning the definition of electronic communications services' relevant markets.

2.1.1. Means of access to the service

Globally, the number of physical means used by consumers to access electronic communications services has grown about 7 per cent a year, during the period under review. This evolution is mainly due to the growth of mobile networks and, to a lesser extent, to cable TV distribution networks.

Mobile networks have strengthened their importance as a means of access to the services, growing an average 11 per cent a year. The traditional fixed network has seen its weight decrease – between 2000 and 2006, it decreased of 1 per cent a year on average. Cable TV distribution networks have grown around 7 per cent a year, maintaining their relative importance. Satellite networks, albeit growing 22 per cent since 2000, only stand for 2.5 per cent of the overall access means.

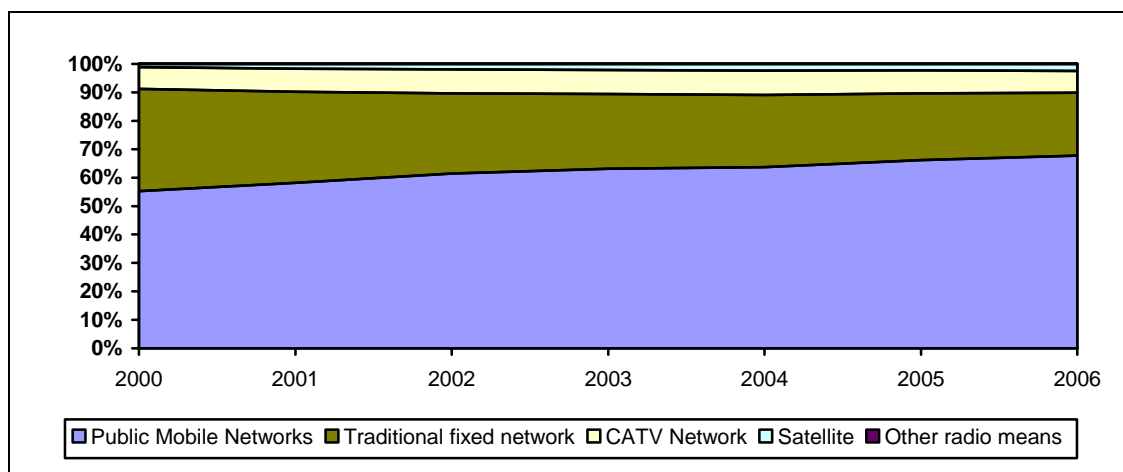
Graph 2-1 – Evolution of the number of customers by access network



Source: ICP-ANACOM

As shown on the following table, the main means of access to electronic communications services are mobile networks and the traditional fixed network. Mobile accesses make up about two thirds of the overall accesses, while the traditional fixed network stands for about one quarter of the total amount. Cable TV distribution networks are responsible for around 8 per cent of all accesses. The remaining means of access stand for very small fraction of the total.

Graph 2-2 – Evolution of the number of customers by access network (relative weight)



Source: ICP-ANACOM

2.1.2. Electronic communications services

Voice, data and video services can be provided over any of the above mentioned access means.

Currently, other services besides voice and low debit data are provided over the traditional fixed network, such as broadband Internet access services, and over these, TV distribution services.

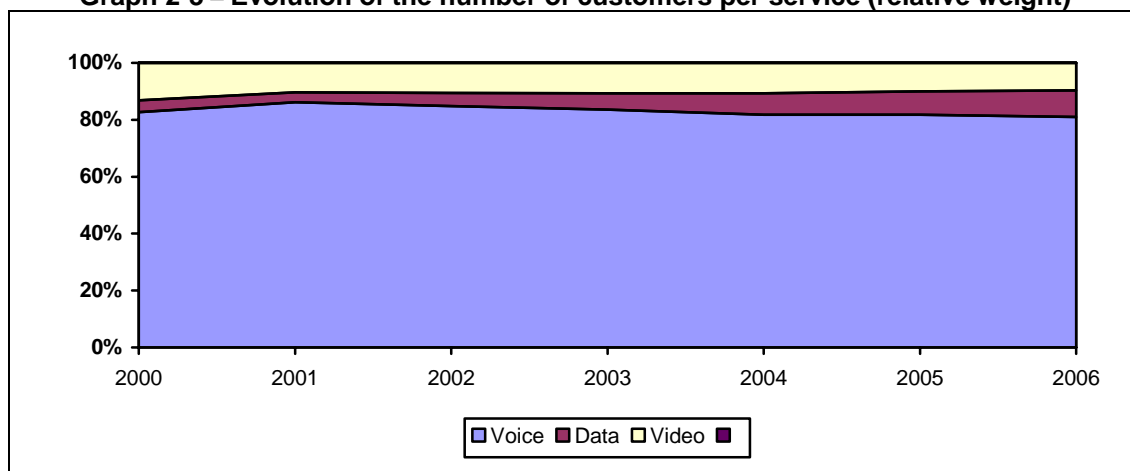
In the same way, fixed telephony and broadband Internet access services are provided over the cable distribution networks.

With 3rd generation mobile networks, broadband Internet access and TV distribution started being provided to mobile networks' customers.

Currently, in Portugal, satellite networks are mainly used to provide TV distribution services.

As shown, voice services are responsible for about 80 per cent of all electronic communications services' customers. However, voice's relative weight has been slowly decreasing, for the service's average growth rate between 2000 and 2006 (15.1 per cent) has stood below the overall growth rate (15.5 per cent). Data services were the ones with a greater growth, an average of 32 per cent a year, reaching around 9 per cent of total customers by the end of the period under review. TV services – mostly provided by the cable TV operators – have been losing their relative importance in the total number of the services' customers, although they are growing at an average rate close to 10 per cent a year.

Graph 2-3 – Evolution of the number of customers per service (relative weight)

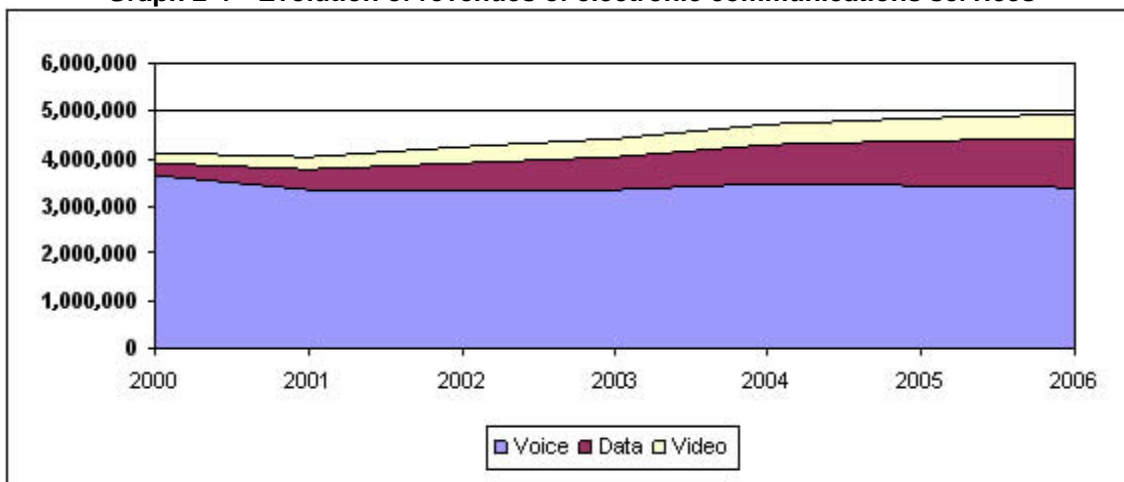


Source: ICP-ANACOM

Albeit the lead of voice services in terms of customers, if service revenues are considered, data and video services are the main responsible for the growth in the services' revenues.

Voice services' revenues, which stood for about 90 per cent of revenues in 2000, stand now for only 70 per cent, having decreased at an average 1.2 per cent a year. On the other hand, data revenues increased about 25 per cent a year, while video revenues increased 16 per cent a year.

Graph 2-4 – Evolution of revenues of electronic communications services



Source: ICP-ANACOM

2.2. Usage profile of the electronic communications' residential user

This section contains an integrated view of the electronic communications services' residential user. To achieve that purpose, we will make use of the Survey to the Consumption of Electronic Communications of December 2006³.

³ The universe defined for this study included individuals of both genders, aged 15 years old or over, residing in Mainland Portugal and in the Autonomous Regions of Madeira and the Azores. Selection of those interviewed was made by method of gender, age, education and occupation quotas. The sample was stratified by region and habitat. 2,519 interviews were conducted overall. 997 were made by mobile phone and 1,522 were conducted via fixed network. The fieldwork and data handling was performed by MARKTEST between 9 November and 29 December 2006. Only the observations from interviewees that answered to all questions concerning the possession of services were used in reckoning the frequencies shown in this chapter's tables. Due to limitations associated to the inquiry collection method, it is not possible to study the 'only Internet' or 'only TV' hypotheses. The conclusions presented were statistically validated. The Chi-Square test was applied to all tables to verify the possibility of the existence of no relationship between the table's lines and columns, and that possibility was dismissed in all tables.

2.2.1. Household consumption of electronic communications services

Taking the Portuguese households has a reference and considering the Fixed Telephone (F), paid TV (TV), Mobile (M) and Internet (I) services, 1 out of each 5 Portuguese households only has the mobile telephone service. This is the most common situation in Portugal.

However, households that have four of the mentioned services come in second place.

Table 2-1 – Electronic communications services available at the household

	% of answers
M	20.4
F+TV+M+I	17.7
F+M	13.8
F+M+I	10.9
TV+M+I	8.8
F+TV+M	8.4
TV+M	7.9
F	6.8
M+I	2.5
F+TV	1.8
F+TV+I ⁴	0.6
F+I ⁴	0.5

Source: ICP-ANACOM, Survey on the use of electronic communications services - 2006

On the other hand, it should be stressed out that less than 9 per cent of the households with electronic communications services do not have the mobile telephone service, while about 40 per cent do not have fixed telephone service.

Mention should be made, in this scope, to the significant percentage of users that buy these services in packages. According to the European Commission⁵, 13 per cent of households in Portugal benefit from these offers, against 18 per cent in the EU.

⁴ Due to the lack of statistical relevance, from now on situations where there is Internet at the household and the interviewee does not have a mobile phone will be taken off the analysis.

⁵ European Commission, *E-Communications Household Survey*, March 2007.

However, 52.7 per cent of the Internet access service customers bought this service in a package. More than half of those surveyed had a service package that includes TV and Internet.

Table 2-2 – The Internet access service as part of a service package

<i>«Is your Internet service part of a service package, with fixed telephone or television?»</i>	%
Yes	52.7
No	42.6
N.a.	4.8
Total	100

Source: ICP-ANACOM, Survey on the use of electronic communications services – 2006

The remaining customers subscribe to the Internet access service together with the fixed telephone or together with fixed telephone and TV (triple-play).

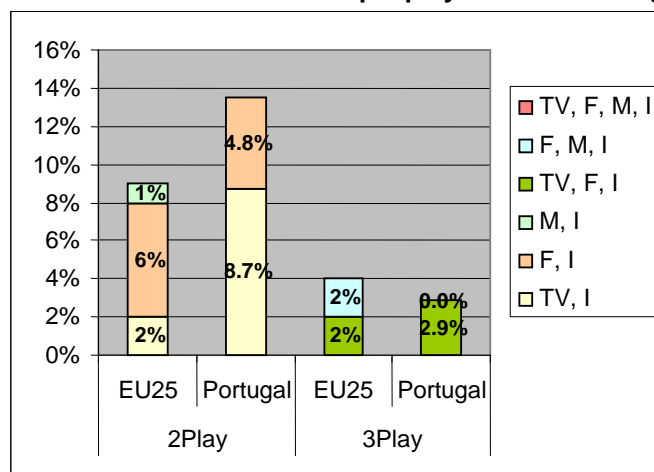
Table 2-3 – Services included in the Internet package

<i>«Besides Internet, what services are included in the package?»</i>	%
Television	50.9
Fixed telephone	31.1
Fixed telephone + Television	17.2
N.a.	0.9
Total	100

Source: ICP-ANACOM, Survey on the use of electronic communications services – 2006

According to the available information, most users that buy service packages in Portugal are the customers of cable TV distribution operators. In fact, offerings such as double-play and triple-play combining TV and Internet provided in Portugal since several years, show a usage intensity above the European average.

Graph 2-5 – Distribution of the multiple play offers including Internet



Source: ICP-ANACOM, Survey on the use of electronic communications services – 2006 and European Commission, E-Communications Household Survey, 2006

By the end of 2005, Portugal witnessed the emergence of news TV distribution offers enclosed in triple-play service packages and based on xDSL/IP and FWA. According to the available information, these offers still didn't have a reasonable expression by the end of 2006.

2.2.2. Characterization of the consumption of electronic communications services by geographical area

Greatest Lisbon and the Autonomous Regions of the Azores and Madeira are the regions with relatively more households with the 4 services considered. On the end, the percentage of households with all these services simultaneously is very small the in the Inner North.

On the other hand, Madeira is the Region of the country with relatively more households with electronic communications services with 3 electronic communications services. The Azores and the Inner North have a lower penetration of these service bundles.

Table 2-4 – Electronic communications services available at the household by region (%)

	Greatest Lisbon	Greatest Porto	Littoral North	Littoral Centre	Inner North	South	Madeira	Azores	Total
M	13.3	16.2	24.3	24.3	26.9	22.9	6.2	6.2	20.5
F+TV+M+I	27.8	18.9	14.4	14.6	6.9	19.5	27.8	38.3	17.5
F+M	8	9.9	14.6	12.2	22.8	13.2	10.3	13.6	13.8
F+M+I	5.3	9.6	13.7	15.1	11.1	14.3	9.3	2.5	10.9
TV+M+I	14	16.9	7.2	7.7	3.2	4.9	14.4	2.5	8.8
F+TV+M	13.1	6.3	7.2	8.2	6.1	4.9	16.5	13.6	8.4
TV+M	9.8	12.9	6.1	8.2	4.2	9	7.2	7.4	7.9
F	2.9	4	5.8	6.1	13.9	7.9	4.1	2.5	6.8
M+I	2.4	2.6	3.8	1.6	2.8	2.3		1.2	2.5
F+TV	2.4	1.7	1.3	1.1	1.2	0.4	2.1	11.1	1.8
Total	100	100	100	100	100	100	100	100	100

Source: ICP-ANACOM, Survey on the use of electronic communications services – 2006

It should be highlighted that the inner north and inner centre regions are those with relatively more households with only one electronic communications service: the fixed or the mobile telephone service.

2.2.3. Characterization of the consumption of electronic communications by social class and education level

There is a positive relation between the social class⁶ and the consumption of 3 or 4 electronic communications services. The higher social stratum, the higher is the use of these combinations of services.

On the other hand, the lower the social stratum, the higher is the possibility of only using 1 electronic communications service. The use of mobile phone is transversal to all social classes.

The same occurs with education. There is a positive relation between the education level and the number of services available at the household.

⁶ The social class variable is reckoned by crossing of the education level and the occupation or professional situation and determines, indirectly, the household's available income.

Table 2-5 – Electronic communications services available at the household by education level (%)

	4th grade	6th grade	9th grade	12th grade	University education	Total
M	22.3	28.3	23.5	20.2	9.5	20.5
F+TV+M+I	6	7.4	16.8	22.6	35.7	17.5
F+M	21	20.9	13.1	10	4.1	13.8
F+M+I	4.6	12.5	9.4	15	15.5	10.9
TV+M+I	2.2	3.4	8.5	12.4	17.5	8.8
F+TV+M	8.6	8.4	11.8	7.9	5.5	8.4
TV+M	6	11.4	10.7	7.1	6.6	7.9
F	22.2	3.4	1.3	0.5	0.5	6.8
M+I	0.4	1.7	2.4	3.6	4.8	2.5
F+TV	4.3	1.7	1.5	0.3	0.2	1.8
Total	100	100	100	100	100	100

Source: ICP-ANACOM, Survey on the use of electronic communications services - 2006

It should be mentioned that only 10.5 per cent of residents over 25 years old have concluded higher education in Portugal⁷. On the other hand, the proportion of residents aged between 20 and 24 years old that concluded secondary education is of 48.4 per cent. In the EU, this figure is of 76.9 per cent. Taking into account the information available, it is possible that education level of the population residing in Portugal is an obstacle to the development of electronic communications in Portugal.

2.2.4. Composition of the family household and the use of electronic communications

According to the information available, the higher the size of the household, the higher is the probability of it being equipped with the four services considered. While households with three or four people are clearly above the average, regarding the use of the four services, only 1 per cent of households with one person have four services. Internet normally exists in households with 3 or 4 people.

⁷ Cf. INE, Portugal's Statistical Yearbook-2005.

Table 2-6 – Electronic communications services available at the household and number of people living in the family household (%)

<i>«How many people live in your family household?»</i>						
	1	2	3	4	>=5	Total
M	33.7	22.3	20.3	16.8	16.1	20.5
F+TV+M+I	1.1	9.7	19.9	26.6	20.1	17.5
F+M	9.5	17.7	12.4	10.8	18.3	13.8
F+M+I	2.6	4	12	16.8	15.4	10.9
TV+M+I	8.4	10	9.6	7.5	6.8	8.8
F+TV+M	10	10.5	8.1	7.1	6.5	8.4
TV+M	11.1	8.6	9.2	6	5.4	7.9
F	13.2	13	3.9	3.2	4.7	6.8
M+I	4.7	1.7	2.1	2.4	3.9	2.5
F+TV	4.7	2.2	1.2	0.9	2.2	1.8
Total	100	100	100	100	100	100

Source: ICP-ANACOM, Survey on the use of electronic communications services – 2006

On the other hand, the children and youngsters within the household is related with the availability of more electronic communications services. The possession of fixed telephone and Internet is a characteristic of households with youngsters aged from 15 to 24 years old.

The percentage of households with all electronic communications services is two times greater in households where there are youngsters in this age group.

Table 2-7 – Electronic communications services at the household and the presence of youngsters aged between 15 and 24 (%)

<i>«Are there youngsters between 15 and 24 years old living in your household?»</i>			
	No	Yes	Total
M	20.7	20.1	20.4
F+TV+M+I	14.4	22.8	17.7
F+M	15.6	11.0	13.8
F+M+I	7.3	16.5	10.9
TV+M+I	8.8	8.6	8.8
F+TV+M	10.1	5.7	8.4
T+M	8.4	7.2	7.9
F	9.5	2.5	6.8
M+I	2.2	2.9	2.5
F+TV	2.4	0.7	1.8
Total	100	100	100

Source: ICP-ANACOM, Survey on the use of electronic communications services - 2006

On the other hand, having all the electronic communications services is more common in the households with children between 7 and 14 years old.

Table 2-8 – Electronic communication services in the household and the existence of children in the household (%)

«Are there children aged between 7 and 14 years old living in your household?»			
	No	Yes	Total
M	20.5	20.4	20.4
F+TV+M+I	15.8	24.5	17.7
F+M	14.2	12.1	13.8
F+M+I	10.4	12.8	10.9
TV+M+I	8.6	9.2	8.8
F+TV+M	8.7	7.2	8.4
T+M	8.1	7.2	7.9
F	8	2.5	6.8
M+I	2.7	2	2.5
F+TV	1.8	1.4	1.8
Total	100	100	100

Source: ICP-ANACOM, Survey on the use of electronic communications services – 2006

It should be mentioned that in Portugal a decrease in the size of households is being registered. At the same time, Portugal is one of the EU countries with an oldest population⁸. This factor may start having impact on the demand for electronic communications services.

⁸ According to INE (National Statistical Institute): Portugal “is one of the countries of the European Union with a greater elderly population; in 2004 it stood in third place, after Germany and the United Kingdom”.

Chapter 3 – Fixed Telephone Service (FTS)

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3. Fixed Telephone Service (FTS)

This chapter shows the state of the FTS at the end of 2006, namely describing this service's offer, its usage and consumer profile, and the evolution occurred during that year.

Following is a summary of the main items of the service's evolution during 2006.

3.1. Main items of the evolution in 2006

- In 2006, for the second consecutive year, the number of FTS's direct access customers did not decrease. In fact, there were 3.25 million direct access customers registered by the end of the year, a figure close to that recorded in 2001. This result is motivated by the increase in the number of offers based on the Reference Unbundling Offer (RUO) and, mainly, by the emergence of offers using the network based on GSM (global system for mobile communication) as an access network.
- Regarding indirect access, the growing trend for pre-selection and call-by-call selection customers was reverted, falling -8.5 and -32 per cent, respectively. This evolution could be explained by the investment of new providers on other business models with better expected revenues, and by the tariff offerings by the incumbent operator.
- One of the most recent trends is the development of VoIP services. Currently there are 21 providers authorised to provide this kind of service. Two of these operators launched Nomadic VoIP services in 2006. The relative weight of this service in terms of customers and traffic is still quite small.

- Albeit the increase in the number of direct access customers, a trend persists concerning the decrease of this service's usage level. Traffic originated in the fixed network decreased 12 per cent in 2006, influenced by the migration of dial-up Internet access traffic to broadband.

Voice traffic decreased 4 per cent, in line with the average recorded in the latest years. This decreasing trend of voice traffic is linked to the phenomena named fixed-mobile replacement.

On the other hand, service revenues decreased 11 per cent, with the installation and subscription revenues falling for the first time since 2002. During the first years of the period under review, the increase in this type of revenues was a result of the tariff balancing process implemented by PT Comunicações, SA (PTC). In 2006, the fall of the average annual prices charged by PTC and the subscription by this company's former customers of offerings from alternative operators based on the Subscriber Line Resale Offer (SLRO) and on their own or leased infrastructure – offerings which had monthly subscription fees below PTC's – led to a decrease of this type of revenues.

- In 2006, prices paid by FTS residential customers in Portugal are above the average of the prices in the EU countries, although they contributed to the European average. Prices in Portugal remain below the European average for the items installation, subscription and calls to mobile numbers, and above the European average for calls to fixed numbers and calls to international numbers.
- FTS has a high satisfaction level in general. According to the most recent Survey on the use of electronic communications, 95 per cent of the users were satisfied with the overall quality of the service. Regarding consumer satisfaction with the prices practiced in the FTS, the opinion is less positive, with 49 per cent of those interviewed stating that they are not satisfied with

the charged prices.

- Regarding the development of competition, the investment of alternative operators on offerings without telephone subscription (namely based on GSM, on cable television distribution networks or on multiple play), resulted in a 11 per cent fall in the share of accesses of Group Portugal Telecom (PT), which reached 78 per cent.

It should be mentioned that, according to the European Commission, the share of direct access customers from alternative providers in Portugal is the third highest one among the considered countries.

Regarding voice traffic, Group PT's share suffered a 3.1 per cent drop, reaching about 71 per cent. In the European ranking, Portugal holds an intermediate position concerning the incumbent operator's traffic share and the rate of customers that use alternative providers to make calls.

To this situation contributed the release of lower price offerings, namely indirect access ones and those based on the Local Loop Unbundling (LLU).

3.2. FTS offer

The FTS is the offer to the general public of voice routing, in real time, between fixed locations, giving any user with a device that is connected to a terminal point of a network the chance to communicate with another terminal point.

The service is provided by entities with a general authorization for the provision of the service, as well as by the universal service provider.

Below is a more detailed description of the services and the entities providing these services in Portugal.

3.2.1. Changes occurred in the provision of the FTS

Traditionally, telephone services were offered together (bundled) with the access to the public telephone network at a fixed location. The service was provided over the fixed telephone network and the local access network was made up of copper wire pairs. The digits that made up the telephone number given to each subscriber line made it possible for the service's user to associate that line to a given geographical area and a given service provider.

From the tariff viewpoint, two part tariffs were normally charged, with a clear separation of the component associated to the access (installation and subscription) from the component associated to the usage (price of calls). Regarding the call prices, there was the peak-load pricing and call prices were proportionate to their distance.

This situation was modified due to changes occurred during the latest years, of a regulatory, technological and commercial nature.

Indirect access

With the implementation of the so-called "indirect access", the offer of access to the public telephone network at a fixed location was split from the telephone services provided to the general public at a fixed location.

After 1 January 2000, the users of publicly available telephone services at a fixed location started to benefit from the indirect access service in the mode of call-by-call selection. This function allows FTS users to make telephone calls using the services of other FTS and not their access provider, further to dialling the 10xy code of each operator. Initially, only long-distance and international calls were eligible for the provision of this indirect access service.

After 1 July 2000, a new indirect access mode was launched: provider pre-

selection. This functionality makes it possible for the calls made by a user to be routed to the provider he/she prefers without the need of dialling the selection codes. Initially, pre-selection was implemented through the installation of an auto-dialler device at the customer's phone; pre-selection started being programmed at the operator's switchboards. In that same period, calls that were originated in the fixed networks and destined to a mobile network (fixed-to-mobile calls) started to be eligible for indirect access, both in the call-by-call selection mode and in the pre-selection mode. On 15 November 2000, pre-selection became available for customers of the remaining areas of the country in its final format (without the installation of auto-diallers)

After 1 January 2001, local and long-distance connections also started to be eligible for use via indirect access.

Indirect access was the initially favoured way by most alternative operators to enter the market of telephone services provided at a fixed location, giving them the chance to reach quite important shares in terms of national and international traffic.

Portability

The possibility to keep the telephone number after changing operator, in a framework of competition, is another modification to the traditional way of providing the service that was imposed by sectoral regulation.

Portability, understood as the functionality through which the subscribers of publicly available telephone services that request it may keep their number or numbers, within the scope of the same service, regardless of the company offering it, at a given location in the case of geographic numbers, and all over the country with the remaining numbers, was introduced on fixed networks on 30 June 2001, and on mobile networks on 1 January 2002.

Law no. 5/2004 of 10 February – Electronic Communications Law (no. 5 of article 54 and no.1 of article 125) – empowers ICP-ANACOM to set the rules regarding the implementation of portability, which should take the form of a regulation.

In this context, ICP-ANACOM prepared Regulation no. 58/2005, published on 18 August, which establishes the principles and rules applying to portability on the public telephone networks, mandatory for all companies with portability obligations.

Change is only possible within the same service. I.e., it is possible to change the provider of the telephone service at a fixed location and keep the same number, it is possible to change the provider of the mobile telephone service and keep the same number and, also, it is possible to change the provider of a given non-geographic service (e.g. 800) and keep the same number. But it is not possible, for example, to migrate a number from a provider of telephone service at a fixed location to a mobile telephone service provider, or vice-versa.

Alternative physical means of access

Another change in the provision of the FTS was the emergence of alternative infrastructure to access the service. The highlight goes to the cable television distribution networks which, during the first years of liberalization of the service, made it possible for some operators to get a considerable share of accesses to the public telephone network at a fixed location, as well as radio means. The latter include the Fixed Wireless Access (FWA) and, later on, a solution supported on the frequencies associated to the provision of the Mobile Telephone Service.

It this last case it is a telephone service provided at a fixed locations, supported on the GSM technology and network, on General Packet Radio Service (GPRS) and on Universal Mobile Telecommunications System (UMTS) to access the final customer, and with access via mobile terminals. Mobile terminals make and receive calls within a given geographic area, corresponding to the customer address.

Through a determination of ICP-ANACOM from 14/09/2006, access to the service must be ensured via a terminal connected to a sole pre-determined Base Transceiver Station (BTS) whenever it makes, receives or maintains calls. In exceptional cases, technically justified and recognized by ICP-ANACOM, it is possible to associate the terminal to two – three, at the most - pre-determined BTS. The provider should also inform end users on the service's characteristics, namely by clarifying that the access to the service is exclusively assured at the address stated by the end user, and that there are limitations at the level of caller location in calls made for the European emergency number (112).

These solutions have fostered the market of access to the public telephone network at a fixed location since the end of 2004, and with full development in 2005 and 2006.

Changes at the tariff level and in the way of marketing the service

At the tariff level, there are constant innovations that revolutionize traditional tariff models. On one hand, there is a tendency to create tariff packages where the access and usage components are separate. This happens by eliminating the component associated to access, with usage prices subsidising the access, or by creating access prices that are convertible into calls or with an associated calling credit.

Multiple-play package offers, which integrate voice services, Internet access, television (TV) distribution and contents, are some times associated to these tariff changes. These offers are provided over cable TV distribution networks or over the LLU-regulated offer.

In the cases where usage prices still exist, there is a phenomenon called 'postalization', which is the elimination of the proportionality between the price and the distance, and, to a lesser extent, the elimination of peak-load pricing. At the same time, optional tariffs and promotional offers have multiplied.

Apparently, these changes are contrary to the tariff principles proposed by economic theory, which would guarantee more productive efficiency. However, the changes correspond to users' needs, namely the simplification of tariff structures, the existence of a single invoice, cost control and the elimination of fixed components, items that are also relevant in tariff theory. On the other hand, in a context of a greater competition and decreasing usage of the service, and in an industry characterized by a high level of fixed costs and of operational leverage, this type of tariff offers are those assuring the most proper level of revenues.

One invoice

With the introduction of indirect access, users started to receive two telephone invoices: one on access and sent by the incumbent operator and another regarding communications and charged by the alternative providers.

Recently, the alternative providers were given the possibility to present the end customer with one sole invoice and one joint offer of access service and telephone services. This possibility results from regulatory imposition of SLRO – determination of 14/12/04.

SLRO is available to companies that, dully licensed by ICP-ANACOM, provide the following services over a given PT subscriber line:

- i) Telephone service at a fixed location under a pre-selection regime, regardless of the type of pre-selected traffic; and/or
- ii) Broadband Internet access services, including services supported over unbundled lines in the mode of Shared Access.

Offers supported on the SLRO have had some commercial success: the number of unbundled accesses increased 171.8 per cent in 2006.

Voice over Internet Protocol (VoIP)

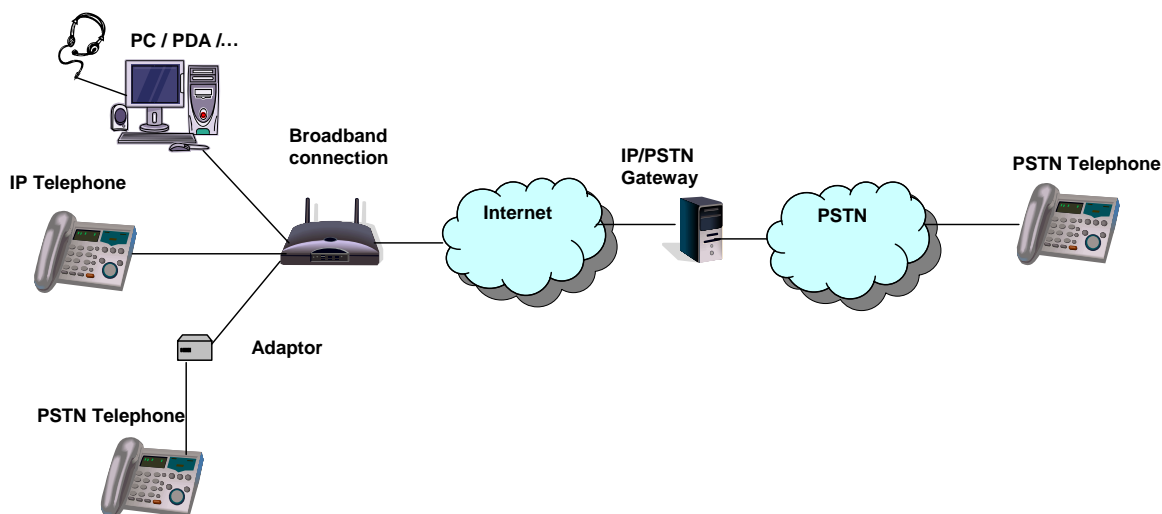
Lastly, mention should be made to the introduction of voice services supported on broadband Internet access offers, in the scope of the already mentioned multiple-play offers. These offers based on the Internet Protocol (VoIP) mainly have very low price levels.

VoIP is a technology that enables the user to establish telephone calls through a data network such as the Internet, converting an analogue voice signal into a set of digital signals, under the form of IP address packages, which can be sent, namely, through an Internet connection (preferably broadband).

The increase of broadband accesses for Internet use, together with the emergence of ever more stable protocols at the standardization level, enable the current development of applications supporting video and voice interactive services, such as VoIP, ensuring a voice quality perceived by the user as close to that of the traditional telephone service. Thus, the VoIP service has had an increasing demand by end users.

Today there are several types of terminals [personal computers - PC, IP telephone, Personal Digital Assistants - PDA, etc...] enabled to make VoIP calls, while the physical access should preferably be broadband, since currently it is not yet viable to guarantee an adequate bandwidth for the operation of VoIP on a narrow band connection over the public Internet. Broadband access may be supported on wire technologies, such as Asymmetric Digital Subscriber Line (ADSL), cable, optical fibre, and power line, or on wireless technologies, such as 3G, satellite, Fixed Wireless Access (FWA), WiFi (Wireless fidelity) or WiMax (Worldwide interoperability for microwave access).

Graph 3-1 – Typical network configuration for the use of VoIP as a publicly available electronic communications service



In the scope of FTS, these publicly available VoIP services, regulated by Law no. 5/2004, may be offered by an access provider, namely broadband:

- i) At a sole fixed location and under conditions perceived by the user as being equivalent to those of the traditional fixed telephone service.

In matters of numbering and portability, ICP-ANACOM understands that VoIP offers provided at a fixed location could be granted a geographic numbering, being the VoIP provider's responsibility to ensure the fulfilment of this requirement (use at one sole location);

- ii) Through nomadic use offers, able to be used on several locations, supported on third party accesses, i.e., without control of the access network (Skype-OUT/IN is one example of this kind of services), and being able to make and receive calls.

It was considered adequate to grant this nomadic VoIP mode a new range of non-geographic numbering⁹ – “30” – that distinguishes it from the telephone service provided at a fixed location.

⁹ It was decided, under article 17 no. 2, paragraph b) of the Electronic Communications Law (Law no. 5/2004 of 10 February), to open range “30” to host VoIP nomadic use services by ranges of 10,000 numbers to the providers entitled to provided nomadic VoIP services, under the terms defined by ICP-ANACOM. Taking into account paragraph g) of no. 1 of article 3 of the Portability Regulation, range “30” was included in the scope of portability.

3.2.2. Accesses to the public telephone network at a fixed location

Regarding access to the public telephone network at a fixed location, it can be provided using several media:

- Copper wire pairs – this medium is mostly user by PTC, the incumbent operator, and is the one currently ensuring a greater geographical and population coverage. With the implementation of the RUO, alternative operators started to provide access to the public telephone network at a fixed location using the incumbent operator's unbundled local loops;
- Coaxial cable – cable made up of a central copper wire, enclosed by a belt of intertwined copper wires, and separated by an insulating material. This type of cable is used for carrying electrical signals at higher frequencies than those carried by a simple pair of metallic wires. It is one of the main elements of hybrid cable television (CATV) distribution networks. There is currently one fixed telephone service provider offering fixed access through coaxial cable (Cabovisão)¹⁰;
- Fixed Wireless Access (FWA) – Access technology that enables operators to provide to their customers a direct connection to their telecommunications network, using a fixed radio link between the customers' premises and the operator's local switchboard. There are five active operators [AR Telecom, Novis, Vodafone, Onitelecom and PTC] with FWA licences¹¹. Radio connections are used as a complement to their non-radio access networks, usually for non-residential customers;
- Power Line Communications (PLC) – Access technology using energy cables for broadband voice and data routing. This technology enables the use of a

¹⁰ There are other cable TV distribution network operators advertising telephone services. However, these companies are only authorized to provide voice over the Internet services. According to the available data, these services do not replace the FTS, and thus are not taken into account in this chapter.

¹¹ The rights of use were reconfigured by ICP-ANACOM in 2006. The reconfiguration of the system was achieved by transforming a national coverage system into a system made up of several geographical areas.

local household voice and data network, from any electrical socket, to provide high speed Internet access, telephone and fax services. Onitelecom was the only fixed telephone service provider to offer fixed access using PLC. However, it suspended the offer in October 2006;

- Fibre optics – physical transmission means (usually a cable with several pairs of fibreglass) in which data is routed as light impulses. It is a broadband medium that can provide the capacity to carry large amounts of data at long distance and with small distortion, if connected to the proper device. Both the new operators (Onitelecom, Novis, Coltel, AR Telecom, Refer telecom, Cabovisão), and PTC have installed fibre optics in their access networks, particularly to be used by the non-residential market;
- Radio-relay – transmission system that disseminates of radio waves in the atmosphere using dish antennas. The use of radio-relay connections is negligible, considering the large investment needed to maintain them.
- Access using the frequencies granted for the provision of MTS. ICP-ANACOM authorized the use of frequencies granted to GSM and UMTS networks for the provision of FTS, imposing limitations to the mobility of the devices used to provide this service, as mentioned previously;

It should be mentioned that, possibly, all the main means of access to the public telephone network are present in Portugal.

The following types of access are provided over these physical media:

- Analogue accesses – corresponding to accesses using a single 64kbit/s channel, in principle to carry voice and data up to 56 Kbit/s;
- Basic rate digital accesses [basic ISDN accesses (Integrated Services Digital Network) accesses] - corresponding to accesses using two 64kbit/s channels for carrying voice and data, and a 16 Kbit/s signalling channel;
- Primary rate digital accesses [primary ISDN accesses] - corresponding to accesses using 30 64kbit/s channels for carrying voice and data, one 64kbit/s signalling channel and one synchronism channel, with a global throughput of 2 Mbit/s;

3.2.3. Telephone services provided to the general public at a fixed location

The FTS enables the user to make and receive national and international voice calls, and is usually provided together with several applications, characteristics and optional services.

The following table summarizes the main services (traditional voice services, characteristics, associated services, etc.) that FTS providers can offer.

Table 3-1 – Products and services provided by FTS providers

Products/services	Brief description
Analogue telephone line (only for direct access ¹²)	Corresponds to the traditional telephone service, for making and receiving voice calls at fixed locations. With the use of a modem it gives access to further services, namely data transmission and fax
Service features (only for direct access)	Features that modify or increase the basic features and characteristics of the basic telephone services (e.g.: call waiting, call re-routing, SMS – short message service – and MMS – multimedia messaging service, etc.).
Tariff services	Detailed invoicing
Digital telephone line — ISDN (Integrated Services Digital Network) services (only for direct access)	Service also provided using a public telephone network enabling the integration of voice and data services into one single access. Currently available ISDN connections are as follows: - basic ISDN access: access to the ISDN with two 64kbps voice and/or data channels and one 16kbps signalling channel, which can be used for package data; - primary ISDN access: access to the ISDN with 30 64kbps voice and/or data channels and one 64kbps signalling channel, and one 64kbps synchronism channel, with a total throughput of 2Mbps. Other supplementary services can be provided over ISDN lines, such as caller ID or its suppression, call re-routing, etc.
Operator services	Information and telephone directory services, operator assisted communications services, collect call services, SMS and MMS, etc.
Access to public services	Access to emergency services and other services.
Call-by-call selection and pre-selection	Feature making it possible to select a FTS provider other than the one holding the local loop. This choice is made by dialling a short code (the provider's 10xy prefix) when making the call –call-by-call selection – or further to a pre-selection contract.
Operator portability (only for direct access)	Feature that enables a subscriber of a given service to choose to keep their telephone number when changing to another operator of the same service.
Public payphones for access to the fixed telephone service	Terminal equipment for access to the FTS (telephone booths), installed at public locations, including the conditioned access ones, available to the general public as a paid service.

Source: ICP-ANACOM

Due to the increased network convergence, integrated solutions offered by providers may include other types of service, namely the provision of voice, data and video in one single fixed access, with the proper equipment. These solutions are usually fitted to the segments they target (residential, self-employed professionals, companies, etc.)

¹² Depending on whether the local access is held by the FTS provider or not, it can be FTS by direct access, or FTS by indirect access.

3.2.4. The FTS providers

Below is a list of the FTS providers, with highlight to the Nomadic VoIP providers. Listed are also the public payphones providers.

FTS providers

By the end of 2006 there were 23 entities authorised to provide FTS (Table 3-2)

The following table contains the list of entities that were legality authorized to provide FTS in 2006. This table includes data on the state of each operator at the beginning and at the end of the year, as well as information on the market entries and exits during this period.

Table 3-2 – FTS providers in 2006

Name	beginning	Entries	Exits	End
ADIANIS – Telecomunicações & Multimedia, S.A.	NA			NA
AR Telecom – Acessos e Redes de Telecomunicações, S.A.	A			A
Broadnet Portugal, S.A.	NA			NA
BT Portugal — Telecomunicações, Unipessoal, Lda.	NA			NA
CABO TV Madeirense, S.A.	-	x		NA
Cabovisão — Televisão por Cabo, S.A.	A			A
CATVP – TV Cabo Portugal, S.A.	-	x		NA
COLT Telecom - Serviços de Telecomunicações, Unipessoal, Lda.	A			A
Equant Portugal, S.A. (ORANGE)	A			NA ¹³
G9 SA — Telecomunicações, S.A.	A			A
Media Capital — Telecomunicações, S.A.	NA			NA
Netvoice — Comunicações e Sistemas, Lda. ¹⁴	A		x	-
NEUVEX – Telecomunicações, Marketing e Informática, Lda. (RedvoTelecom)	NA			NA
Novis Telecom, S.A.	A			A
OniTelecom — Infocomunicações, S.A.	A			A
Optimus Telecomunicações, S.A.	NA			NA
PT Comunicações, S.A.	A			A
PT Prime — Soluções Empresariais Telecomunicações e Sistemas, S.A.	A			A
Radiomóvel - Telecomunicações, S.A.	NA			A
Refer Telecom — Serviços de Telecomunicações, S.A.	A			A
Telemilénio — Telecomunicações, Sociedade Unipessoal, Lda (Tele2)	A			A
TELSOCOMM - Telecomunicações, Marketing e Informática, Lda.	NA			NA
TMN — Telecomunicações Móveis Nacionais, S.A.	A			A
Vodafone Portugal — Comunicações Pessoais, S.A.	A			A
TOTAL ACTIVE	14	-	1	13
TOTAL NOT ACTIVE	8	2	-	10
TOTAL OVERALL	22	2	1	23

Source: ICP-ANACOM

Legend: A — Active

NA — Not Active

At the end of 2006 there were 13 active providers in the FTS markets, 1 less than a year before. The only company that requested the cancelling of its licences merged with another operator.

¹³ In Portugal, the provision of EQUANT (ORANGE)'s fixed telephone service is made by Novis.

¹⁴ Further to the merging process with AR Telecom, NETVOICE requested the cancelling of its licences, to be in force after 1-1-2006.

Of the thirteen entities operating by the end of 2006, two provided the service exclusively by direct access, two provided the service only through indirect access, and the remaining ones provided the service using both access types. (Table 3-3).

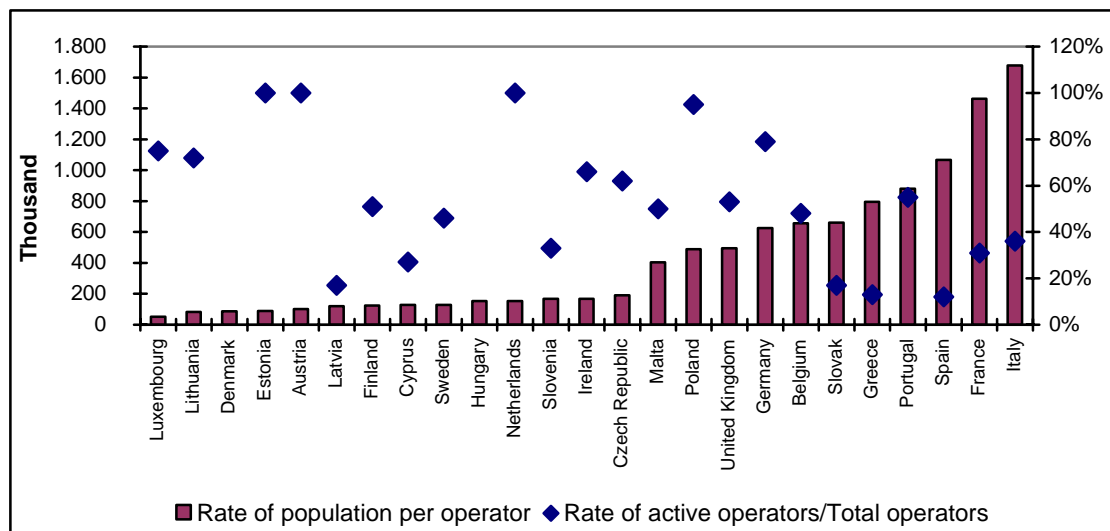
Table 3-3 – FTS providers

	2002	2003	2004	2005	2006
Authorized providers	27	26	21	22	23
Active providers	13	13	13	14	13
Providers with direct access and indirect access traffic	7	8	8	10	9
Providers with direct access traffic only	3	2	2	1	2
Providers with indirect access traffic only	3	3	3	3	2

Source: ICP-ANACOM

Considering the population residing in each country, the number of providers legally authorized to provide FTS in Portugal stands below the average. Regarding active operators, the percentage of active operators in Portugal is similar to the EU average – about half of the legally authorized providers are in operation.

Graph 3-2 – International comparison of the amount of providers



Source: European Commission, 12th Implementation Report. Data from July 2006.

Nomadic VoIP providers

Regarding VoIP, in 2006 there were providers authorized to provide VoIP services. However, only 8 were entitled to provide nomadic VoIP services.

Table 3-4 – Nomadic VoIP providers

Numbering Allocation Date	Blocks 30XYZ XXXX	Company
05/04/2006	30140 XXXX	Webmeeting – Internet e Consultoria Informática, Lda.
28/12/2006	30300 XXXX	Cabo TV Madeirense, S.A.
06/11/2006	30330 XXXX	Siptelnet - Soluções Digitais, Unipessoal, Lda.
04/04/2006	30450 XXXX	G9SA - Telecomunicações, S.A.
10/08/2006	30550 XXXX	Netcall – Telecomunicações e Tecnologias de Informação, Lda.
10/08/2006	30551 XXXX	
10/08/2006	30552 XXXX	
10/08/2006	30553 XXXX	
20/04/2006	30660 XXXX	Neuvex - Telecomunicações, Marketing e Informática, Lda.
05/09/2006	30940 XXXX	Radiomóvel - Telecomunicações, S.A.
25/08/2006	30990 XXXX	CATVP - TV Cabo Portugal, S.A.

Source: ICP-ANACOM

Only 2 of these 8 providers were active: Netcall and G9SA. Most of the remaining operators expect to start the commercial operation of the service during 2007.

Public payphone providers

Below is the list of public payphone service providers.

Table 3-5 – Public payphones service providers in 2006

Name	Beginning	Entries	Exits	End
A. RASHID – Comércio de Material Eléctrico, Unipessoal, Lda.	A		X	-
ADIANIS – Telecomunicações & Multimedia, S.A.	NA			NA
BLUE CARD – Serviços de Telecomunicações e Informática, Lda.	NA			A
C. C. Comunicações a Crédito, Lda.	A		X	-
CHOUDHARY – Comércio de Equipamentos de Telecomunicações, Lda.	A			A
EPORTEL – Prestação de Serviços em Telecomunicações, Lda.	NA			NA
FLASHAD – Electrónica e Comunicações, Unipessoal, Lda.	-	X		A
G9 SA – Telecomunicações, S.A.	A			A
GLOBEVOX – Serviços de Telecomunicações, Lda.	A			A
Manuel Soares & Pereira, Lda.	A		X	-
MOBILE ZONE – Telecomunicações, Comunicações Electrónicas, Unipessoal, Lda.	A		X	-
MONEYCALL – Serviços de Telecomunicações, Lda.	A			A
NETCALL – Telecomunicações e Tecnologias de Informação, S.A.	A			A
OPTION 1 – Serviços de Telecomunicações, Lda.	-	X		A
PHONE ONE — Serviços de Telecomunicações, Lda.	A			A
PT Comunicações, S.A.	A			A
Seye & Bari, Lda.	-	X		NA
UNO CALL NOW – Comunicações e Serviços, Lda.	-	X		NA
TELJAP – Manutenção, Instalação e Comercialização de Telecomunicações, Lda.	NA		X	-
WORLD FUN TELECOM - Redes de Telefonia, S.A.	A			A
XALAT – Comunicações Electrónicas, Unipessoal, Lda.	NA			NA
TOTAL ACTIVE	12	2	4	11
TOTAL NOT ACTIVE	5	2	1	5
TOTAL OVERALL	17	4	5	16

Source: ICP-ANACOM

Legend: A — Active NA — Not Active

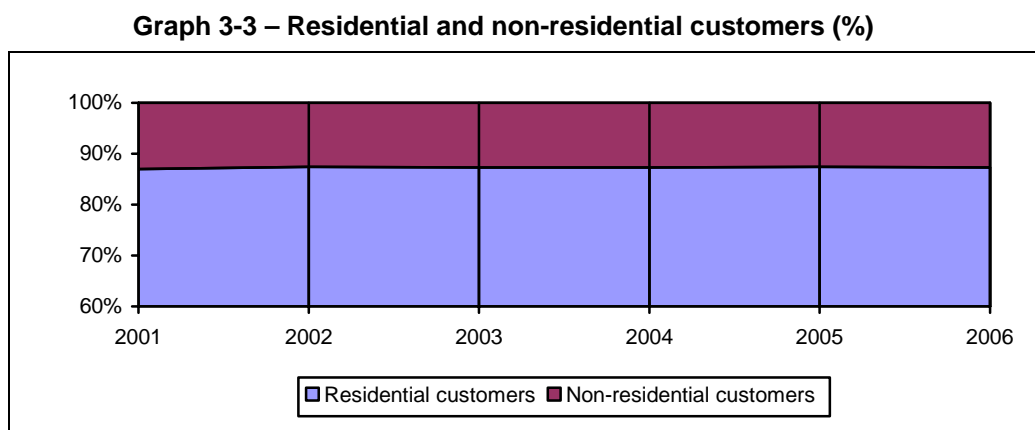
At the end of 2006 there were 16 public payphone providers in operation, with the entry of 4 new operators, 2 of which were active, and the exit of 5 operators, 4 of which were active.

3.3. FTS usage profile

Below are the mains characteristics of FTS users, the characteristics of the services accesses and the traffic, as well as the main barriers invoked by users for not subscribing to the service.

3.3.1. Characterizing the FTS user

FTS users are mostly residential. Only about 13 per cent of FTS customers are non-residential. As the following graph shows, these rates have not varied greatly throughout the period under review.



Source: ICP-ANACOM

Among residential customers, service penetration is quite above the average for those above 55 years old and in the case with higher educated customers.

Table 3-6 – STF penetration by age group

Age group	Dec. 2006
15-24	56.7%
25-34	39.8%
35-44	49.9%
45-54	58.2%
55-64	74.3%
65-more	88.6%
Total	59.2%

Source: ICP-ANACOM, Survey on the use of electronic communications - 2006

Table 3-7 – STF penetration by education level

Education level	Dec. 2006
University/ Post-graduate/ Masters/ PhD	82.6%
Under-graduate/ Polytechnic	67.3%
12th grade	53.6%
9th grade	52.7%
6th grade	53.5%
Primary education	58.2%
Incomplete primary education/illiterate	56.9%
Total	59.2%

Source: ICP-ANACOM, Survey on the use of electronic communications - 2006

The residents of the Autonomous regions subscribe to the FTS more intensely than the remaining areas of the country.

Table 3-8 – FTS penetration by NUTII

Region	Dec. 2006
North	56.7%
Midland	61.1%
Lisbon and Vale do Tejo	58.9%
Alentejo	60.1%
Algarve	52.3%
Madeira	71.6%
Azores	81.9%
Total	59.2%

Source: ICP-ANACOM, Survey on the use of electronic communications - 2006

3.3.2. FTS usage characteristics

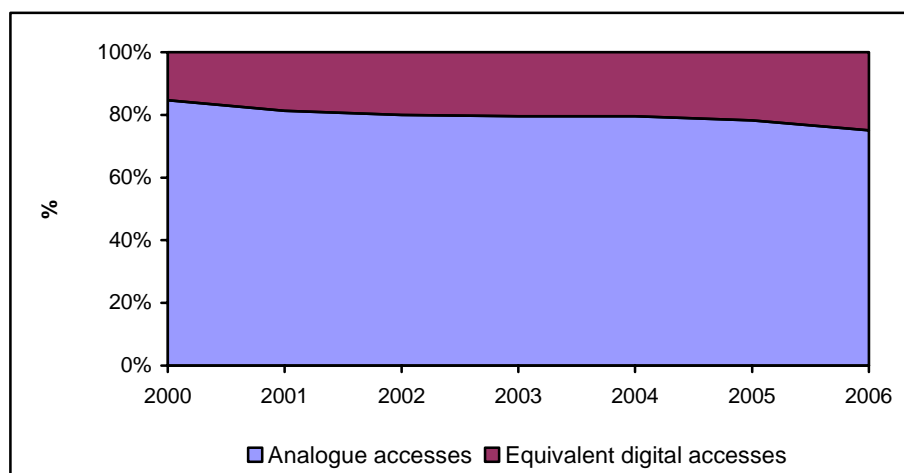
Below is a characterization of the use of FTS accesses and calls.

Accesses

The large majority of direct accesses to the FTS is made up of analogue accesses. However, since the beginning of the liberalization process, the ratio of equivalent digital accesses grew considerably, particularly in 2000 and 2001. During this period equivalent digital accesses reached around 20 per cent of all accesses. This evolution is mainly due to the commercial strategies of the alternative operators who invested in this type of offer.

The trend described above grew stronger in 2005-2006 as a result of the increase of accesses using the GSM networks. By the end of 2006, the rate of equivalent digital accesses was about 25 per cent.

Graph 3-4 – Distribution of accesses by type of access¹⁵



Source: ICP-ANACOM

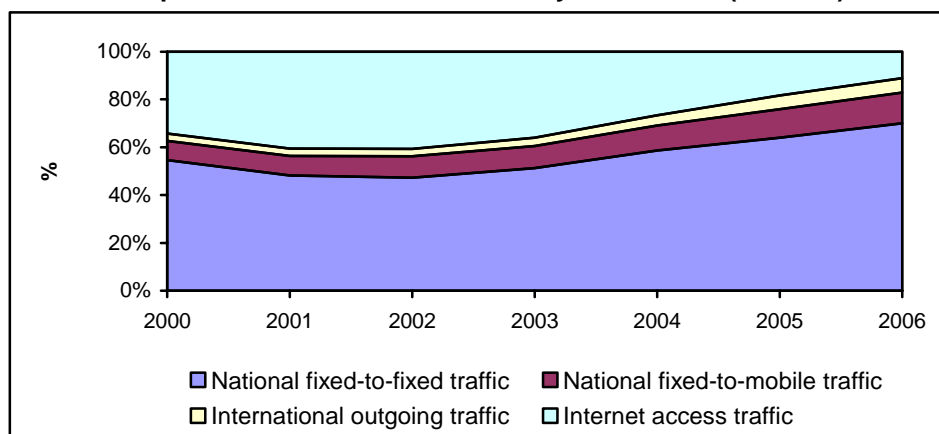
¹⁵ Includes accesses installed at customer request and public payphones. Does not include own stock.

Traffic

Switched traffic routed by the fixed network is mainly made up of fixed-to-fixed calls (70 per cent). It is followed by fixed-to-mobile traffic (18 per cent) and outgoing international traffic (6 per cent).

The importance of the switched Internet access (dial-up) traffic, which in an early stage gained a considerable weight regarding total traffic due to the take-up of Internet and the introduction of free Internet offers by alternative operators, has suffered an accelerated fall due to the migration to broadband. This fact has contributed to the increase in the weight of the remaining traffic destinations.

Graph 3-5 – Distribution of traffic by destination (Minutes)



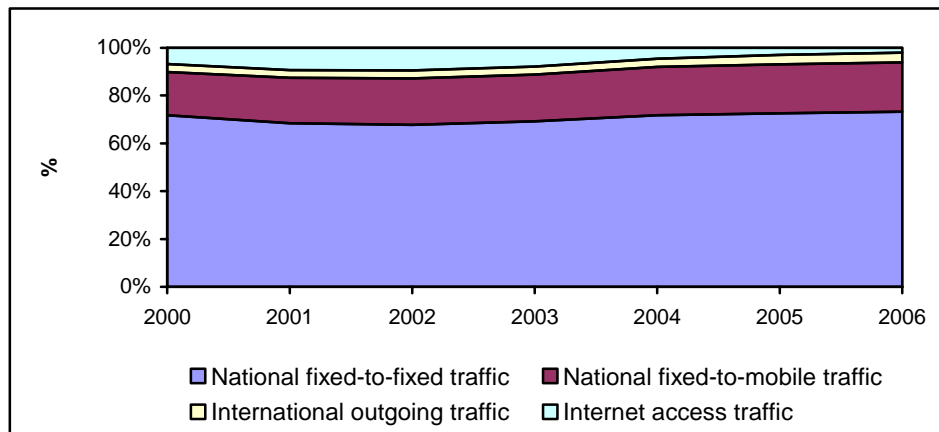
Source: ICP-ANACOM

The above-described distribution is considerably changed when considering the amount of calls. This is explained by the fact that the amount of minutes of Internet access calls is much higher than the amount of calls (i.e. Internet access calls have a longer length than the remaining ones). Regarding the number of calls, fixed-to-fixed traffic stands for more than 73 per cent of the overall figure, while fixed-to-mobile traffic and international calls stand for about one fifth and 4 per cent, respectively. Internet access calls only stand for 2 per

cent of all calls.

Also in this case the migration to broadband had an impact on traffic in this period in time.

Graph 3-6 – Distribution of traffic by destination (Calls)



Source: ICP-ANACOM

Traffic: Average call length

Voice calls originated and ended in the fixed network have a length of 2 minutes and 50 seconds and are about 1 minute longer than fixed-to-mobile calls. These differences are probably explained by the differences existing between the prices of these calls.

On the other hand, international calls reached a length of 4 minutes and 25 seconds in 2006. The increasing length of international calls may be also explained by tariff reasons. In fact, in the latest years, there has been a reduction of the prices of these calls and the launch of optional and promotional offers specifically targeted, e.g., at immigrant communities.

The average length of Internet access calls reached more than 17 minutes in 2006, a figure below that of 2005 and 2006, and in line with the values

registered in the previous years. It would be expected that, as these service's intensive users migrate to broadband solutions, the average call length would decrease.

Table 3-9 – Average call length

	2000	2001	2002	2003	2004	2005	2006
Total traffic (voice + Internet)	3.64	3.96	4.05	3.79	3.46	3.18	3.03
Voice traffic	2.57	2.60	2.65	2.64	2.66	2.68	2.76
National traffic (voice)	2.54	2.56	2.61	2.59	2.60	2.60	2.68
National fixed-to-fixed traffic	2.77	2.79	2.82	2.81	2.83	2.81	2.91
National fixed-to-mobile traffic	1.62	1.71	1.87	1.80	1.79	1.85	1.88
International outgoing traffic	3.26	3.65	3.70	4.01	4.21	4.42	4.43
Internet access traffic	18.25	17.24	17.41	17.31	20.44	20.08	17.14

Source: ICP-ANACOM

Unit: Minutes

3.3.3. Barriers to service subscription

According to the data collected in the Survey on the use of electronic communications – December 2006¹⁶, and as the following table shows, the main reason for not subscribing to the FTS is the use of mobile phone. In fact, 75 per cent of those interviewed that do not have FTS point out this motive as the main reason for not using the service.

The existence of a monthly fee as part of the invoicing was also considered a decisive factor for not using the fixed telephone.

¹⁶ The universe defined for this study included individuals of both genders, aged 15 years old or over, residing in Mainland Portugal and in the Autonomous Regions of Madeira and the Azores. Selection of those interviewed was made by method of gender, age, education and occupation quotas. The sample was stratified by region and habitat. 2,020 interviews were conducted overall, ensuring a 2.18% maximum error margin for the main results. The fieldwork and data handling was performed by MARKTEST between 17 January and 22 February 2006.

Table 3-10 – Reasons for not having fixed network telephone (%)

Uses mobile phone	75.3%
Prefers not to pay the monthly fee	19.5%
It is cheaper to make calls using other media	2.0%
Does not need	1.8%
Other motives	0.9%
Recent/rented house	0.3%
Too expensive	0.0%
N.a.	0.3%
Total	100%

Base: Interviewees without fixed network

Source: Survey on the use of electronic communications - December 2006

Consumers refer that the mains advantages of mobile phones over the fixed telephone are the mobility and the fact that the mobile phone enables a permanent contact. These characteristics are inherent to the service and may not be replicated in the case of the fixed mobile service.

Table 3-11 – Advantages of mobile over fixed

	Dec. 2006
To be reachable at all times	49.1%
Mobility	39.9%
Absence of monthly fee	6.3%
Prices of calls	2.7%
Other answers	2.0
Total	100.0%

Source: Survey on the use of electronic communications - December 2006

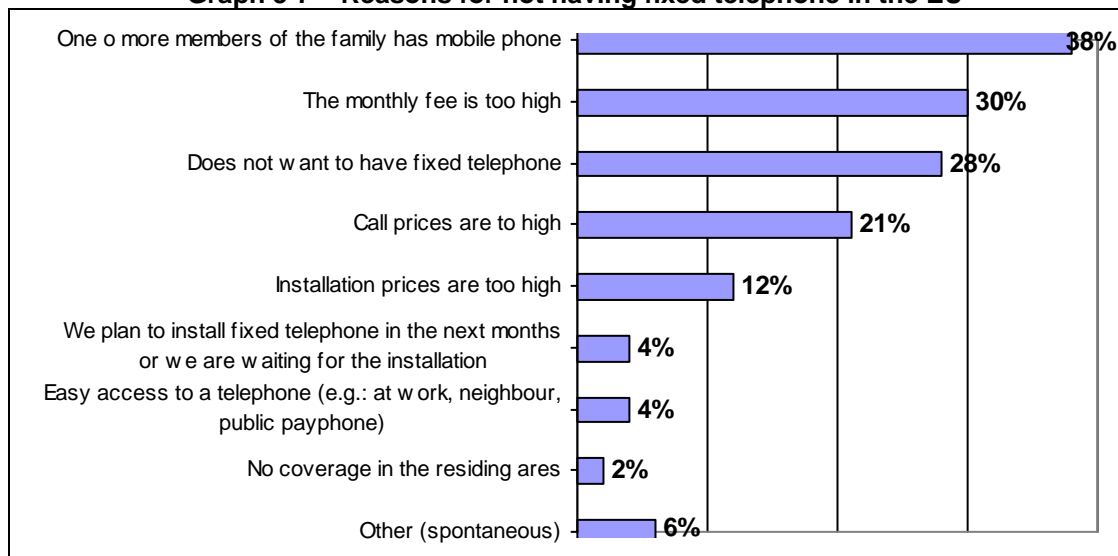
The motivations presented by Portuguese consumers not to subscribe to the FTS are very similar to those stated by their European counterparts.

According to the European Commission¹⁷, the fact that one member of the family has a mobile phone is the most stated reason for not having fixed network. The costs associated to a fixed telephone line are also pointed as a reason for not having a fixed telephone. One out of three households without fixed telephone claim that the monthly fee is too high. On out of 5 considers that call prices are

¹⁷ European Commission, E-Communications Household Survey, Special Eurobarometer 249.

high and 12 per cent of those surveyed mention that they could not support the installation cost.

Graph 3-7 – Reasons for not having fixed telephone in the EU



Source: European Commission.

Apparently, service subscription barriers of an economic nature are lower in Portugal than in the EU, where they are the majority. On the other hand, the influence of MTS is much greater in Portugal.

3.4. FTS evolution in 2006

Below is a set of items on the evolution of the FTS in 2006: service availability; penetration, service's usage intensity, evolution of access, traffic and revenue shares, and price evolution and quality perception.

3.4.1. Service availability and penetration

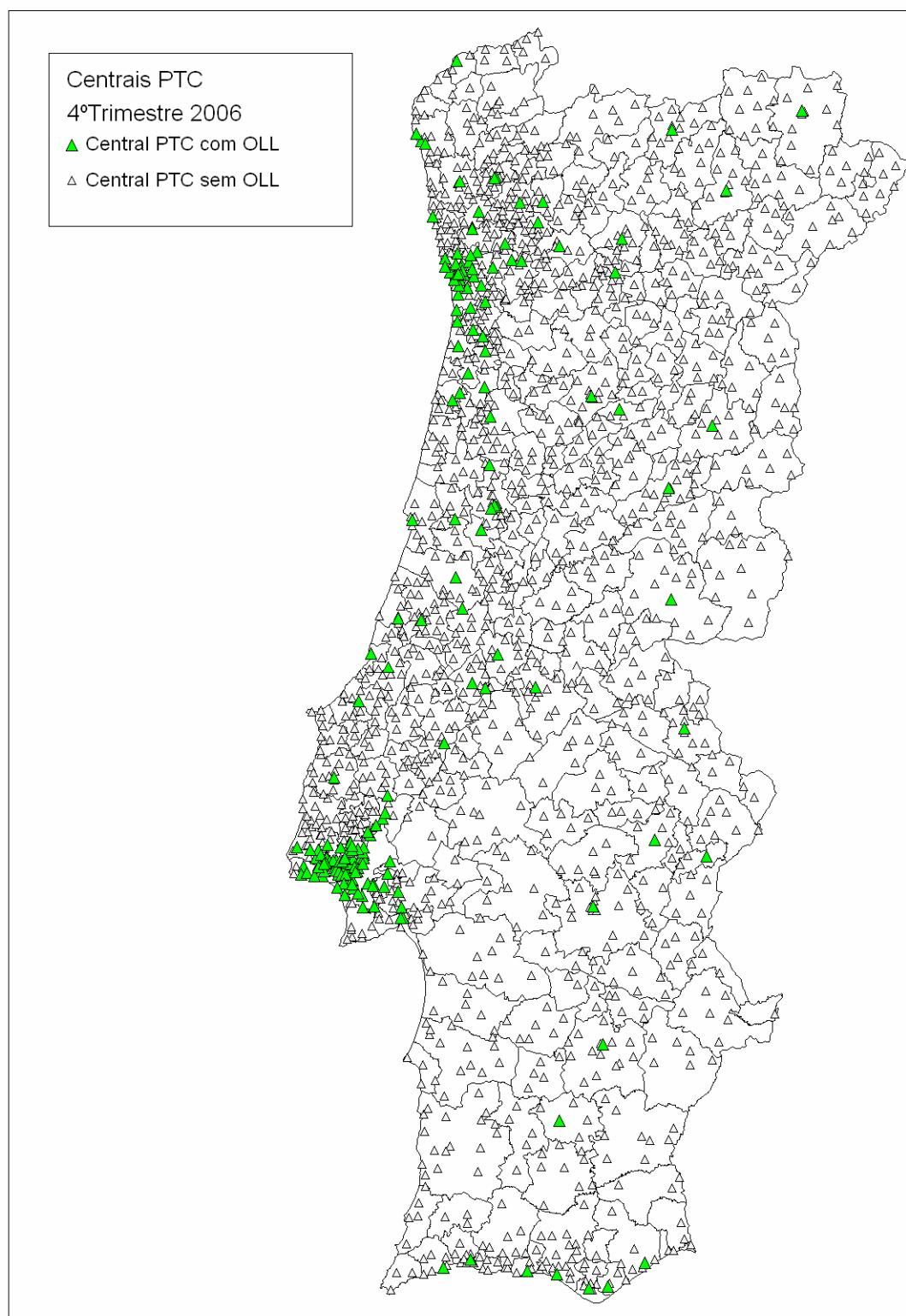
As shown on the graph below, the fixed telephone network operated by the incumbent operator is available in the whole of the continental territory. In the autonomous regions there is also a strong presence of the fixed network, with .switchboards and telephone concentrators in all the islands of the territory.

The graph also shows the distribution of MDF (Main Distribution Frames) with unbundled local loops, which are concentrated in the main urban centres of Mainland Portugal. Local loop unbundling led to the emergence of package offerings from the alternative providers.

It is also possible to access the service through the networks of cable TV distribution operators, which provide FTS over those networks, and through mobile networks.

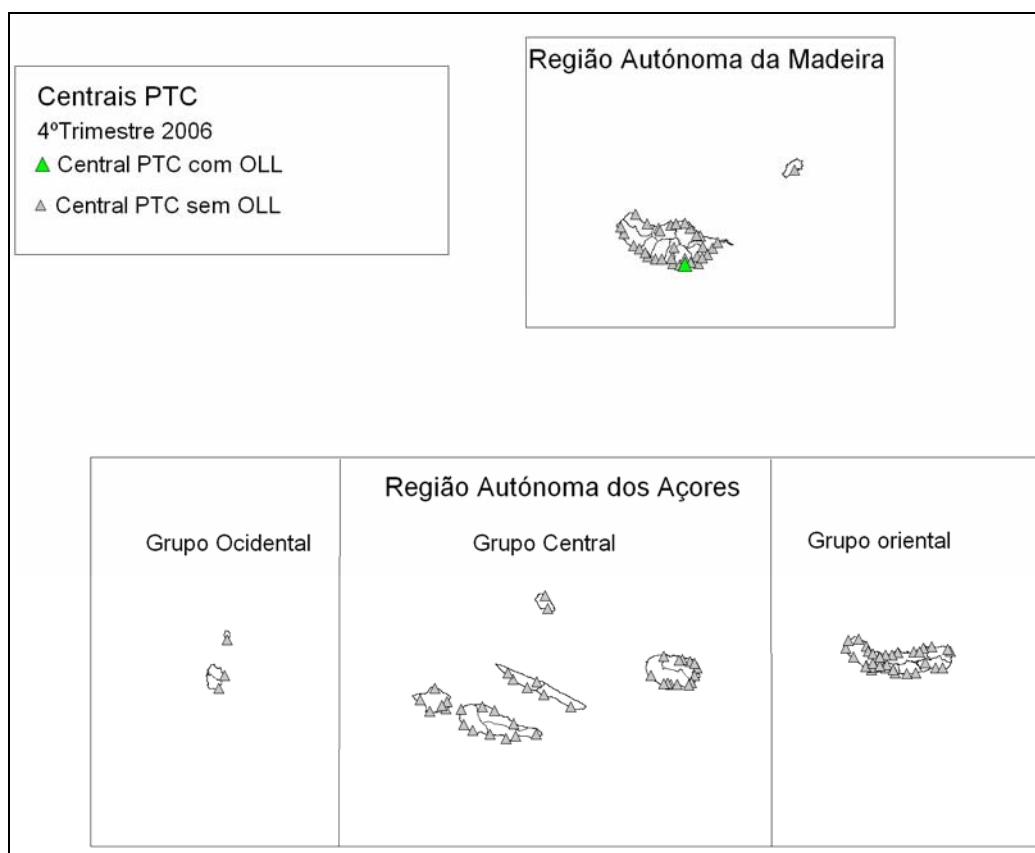
Regarding publicly available telephone services at a fixed location, it is possible to use the services of alternative operators in all the national territory using indirect access and, after 2006, using VoIP offers (in the case with users with broadband Internet access).

**Graph 3-8 – Distribution of PT's switchboards and PT's switchboards with unbundled local loops
(Mainland Portugal)**



Source: ICP-ANACOM

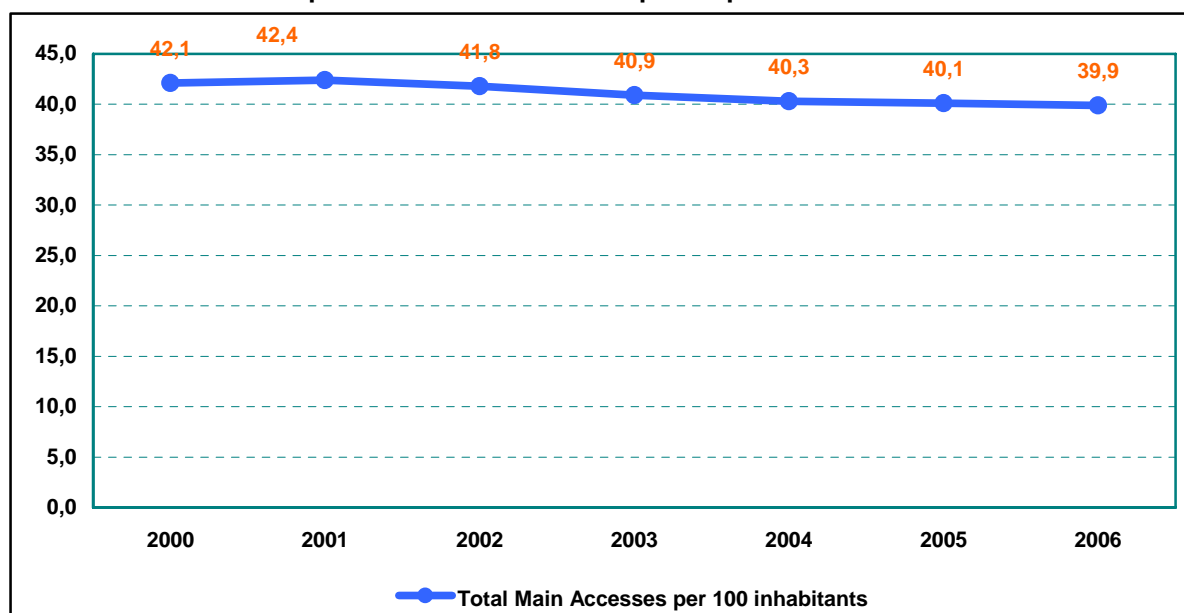
**Graph 3-9 – Distribution of PT's switchboards and PT's switchboards with unbundled local loops
(Autonomous Regions of Madeira and the Azores)**



Source: ICP-ANACOM

Although the service is generally available in the whole of the country, between 2002 and 2006 there was a drop in the penetration rate, which could be linked to some of the factors mentioned in section 3.3.3.

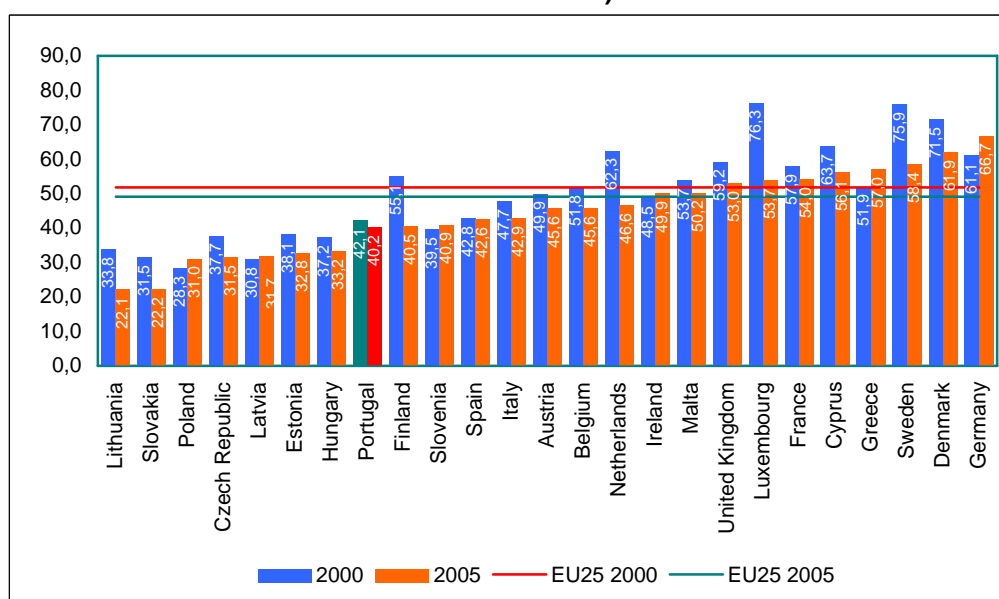
Graph 3-10 – Evolution of telephone penetration



Source: ICP-ANACOM

Telephone penetration in Portugal (40 accesses per 100 inhabitants) is below the European average (49, in 2005). However, there was also a decrease in this service's penetration in the EU: -2.7 per cent between 2000 and 2005, a decrease above the one recorded in Portugal during that period (2 per cent).

Graph 3-11 – International comparison of access penetration rates (No. of accesses per 100 inhabitants)



Source: ITU, ICP-ANACOM, Eurostat

3.4.2. Amount of service users

In 2006 there was a 3.6 increase in direct access customers. Indirect access customers decreased 8.5 per cent, in the case of pre-selection, and 32.4 per cent in the case of call-by-call selection.

Nomadic VoIP customers were registered for the first time. However this FTS mode still represents a very small number of customers.

Table 3-12 – Amount of FTS customers

	2005	2006	2005/2006 var. (%)	2001/2006 average yearly var. (%)	2001/2006 var. (%)
Direct access customers	3,133,980	3,245,313	3.6%	0.0%	-0.2%
Pre-selection	470,107	429,935	-8.5%	2.0%	10.3%
Call-by-call selection	101,602	68,657	-32.4%	3.8%	20.8%
Nomadic VoIP	0	3,426			

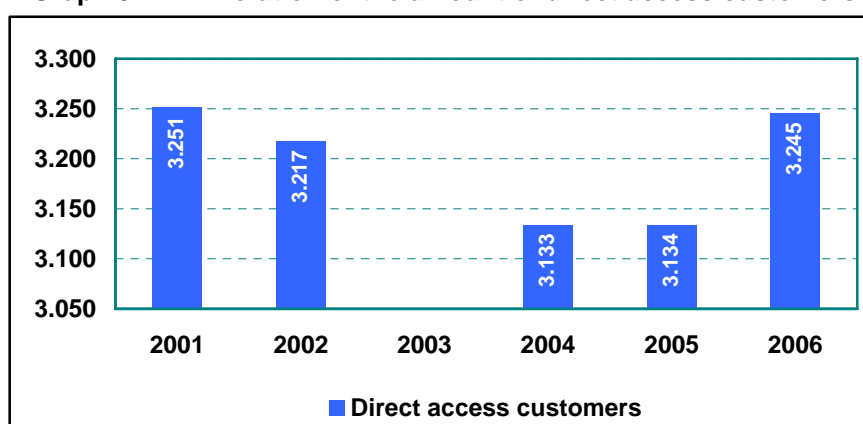
Source: ICP-ANACOM

* Includes Direct Access customers with active SLRO.

Unit: 1 Customer, %

The increase in the amount of direct access customer recorded in 2006 is contrary to the downward trend that has been registered since 2002. This mainly resulted from the offers of alternative providers using GSM technology and from package offerings, which showed up on the market.

Graph 3-12 – Evolution of the amount of direct access customers



Source: ICP-ANACOM

Unit: thousands of customers

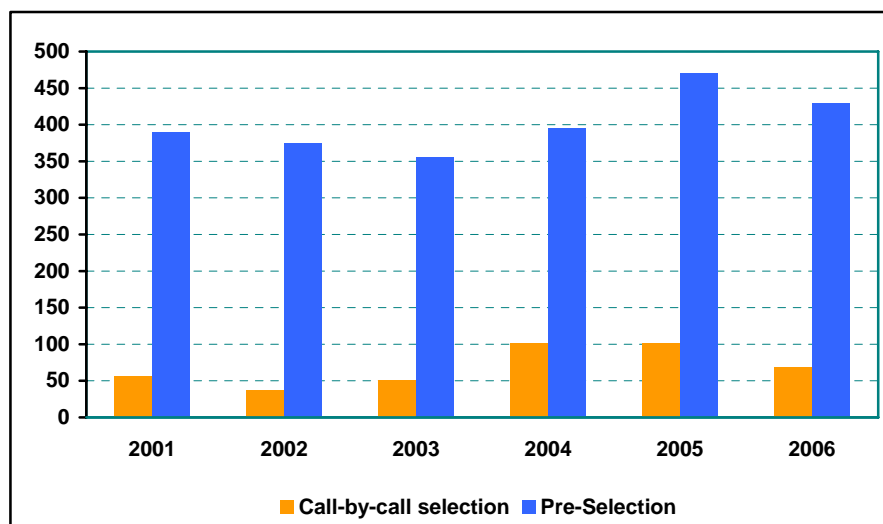
On the other hand, indirect access customers, after a considerable increase during the first two year after liberalization – when it was the main means of

access used by the alternative providers to enter these markets – suffered an important decrease between 2001 and 2003. This evolution was explained by the new operators' investment on new business models with better profit expectations (e.g. the package offerings based on direct access, namely those based on the RUO).

A new provider entered these markets by the end of 2003, giving a new strength to the indirect service offer. The amount of customers rose considerably since then.

2006 registered a reversion of the previously described trend. These variations are justified by the increase in the offerings of alternative operators in the direct access mode. The development of the SLRO (in the case of call-by-call pre-selection), the new optional plans launched by the incumbent operator and strategic changes made by one of the alternative operators may have affected this evolution.

Table 3-13 – Evolution of the amount of direct access customers



Source: ICP-ANACOM

Unit: thousands of customers

In this context it should be mentioned that at the end of 4Q06, more than 142 thousand customers used the SLRO. One alternative operator only is responsible for more than 90 per cent of customers with an active SLRO.

3.4.3. Service usage level

Below is the evolution of the service usage level concerning accesses, traffic and revenues.

Accesses

By the end of 2006, there were about 4.2 million mains accesses installed, a figure slightly above that of a year before. This relative stability in the amount of accesses is explained by and increase of about 14.4 per cent in the number of digital accesses. On the other hand this increase in the amount of digital accesses resulted from the installation, during 2006, of 132 thousand new accesses using GSM technology. This increase reduced the fall recorded in the analogue accesses and in the amount of public payphones installed.

Table 3-14 – Amount of equivalent accesses installed

	2005	2006	2005/2006 var. (%)	2000/2006 average yearly var. (%)	2000/2006 var. (%)
Total main accesses*	4,233,701	4,233,954	0.01%	-0.2%	-1.0%
Accesses installed at customer request	4,127,459	4,128,011	-0.01%	-0.4%	-2.3%
Analogue accesses	3,219,657	3,089,974	-4.0%	-2.4%	-13.5%
Equivalent digital accesses	907,802	1,038,037	14.4%	8.0%	58.3%
Public payphones	45,334	43,233	-4.6%	-1.6%	-9.4%

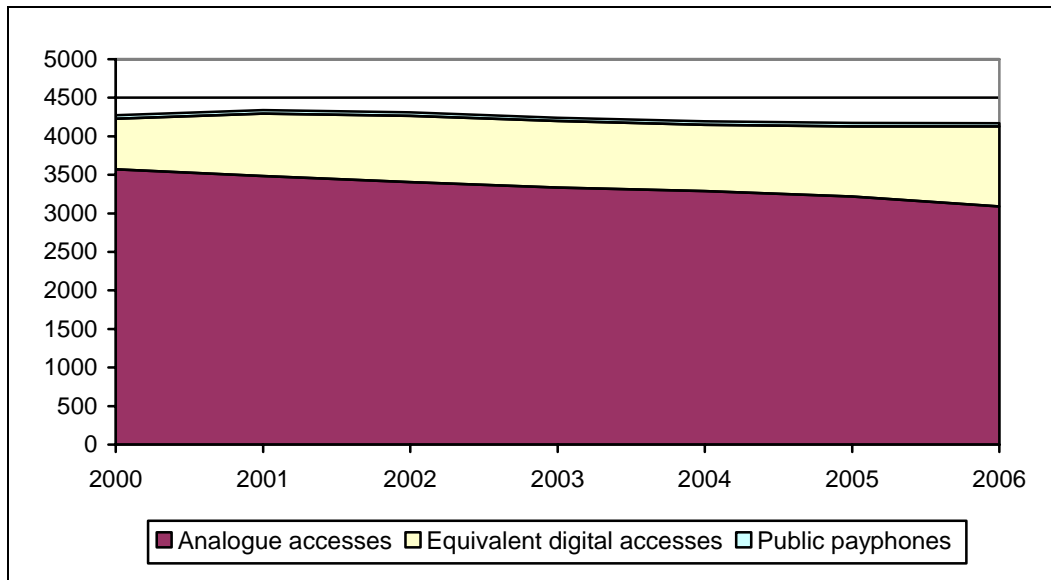
Source: ICP-ANACOM

*Includes accesses installed at customer request, own stock and public payphones.

Unit: 1 access, %

Since 2001 there is a trend reducing the amount of analogue accesses installed at customer request (-2.3 per cent between the end of 2000 and 2006), which may be linked to some of the factors mentioned in section 3.3.3.

Table 3-15 – Evolution in the amount of accesses



Source: ICP-ANACOM

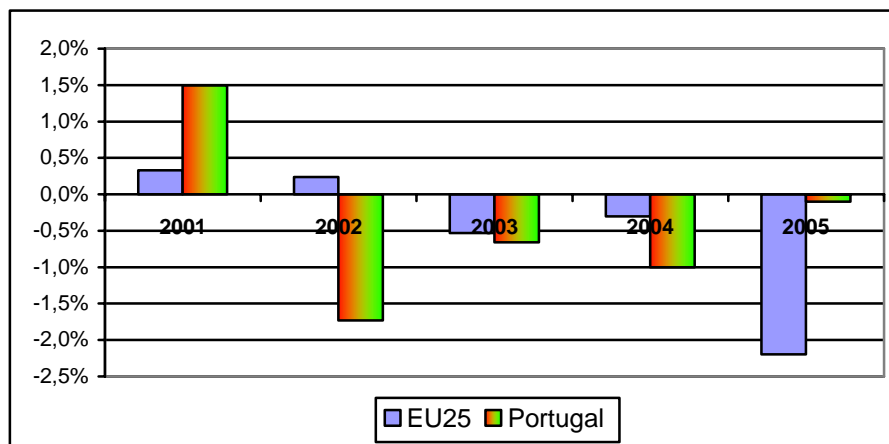
Unit: thousands of customers

The investment made by alternative operators on the local network was not enough to reverse the described trend. New operators mostly decided to enter the market using indirect access or local loop unbundling regulated offers. Cabovisão was the exception, having invested quite early on a multiple play strategy supported on its cable TV distribution network, and becoming the second biggest provider of the fixed telephone network access service.

The successive increase of digital accesses is firstly explained by the launch of traditional digital access offers, mainly targeted at business segments, and currently by the above-mentioned offers based on GSM.

The decrease in the amount of accesses in Portugal had been stronger than in the remaining EU countries. However, in 2005, already because of the GSM-based offers, the decrease in the amount of accesses recorded in Portugal was quite below that of Europe.

Graph 3-13 – Evolution of the amount of accesses in the EU and in Portugal



Source: ITU

Traffic

2006 was characterized by a considerable fall in traffic originated in the fixed network. The strongest decrease was recorded in the Internet access traffic (-47 per cent in minutes and -38 per cent in calls), and was induced by the expansion of broadband Internet. Voice traffic decreased -4 per cent in 2006, in line with other years.

Table 3-16 – Traffic originated on the fixed network (minutes)

	2005	2006	2005/2006 var. (%)	2000/2006 average yearly var. (%)	2000/2006 var. (%)
Total traffic (voice + Internet+ VoIP)	10,270	9,050	-11.9%	-9.4%	-44.9%
Voice traffic	8,385	8,050	-4.0%	-4.8%	-25.3%
National traffic (voice)	7,794	7,500	-4.2%	-5.1%	-27.0%
National fixed-to-fixed traffic	6,575	6,345	-3.9%	-5.6%	-29.2%
National fixed-to-mobile traffic	1,220	1,155	-5.5%	-2.2%	-12.3%
International outgoing traffic	591	550	-7.2%	1.4%	8.9%
Internet access traffic	1,884	997	-46.8%	-25.1%	-82.3%
VoIP traffic		3.4			

Source: ICP-ANACOM

Unit: thousands of minutes, %

Table 3-17 – Traffic originated in the fixed network (calls)

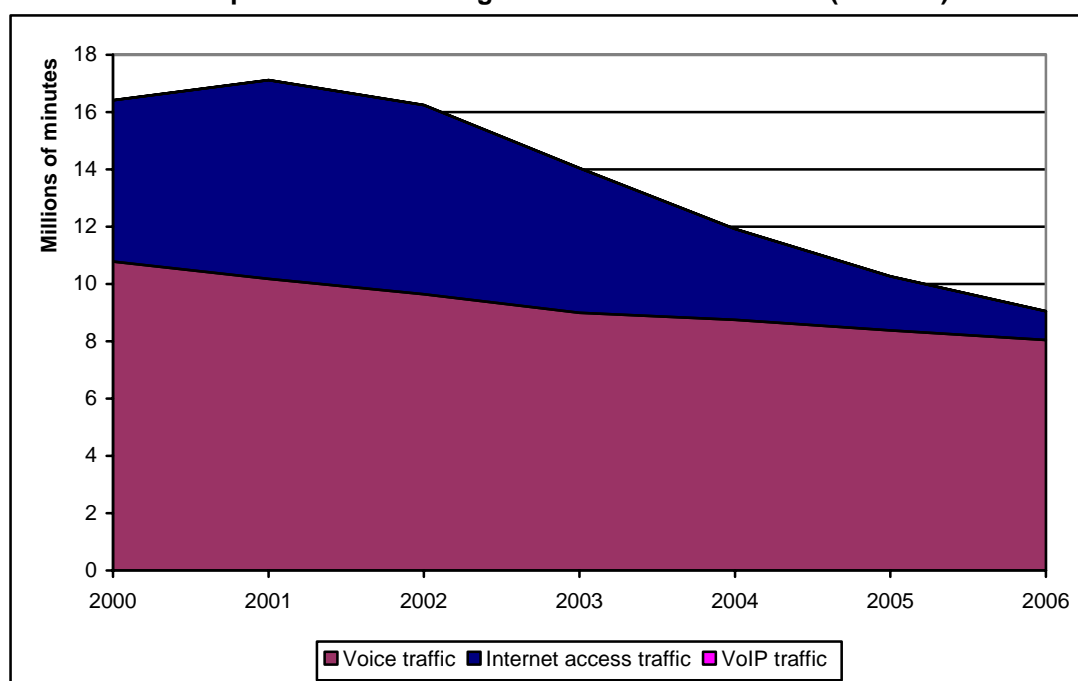
	2005	2006	2005/2006 var. (%)	2000/2006 average yearly var. (%)	2000/2006 var. (%)
Total traffic (voice + Internet + VoIP)	3,228	2,979	-7.7%	-6.7%	-33.9%
Voice traffic	3,134	2,920	-6.8%	-5.9%	-30.5%
National traffic (voice)	3,000	2,796	-6.8%	-6.0%	-30.9%
National fixed-to-fixed traffic	2,340	2,181	-6.8%	-6.4%	-32.5%
National fixed-to-mobile traffic	660	615	-6.8%	-4.5%	-24.3%
International outgoing traffic	134	124	-7.3%	-3.6%	-19.8%
Internet access traffic	94	58	-38.0%	-24.3%	-81.1%
VoIP traffic		1.4			

Source: ICP-ANACOM

Unit: thousands of calls, %

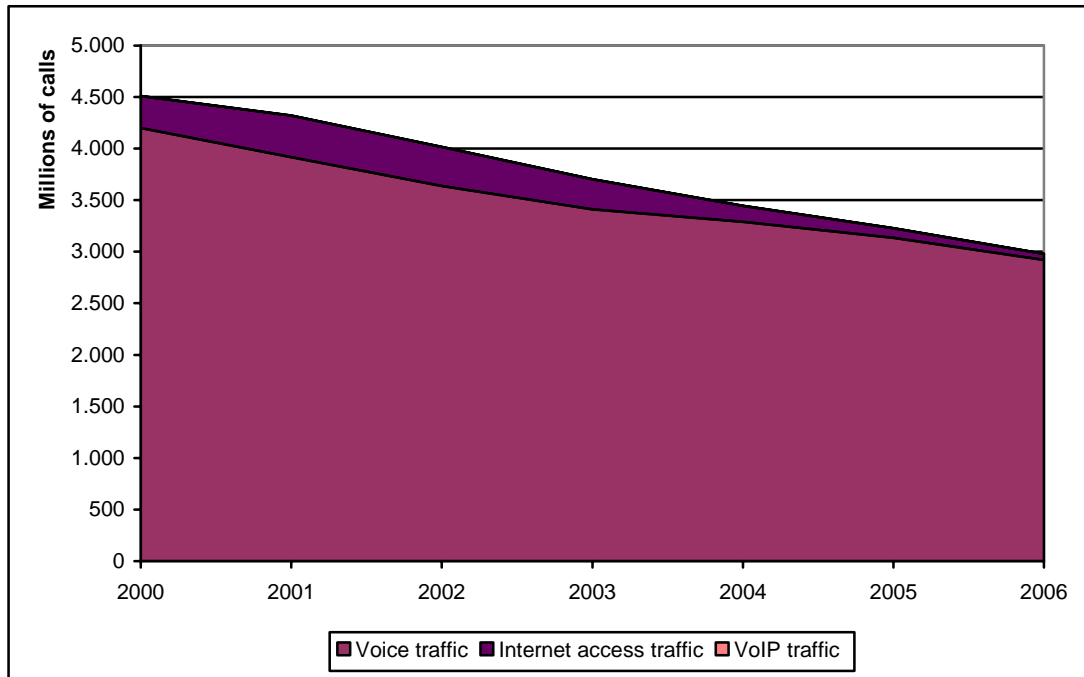
Voice traffic has been decreasing since 2000. In cumulated terms, the amount of minutes decreased 25 per cent and the volume of calls decreased 30 per cent.

Graph 3-14 – Traffic originated on the fixe network (minutes)



Source: ICP-ANACOM

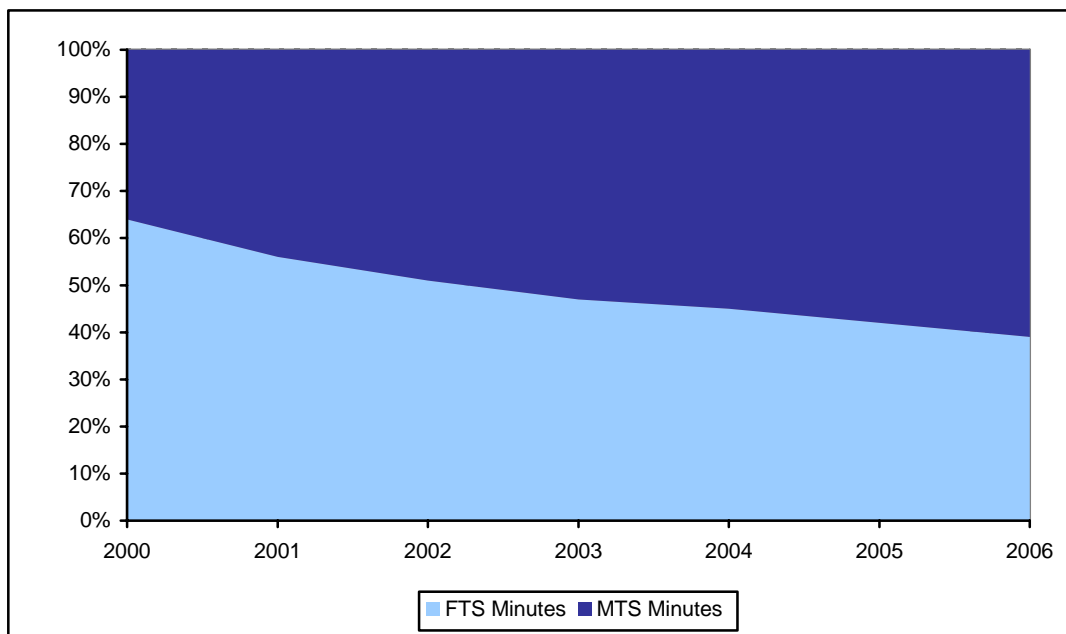
Graph 3-15 – Traffic originated in the fixed network (calls)



Source: ICP-ANACOM

This trend of decreasing traffic is linked to the phenomenon named fixed-by-mobile replacement. This factor caused the intensification of voice traffic on mobile networks, to the detriment of the fixed network. Mobile traffic already stands for 60 per cent of the overall voice traffic. (The following fact should be stressed out, however: when data traffic is taken into account, the amount of minutes routed in the fixed network is higher than the one routed in mobile networks).

Graph 3-16 – Distribution of voice traffic originated in the fixed and mobile networks



Source: ICP-ANACOM

The amount of international calls originated in the fixed network decreased 7.3 per cent in 2006. This evolution was mainly driven by a situation occurred with an alternative provider and is not repeatable. If that provider's traffic were to be removed, international traffic would evolve according to the average of the latest years.

Indirect access traffic

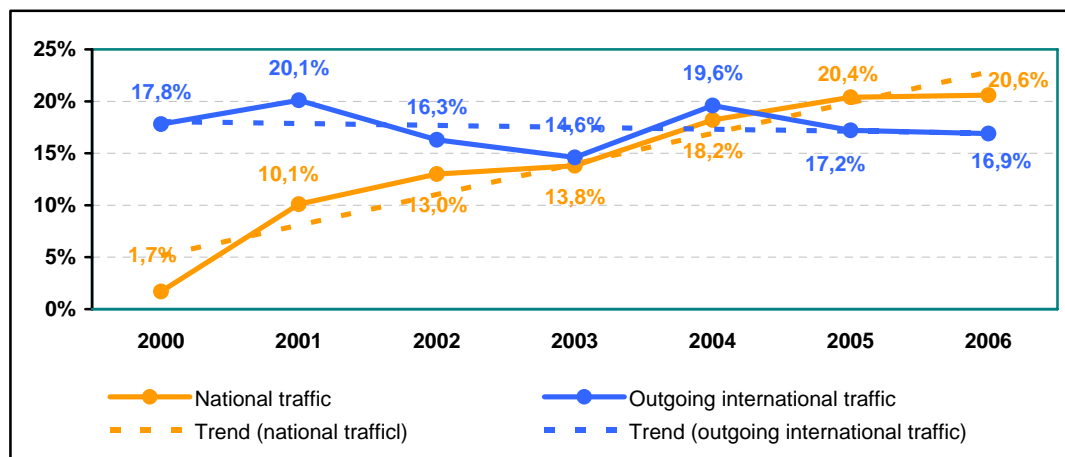
Notwithstanding the upward trend of traffic routed in the indirect access modalities, 2006 registered a decrease in this type of traffic (-3.7 per cent of calls and -3,4 per cent of minutes).

The generalized drop of indirect access traffic goes together with the decrease in the amount of customers of these offerings, the demand for new business models, and the strategic focus of some of the main operators, and the incumbent operator's investment on alternative tariff schemes.

Indirect access traffic stands for about 20 per cent of all traffic.

The importance of national indirect access traffic grew considerably during the latest years, following these offerings' commercial success.

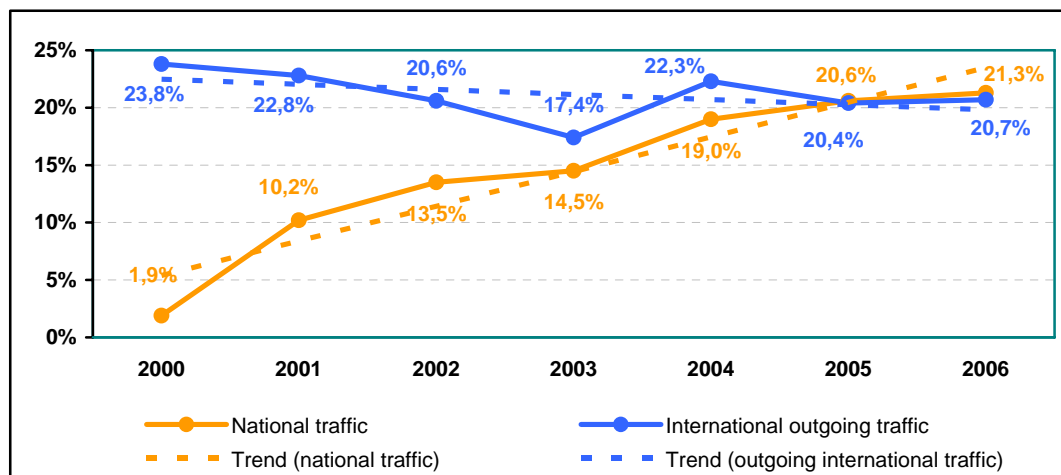
Graph 3-17 – Evolution of the rate of traffic routed using indirect access modes (minutes)



Source: ICP-ANACOM

Regarding outgoing international traffic, in 2006 this kind of traffic stood for about 16.9 per cent of total conversation minutes and 20.7 per cent of all calls. Indirect access became an important alternative to direct access right after this service's liberalization. However, between 2002 and 2003 indirect access international traffic decreased due the lack of alternative operators' investment on this segment. In 2004, with the emergence of a new provider with quite aggressive offers, there was again an increase in the use of this means of access. The evolution occurred during 2006 was influenced by these factors.

Graph 3-18 – Evolution of the rate of traffic routed using indirect access modalities (calls)



Source: ICP-ANACOM

Average traffic per customer

Average traffic per direct access customer decreased considerably since the first years of sector's liberalization. This process is mostly driven by the decrease of dial-up traffic and the decrease of voice traffic to fixed numbers. A certain stability of the fixed-to-mobile traffic and the international one should also be highlighted.

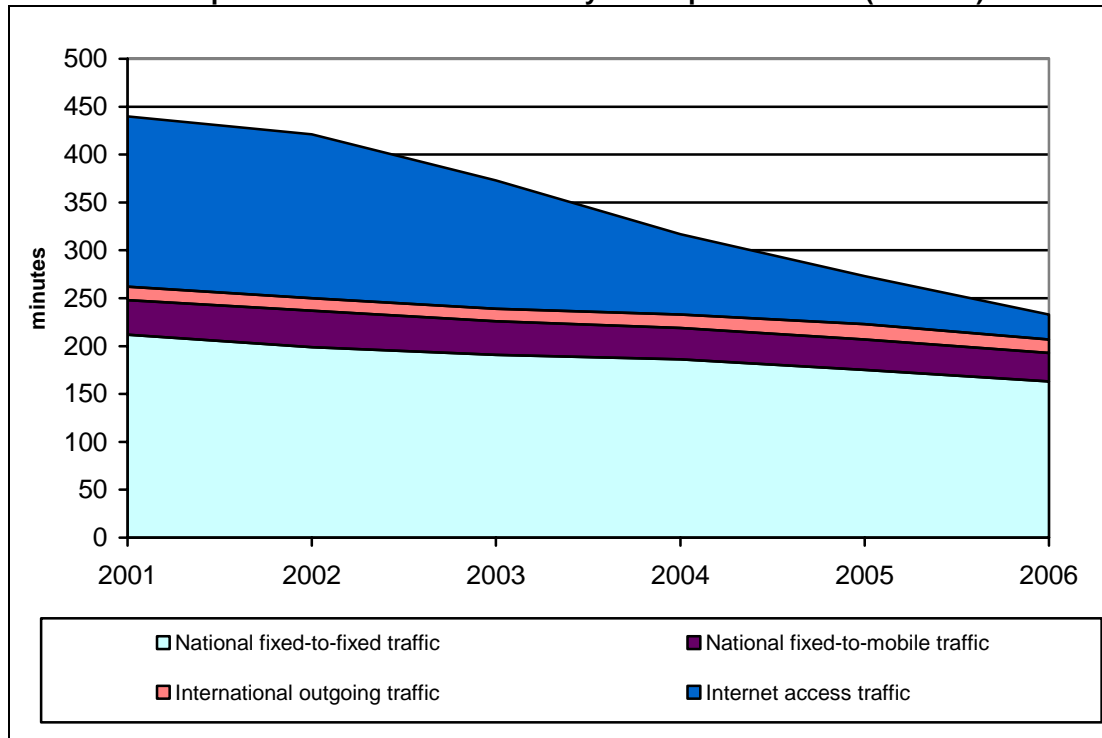
Table 3-18 – Monthly traffic per direct Access customer (minutes)

	2005	2006	2005/2006 var. (%)	2001/2006 average yearly var. (%)	2001/2006 var. (%)
Total traffic (voice + Internet)	273	232	-14.9%	-11.9%	-47.1%
Voice traffic	223	207	-7.3%	-4.6%	-20.8%
National traffic (voice)	207	193	-7.1%	-4.9%	-22.2%
National fixed-to-fixed traffic	175	163	-6.8%	-5.1%	-23.0%
National fixed-to-mobile traffic	32	30	-8.6%	-3.7%	-17.4%
International outgoing traffic	16	14	-10.3%	0.9%	4.5%
Internet access traffic	50	26	-48.9%	-32.1%	-85.6%

Source: ICP-ANACOM

Unit: minutes, %

Graph 3-19 – Evolution of monthly traffic per customer (minutes)



Source: ICP-ANACOM

Revenues

The strong decrease in traffic, decreasing prices and the decrease in the amount of customers are the factors responsible for the downward trend of FTS's revenues.

In 2006, total revenues decreased about 11 per cent, while traffic revenues decreased 15.6 per cent, and the installation and monthly fee decrease 6.7 per cent.

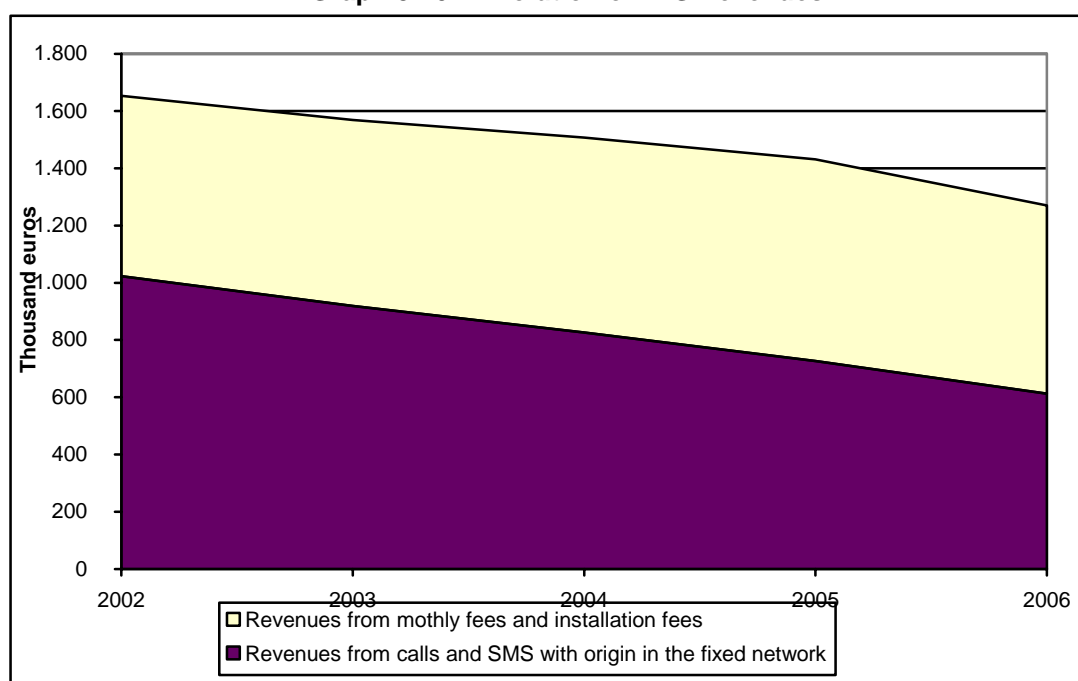
Table 3-19 – STF revenues

	2005	2006	2005/2006 var. (%)	2002/2006 average yearly var. (%)	2002/2006 var. (%)
Total revenues	1,431,351	1,270,383	-11.2%	-6.4%	-23.2%
Revenues from monthly fees and installation fees	704,473	657,262	-6.7%	1.1%	4.3%
Revenues from calls and SMS with origin on the fixed network ¹⁸	726,877	613,121	-15.6%	-12.0%	-40.1%

Source: ICP-ANACOM

Unit: thousands of Euros, %

Graph 3-20 – Evolution of FTS Revenues



Source: ICP-ANACOM

In 2006, for the first time since 2002, there was a decrease in the revenues linked to the installation and monthly fee. During the first years of the period under review, this type of offers suffered an increase as a result of the tariff re-balancing implemented by PTC. In 2006, the fall of the average prices charged by PTC and of the subscription by this company's former customers to offerings from alternative providers based on the SLRO and on their own or rented infrastructure – offerings with a lower monthly fee than PTC's – caused a drop

¹⁸ Includes revenues from local communications traffic, regional and national, fixed-to-mobile calls (with origin in the fixed network), international outgoing traffic with origin in the fixed network, and SMS with origin in the fixed network.

in this kind of revenues.

3.4.4. Service price level

Below is the evolution of the incumbent operator's prices and an international comparison of prices in 2006.

Evolution of the incumbent operator's price index

In 2006, the incumbent operator did not change its tariffs. However, although this tariff scheme was not modified, there was a variation in terms of average monthly prices since the previous tariff entered into force in July 2005 (it was in force during the 12 months of 2006, but only 6 months in 2005). Thus, in 2006, in terms of annual averages, local call prices decreased 3.2 per cent, regional call prices decreased 15 per cent, and the price of national calls decreased 16 per cent. The prices of monthly fees and installation stabilized.

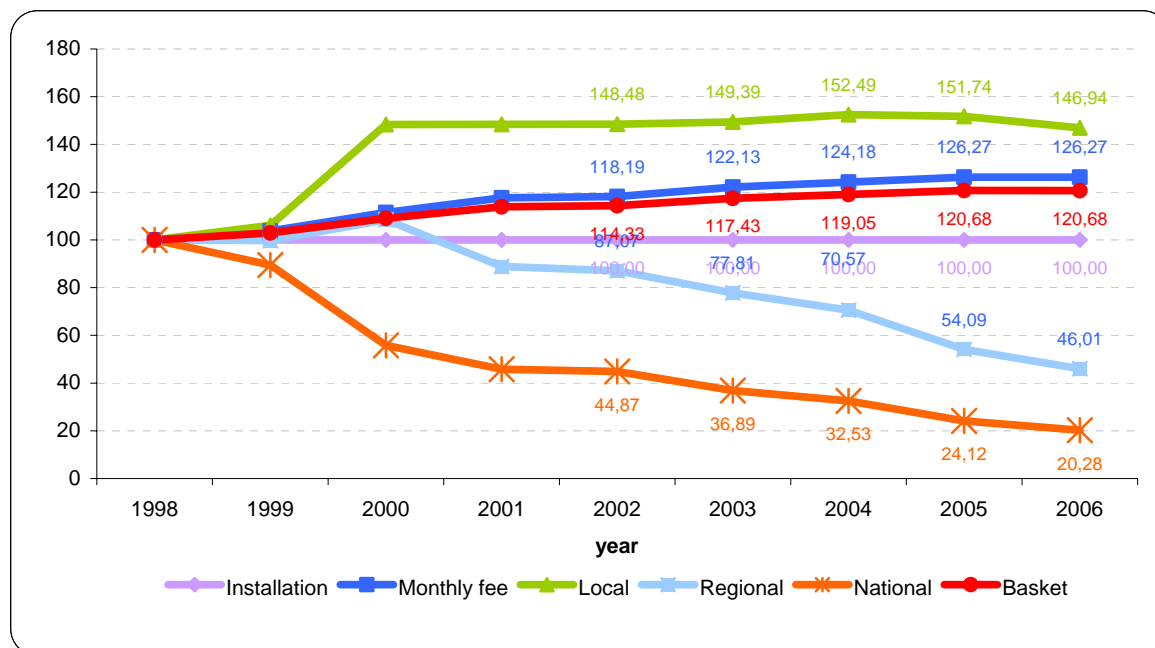
Comparing to the year of the sector's liberalization, the incumbent operator's price basket increased around 10.7 per cent in nominal terms. However, it should be stressed out that a regional or national call's cost in 2006, in nominal terms, was less than half of one similar call in 2000.

Table 3-20 – Incumbent operator's nominal price index

	2005	2006	2005/2006 Var. (%)	2000/2006 average yearly var. (%)	2000/2006 var. (%)
Installation	100.0	100.0	0.0%	0.0%	0.0%
Monthly fee	126.3	126.3	0.0%	2.1%	13.3%
Local	151.7	146.9	-3.2%	-0.2%	-1.0%
Regional	54.1	46.0	-14.9%	-13.3%	-57.6%
National	24.1	20.3	-15.9%	-15.5%	-63.7%
Basket	120.7	120.7	0.0%	1.7%	10.7%

Source: ICP-ANACOM
Note: 1998=100

Graph 3-21 – Evolution of FTS prices – nominal prices



Source: ICP-ANACOM

Since 2000 there was a generalized decrease in the real price of calls to the several traffic destinations. In fact, the incumbent operator's price basket registered a 4.8 decrease in real terms between 2000 and 2006. Regarding the monthly fee and service installation, during that period, there was a 2.5 and 14 per cent decrease, respectively.

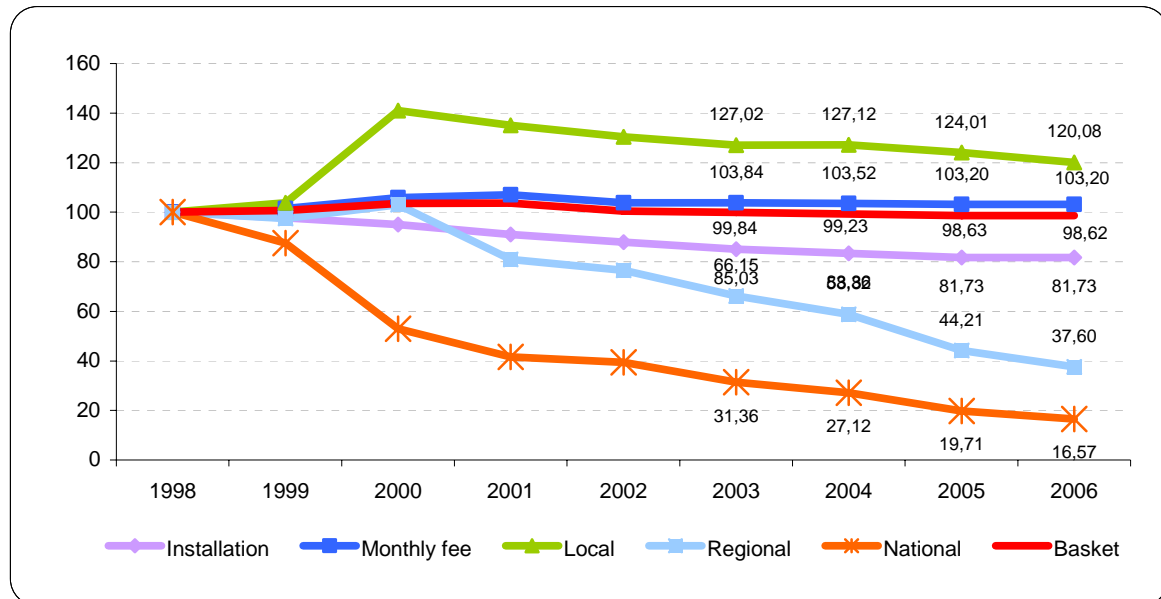
Table 3-21 – Incumbent operator's real price index

	2005	2006	2005/2006 Var. (%)	2000/2006 average yearly var. (%)	2000/2006 var. (%)
Installation	81.7	81.7	0.0%	-2.5%	-14.0%
Monthly fee	103.2	103.2	0.0%	-0.4%	-2.5%
Local	124.0	120.1	-3.2%	-2.6%	-14.8%
Regional	44.2	37.6	-14.9%	-15.5%	-63.5%
National	19.7	16.6	-15.9%	-17.6%	-68.7%
Basket	98.6	98.6	0.0%	-0.8%	-4.8%

Source: ICP-ANACOM

Note: 1998=100

Graph 3-22 – Evolution of FTS prices – real prices

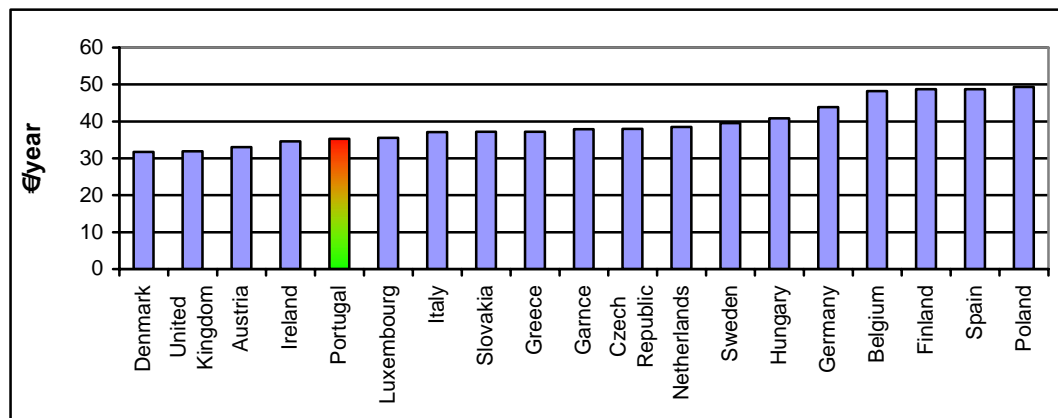


Source: ICP-ANACOM

Fixed-to-mobile call prices

The incumbent operator's tariff for the fixed-to-mobile traffic that entered into force in July 2006 supposed a drop in the prices of calls with termination in mobile networks, imposed by ICP-ANACOM. In October 2006 there was a new drop in this interconnection tariff. With these falls, Portugal goes up some stages in the European ranking of fixed-to-mobile tariffs.

Graph 3-23 – Price comparison of fixed-to-mobile tariffs – residential customers – EU19



Source: Teligen, November 2006.

International comparison of FTS prices

Below are international comparisons of FTS prices¹⁹.

Regarding the annual average invoice (basket), prices paid by residential customers in Portugal are above the average price charged in the countries under analysis, for all consumption profiles considered.

However, regarding May 2006, the prices charged in Portugal converged to the European average.

Table 3-22 – International comparison of FTS prices – Residential Segment

	May 2006	Nov. 2006
Low Consumption		
Deviation from the average	5.0%	3.0%
Ranking	15	13
Average Consumption		
Deviation from the average	4.0%	2.4%
Ranking	11	11
High Consumption		
Deviation from the average	7.5%	6.2%
Ranking	13	13

Source: Teligen, OCDE, ICP-ANACOM

In the case with the residential segment, the prices practiced in Portugal continue to be below the European average in the installation, monthly fee and calls to mobile numbers components, and above the average in the components of calls to national fixed numbers and calls to international numbers.

¹⁹ OECD's usage profiles/baskets were taken into account. Values are in Euros and correspond to annual invoices, without VAT, and market currency rates were used to convert prices into Euros (i.e., purchasing power parity was not used). The currency rates are collected by OECD. The figures for the residential segment do not include discounts and promotions, while these were included in the business segment. The average is reckoned with the results of the 19 EU countries taken into account by the OECD.

Table 3-23 – International comparison of FTS prices (II)

	Low Consumption	Average Consumption	High Consumption
Installation and monthly fee			
Annual expenses with installation and monthly fee	166.3 €	166.3 €	166.3 €
Deviation from the average	-2.0%	-7.5%	-28.8%
EU19 Ranking	10	9	6
National calls			
Annual expenses with national calls	69.4 €	141.5 €	232.44 €
Deviation from the average	15.5%	26.7%	97.9%
EU19 Ranking	15	15	15
Fixed-to-mobile calls			
Annual expenses with fixed-to-mobile calls	31.12 €	75.26 €	202.61 €
Deviation from the average	-16.8%	-15.7%	-14.7%
EU19 Ranking	2	3	4
International calls			
Annual expenses with international calls	37.58 €	30.06 €	120.24 €
Deviation from the average	32.2%	32.7%	31.8%
EU19 Ranking	16	16	15

Source: Teligen, OCDE, ICP-ANACOM

Concerning the business segment, in the SOHO (Small Office, Home Office) segment the prices charged in Portugal are in line with EU's average.

In the SME (Small and Medium Enterprise) segment, results are less favourable. In this case, prices practiced in Portugal rank 14th, and these customers' average invoice is 10.9 per cent above the average of the remaining countries under analysis.

Regarding the prices charged in May 2006, prices practiced in Portugal have been converging with the average prices practiced in the EU.

Table 3-24 – International comparison of FTS prices –Business Segment

	May 2006	Nov. 2006
SOHO		
Deviation from the average	1,3%	-1,3%
Ranking	11	11
SME		
Deviation from the average	13,2%	10,9%
Ranking	14	14

Source: Teligen, OCDE, ICP-ANACOM

In the business segment, prices charged in Portugal continue to be below the European average in the components of installation, monthly fee and calls to mobile numbers, and above the average in the components of calls to fixed numbers and calls to international numbers.

In calls to mobile networks, Portuguese tariff schemes are the most competitive ones.

Table 3-25 – International comparison of FTS prices – Business Segment (II)

	SOHO	SME
Installation and monthly fee		
Annual expenses with installation and monthly fee	174,57 €	5 236,98 €
Deviation from the average	-15.8%	-24.6%
EU19 Ranking	8	6
National calls		
Annual expenses with national calls	133,3 €	6 597,97 €
Deviation from the average	21.9%	33.4%
EU19 Ranking	13	14
Fixed-to-mobile calls		
Annual expenses with fixed-to-mobile calls	117,18 €	3 751,17 €
Deviation from the average	-25.4%	-26.3%
EU19 Ranking	1	1
International calls		
Annual expenses with international calls	56,31 €	5 255,5 €
Deviation from the average	53.9%	54.5%
EU19 Ranking	18	18

Source: Teligen, OCDE, ICP-ANACOM

3.4.5. Evaluation by consumers

In general, FTS has high satisfaction levels. According to the most recent survey on the use of electronic communications¹⁶, 95 per cent of users were satisfied with the service's overall quality.

Table 3-26 – Evaluation of the FTS' overall quality

Very good	5.2%
Good	89.7%
Bad	4.6%
Very bad	0.5%

Source: ICP-ANACOM, Survey on the use of electronic communications – 2006

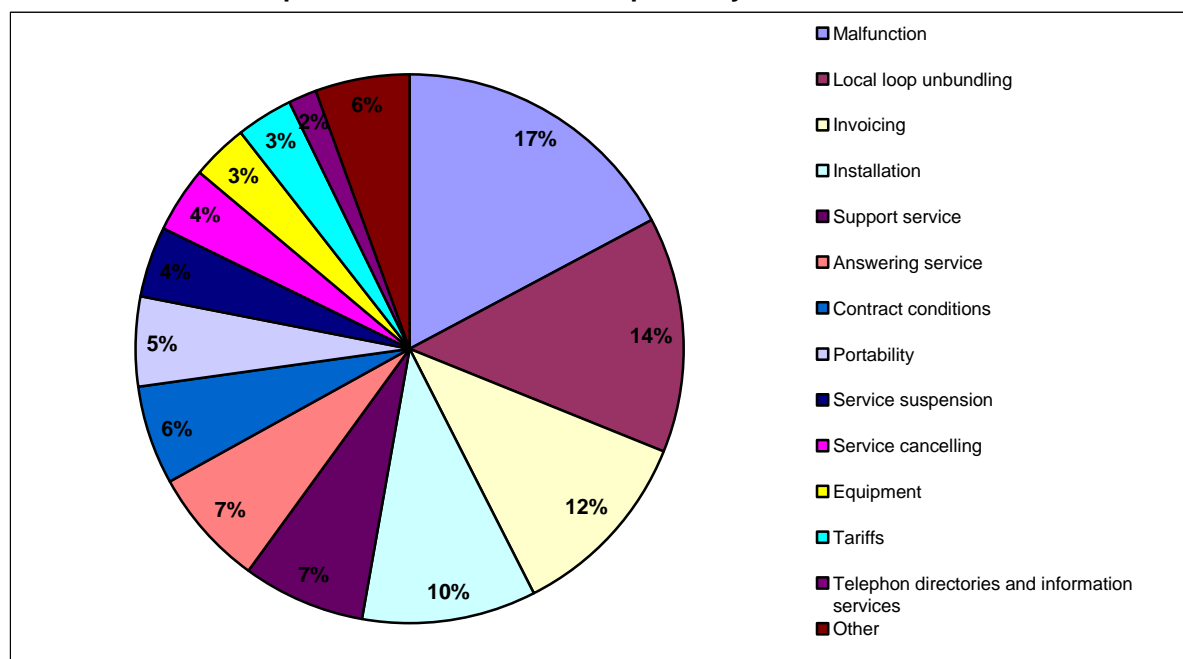
Regarding consumer satisfaction with FTS prices, the evaluation is less positive, since 49 per cent of those interviewed said they were not satisfied with the prices.

Another consumer satisfaction indicator is the number of complaints.

ICP-ANACOM's Mission Unit for the Handling of Market Requests (UM-TSM) received during 2006, about 3,085 complaints regarding the FTS service and its operators. It also received 3,179 information requests and 5 suggestions regarding this service.

According to the following graph, it is possible to see that most of those complaints are linked to malfunctions (17 per cent) and the delay in local loop unbundling (14 per cent). Figures regarding issues linked to the service's invoicing (12 per cent) and installation (10 per cent) also represent an important part of the complaints presented.

Graph 3-24 – Distribution of requests by area – 2006



Source: ICP-ANACOM

The “Other” item includes complaints on selection and pre-selection of calls, service break down, infrastructure, prices, privacy, complaint book, interference, numbering and municipal taxes for passage rights.

3.4.6. Development of competition and change of operator

In 2006, the share of accesses installed by request of Group PT’s customers decreased 11 per cent, the greatest drop recorded since the beginning of liberalization. (It should be mentioned that the accesses with SLRO were taken into account as direct access from the alternative providers. Should this option not have been taken, the decrease of Group PT’s access share would be 7.4 per cent. This way of presenting the results does not intend to anticipate any analysis that may be made in the scope of defining relevant markets.)

Since the end of 2000, Group PT lost 21.1 per cent of the total access share.

Table 3-27 – Group PT’s access shares

	2000	2001	2002	2003	2004	2005	2006
Main telephone access	99.7%	98.1%	95.3%	94.4%	93.3%	89.3%	78.6%
Accesses installed at customer request	99.7%	98.1%	95.2%	94.3%	93.2%	89.0%	78.1%
Analogue accesses	99.9%	98.3%	95.4%	94.6%	93.9%	91.3%	81.5%
Equivalent digital accesses	98.7%	97.1%	94.5%	93.2%	90.5%	81.1%	68.1%

Source: ICP-ANACOM

The evolution in the direct access customer share followed that of the access share. (Also in this case the customers with active SLRO were considered to be direct customers of the alternative operators). Indirect access continues to be mostly provided by alternative providers.

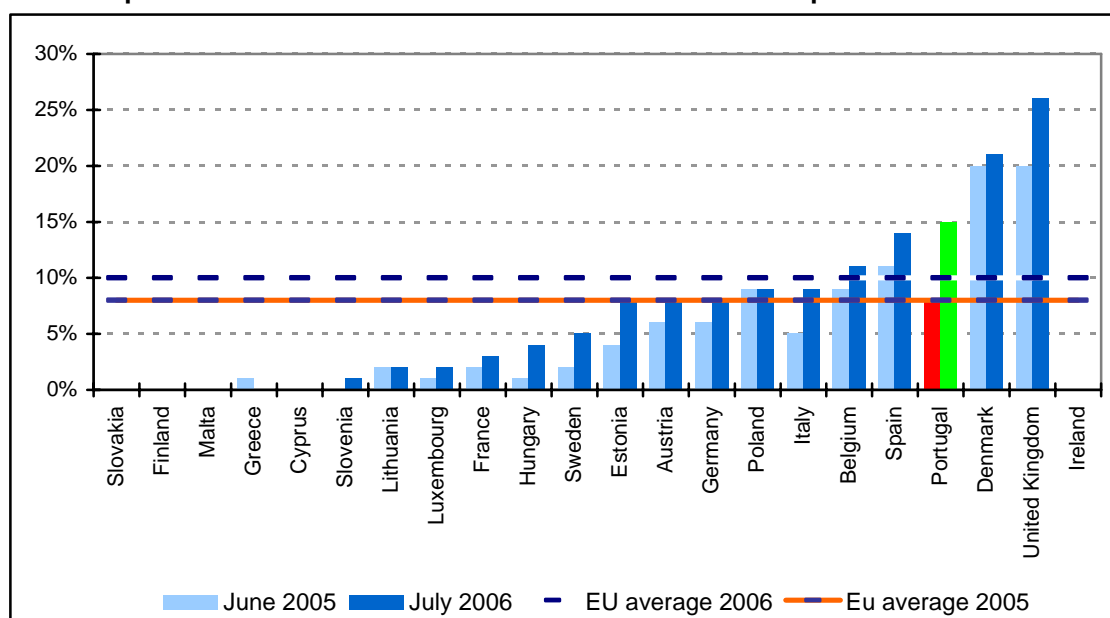
Table 3-28 – Group PT's customer shares

	2001	2002	2003	2004	2005	2006
Direct access customers	98.2%	95.1%	94.6%	93.8%	88.9%	76.5%
Indirect access customers						
Pre-selection	0.6%	0.6%	0.7%	0.7%	0.9%	1.3%
Call by call selection	0.4%	0.7%	0.4%	0.3%	0.4%	0.6%

Source: ICP-ANACOM

It should be mentioned that, according to the European Commission, the direct access customer share of alternative operators in Portugal is the third highest one among the considered countries.

Graph 3-25 – Direct Access customer share of alternative providers in the EU



Source: European Commission, 12th Implementation Report

Together with this evolution in accesses' and customer's market shares, number portability was also fostered. During 2006, ported geographic numbers maintained the growth trend, having grown about 68 per cent, a similar figure to the one recorded a year before. In absolute terms, ported numbers reached the amount of 446 thousand numbers, about 11 per cent of overall accesses.

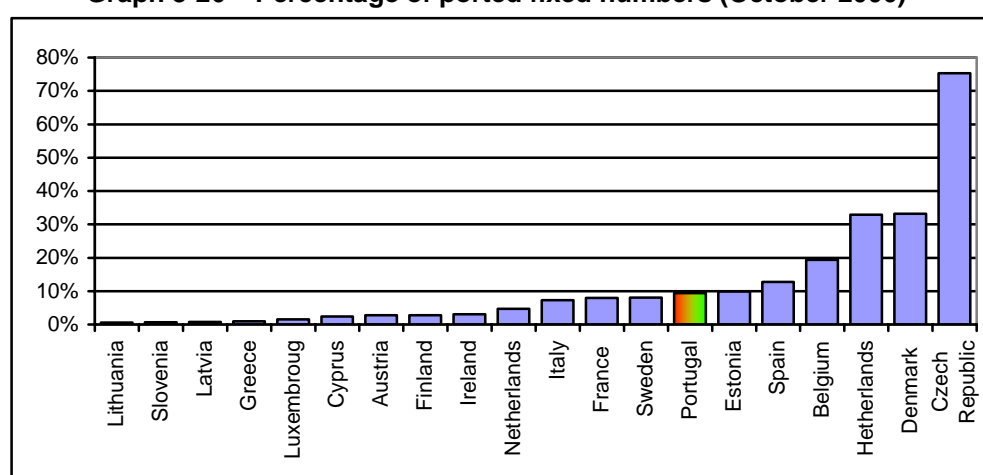
Table 3-29 – Ported numbers

	2001	2002	2003	2004	2005	2006
Geographic numbers	2,332	63,427	118,017	158,623	265,077	446,371
Non-geographic	6	145	214	277	351	571

Source: ICP-ANACOM

Unit: 1 number

At the EU level, Portugal ranks in the middle of the list regarding ported numbers.

Graph 3-26 – Percentage of ported fixed numbers (October 2006)

Source: European Commission, 12th Implementation Report

Concerning traffic shares, since the beginning of liberalization, there has been a steady decrease in the rate of voice traffic routed by the incumbent operator.

Table 3-30 – Group PT's traffic shares (minutes)

	2000	2001	2002	2003	2004	2005	2006
Total traffic (voice + Internet)	98.2%	93.4%	90.5%	88.5%	83.7%	78.2%	73.4%
Voice traffic	97.3%	89.2%	84.3%	82.4%	78.1%	74.1%	71.0%
National traffic (voice)	98.0%	89.7%	84.4%	82.4%	78.1%	74.2%	70.6%
National fixed-to-fixed traffic	98.0%	89.8%	84.7%	82.6%	78.3%	74.4%	71.0%
National fixed-to-mobile traffic	98.0%	89.1%	83.0%	81.4%	76.8%	72.9%	68.3%
International outgoing traffic	82.0%	79.8%	81.5%	82.1%	77.4%	73.0%	76.4%
Internet access traffic	100.0%	99.6%	99.6%	99.5%	99.4%	96.3%	92.9%

Source: ICP-ANACOM

Table 3-31 – Group PT's traffic shares (calls)

	2000	2001	2002	2003	2004	2005	2006
Total traffic (voice + Internet)	97.3%	90.5%	85.0%	83.0%	78.2%	74.8%	71.2%
Voice traffic	97.1%	89.6%	83.6%	81.7%	77.3%	74.2%	70.9%
National traffic (voice)	97.9%	90.0%	83.8%	81.7%	77.3%	74.3%	70.8%
National fixed-to-fixed traffic	97.9%	89.9%	83.7%	81.5%	77.2%	74.3%	71.3%
National fixed-to-mobile traffic	98.0%	90.5%	84.2%	82.7%	78.0%	74.3%	69.2%
International outgoing traffic	76.1%	77.5%	78.0%	80.1%	75.4%	72.1%	72.5%
Internet access traffic	99.9%	99.7%	99.0%	99.0%	97.7%	93.8%	84.0%

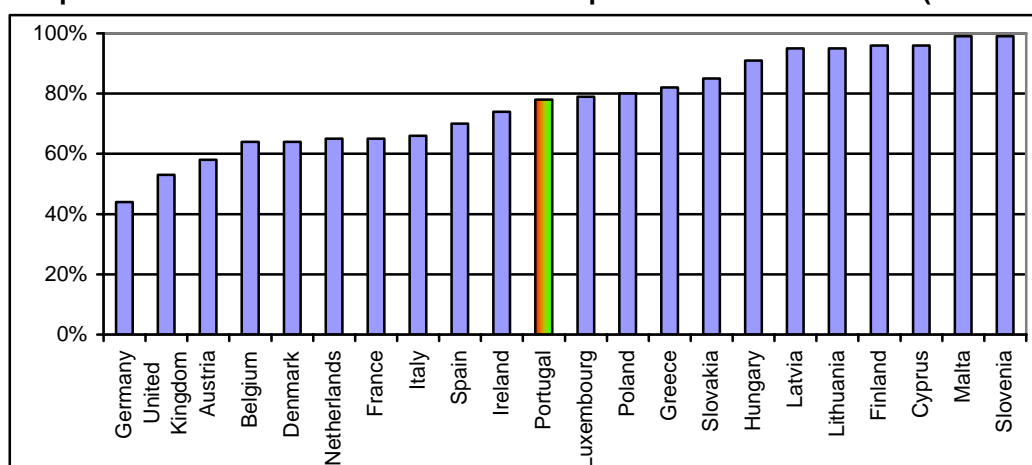
Source: ICP-ANACOM

Regarding national voice traffic destinations (mobile and fixed geographic), alternative providers were responsible in 2006 for about 30 per cent of the traffic, a figure about 4 per cent higher than that of 2005.

Regarding international outgoing traffic in 2006, the alternative providers market share was around 23.6 per cent of the routed minutes, and 27.5 per cent of the originated calls.

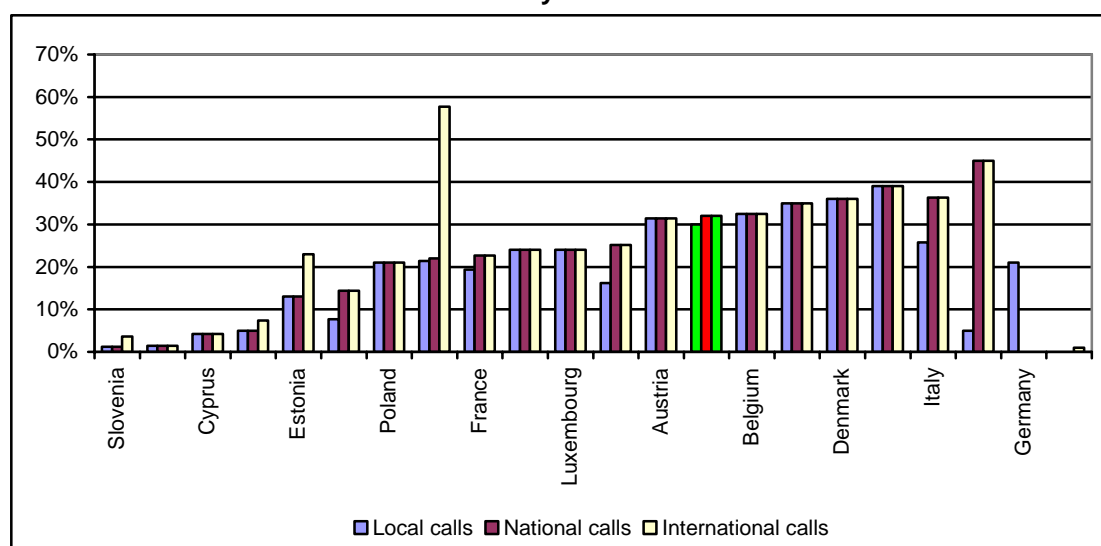
Comparing with the European Union, Portugal ranks in the middle concerning the traffic share of the incumbent operator and the rate of customers that use alternative providers to make calls.

Graph 3-27 – Traffic share of the incumbent operator in December 2005 (Minutes)



Source: European Commission, 12th Implementation Report

Graph 3-28 – Rate of subscribers using alternative providers to make fixed voice calls, July 2006



Source: European Commission, 12th Implementation Report

In terms of revenues, Group PT's share reached 80.3 per cent in 2006, 7.4 per cent less than a year before. This decrease results, namely, from the steady growth of subscription and installation revenues shares of the alternative providers, which stood at 13.4 per cent in 2006, while in 2002 it was still 0.4 per cent.

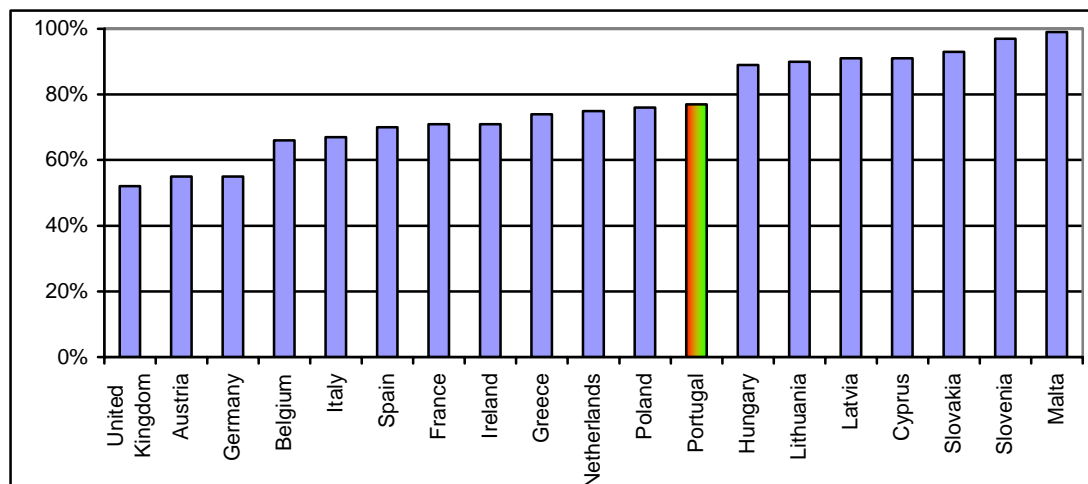
Table 3-32 – Group PT's FTS revenues share

	2002	2003	2004	2005	2006
Total revenues	90.8%	90.2%	88.6%	87.7%	80.3%
Revenues from monthly fees and installation taxes	99.6%	99.7%	98.5%	97.1%	86.6%
Revenues from calls and SMS with origin in the fixed network.	85.4%	83.5%	80.5%	78.5%	73.6%

Source: ICP-ANACOM

In international terms, in 2005, the incumbent operator's revenue share in Portugal is above the shares of incumbent operators of most of the considered EU countries.

Graph 3-29 – Revenue share of the incumbent operator in December 2005 (Revenues)



Source: European Commission, 12th Implementation Report.

The shown-above evolution of the market shares results from the previously mentioned explaining factors for the underlying variables. However, it is important to recall consumers' motives regarding the change of operator.

In this context, the main reasons for changing operator reside in the service's price level or in tariff-related reasons (lack of monthly fee). In particular, the "new operator does not charge monthly fee" motive grew 13 per cent regarding February 2006.

Table 3-33 – Motives for change of fixed operator (%)

	Dec-06
Not satisfied with the prices	48.9
The new operator does not charge monthly fee	19.0
Interested in experimenting new services/products	9.9
The former operator did no offer a package with the possibility of accessing to the Internet and TV	5.7
Not satisfied with the quality of service	5.6
The former operator did no offer a package with the possibility of accessing to the Internet	2.9
Most people contacted are customers of this new operators	2.4
Other answers	3.3
N.a.	2.2
Total	100.0

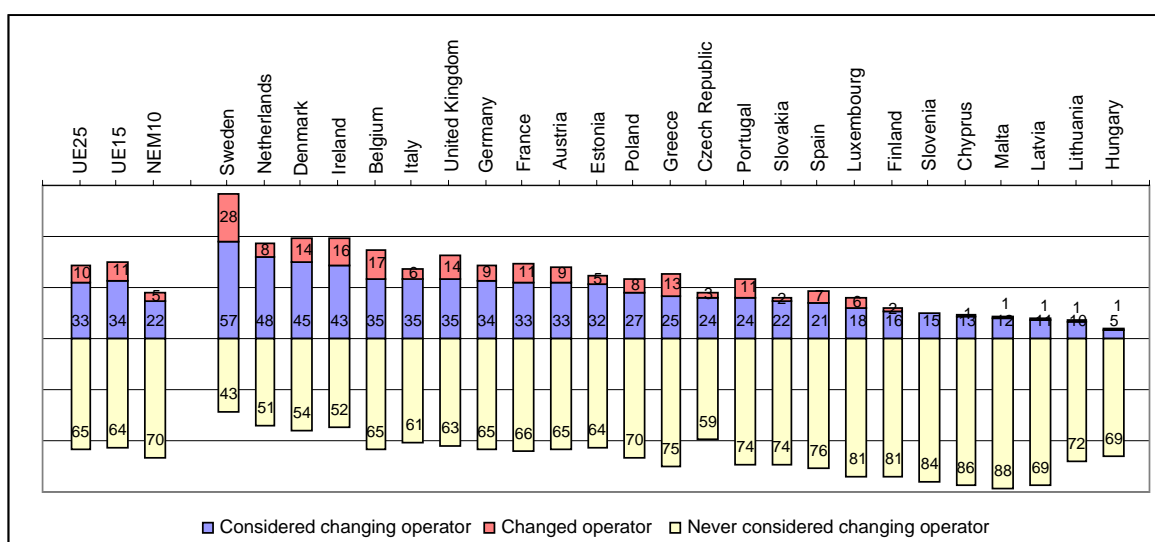
Source: ICP-ANACOM, Survey on the use of electronic communications - 2006.

Indeed, operators that launched offers without monthly fees (namely, based on GSM, on the cable TV distribution networks or on multiple play), and the providers that advertise their offers, such as indirect access, as being cheaper than the incumbent operator's ones, are the main responsible for the drop registered in the incumbent operator's access and traffic share (another relevant factor, in this scope, will be the decrease in the service's usage, under its traditional form).

On the other hand, these consumer motivations and the offerings launched by alternative operators to satisfy their needs also justify Group PT's revenue shares.

In terms of international comparisons, the rate of FTS customers that considered the possibility of changing operator is lower than the one recorded in the markets where the liberalization process started earlier. However, the rate of customers that really changed operator is above the European average.

Graph 3-30 – Fixed network operator change indicator in the EU



Source: European Commission, E-Communications Household Survey, July 2006.

Unit: %

Chapter 4 – The Mobile Telephone Service

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4. Mobile Telephone Service (MTS)

This chapter contains the MTS's state at the end of 2006 and describes namely this service's offerings, its usage and user's profiles and its evolution during that year.

Below are the main items of this service's evolution in 2006.

4.1. Main items of the evolution in 2006

- In the end of 2006, MTS's penetration reached 115.4 per one hundred inhabitants, one of the highest among the EU countries.

According to the Electronic Communications Consumer Survey of December 2006, about 87.7 per cent of those residing in Portugal were MTS's clients.

The difference between the above-mentioned penetration rate and the answers to the said enquiry is due to several factors, such as the fact that many users have more than one active card, new SIM cards are activated for exclusive access to data and Internet services, active cards are used in machines, equipment and vehicles (automated payment terminals using the mobile network, alarm, safety, telemetry and telematics equipment, etc.), cards used by companies.

However, the growth in the number of subscribers diminished and is now below the EU average, with similar values to those in other countries in which the service is at the same stage of the life cycle.

- The voice service usage level also had a moderated yearly growth (2.9 per cent regarding calls and 7.4 per cent in minutes). This is a smaller growth than that of the latest years and, according to the available information, than that of other EU

countries. Beyond the life cycle effect, traffic evolution may have been influenced by the SMS traffic evolution.

On the other hand, fixed-to-mobile calls stand out due to their stagnant or diminishing amount, a recent evolution that is part of the latest years' trend and that could be explained by the so-called fixed-by-mobile replacement.

- There as a significant increase in 2006 in the amount of sent text messages. It grew 167.8 per cent since the previous year. This increasing SMS trend, which began in mid-2005, was fostered by the mobile operators' promotional campaigns. Mention should be made to the fact that the usage level of SMS in Portugal is still below the EU average.
- This service's maturity stage led the operators to stake on the segments and services with the highest potential to generate revenue and on the data services, namely within 3G.

According to the available data, Portugal is among the EU countries with the highest penetration of 3G telephones.

Operators have launched new services and facilities. E.g. 2006 saw the launch of Mobile TV and changes to the features of broadband Internet access offerings.

The usage level of the majority of these services and facilities is low, except the broadband Internet access, which penetration reached 1.6 per 100 inhabitants at the end of the first half of 2006.

- This service's revenues reached 3.4 billion Euros, a figure that is similar to that of the previous year. The service's revenues were hindered by lower fixed-to-mobile termination prices.

4.2. MTS offer

The MTS is a public switched electronic communications service making it possible to send and receive signals based on land electronic communications networks. The access network is made up of radio means and the terminals are mobile.

The service is provided by the entities with a license for that provision, since the use of the frequencies depends on the granting of individual rights of use²⁰.

Below are described in more detail the provided services and the entities providing these services in Portugal.

4.2.1. MTS

The first generation (1G) of the mobile service was exclusively designed for voice communications. It used analogue signals and a transmission technique based on Frequency Division Multiple Access (FDMA)²¹. This transmission technique allocates a frequency band to each channel. 1G can thus be identified with the analogue systems, with one single service being provided, voice. In Portugal, this service was provided by TMN since 1989 and terminated on 30 October 1999.

The second generation (2G) uses the European Telecommunications Standards Institute's (ETSI) Global System for Mobile Communications/ Digital Communications System (GSM/DCS) standards and operates in the 900 MHz (GSM) and 1800 MHz (DCS) band. It uses digital technology and, besides voice, it gives access to low-rate data services (e.g. fax and e-mail). This generation, already with a certain ability to transmit data, uses a more effective technique regarding the use of spectrum based

²⁰ Cf. no. 3 of article 19 of Law no. 5/2004 of 10 February.

²¹ Interference-free access system that grants different frequencies to each user for accessing its several users.

on Time Division Multiple Access (TDMA)²².

GSM, which also made international roaming possible, has had a huge success as a wireless technology and a previously unseen story of international acceptance. GSM networks had a very fast and broad geographical roll-out and are currently in around 217 countries and territories^{23,24}. Currently, GSM technology is used by ¼ of the world population²⁵.

The technical specificities of this platform (narrow band) and the limitations of terminals (small screen, keyboard, autonomy, and limited memory and data processing), although they made large scale mobility possible, did not give mobiles Internet access the same speed as that of a PC connected to a fixed telephone network. The GSM platform was however perfected and developed to encompass a progressively broader offer of voice and data services.

Within this framework, several manufacturers united their efforts in order to define a protocol that could be used by all mobile communications systems. This protocol, named Wireless Application Protocol (WAP)²⁶, made a standardised communication between a mobile terminal and a server at the mobile operator network possible. However, this protocol, even if it made some improvements to mobile Internet access, did not have a broad acceptance on the market, if individually considered. Among its main limitations, slow access to the required information and the need for a very specific and little diversified content offering stand out.

The limitations of the above-mentioned standards led to the development of the mobile networks' 2+ generation, with the introduction and development, from GSM, of

²² Interference-free access system in which several users simultaneously access a single radio frequency by parting it into channels (time slots). Unlike FDMA, this system multiplies the frequency's capacity by dividing its use in time.

²³ http://www.gsmworld.com/about/membership/member_stats.shtml.

²⁴ http://ec.europa.eu/information_society/industry/comms/mobile/index_en.htm

²⁵ According to GSM Association/Wireless Intelligence there were 1,941.6 million connections to GSM networks in the second half of 2006 (<http://www.gsmworld.com/news/statistics/index.shtml>).

²⁶ It is a wireless application protocol that uses a specific language and technology, giving mobile telephone users and those of other wireless digital devices the possibility to access Internet contents, exchange e-mail or perform other data transmission operations. It is particularly used in mobile communications networks. Thus, with a micro-browser, it is possible to view pages on the mobile telephone screen that are written in a special language, named WML (Wireless Mark-up Language), more adequate than HTML (Hypertext Mark-up Language), the most common-place computer language on the Internet, to send data to wireless devices.

technological suites aimed at supporting data services, such as GPRS²⁷ and Enhanced Data for GSM Environment (EDGE)²⁸, which make it possible to provide mobile data services with higher quality, both in terms of processing capacity and speeds (from the 9.6 kbps transmission rates, available on GSM networks, to rates as high as 115 kbps with error protection and 384 kbps), as well as some multimedia services.

GPRS networks make it possible, in an “always on” mode, to send and receive data at much higher rates than those of the traditional GSM, giving access to the Internet and to search engines with terminals with coloured screens, mobile e-mail, visual communications, multimedia messages and location-based services.

Also the fact that it makes data communications possible with no need for a voice channel will make it possible to set up tariff schemes based on amount of data and no longer on the length of communications.

The third generation (3G), also digital, was designed for the convergence of fixed and mobile communications, and multimedia, by making mobile networks closer to fixed ones, regarding capacity, and giving mobile users access to multimedia services at rates of 384Kbps and above, for voice and data services.

Among the third generation mobile telecommunications systems, UMTS (Universal Mobile Telecommunications System) stands out, in the 2GHz band, and is identified as the European standard within the global family of mobile international telecommunications systems standards (IMT2000/UMTS).

The UMTS technology uses the Wideband Code Division Multiple Access²⁹ (WCDMA) transmission mode, which is based on multiple access by code division. Although it is different from those of the GSM/GPRS networks, this technology – which requires the

²⁷ Evolution of the GSM system, based on packet-switching, making it possible to have throughputs of up to 115 kbps.

²⁸ Evolution of the GSM system that makes it possible to have throughputs of up to 384 kbps.

²⁹ Broadband Access system which access discipline to the various users shares the same frequency band through codes assigned to each one of them.

development of complex networks and systems – was designed to be fully GSM-compliant.

UMTS makes the offer of advanced mobile multimedia services, regardless of the user's location, possible, making way for the development of new services and applications: Internet-based services, e-commerce, location-based services, sending photos directly from cameras (using the Bluetooth³⁰ protocol), live video feeds, remote monitoring of people and vehicles and download of games and music.

Current mobile phones have countless functions, beyond phone calls: they give access to a variety of services that increase the flexibility of mobile communications, call-on-hold, call holding, calls re-routing, caller ID and data services standing out. The microelectronics based on which the software for those applications was set up also makes it possible to include in the mobile phone a digital camera, an FM receiver, an MP3 music player, amongst others.

Besides those facilities, mention should also be made to SMS – Short Message Service³¹ – messages, a non-voice service facility for sending and receiving small texts, including letters and numbers, among mobile phones.

Since 2001 and 2002, respectively, within the scope of the service facilities, mobile operators have offered EMS (*Enhanced Messaging Service*) and MMS (*Multimedia Messaging Service*). EMS is an enhancement of SMS, very similar to it regarding use, includes sending and receiving graphic elements / logos or sounds, combines melodies, images, sounds, animations, altered text and regular text in an integrated fashion. This is how it became possible to send moving messages and videos.

Some other important functions were also introduced in the MTS, by regulatory ways: indirect access (available since 31 March 2000); and operator portability (since 1

³⁰ Short range radio technology in the 2.4 GHz frequency band, used to ensure connectivity among devices at the user's facilities, within approximately 10 metres, with a maximum throughput of 1 Mbps. It may evolve, in the future, to 6 to 11 Mbps maximum throughput and a 100-metre range.

³¹ This service was created still on Phase 1 of the GSM standard.

January 2002).

During 2004, and further to the delays in connection with the difficulty in stabilising the technology, a set of new 3G mobile services based on IMT2000/UMTS (WCDMA) were introduced.

3G-based commercial services – namely broadband Internet access, video call, multimedia services, etc... – were introduced in January 2004, on an experimental basis, and were commercially launched by TMN, Vodafone and Optimus, respectively, on 21 April 2004, 4 May 2004 and 4 June 2004.

4.2.2. MTS providers

The MTS was first marketed in Portugal in 1989 by a consortium of CTT and TLP. Only later, on 22 March 1991, was TMN – Telecomunicações Móveis Nacionais, S.A. set up. The provided services used the analogue C-450 technology.

In March 1991 a public tender for an MTS license using GSM technology took place. That license was awarded to Telecel – Comunicações Pessoais, S.A. on 18 October 1991. The service's commercial offering began on 18 October 1992.

TMN's operation license was issued on 16 March 1992, with excuse from public tender, in accordance with the exceptional rule of article 19 of Decree-Law no. 346/90 of 3 November, as changed by Decree-Law no. 147/91 of 12 April. TMN began offering its service in October 1992.

On 15 July 1997, Notice No. 3542-A/97 (II Series) was published, for the opening of a new contest to grant a license for the provision of the land mobile service in accordance with the GSM and DCS standards and using the 900 MHz and 1800 MHz frequencies, respectively. Further to that contest, a license was granted to Optimus – Telecomunicações, S.A.. Optimus began its commercial offering in August 1998.

UMTS licensing

In order to comply with Decision no. 128/1999/EC, of the European parliament and the Council, of 14 December 1998, regarding the coordinated introduction of a third generation mobile and wireless communications system (UMTS), the general procedure regarding the licensing of the IMT2000/UMTS services was approved by ANACOM's Board of Directors on 23 December 1999.

On 1 August 2000, a contest was opened for the granting of four national licenses for the International Mobile Telecommunications Systems (IMT2000/UMTS), by order of the Minister for Social Equipment of 1 August 2000, published in the Official paper Diário da República, no. 176, II Series, on that same date.

The contest was ruled by the Regulation of the Contest approved by order of the Minister for Social Equipment of 1 August 2000.

On 19 December 2000, the Minister for Social Equipment (MSE) announced the results of the public contest for the granting of four national licenses for the International Mobile Telecommunications Systems (IMT2000/UMTS).

The four licenses at stake were thus granted to the following entities:

- Telecel – Comunicações Pessoais, SA (currently Vodafone)
- TMN – Telecomunicações Móveis Nacionais, SA
- OniWay – Infocomunicações, SA
- Optimus – Telecomunicações, SA.

3G commercial offerings were launched in Portugal 21 April 2004, 4 May 2004 and 4 June 2004, respectively by TMN, Vodafone and Optimus.

The four licensed operator for this system, OniWay, did not begin its mobile telecommunications activity, and its license was formally revoked on January 2003 by Order of the Minister of Economy (Order No. 1758/2003 of 29 January).

Mention should be made to the fact that the mobile virtual network operator (MVNO³²) activity can be framed within the offering of electronic communications networks and services and is subject to the general authorisation regime, and to the terms of the granting of rights of use of numbers.

MVNOs do not use rights of use of frequencies and, thus, to their own radio access network infrastructure. They are based on the radio means supplied by network operator(s) which possess their own rights of use. MVNOs have a direct contractual relationship with the end customer, in connection with the provision of the service, and, therefore, are not mere distributors of the service, in which the contractual relationship is kept between the end client and the mobile network operator.

MVNOs thus have direct customers, i.e. they are the exclusive responsible parties for the relationship with the end customers and design and market their own retail offering, which they are free to detach from that of the operator on which they are based, by defining their own marketing strategy.

Within this scope, Declaration ICP-ANACOM nº11/2006 was granted to Telemilénio – Telecomunicações, Sociedade Unipessoal, Lda (marketed as Tele2) by the end of 2006, giving this company the possibility to offer mobile telephone, voice telephone traffic resale and SMS traffic resale services, which it did not yet start, however.

³² Mobile Virtual Network Operator.

Current state

In 2006, the legally entitled entities for the provision of the mobile telephone service in Portugal remained active: TMN, Vodafone and Optimus.

Table 4-1 – MTS providers

Optimus Telecomunicações, S.A.
TMN — Telecomunicações Móveis Nacionais, S.A..
Vodafone Portugal – Comunicações Pessoais, S.A.

Source: ICP-ANACOM

New offerings in which the distribution of the service is made by a third party, different from the operator, came about in 2006, namely:

- *Talk Mobile* marketed by *The Phone House* with preferential tariffs for numbers within the brand;
- Rede Bónus marketed by *Worten Mobile*, also with preferential tariffs among clients of this network.

All new offerings are based on Optimus' network.

These activities are not MVNO's activities and, therefore, their providers are not MTS providers.

4.3. MTS user and usage profiles

The following sections contain the main features of the MTS user and of this service's usage.

4.3.1. Characteristics of the MTS user

According to the data received from the 2004-2006 Electronic Communications Consumer Surveys^{33,34,35,36}, variables age and education level are the ones that mostly separate MTS users from its non-users.

In fact, there is a negative correlation between age and STM penetration. Worth pointing out is the fact that, from those above 65 years of age, only 58.5 per cent has a mobile phone, at the end of 2006. Nevertheless, this result means that there was a considerable increase to penetration in this group vis-à-vis 2004.

Table 4-2 – MTS penetration by age class

Age class	Feb. 2004	Jun. 2005	Feb. 2006	Dec. 2006
15-24	90.1%	96.2%	98.4%	99.1%
25-34	91.8%	92.4%	97.1%	98.5%
35-44	79.6%	86.1%	92.9%	97.1%
45-54	69.6%	75.0%	91.3%	90.9%
55-64	42.3%	69.6%	79.8%	83.0%
65-mais	19.0%	29.0%	51.0%	58.5%
Total	66.0%	74.1%	84.5%	87.7%

Source: ICP-ANACOM, 2004-2006 Electronic Communications Consumer Survey

³³ The universe defined for this survey was individuals of both genders, aged 15 or over, residing in Mainland Portugal and the Autonomous regions of Madeira and the Azores. The size of the sample was determined for a maximum error of 3 per cent for the main results (assuming a significance degree of 95 per cent). The sample was stratified by region (NUTS II), habitat/size of households (5 groups), gender, age (3 groups), education (3 groups) and occupation (2 groups), based on the last General Population Census: Census 2001. 1051 interviews were made. Data collection was made with personal and direct interviews. The field work took place between January and February 2004, by Intercampus.

³⁴ The universe defined for this survey was individuals of both genders, aged 15 or over, residing in Mainland Portugal and the Autonomous regions of Madeira and the Azores. The size of the sample was determined for a maximum error of 2.5 per cent for the main results (assuming a significance degree of 95 per cent). The sample was stratified by gender, age and region, in accordance with the last General Population Census: Census 2001. 2184 interviews were made. Data collection was made with personal and direct interviews. The field work took place between 9 June and 12 June 2005, by Metris GfK.

³⁵ The universe defined for this survey was individuals of both genders, aged 15 or over, residing in Mainland Portugal and the Autonomous regions of Madeira and the Azores. The size of the sample was determined for a maximum error of 2.5 per cent for the main results (assuming a significance degree of 95 per cent). The sample was stratified by gender, age and region, in accordance with the last General Population Census: Census 2001. 2,020 interviews were made. Data collection was made with personal and direct interviews. The field work took place between 17 January and 22 February 2006, by Marktest.

³⁶ The universe defined for this survey was individuals of both genders, aged 15 or over, residing in Mainland Portugal and the Autonomous regions of Madeira and the Azores. The sample was selected by quota of sex, age and education and occupation, structured by region and residence. In total 2,519 interviews were carried out. Of these 2,519 interviews, 997 were made by mobile phone and 1,522 by fixed-line. In the cases of Table 1, point 2 and Table 3, a 3.1% margin of error is ensured. In Table 7 a 2.5% margin of error is ensured. In the remaining tables the margin of error is approximately 1.95%. The results were adjusted for the total target population and households according to the weighting calculations of MARKTEST and based on the 2001 Census of INE. For mobile services a weighting was applied to be representative of the Portuguese population of over 15 years of age and residing in Portugal, based on the social-demographic characteristics of the survey. The fieldwork and processing of the information was performed MARKTEST between 9 November and 29 December 2006.

On the other hand, those with lower education levels are the ones among which the MTS penetration is the lowest.

Table 4-3 – MTS penetration by class of education

Class of education	Feb. 2004	Jun. 2005	Feb. 2006	Dec. 2006
University/ Post-graduation/ Master/ PhD	96.8%	95.1%	99.0%	99.3%
Medium/ Polytechnic	89.5%	100.0%	91.7%	98.8%
12th grade (11th grade)	96.4%	96.9%	96.7%	98.9%
9º grade	86.5%	91.5%	91.0%	96.1%
6º grade	81.4%	82.2%	89.9%	93.9%
Complete primary education	50.0%	55.5%	76.9%	77.8%
Incomplete primary education /Illiterate	10.2%	20.5%	34.4%	43.0%

Source: ICP-ANACOM, 2004-2006 Electronic Communications Consumer Survey

People residing in the Azores and inland are those with less mobile phones, but all regions, bar Midland, reinforced their penetration in 2006.

Table 4-4 – MTS penetration by NUT II (%)

Region	Feb. 2006	Dec. 2006
North	83.0	86.5
Midland	84.5	84.3
Lisbon and Vale do Tejo	88.8	93.0
Alentejo	78.3	85.5
Algarve	84.9	89.3
Madeira	85.4	89.9
Azores	78.9	82.6
Total	84.2	87.7

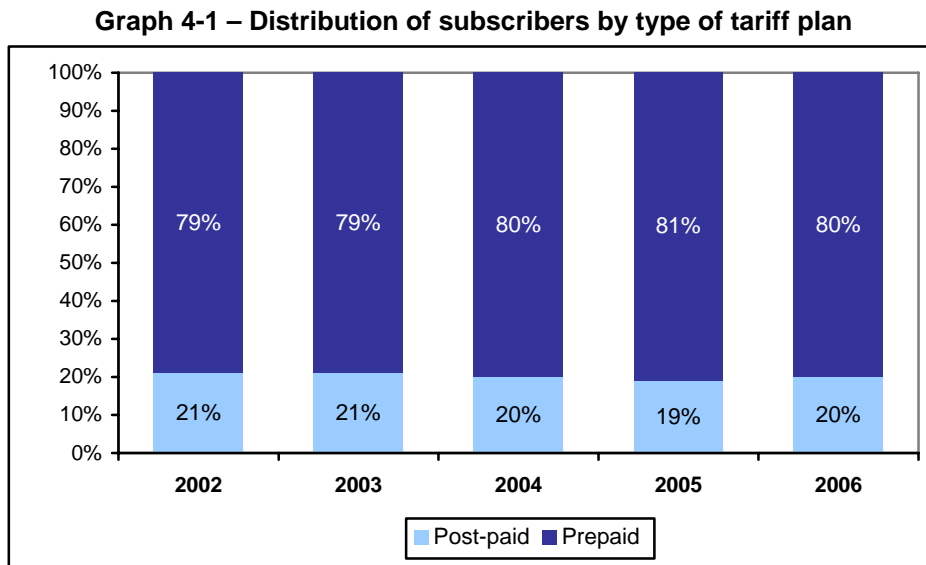
Source: ICP-ANACOM, Electronic Communications Consumer Survey – February and December 2006.

4.3.2. Characteristics of the MTS usage

Below are some items on the use of the MTS, namely used tariff schemes and features of the made calls.

Tariff schemes

Regarding tariff schemes used by the MTS subscribers, about 80 per cento of the subscribers use prepaid plans. This ratio has been stable over the last few years.

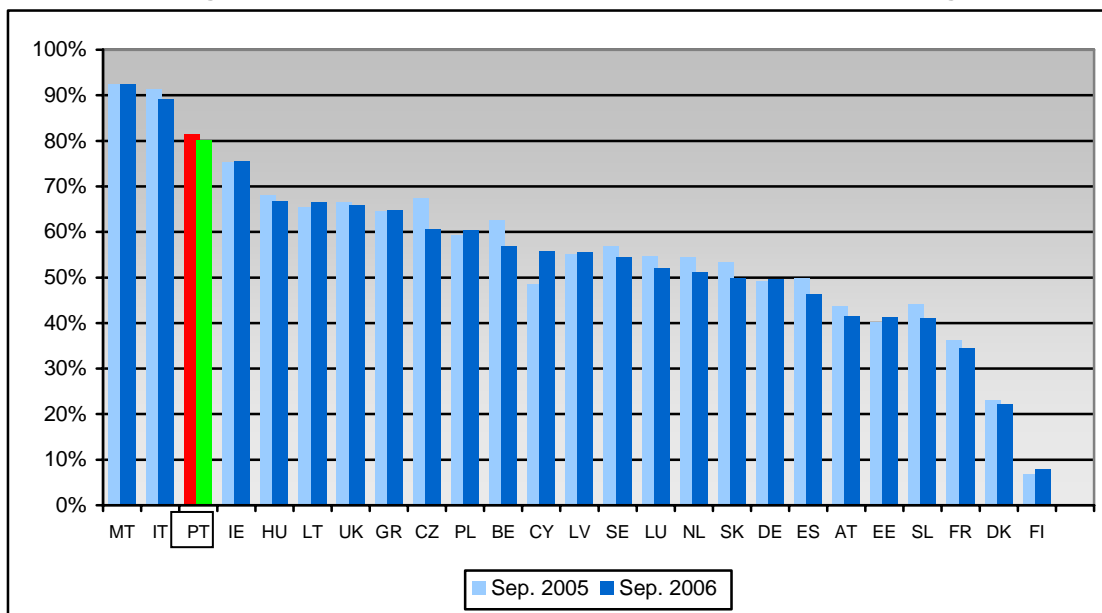


Source: ICP-ANACOM

It should be reminded that Portugal was a pioneer in introducing the prepaid in the mobile telephone service. TMN launched in 1995 the MIMO product. These products give customers greater control over the service bill and do not require the payment of monthly fees.

The graphic below shows that Portugal is among the countries with the highest shares of prepaid, right after Malta and Italy. Finland and Denmark are the countries with the lowest ratios. In 2006, the EU average was at 55 per cent.

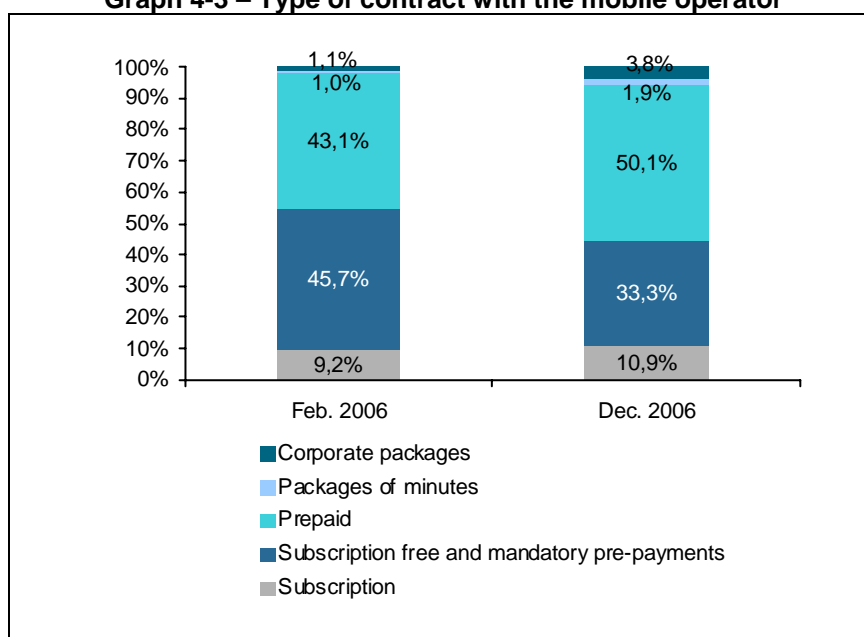
Graph 4-2 – Weight of prepaid cards in the overall amount of subscribers – Portugal vs. the EU



Source: *Mobile Communications Europe, informa telecoms & media* (Issue 440).

The weight of the plans with no mandatory charges over the last few years should be pointed out. On the other hand, as penetration increases, operators are forced to look for costumers in segments of the population with lower income levels and age below average. This type of product is particularly targeted at fulfilling these segment's needs.

Graph 4-3 – Type of contract with the mobile operator



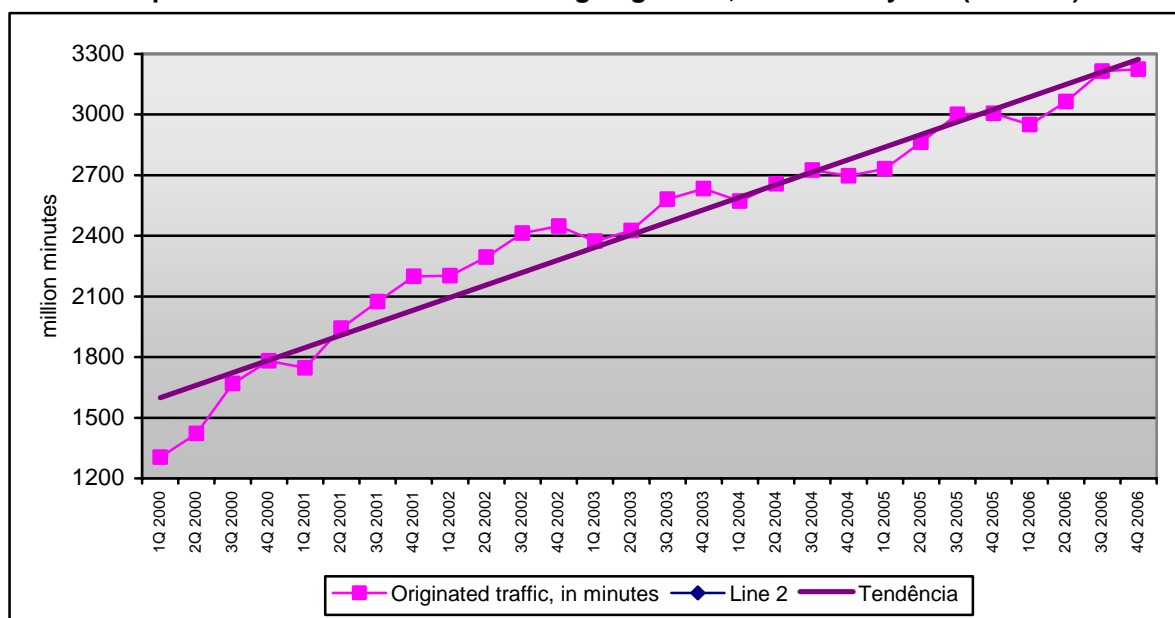
Source: ICP-ANACOM, Electronic Communications Consumer Survey – 2006.

Voice traffic: usage level

As can be seen on the following graphs, MTS traffic tends to grow. The growing traffic trend should be related with the increasing amount of subscribers, the service's massive use and also the decline in the use of the FTS.

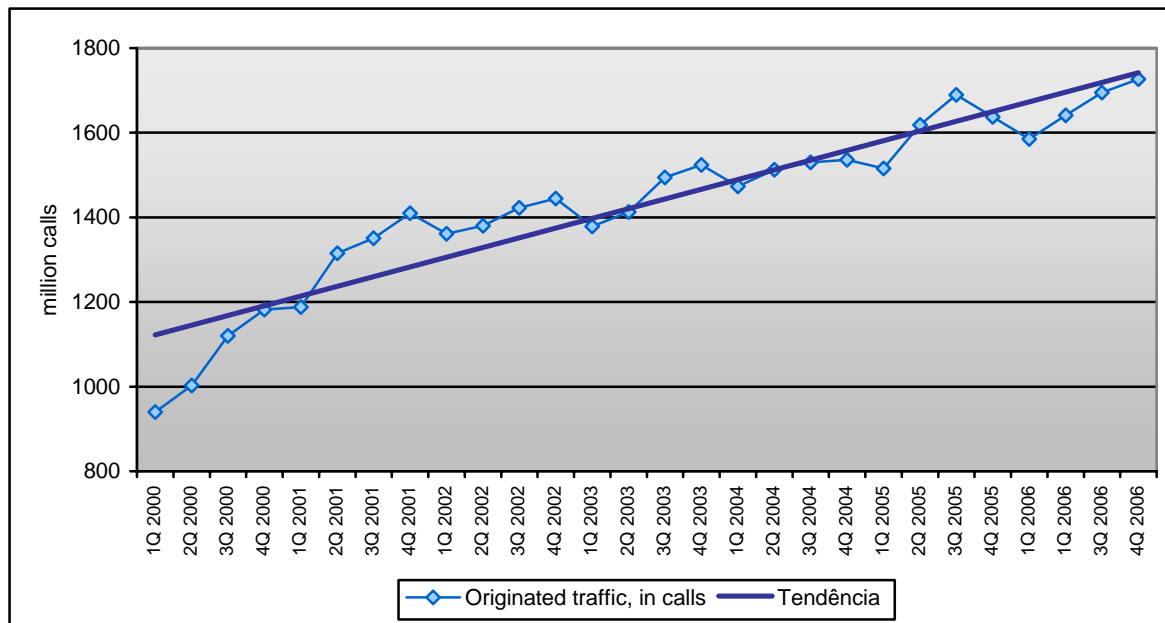
On the other hand, seasonal nature increases occurred in each year's 3rd and 4th quarters, in connection with the summer and Christmas holidays.

Graph 4-4 – Evolution of the MTS outgoing traffic, trend and cycles (minutes)



Source: ICP-ANACOM

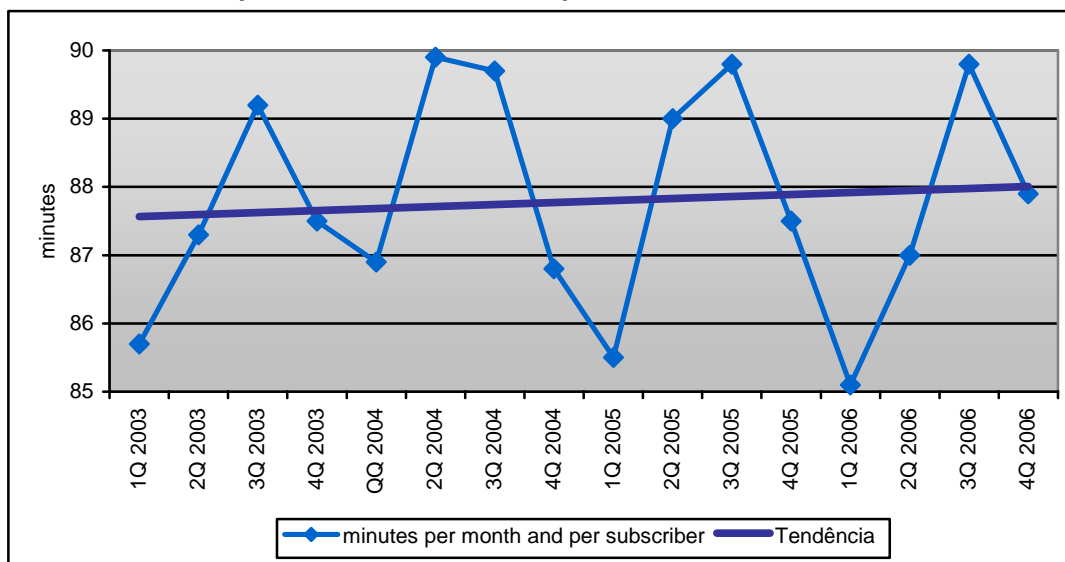
Graph 4-5 – Evolution of the MTS outgoing traffic, trend and cycles (calls)



Source: ICP-ANACOM

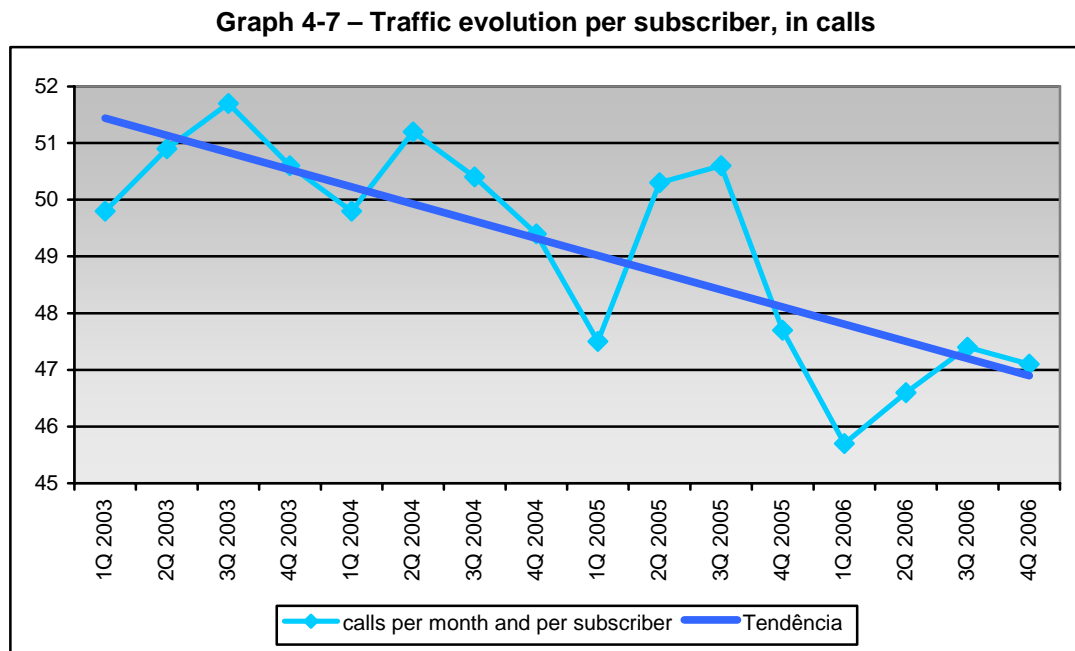
The average monthly traffic per subscriber is close to 88 minutes and 47 calls. The amount of minutes peaks during the 3rd quarter, for the above-mentioned reasons.

Graph 4-6 – Traffic evolution per subscriber, in minutes



Source: ICP-ANACOM

A slight decreasing trend in the amount of calls per subscriber can however be perceived. The average amount of calls per subscriber was close to 47 in the 4th quarter of 2006, less than in that same quarter the previous year.



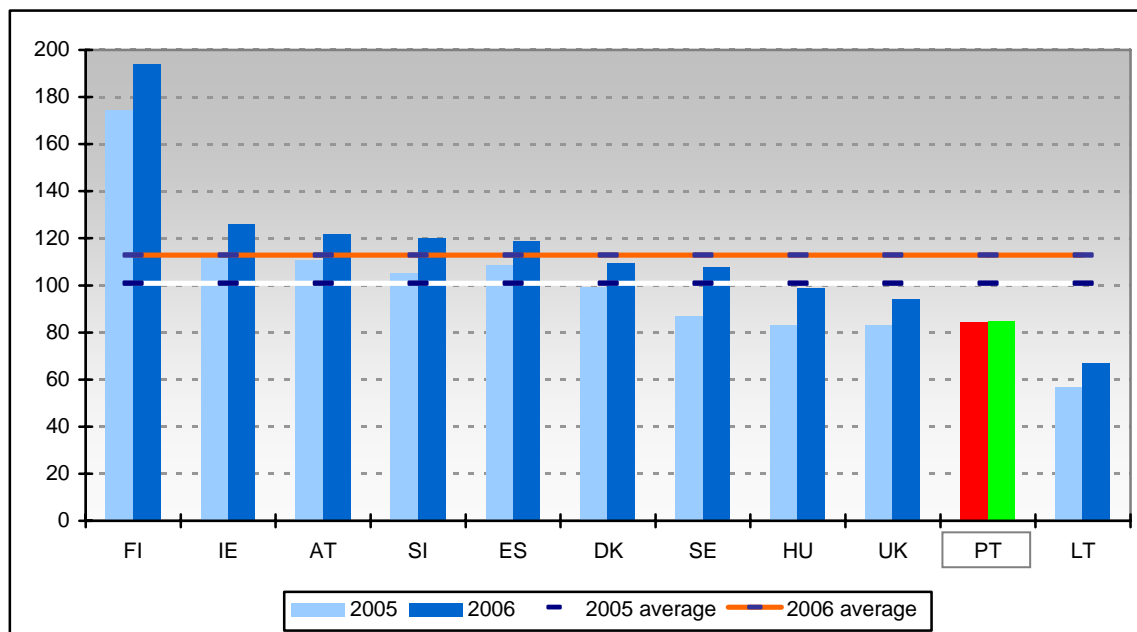
Source: ICP-ANACOM

Unit: 1 Call

This evolution can be justified by the fact that the new subscribers to this service have an income level below the average or by macroeconomic factors of a cyclical nature that impacted on this service's consumption.

The following graph shows an international comparison of traffic per subscriber. As can be seen, and following the available data, this service's usage in Portugal is below the average of the analysed countries.

Graph 4-8 – Minutes per month and per subscriber – international comparisons



Source: ICP-ANACOM and remaining NRAs

Unit: 1 Minute

Note: For Denmark, Hungary, the United Kingdom and Sweden only 6-month traffic was considered. For Austria and Spain 9-month traffic.

Voice traffic: type of calls

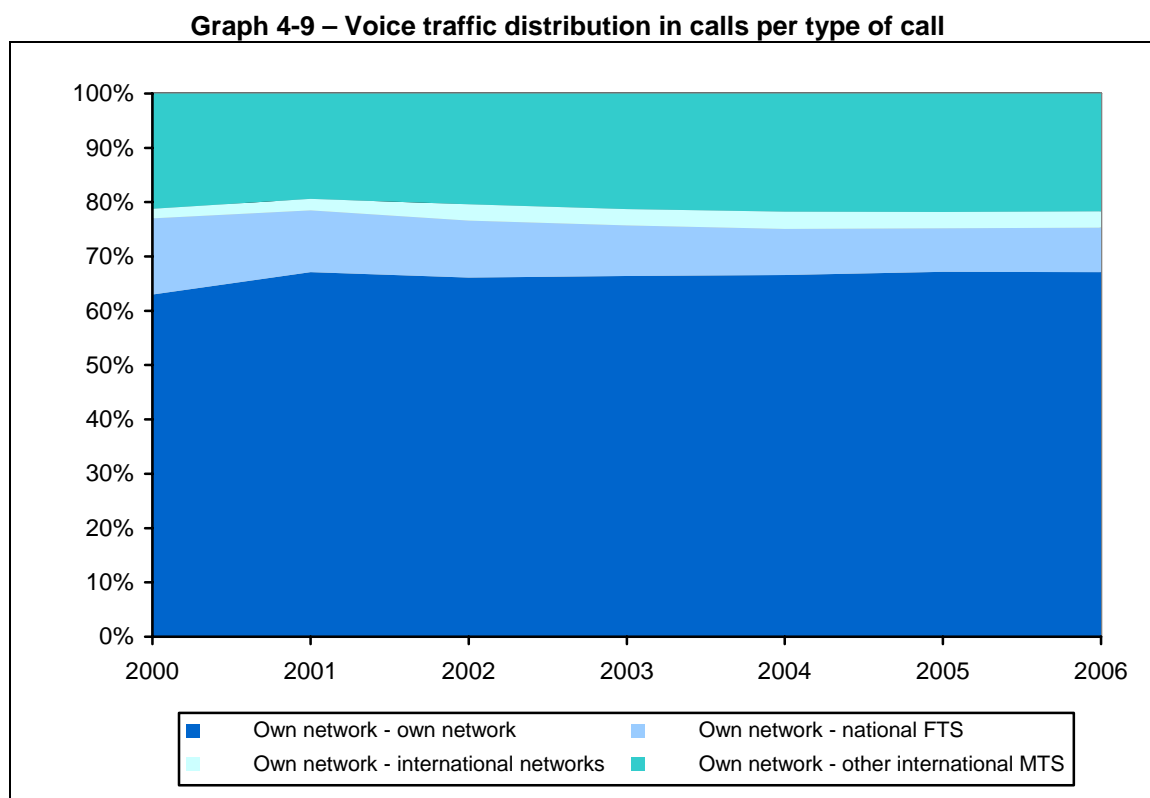
Regarding the type of made calls, about 2/3 of calls are made to the network where the call has its origin. Other mobile operators' networks are the destination of around 22 per cent of the originated traffic, and the FTS comes next. Regarding entry traffic, the relative weight of the types of calls does not change significantly.

Table 4-5 – Voice call traffic distribution by type of call

	2005	2006
Outgoing traffic	100.0%	100.0%
Own network - own network	67.4%	66.8%
Own network - national FTS	7.9%	8.0%
Own network - international networks	3.2%	3.4%
Own network - other national MTS	21.5%	21.8%
Incoming traffic	100.0%	100.0%
Own network - own network	66.4%	66.3%
National FTS - own network	9.5%	8.9%
International networks - own network	2.9%	3.1%
Other national MTS - own network	21.2%	21.7%

Source: ICP-ANACOM

There is, on the other hand, a progressive decrease in the weight of calls with destination and origin in fixed networks, which should be related with the declining amount of FTS users.



Source: ICP-ANACOM

Voice traffic: average length of calls

The average length of calls is still above 100 seconds. The average length of calls in the mobile network is lower than that of the fixed network. The average length of international calls should be highlighted. They reach lengths above 150 seconds, when they are originated in the country, and of 178, when they are terminated in the country.

Table 4-6 – Average length of calls

	2000	2001	2002	2003	2004	2005	2006
Total outgoing traffic	87	91	100	103	106	108	112
Own network – own network	83	89	100	104	107	109	115
Own network – national FTS	87	86	90	96	96	97	96
Own network – international networks	172	180	170	166	156	155	155
Own network – other national MTS	93	90	94	97	98	100	103
Total incoming traffic	90	93	102	104	107	109	114
Own network – own network	83	89	100	104	107	109	115
National FTS – own network	99	102	106	107	107	110	113
International networks – own network	185	178	182	176	175	174	178
Other national MTS – own network	92	91	94	97	98	100	103

Source: ICP-ANACOM

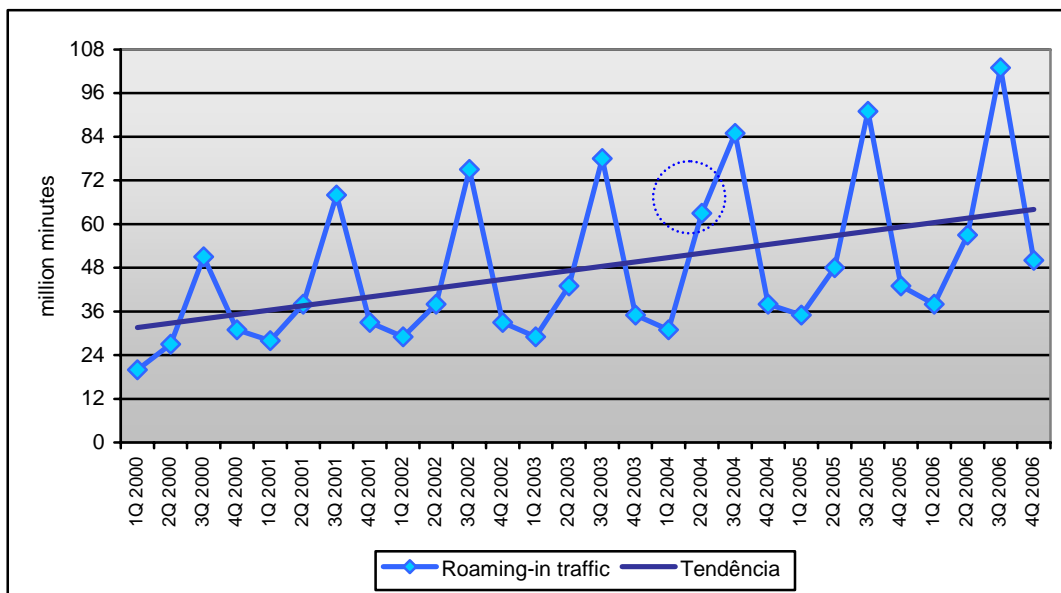
Unit: Seconds

Roaming traffic: voice and SMS

The roaming traffic is highly seasonal, in connection with the summer holiday period.

The following graph shows that the “Euro 2004” phenomenon had some impact on the roaming in traffic³⁷ (2nd quarter of 2004).

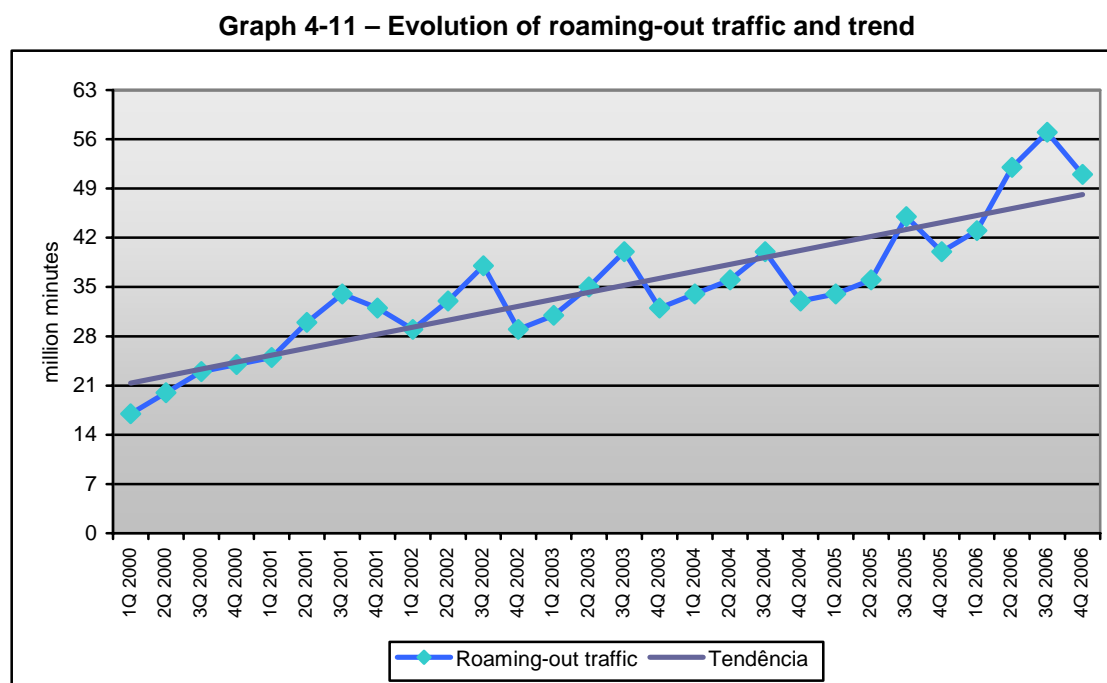
Graph 4-10 – Evolution of roaming-in traffic and trend



Source: ICP-ANACOM

³⁷ Traffic made by foreign operators' subscribers using national networks.

The roaming out traffic³⁸ is also highly seasonal, to the same reasons.



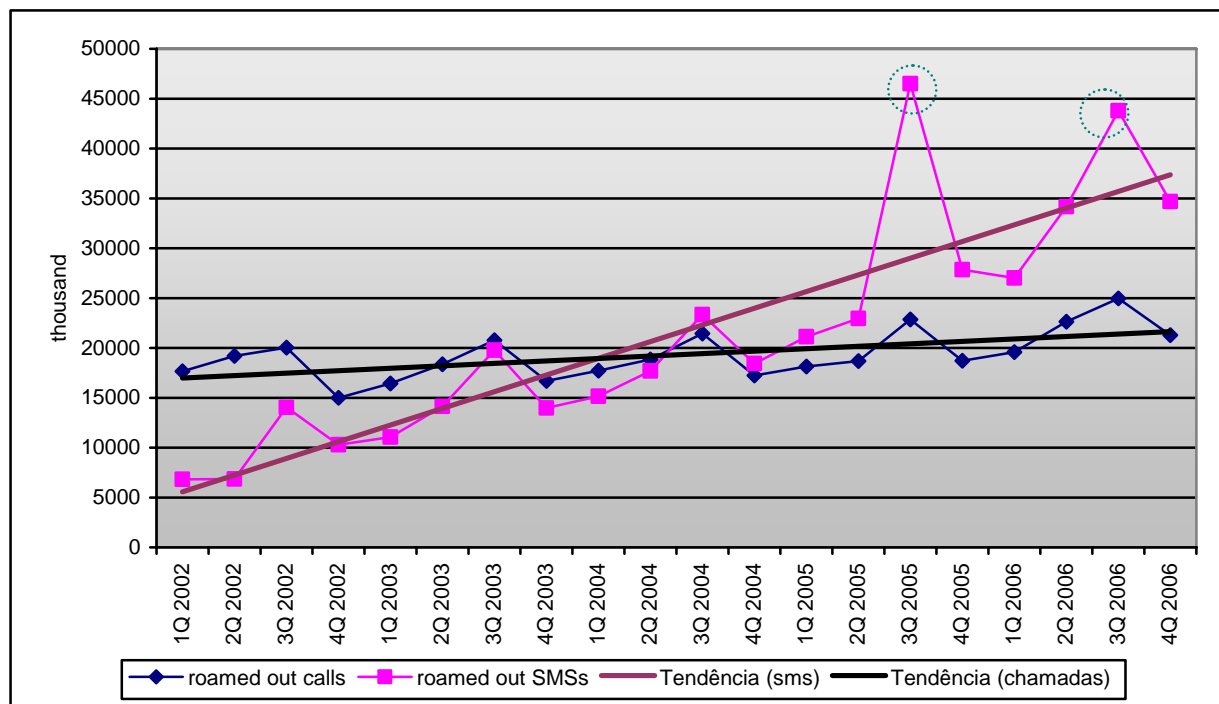
Source: ICP-ANACOM

Specifically regarding roaming out, there is a growing trend in the use of SMS, which could be related with the price level of this type of calls and with the termination figures in these cases.

Also promotional campaigns by operators, to promote the intensified use of SMS, considerably add to the amount of roamed-in messages. It should be highlighted that receiving roamed messages has no costs to the roamer and receiving a voice call means paying the part of the call in connection with the termination cost of the foreign operator at which the roamer is registered. This, in connection with the aforementioned campaigns, can explain the peaks in the third quarters of 2005 and 2006, in the holiday seasons.

³⁸ Traffic made outside the country by national operators' subscribers using the networks of foreign operators.

Graph 4-12 – Evolution of roaming-out traffic per type of traffic



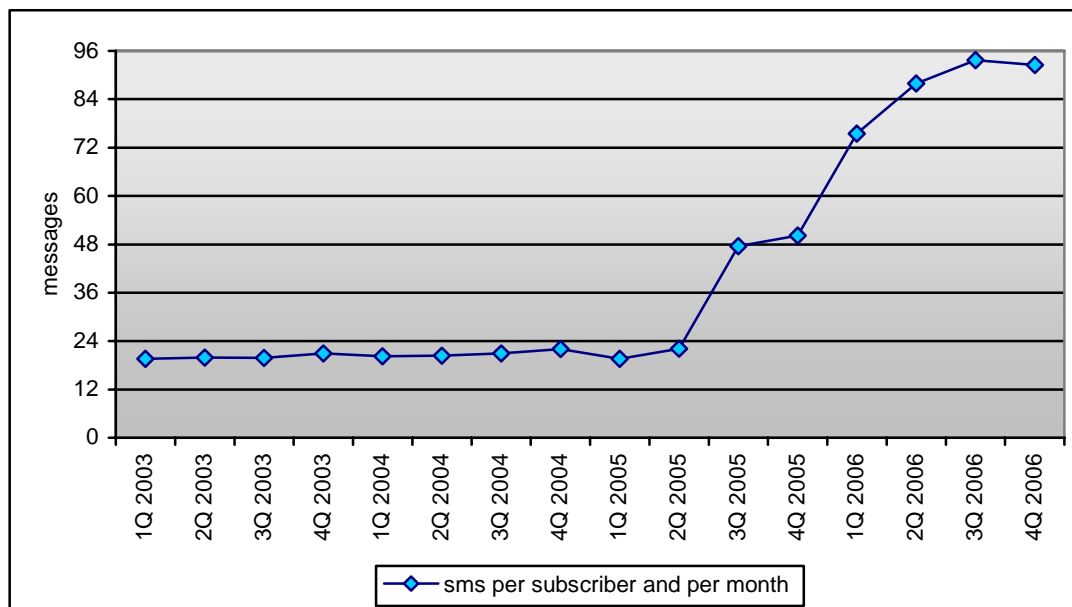
Source: ICP-ANACOM

On average, roamed calls are longer than those made within national networks.

SMS

Until 2004, there was a monthly average of 20 SMS per subscriber. This significantly changed during 2006, a change that was intensified in 2006, when the average reached 88 SMS per month and per subscriber, although in the 3rd quarter that year it reached 94.

Graph 4-13 – Evolution of the amount of SMS per subscriber and per month, trend



Source: ICP-ANACOM

This evolution should have a relation with the new tariff offerings and promotions that the operators launched, as mentioned above.

It should be mentioned that the so-called Premium messages are only 1.4 per cent of the overall SMS.

Data services

Sending multimedia messages (MMS) is still the mostly used 3G service, with 47 per cent of all answers. There was a sharp decrease in the use of ring- and image-download services.

Table 4-7 – Services used with the 3G mobile phone (%)

	Feb-06	Dec-06
MMS	63.9	47.0
Internet access	12.8	24.9
Video calls	26.6	21.7
Ring tone- and image downloading	35.3	19.7
MMS albums	11.5	14.7
E-mail, Messenger or chat	14.1	12.9
On line games	11.7	12.3
Video services	9.7	10.6
NA	0.5	0.4
None of the above	22.7	31.7

Source: Electronic Communications Consumer Survey – February and December 2006

Note: multiple answering

4.3.3. Barriers to joining the service

According to the Electronic Communications Consumer Survey, among those that do not have a mobile phone, the main reason is “do not need it” (49 per cent).

The service’s price levels, which was, in the previous year, the second main barrier to joining the service, is now the third, with the ratio of non-users giving it decreasing in 9 per cent. This evolution might have been influenced by the coming about of lo-cost or no-frills tariff schemes in 2005.

Table 4-8 – Reasons for not having a mobile telephone

IN PORTUGAL	Feb. 2006	Dec. 2006	IN EU25	Eurobarometer EU25
Does not need	36.4%	49.0%	Does not want	42%
Too expensive	23.3%	14.5%	Too expensive	25%
The fixed network suffices	21.6%	21.5%	The fixed network suffices	34%
Other Answers	9.4%	6.5%	Access to other media (public phones)	7%
Difficulties in using the mobile phone	7.2%	7.5%	Will purchase one in the next 6 months	4%
Na	2.2%	1.1%	Other/Na	13%
Total	100.0%	100.0%		

Source: ICP-ANACOM, Electronic Communications Consumer Survey – 2006

Source: European Commission, *E-communications household survey, July 2006*

The main barriers to joining the service are similar to those given by the European consumers.

4.4. MTS's evolution in 2006

Below is a set of items on the MTS's performance in 2006: availability, penetration, service usage, prices and quality of service.

4.4.1. Geographical availability of the service

MTS is available in the overwhelming majority of the Portuguese territory, and it reaches almost 100 per cent of its population.

4.4.2. Service penetration

MTS penetration in Portugal reached very high figures during this year. At the end of 2006, the service's penetration rate reached 115.4.

Table 4-9 – MTS penetration in Portugal

	2002	2003	2004	2005	2006
Amount of subscribers ³⁹ per 100 inhab.	88.4	95.6	100.3	108.3	115.4

Source: ICP-ANACOM

Unit: %

Mention should be made to the fact that, according to December 2006 Electronic Communications Consumer Survey, around 87.7 per cent of those residing in Portugal were MTS clients.

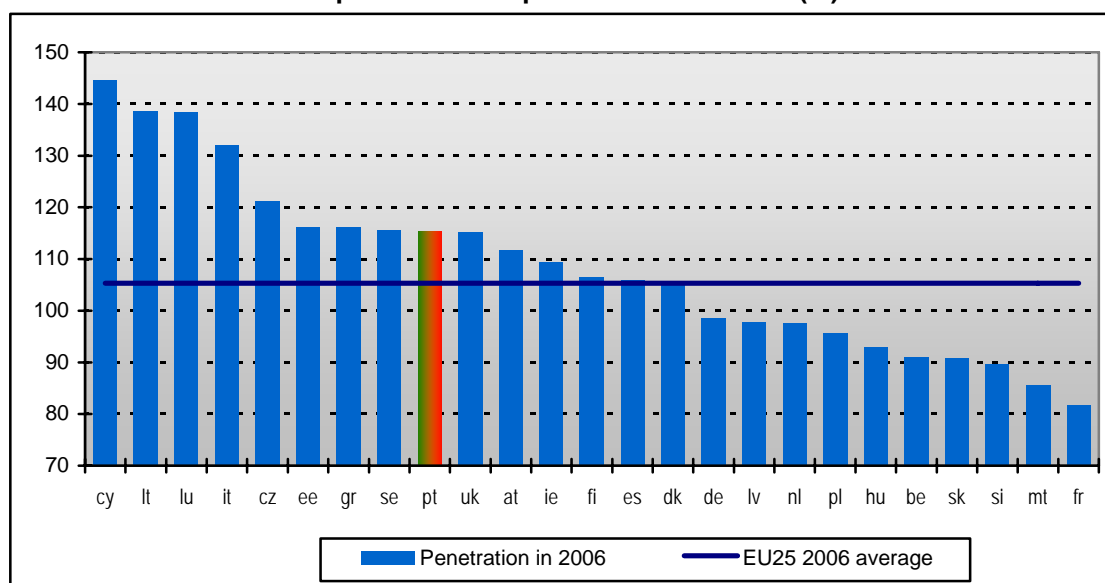
³⁹ The subscriber definition was approved by ICP-ANACOM's determination of 7.02.2002 and is linked to the amount of cards encompassed by a contractual relation established with one of the Mobile telephone Service operators and to which the right to originate or receive traffic over their networks was granted.

The difference between the above-mentioned penetration rate and the answers to the above-mentioned inquiry are due to various factors, such as:

- The fact that there are users with more than one active card;
- The activation of new SIM cards for exclusive use by data and Internet access services;
- The fact that there are active cards for use by machines, equipment and vehicles (automatic payment terminals using the mobile network, alarm, security, telemetry and telematic equipment, etc.);
- The fact that there are cards for use by companies.

MTS penetration in 2006 is still above the EU average.

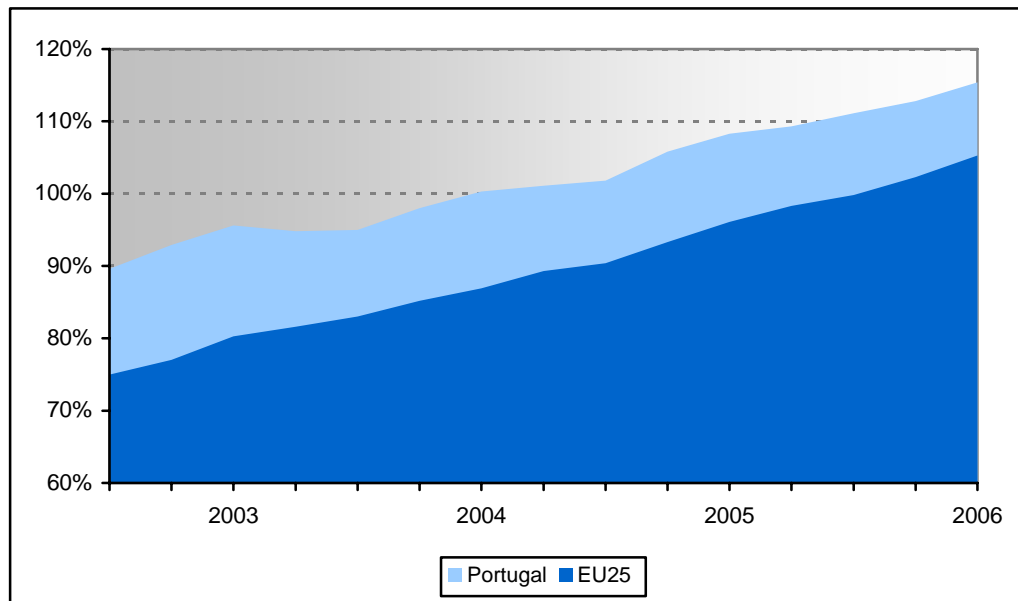
Graph 4-14 – MTS penetration in the EU (%)



Sources: population: INE and Eurostat; subscribers: *Mobile Communications*, from Informa telecoms & media.

This is a middle term trend. MTS penetration in Portugal has consistently been above the EU average.

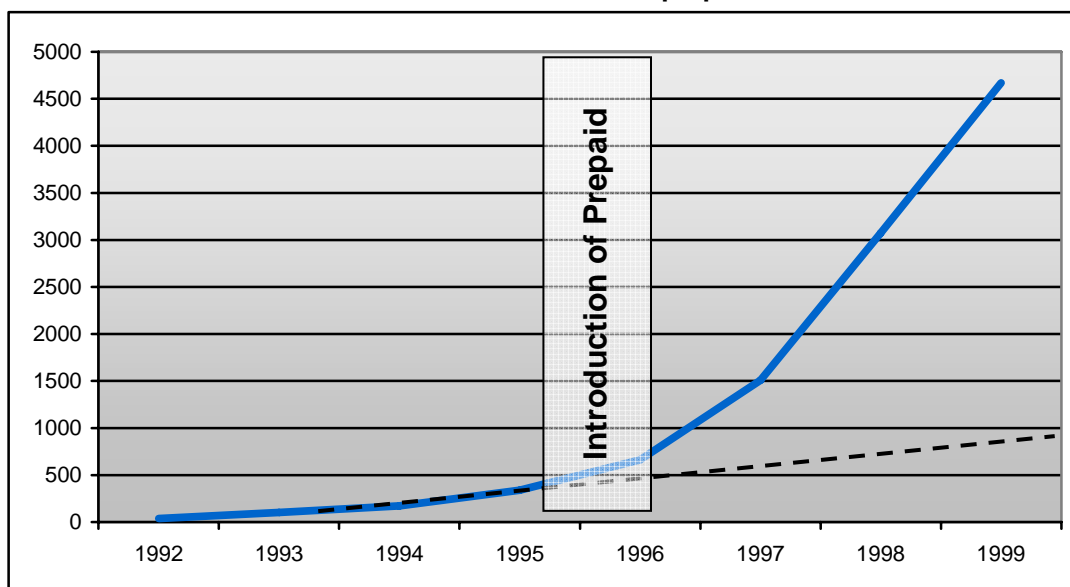
Graph 4-15 – Evolution of the MTS penetration in Portugal and in the EU



Sources: ICP-ANACOM, INE, Eurostat and *Mobile Communications*, from *Informa telecoms & media*.

MTS penetration growth and its evolution vis-à-vis the European average should have been influenced, namely, by the fast introduction of GSM in Portugal, the small penetration of the FTS, the marketing investment and the innovations launched by the operators in the market (namely tariff-related innovations). Particularly, the introduction of prepaid offerings, together with the simplified administrative procedure in connection with the purchase of the service and its activation, led to the mass use of the service and the “democratisation” of the use of the mobile phone, which, from a status symbol, became a regular commodity, available to all.

Graph 4-16 – Evolution of the amount of subscribers of the mobile telephone service: before and after prepaid

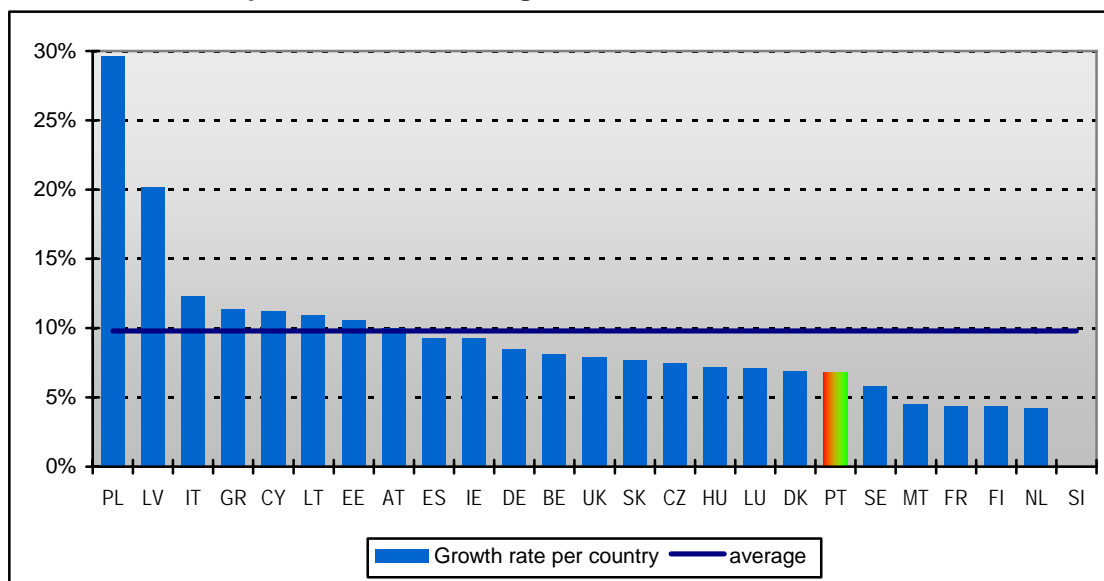


Source: ICP-ANACOM

Unit: 1 Subscriber

Mention should be made to the fact that, in spite of Portugal's position in the EU ranking, the service's growth has slowed down in 2006. This service is having strong development mainly in the Eastern European countries, most of all Poland and Latvia.

Graph 4-17 – Subscriber growth rate in EU25 – 2005-2006



Source: *Mobile Communications from informa telecom & media, Issue 442 e 443, April 2006.*

4.4.3. Amount of service subscribers

At the end of 2006, there were 12.2 million subscribers³⁹ to the MTS, a 6.8 per cent increase in the total amount of subscriber vis-à-vis the previous year, a ratio that is slightly below the 2002/2006 average.

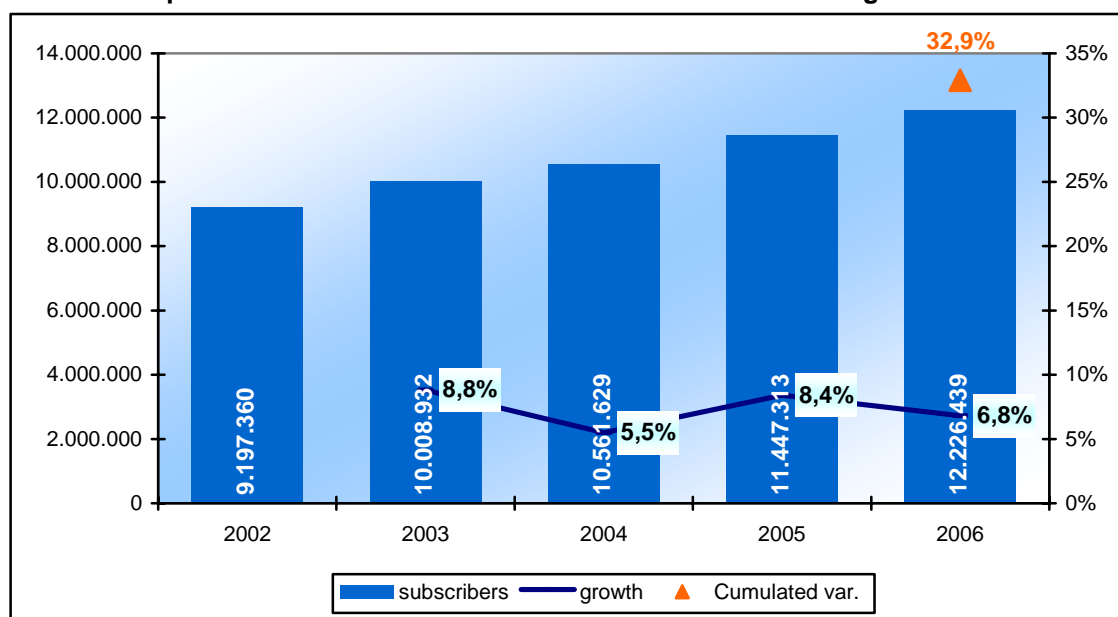
Table 4-10 – Amount of subscribers³⁹

	2005	2006	2005/2006 var. (%)	2002/2006 average yearly var. (%)	2002/2006 cumulated var. (%)
Total	11,447,313	12,226,439	6.8%	7.4%	32.9%
Post-paid	2,156,764	2,455,608	13.9%	6.6%	29.0%
Prepaid	9,290,549	9,770,831	5.2%	7.6%	34.0%

Source: ICP-ANACOM

Unit: 1 subscriber; %

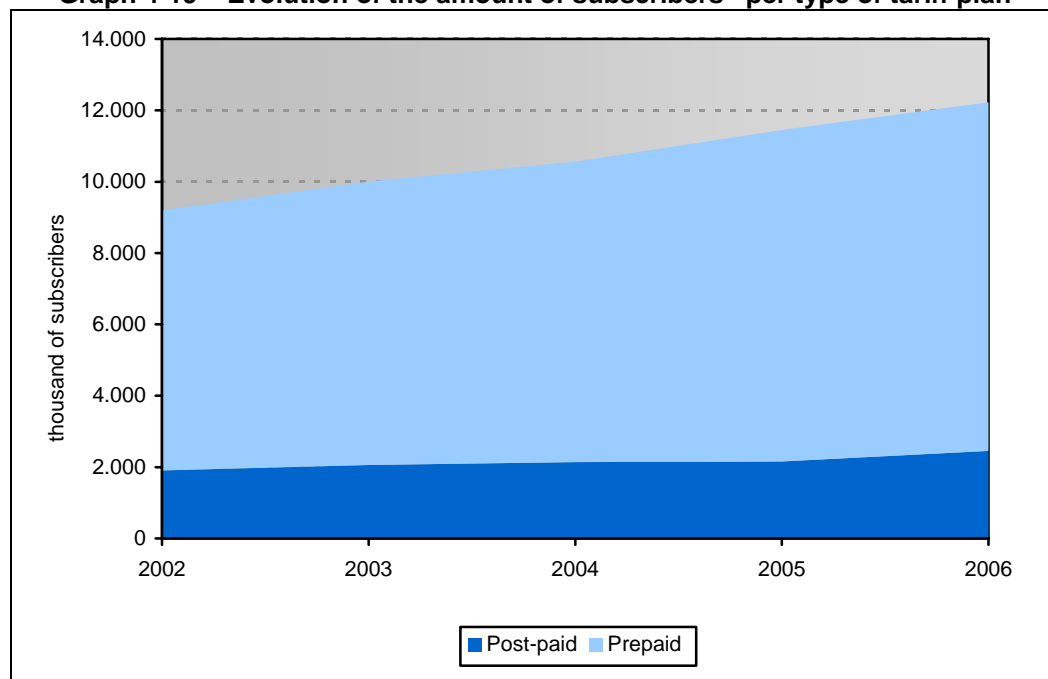
Graph 4-18 – Evolution of the amount of subscribers³⁹ and growth rates



Source: ICP-ANACOM

Unit: 1 subscriber; %

Graph 4-19 – Evolution of the amount of subscribers³⁹ per type of tariff plan



Source: ICP-ANACOM

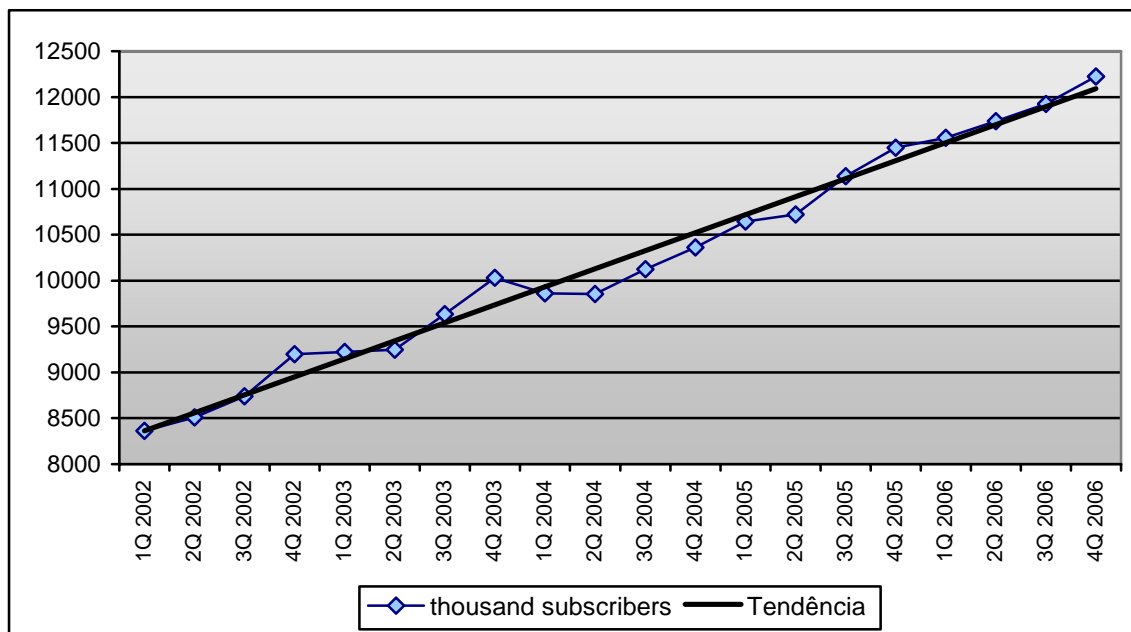
The recent evolution in the amount of subscribers³⁹ was partly influenced by the following factors:

- The development of 3G services. The amount of 3G subscribers³⁹ 3G in Portugal is estimated in about 2.22 million by the end of 2006⁴⁰;
- The coming about of the discount offerings (Uzo, Rede 4, Vodafone Directo), in 2005;
- The coming about of new mobile broadband Internet access offerings I;
- The development of new applications for machines, for example.

These factors contributed to sustain the trend of the MTS growing amount of subscribers³⁹ in Portugal.

⁴⁰ Source: *Converging Media from informa telecoms & media*, Volume 6 Number 10, June 1, 2007.

Graph 4-20 – Evolution of the amount of subscribers³⁹ and growth trend



Source: ICP-ANACOM

As mentioned above, the growth in the amount of subscribers was below the EU average.

That may be due to the life cycle stage of this service and/or to macroeconomic cyclical factors. The future evolution of this indicator will make it possible to draw more solid conclusions on this matter.

4.4.4. The service's usage level

Below is the evolution of the service's usage level, in terms of voice traffic, SMS, MMS, roaming, data services, video telephony and mobile TV.

Voice traffic

In 2006, MTS subscribers made around 6.65 billion calls, 2.9 per cent more than in the previous year.

In that same period, MTS subscribers received over 6.7 billion calls, which is 2.1 per cent more than in the previous year.

Table 4-11 – Voice traffic in calls

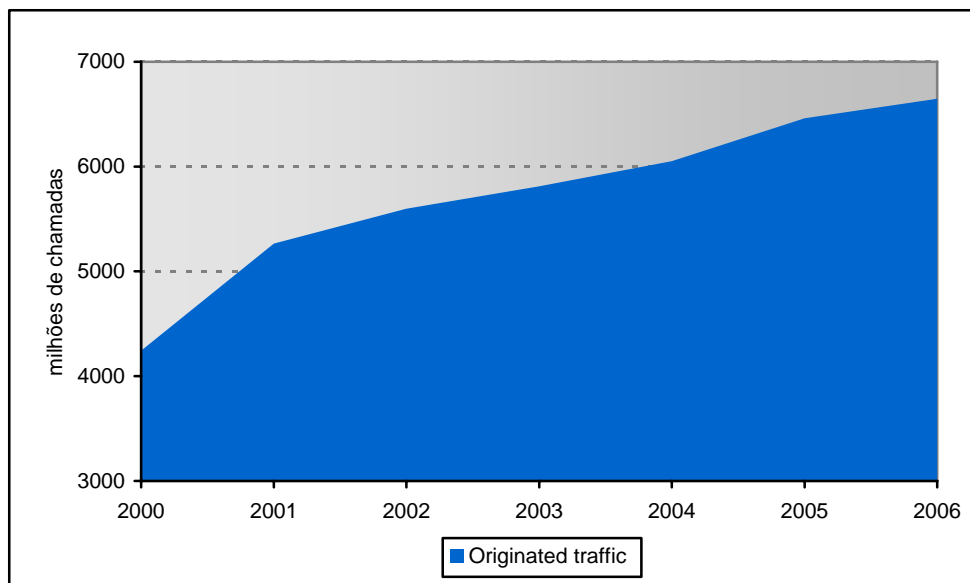
	2005	2006	2005/2006 var. (%)	2000/2006 average yearly var. (%)	2000/2006 cumulated var. (%)
Outgoing traffic	6,461	6,648	2.9%	7.8%	56.6%
Own network - own network	4,353	4,439	2.0%	8.8%	66.0%
Own network - national FTS	512	534	4.3%	-1.7%	-10.0%
Own network - international networks	208	226	8.8%	19.3%	188.6%
Own network - other national MTS	1,388	1,448	4.4%	8.3%	61.2%
Incoming traffic	6,558	6,693	2.1%	8.0%	58.6%
Own network - own network	4,353	4,439	2.0%	8.8%	66.0%
National FTS - own network	626	593	-5.2%	-4.7%	-25.3%
International networks - own network	189	206	9.0%	15.0%	131.5%
Other national MTS - own network	1,390	1,455	4.6%	14.0%	119.6%

Source: ICP-ANACOM

Units: million calls, %

Between 2000 and 2006, outgoing traffic grew 56.6 per cent and incoming traffic grew 58.6 per cent. However, this was not a regular growth. The growth rates decreased since 2002 and are below the growth rates of the amount of subscribers.

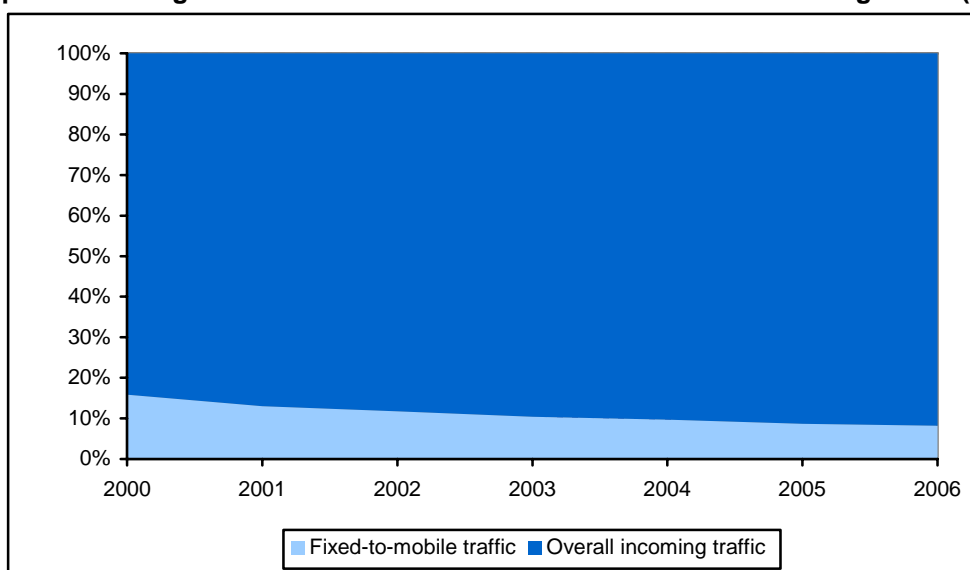
Graph 4-21 – Call volume evolution 2000/2006



Source: ICP-ANACOM

If we analyse the traffic evolution by type of call, we can see that the fixed-to-mobile calls maintain their decreasing trend, with a negative variation (-5.2 per cent) vis-à-vis the previous year. This type of calls already stands for less than 10 per cent of all calls with termination in the mobile network.

Graph 4-22 – Weight of the fixed-to-mobile traffic in the overall incoming traffic (calls)



Source: ICP-ANACOM

Regarding traffic evolution in minutes, the amount of minutes of conversation with origin in the mobile networks grew about 7.4 per cent vis-à-vis the previous year, reaching about 12.5 billion minutes.

The amount of minutes ended in mobile networks reached over 12.7 billion, a 6.9 per cent growth cent vis-à-vis the previous year.

Table 4-12 – Voice traffic in minutes

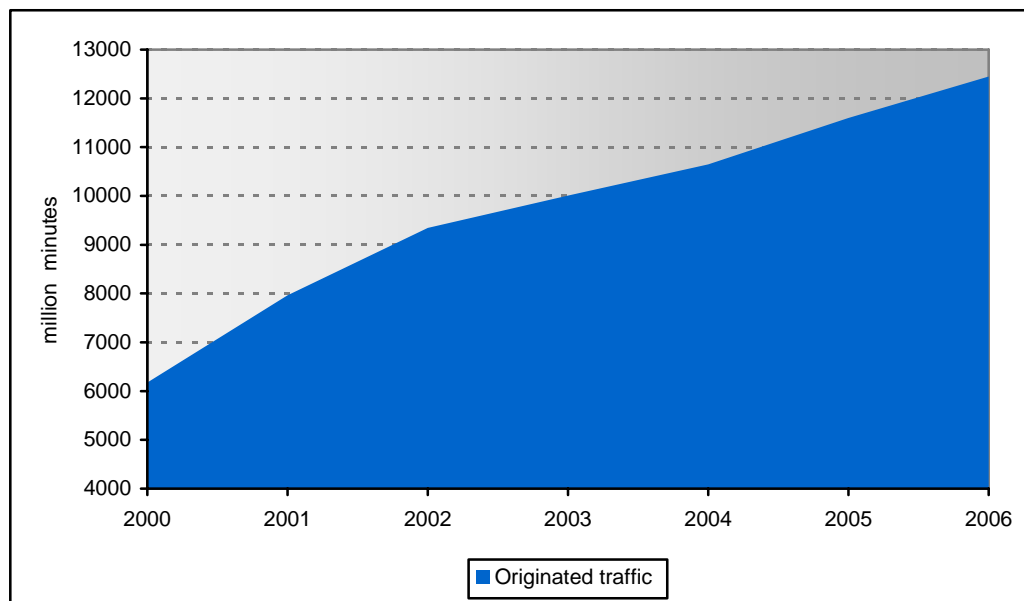
	2005	2006	2005/2006 var. (%)	2000/2006 average yearly var. (%)	2000/2006 cumulated var. (%)
Outgoing traffic	11,599	12,452	7.4%	12.4%	101.6%
Own network - own network	7,920	8,520	7.6%	14.9%	130.4%
Own network - national FTS	829	858	3.5%	-0.1%	-0.4%
Own network - international networks	537	583	8.6%	17.3%	160.2%
Own network - other national MTS	2,314	2,491	7.7%	10.2%	79.0%
Incoming traffic	11,927	12,745	6.9%	12.5%	102.3%
Own network - own network	7,920	8,520	7.6%	14.9%	130.4%
National FTS - own network	1,147	1,119	-2.4%	-2.5%	-14.3%
International networks - own network	546	613	12.1%	14.4%	123.8%
Other national MTS - own network	2,314	2,493	7.8%	16.1%	144.4%

Source: ICP-ANACOM

Units: million minutes; %

Between 2000 and 2006, there was a growth of around 101.6 per cent in the outgoing traffic and of around 102.3 per cent in the incoming traffic. However, this was not a regular growth. The growth rates decreased since 2002. The traffic in minutes grows at similar growth rates as those of the amount of subscribers.

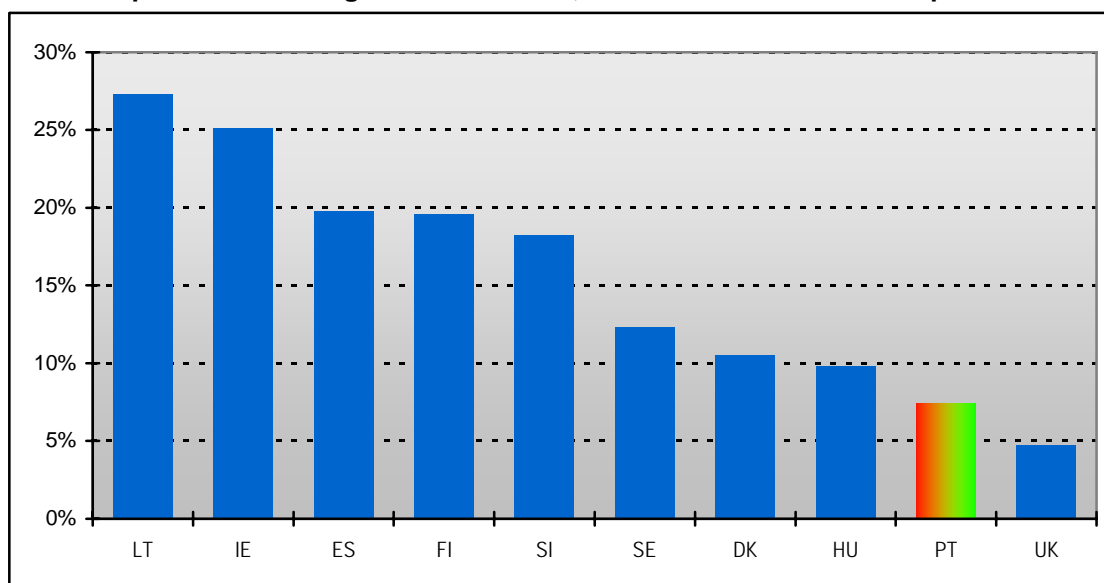
Graph 4-23 –Minute volume growth 2000/2006



Source: ICP-ANACOM

On the other hand, traffic growth in mobile networks, in 2006, was below that of other countries.

Graph 4-24 – Traffic growth in minutes, in 2006 – international comparisons

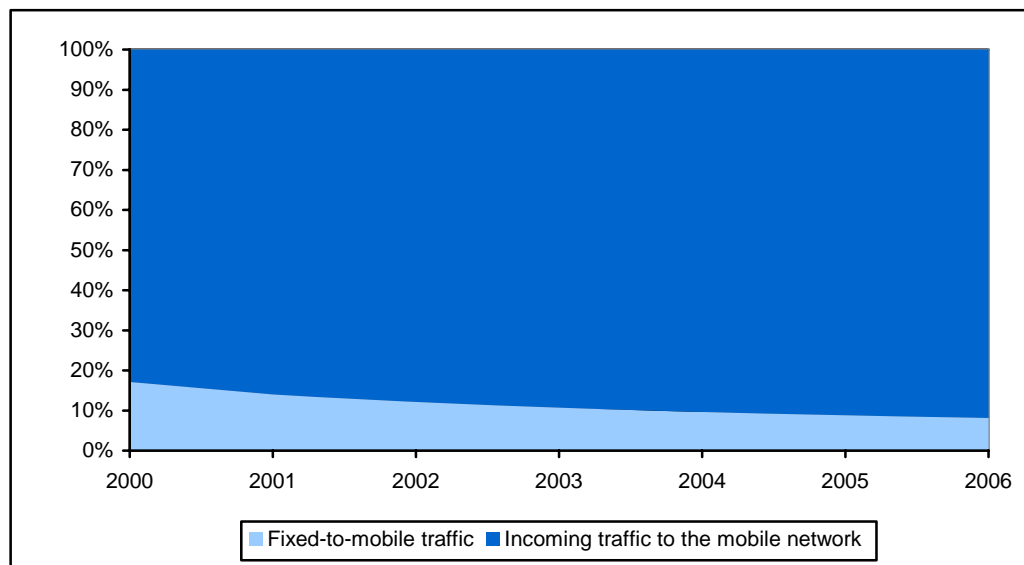


Source: ICP-ANACOM and remaining NRAs.

Note: For countries where it was only possible to collect traffic figures until the 1st half of 2006, growth rate vis-à-vis the second half of 2005 was used (Denmark, Hungary, United Kingdom and Sweden) and for Spain the first 9 months of each year were used.

Just as with the amount of calls, the amount of minutes with origin in the fixed networks with destination in the mobile networks has lost weight in the overall mobile networks' incoming traffic. The fixed-to-mobile time of conversation has again decreased vis-à-vis the previous year (-2.4 per cent).

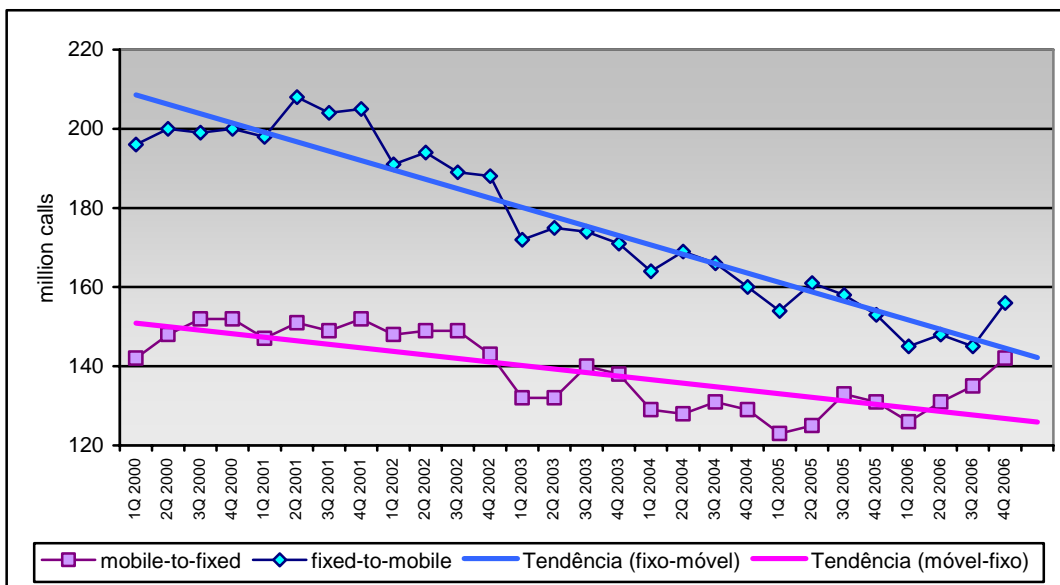
Graph 4-25 – Weight of the fixed-to-mobile traffic in the overall incoming traffic (minutes)



Source: ICP-ANACOM

The decreasing mobile-to-fixed and fixed-to-mobile traffic trend is linked to the fixed-by-mobile replacement phenomenon.

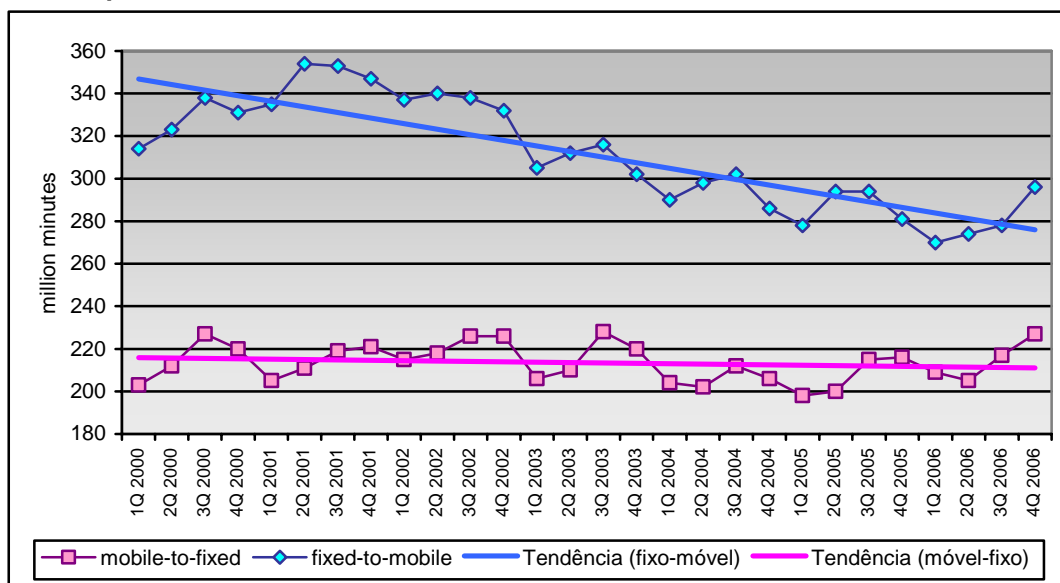
Graph 4-26 – Mobile-to-fixed and fixed-to-mobile call evolution and trend



Source: ICP-ANACOM

In 2006, however, this type of traffic grew. Reduced mobile terminations and the coming about of low-cost tariff schemes, with no price difference per call destination, could have fostered this type of calls.

Graph 4-27 – Mobile-to-fixed and fixed-to-mobile minute evolution and trend



Source: ICP-ANACOM

SMS

2006 had a significant increase in the amount of sent text messages (167.8 per cent vis-à-vis the previous year).

Table 4-13 – SMS with origin in own network

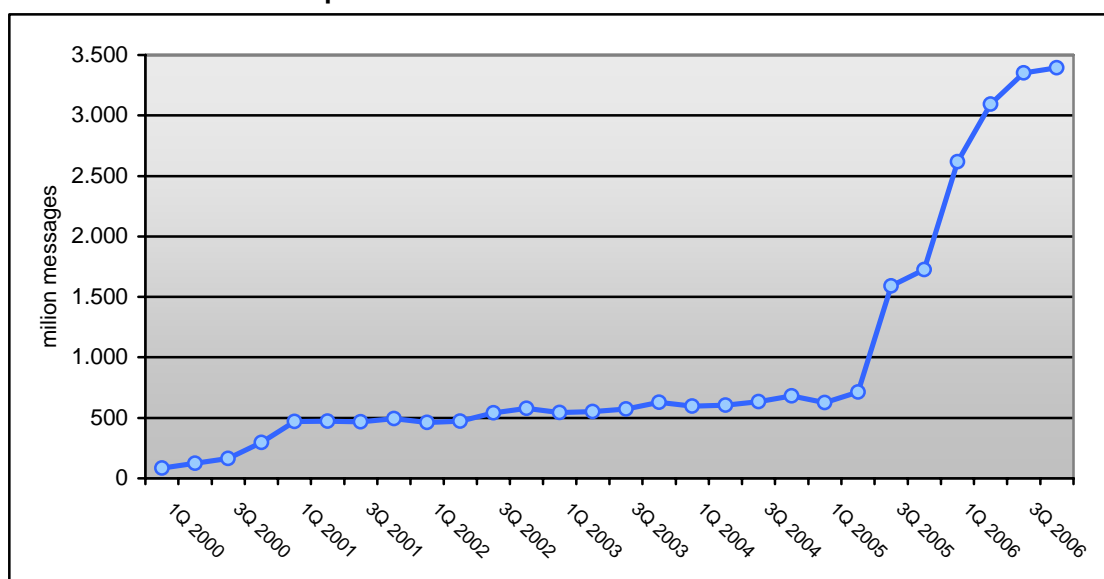
	2005	2006	2005/2006 var. (%)	2000/2006 average yearly var. (%)	2000/2006 cumulated var. (%)
Amount of messages	4.652	12.458	167.8%	68.2%	2,166%

Source: ICP-ANACOM

Unit: million messages, %

This was due to promotional campaigns put in place by the mobile operators since early 2005.

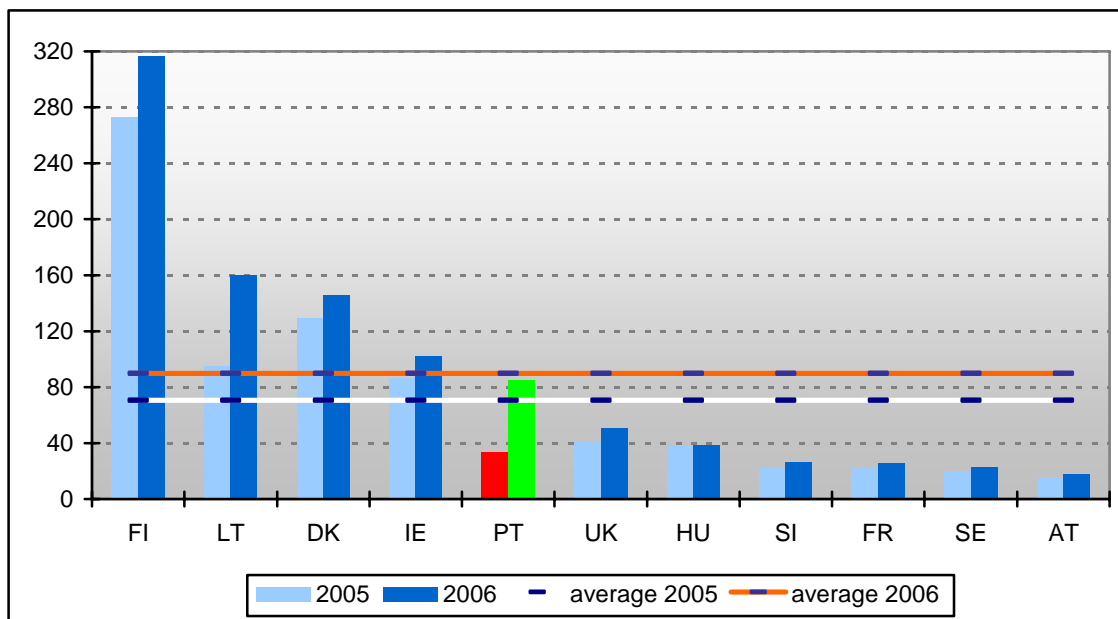
Graph 4-28 – Evolution in the amount of SMS



Source: ICP-ANACOM

According to the available data, SMS use in Portugal is relatively low in intensity, if compared to other countries, Finland standing out. However, in the past year, it came closer to the average of the analysed countries.

Graph 4-29 – Amount of SMS per subscriber and per month – international comparisons



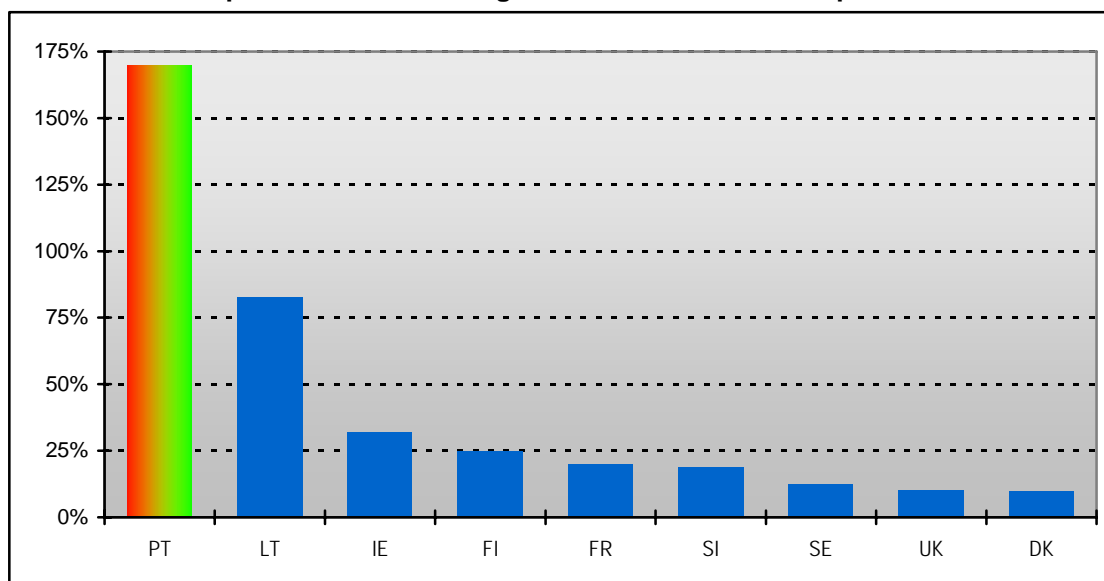
Source: ICP-ANACOM and remaining NRAs

Unit: 1 SMS

Note: In the cases with Denmark, Hungary, United Kingdom and Sweden, for 2006 only 6-month traffic was considered, in the case with Austria 9.

Regarding the growth in the SMS traffic, Portugal leads the group of the analysed countries.

Graph 4-30 – SMS traffic growth – international comparisons



Source: ICP-ANACOM and remaining NRAs.

Note: For countries where it was only possible to collect traffic figures until the 1st half of 2006, growth rate vis-à-vis the second half of 2005 was used (Denmark, Hungary, United Kingdom and Sweden).

MMS

MMS messages have been gaining some strength within the service operation.

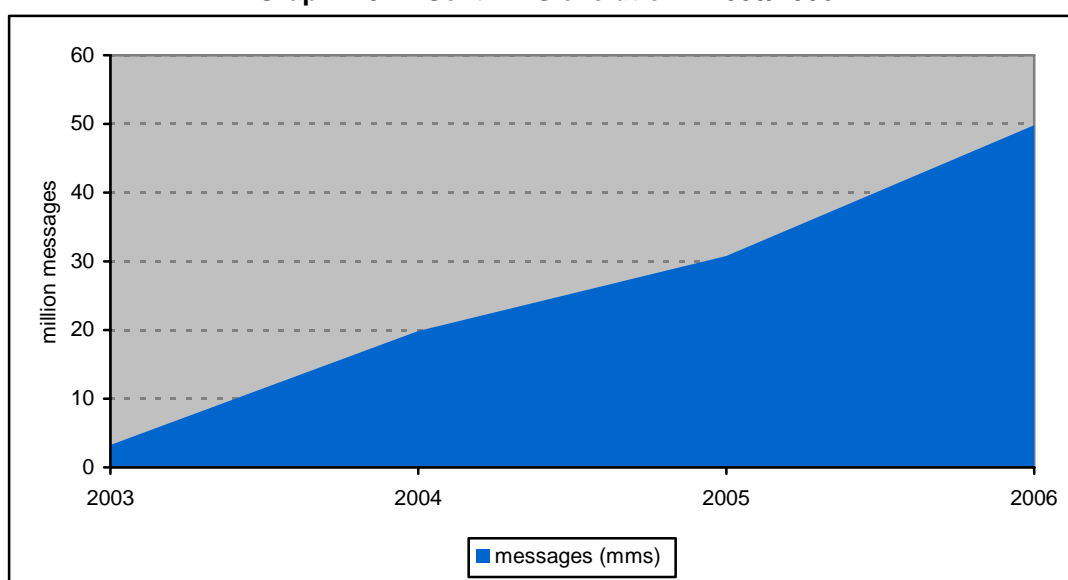
Table 4-14– MMS with origin in own network

	2005	2006	2005/2006 var. (%)	2003/2006 average yearly var. (%)	2003/2006 cumulated var. (%)
Amount of messages	30,806	49.834	61.8%	148.8%	1,440.6%

Source: ICP-ANACOM

Unit: thousand messages, %

Graph 4-31 – Sent MMS evolution – 2003/2006



However, the amount of MMS, if compared to that of SMS, is relatively small.

Roaming

In 2006, the roamed in traffic has significantly changed, text messages standing out (25.2 per cent).

The average roamed in call length was 118 seconds, similar to the previous year.

Table 4-15 – Roaming-in traffic

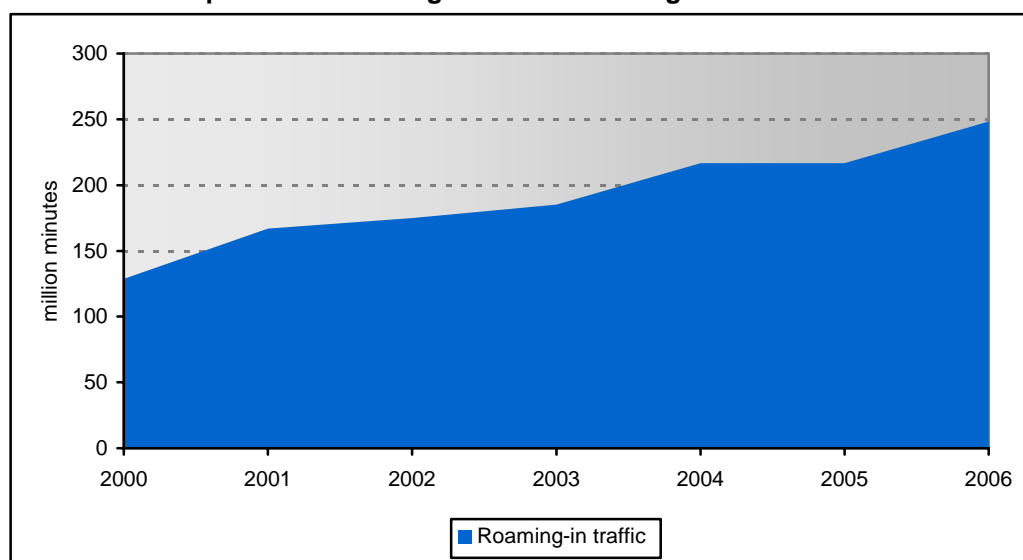
	2005	2006	2005/2006 var. (%)	2000/2006 average yearly var. (%)	2000/2006 cumulated var. (%)
Roamed voice calls	110.441	126.077	14,2%	3,7%	15,8%
Amount of roamed minutes	216.706	248.368	14,6%	11,6%	93,0%
Roamed text messages	153.732	192.438	25,2%	37,8%	161,9%
Average length of calls (sec)	118	118			

Source: ICP-ANACOM

Unit: thousand, %, seconds

Note: The series of calls began in 2002 and that of text messages in 2003.

Graph 4-32 – Roaming-in traffic volume growth 2000/2006



Source: ICP-ANACOM

Roamed in traffic has grown: about 12.8 per cent in calls, 31.8 per cent in minutes and 17.9 per cent regarding the amount of text messages.

Table 4-16 – Roaming out traffic

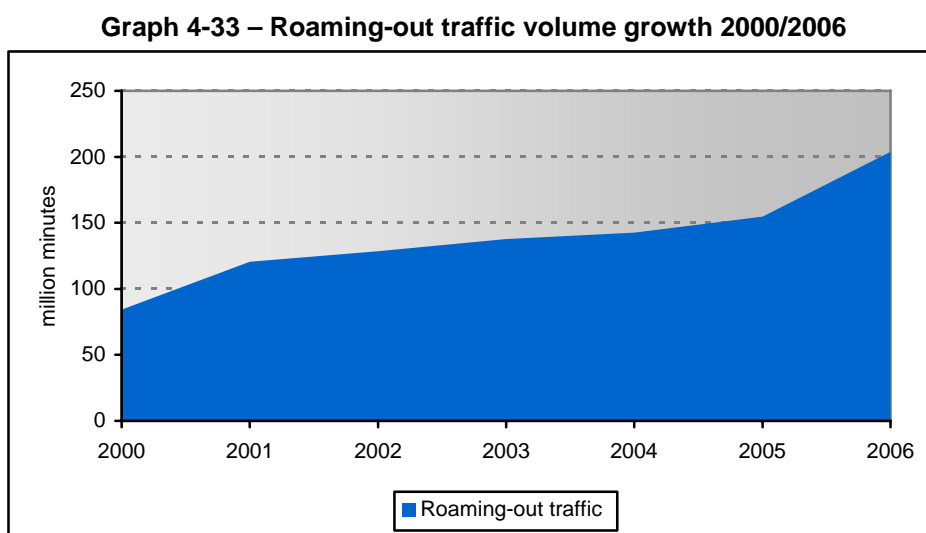
	2005	2006	2005/2006 var. (%)	2000/2006 average yearly var. (%)	2000/2006 cumulated var. (%)
Roamed voice calls	78,377	88,434	12.8%	10.8%	23.2%
Amount of roamed minutes	154,728	203,864	31.8%	15.9%	141.8%
Roamed text messages	118,424	139,665	17.9%	38.4%	136.9%
Average length of calls (sec)	118	138			

Source: ICP-ANACOM

Unit: thousand / seconds

Note: The series of text messages began in 2002.

The most significant variation occurred in the amount of minutes (31.8 per cent). There is a growing trend in the SMS use, probably fuelled by the price level of this type of calls and the value of the terminations in these cases. It should be underlined, once more, that receiving roamed messages has no costs to the roamer, whereas receiving a voice call means paying the part of the call in connection with the termination cost of the foreign operator at which the roamer is registered. This, together with the afore-mentioned campaigns, may explain why using SMS is preferred over voice calls.



Source: ICP-ANACOM

There was a considerable increase in the roamed out calls average length, in 2006, from about 118 seconds to 138 seconds per call.

Data services traffic

The amount of data service users with the WAP protocol and the GPRS technology is relatively small.

Table 4-17 – Amount of data services users

	Dec. 2004	Dec. 2005	Dec. 2006
With access to WAP services (GSM)	1,064	1,208	1,418
With access using GPRS technology	1,403	1,976	2,510

Source: ICP-ANACOM

Unit: thousand users

On the other hand, there was a decrease in traffic regarding services using the WAP protocol. This evolution may be linked to the development of 3G services.

Table 4-18 – Access to a WAP mobile portal

Data Service Traffic	2003	2004	2005	2006
Access to WAP services (via GSM)				
Calls	31,970	26,271	13,472	10,667
Minutes	32,368	26,725	13,898	9,048
Access to WAP services (via GPRS)				
Sessions	n.a.	102,111	84,383	85,436
Mbytes	n.a.	2,214	5,496	13,231

Source: ICP-ANACOM

Unit: thousand

The amount of subscribers³⁹ that are already using third generation mobile services (IMT2000/UMTS) has significantly grown.

Table 4-19 – 3G/UMTS service subscribers³⁹

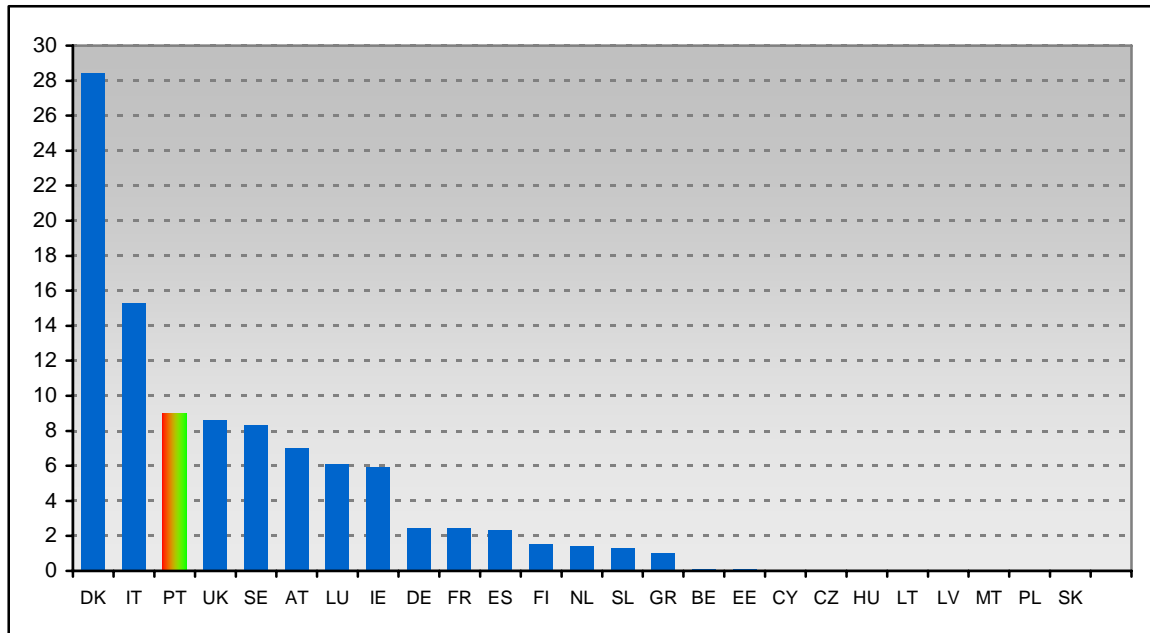
	Jun. 2005	Feb. 2006	Dec. 2006
Does not have	93,5%	83,7%	78,0%
Has	5,1%	16,0%	22,0%
Na	1,4%	0,3%	0,0%

Source: ICP-ANACOM, Electronic Communications Consumer Survey – 2005- 2006.

It is worth pointing out that, in January 2006, Portugal was 3rd on the 3G user penetration ranking, within the EU⁴¹.

⁴¹ Cf. European Commission, i2010 – Annual report on Digital Economy, 30.03.2007.

Graph 4-34 – Penetration of 3G subscribers per 100 inhabitants



Source: European Commission, i2010 – Annual Report on Digital Economy

On the other hand, the ratio of clients with 3G devices **using their 3G mobile phones to access the Internet** has doubled⁴², and is currently 24.9 per cent (in accordance with the results of the 2006 Electronic Communications Consumer Survey, vide note 36).

The evolution of the amount of mobile broadband users was influenced by the changes made by its suppliers to the offerings of this type of service.

Mention should be made to the fact that all operators have reinforced their mobile broadband offerings and started to provide access to the Internet over High-Speed Downlink Packet Access (HSDPA).

The offerings' features were also changed. The operators increased the download throughputs, changed the terms of the tariffs and introduced a system connecting the PS via Universal Series Bus (USB).

⁴² Excludes Internet access using a 3G board directly connected to the PC.

Table 4-20 –Optimus’s mobile broadband Internet access offerings – 2006

Offering	Throughput (download/upl oad)	Incl. traffic Nat/Internat	Monthly fee	Additional consumption	Happy-Hour (2h-9h or 9h-16h)	Observations
Kanguru Basic	384Kb/64Kb	1Gb	22.50€	0.025€/Mb	n.a.	Mobile/Personal
Kanguru Light	640Kb/64Kb	2Gb	29.90€	0.025€/Mb	n.a.	Mobile/Personal
Kanguru Light	640Kb/64Kb	2Gb	22.50€	0.025€/Mb	n.a.	Fixed/Personal
Kanguru Xpress	3.6Gb/64Kb	6Gb	29.90€	0.025€/Mb	5€ / month	Fixed/Personal
Kanguru Xpress Executivo	3.6Mb/64Kb	15Gb	48.40€	0.025€/Mb	5€ / month	Mobile/Corporate
Kanguru Xpress Profissional	3.6Gb/64Kb	6Gb	39.90€	0.025€/Mb		Mobile/Corporate
Kanguru Equipas	640kb	2Gb	29.89€	0.025€/Mb		Mobile/Corporate
Kanguru Fixed Profissional	3.6Gb/64Kb	15Gb	39.90€	0.025€/Mb		Fixed/Corporate
Kanguru Fixed Equipas	3.6Gb/64Kb	6Gb	29.89€	0.025€/Mb		Fixed/Corporate

Source: www.optimus.pt

Table 4-21 - TMN’s mobile broadband Internet access offerings – 2006

Name of the offering	Throughput (download/upload)	Incl. traffic Nat/Internat	Monthly fee	Additional consumption	Happy-Hour (2h-9h or 9h-16h, except Wi-Fi)	Observations
B. Larga Plus	3.6Mb	6GB	39.90	0.025€/Mb	€5 / month	
B. Larga	1.8Mb	2 Gb	29.90	0.025€/Mb	n.a.	
B. Larga Light	384Kb	1Gb	22.50	0.025€/Mb	n.a.	

Source: www.tmn.pt

Table 4-22 – Vodafone’s mobile broadband Internet access offerings – 2006

Name of the offering	Throughput (download/upload)	Incl. traffic Nat/Internat	Monthly fee	Additional consumption	Happy-Hour (2h-9h or 9h-16h, except Wi-Fi)	Observations
BL 384Kb	384Kb	1Gb	22.50	0.025€/Mb	n.a	Mobile Internet
BL 640Kb	640Kb	2Gb	29.90	0.025€/Mb	n.a.	Mobile Internet
BL 3.6Mb	3.6Mb(supports upgrades up to 7.2Mbps)	5GbDown / 1Up	39.90	0.025€/Mb	€5 / month.	Mobile Internet
BL 640Kb	640Kb	2G Down /0.2Gb	22.50	0.025€/Mb	n.a.	Fixed Internet
BL 3.6Mb	3.6Mb	5GbDown / 1Up	29.90	0.025€/Mb	€5 / month.	Fixed Internet

Source: www.vodafone.pt

Video telephony

Video telephony service still has a very small amount of traffic.

Table 4-23 – Amount of video calls and traffic volume

	2006
Amount of video calls	4,206
Video call traffic volume	9,743

Source: ICP-ANACOM

Unit: thousand messages, thousand minutes, %

Mobile TV

Also in 2006 the mobile TV service was introduced in the market, giving users access to the television service.

Optimus has about 19 available channels, TMN 26 and Vodafone 25.

Table 4-24 –Mobile TV service

Optimus	TMN	Vodafone
Tariff scheme: Each channel: <u>one day viewing</u> - €1.90 (1h traffic limit*) - Each channel: <u>automatically renewable monthly subscription</u> - €2.90 (2h traffic limit*) - 14-channel pack: <u>automatically renewable monthly subscription</u> - €7.50 (4h traffic limit*) *No traffic limit subscriptions until 30/06/2007	Tariff scheme: - €7.5 monthly subscription - one time use €0.90 per access/day. Each option gives access to all available channels, except Playboy and Blue TV Playboy and Blue TV additional €3.50 cost per access/day.	Tariff scheme: Monthly Subscription (30 days) – 7.5€ (limitless access to all channels, except erotic ones). First 30 days are free for new monthly subscriptions. 24hour Subscription – 0.90€ (limitless access to all channels, except erotic ones) Erotic Channels - 2.5€ per 2 hour periods/each channel

The service's revenues and ARPU

The service's revenues reached 3.4 billion Euros, practically the same as in the previous year. The reason behind this stagnation was the downward movement of the mobile termination tariffs enforced by ICP-ANACOM.

Table 4-25 – Service's revenues

	2005	2006
Revenues from providing the service to operators	756,072	663,814
Revenues from providing the service to clients (prepaid and post-paid)		
Monthly fee revenues (subscriptions and supplementary services)	145,866	148,796
Revenues from Voice communications	1,880,046	1,907,623
Revenues from Data communications	281,377	334,557
.		
.		
.		
Other revenues	379,176	348,244
Total MTS revenues	3,442,537	3,403,034

Source: ICP-ANACOM

Unit: thousand Euros

Note: Other revenues include equipment sales and anticipated payments of prepaid services.

The average revenue per user ³⁹ is estimated to have declined in about 5.7 per cent in 2006.

Table 4-26 – Average revenue per user³⁹ (ARPU⁴³)

	2000	2001	2002	2003	2004	2005 ⁴⁴	2006
Average revenue per user (ARPU)	31.41	29.53	26.42	25.24	25.59	23.12	21.81
Yearly variation	2.9%	-6.0%	-10.5%	-4.5%	1.4%	-9.6%	-5.7%

Source: ICP-ANACOM, providers' Reports & Accounts.

Unit: Euros, %.

4.4.5. Service's price levels

Below is an international price comparison for this service and its price evolution between 2002 and 2006.

MTS international price comparison⁴⁵

According to the available information, Portugal's price level is below average for prepaid plans. However, regarding post-paid, this scenario significantly changes, for prices in Portugal are above average for medium and high consumption profiles.

⁴³ ARPU - Average Revenue Per User.

⁴⁴ Estimated. Reckonings based on the amount of subscribers and on the following publications:

- a) Optimus, Sonaecom's site, Sonaecom Quarterly Report at
<http://www.sonaecom.com/channelDetail.aspx?channelId=4225EB60-9C99-4FB5-ABDE-088FD8671346>
- b) TMN, Group PT's site
<http://www.telecom.pt/InternetResource/PTSite/PT/Canais/investidores/InformacaoFinanceira/IndicadoresChave/TMN>.
- c) htm; Vodafone, group Vodafone Plc's site
http://www.vodafone.com/start/investor_relations/financial_performance.html

⁴⁵ Methodological note:

The results of the shown baskets were taken from OECD/Teligen database of November 2006 and are expressed in Euros, VAT excluded and without considering PPP (purchasing power parity). From the OECD countries, those that are part of the EU were selected. Taking into account that, by default, OECD/Teligen always produces two results by country (regarding the incumbent operator and the second most representative one), the operator with the lowest tariff plan, regarding the yearly invoice for each usage basket and profile, was selected for each country.

The shown deviations refer to the average of the selected countries, Portugal excluded. The shown values are those of the new baskets defined in 2006.

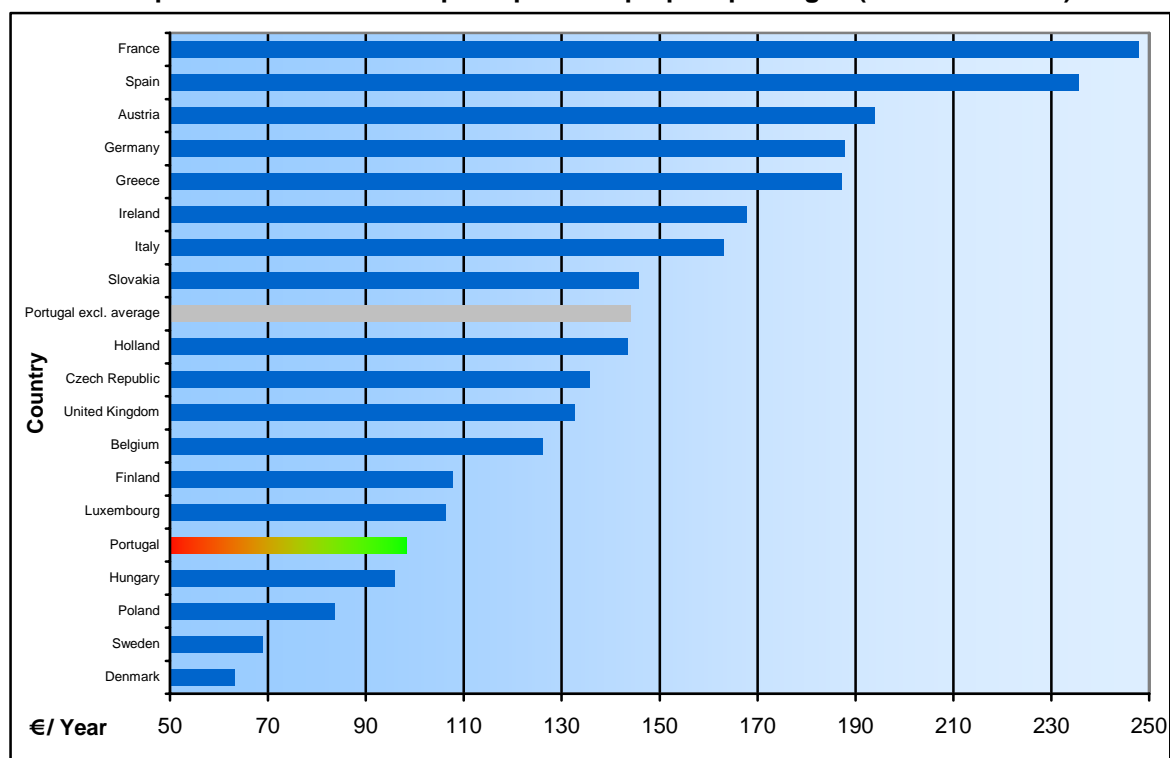
Table 4-27 – International price comparisons (November 2006) – deviations from average⁴⁵

Package \ Profile	Low consumption	Medium consumption	High consumption
Post-paid	-5.7 %	8.5%	26.0%
Prepaid	-31.8%	-43.6%	-44.0%

Source: Teligen, OECD, ICP-ANACOM

Regarding the low consumption profile, the price of the prepaid packages in Portugal is about 32 per cent below the average of the analysed countries.

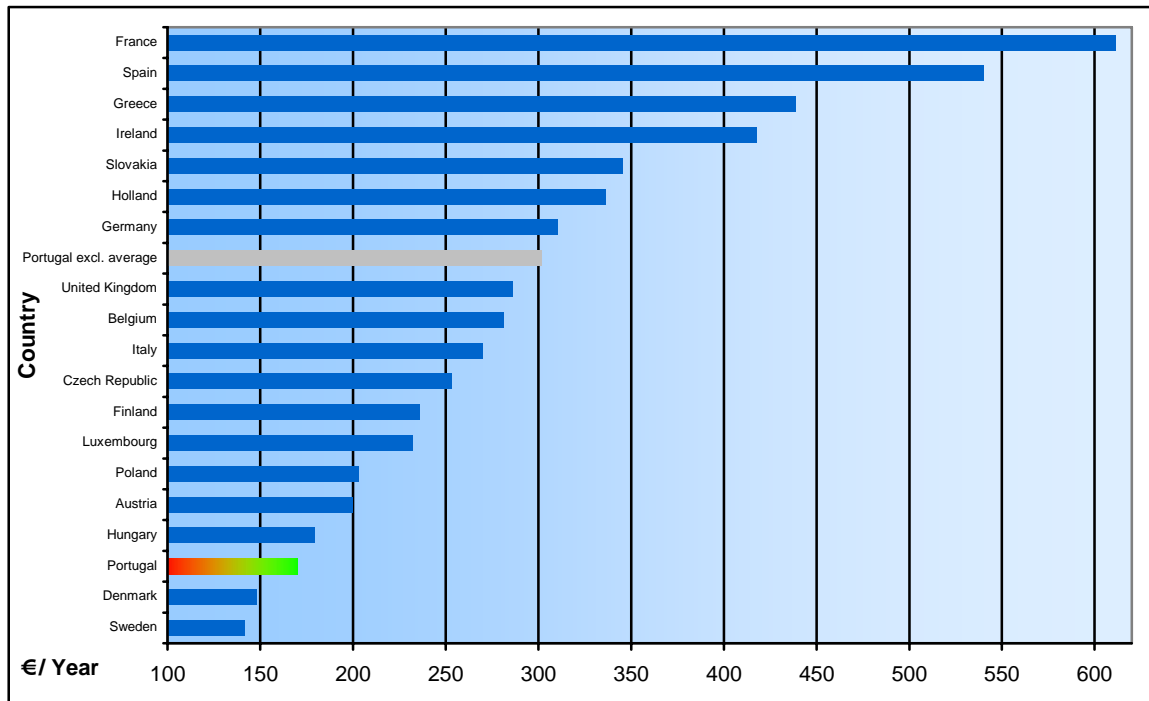
Graph 4-35 – Low consumption profile – prepaid packages (November 2006)



Source: Teligen, OECD, ICP-ANACOM

Regarding the medium consumption profile, the prices in Portugal are about 43.6 per cent below the average of the analysed countries, for the prepaid packages.

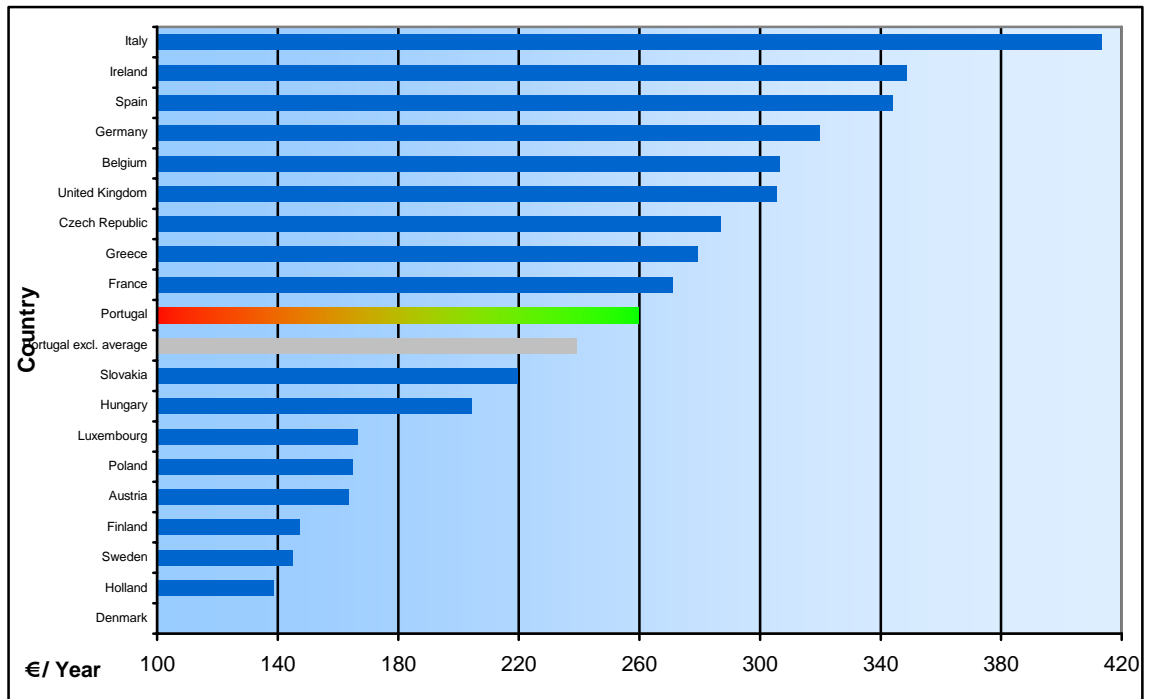
Graph 4-36 – Medium consumption profile – prepaid packages (November 2006)



Source: Teligen, OECD, ICP-ANACOM

Regarding post-paid packages, the prices in Portugal are about 8.5 per cent above average.

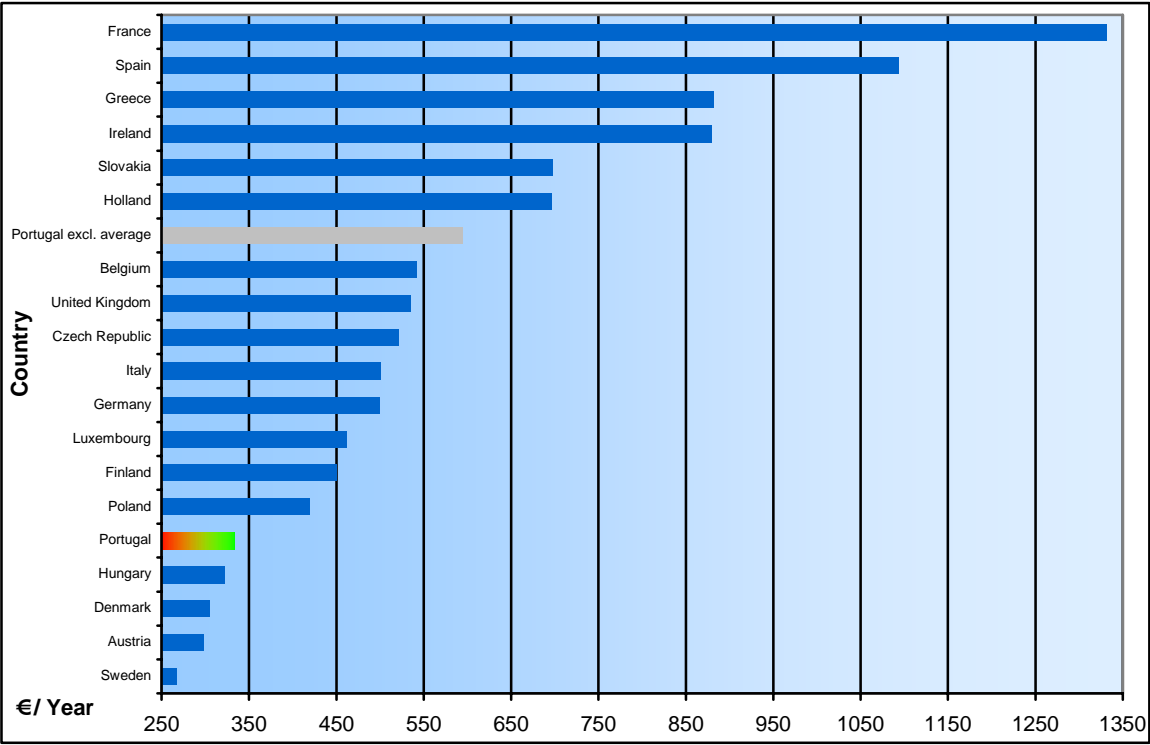
Graph 4-37 – Medium consumption profile – post-paid packages (November 2006)



Source: Teligen, OECD, ICP-ANACOM

Regarding the high consumption profile, prepaid offerings in Portugal have a price 44 per cent below average.

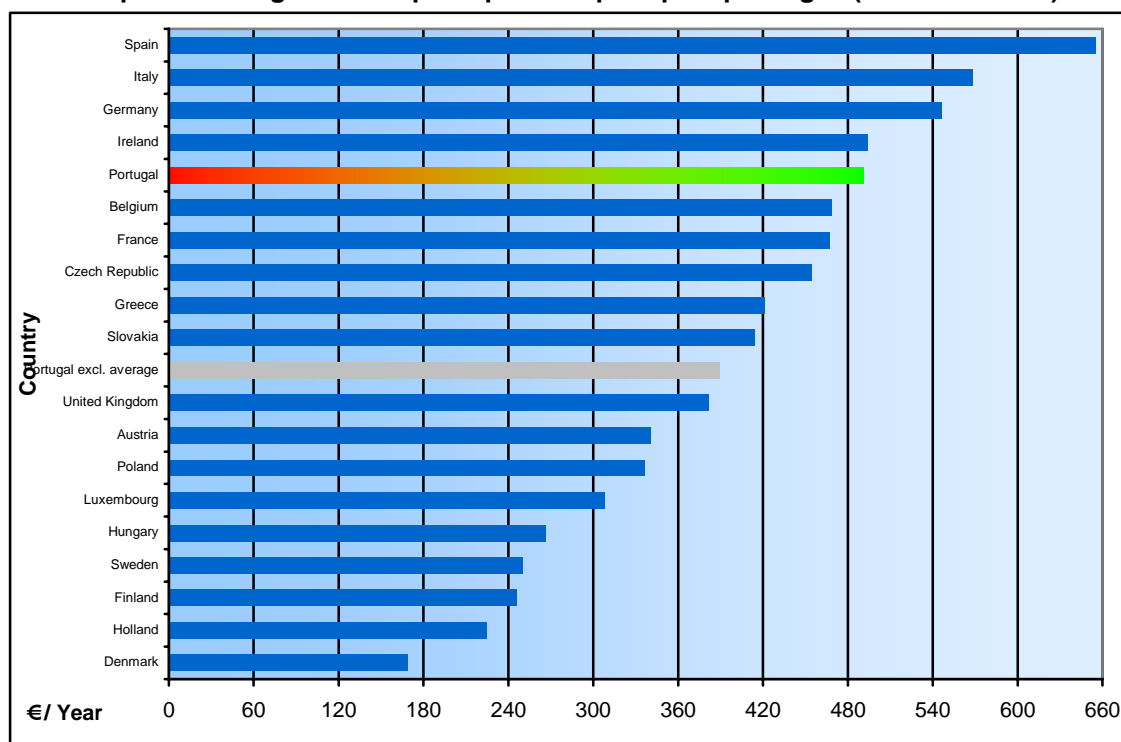
Graph 4-38 – High consumption profile – prepaid packages (November 2006)



Source: Teligen, OECD, ICP-ANACOM

Regarding post-paid packages, the deviation from the average is about +26 per cent.

Graph 4-39 – High consumption profile – post-paid packages (November 2006)



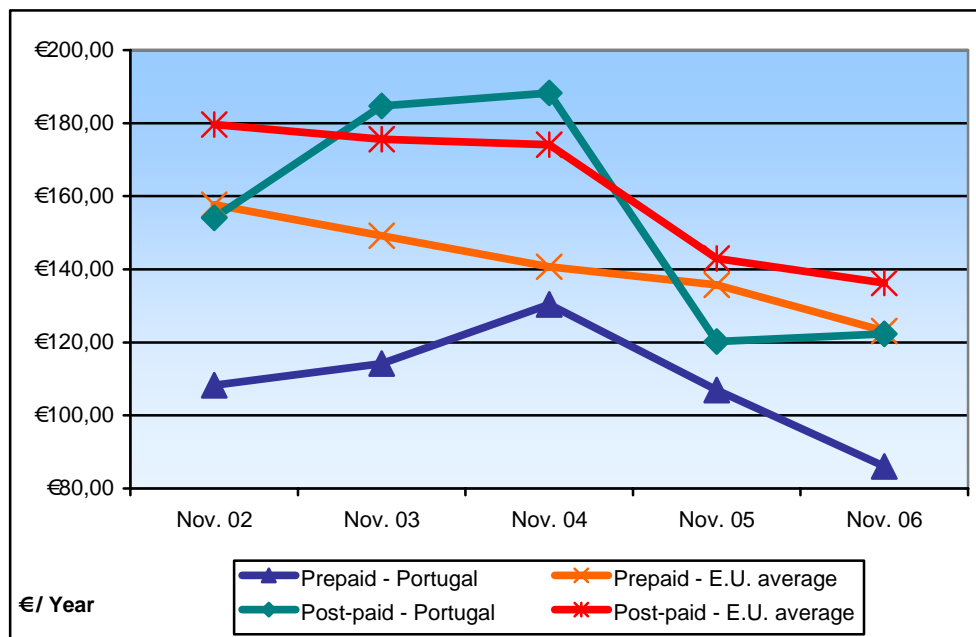
Source: Teligen, OECD, ICP-ANACOM

Evolution of the national prices and comparison with the EU (2002/2006)⁴⁵

The graphs below show the main trends regarding the service's price evolution in Portugal.

Regarding the low consumption profile, prepaid plans tend to be below average, with a significant drop in 2006, unlike EU's average figure.

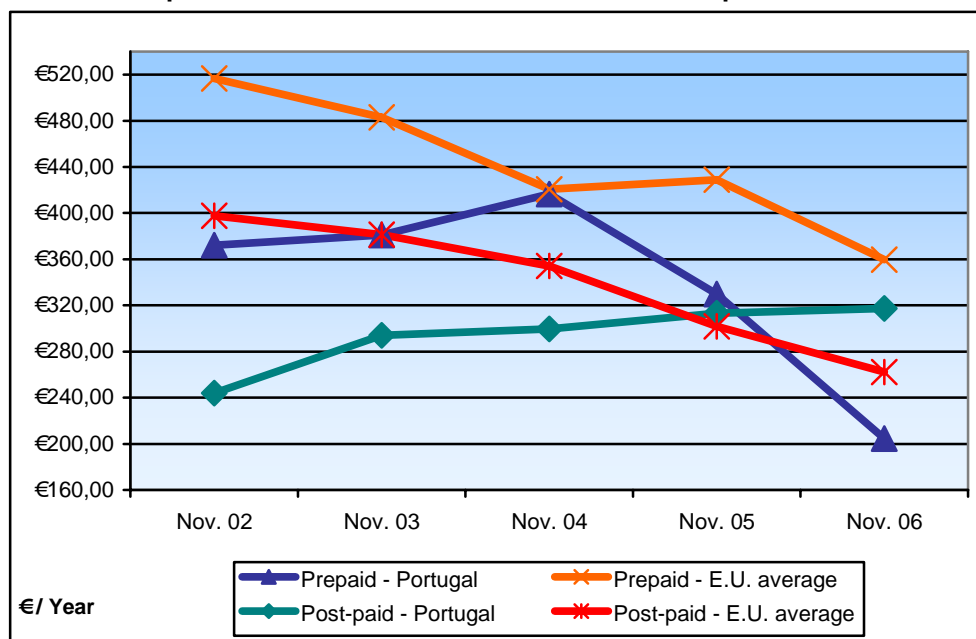
Graph 4-40 – Price evolution – low consumption basket



Source: Teligen, OECD, ICP-ANACOM

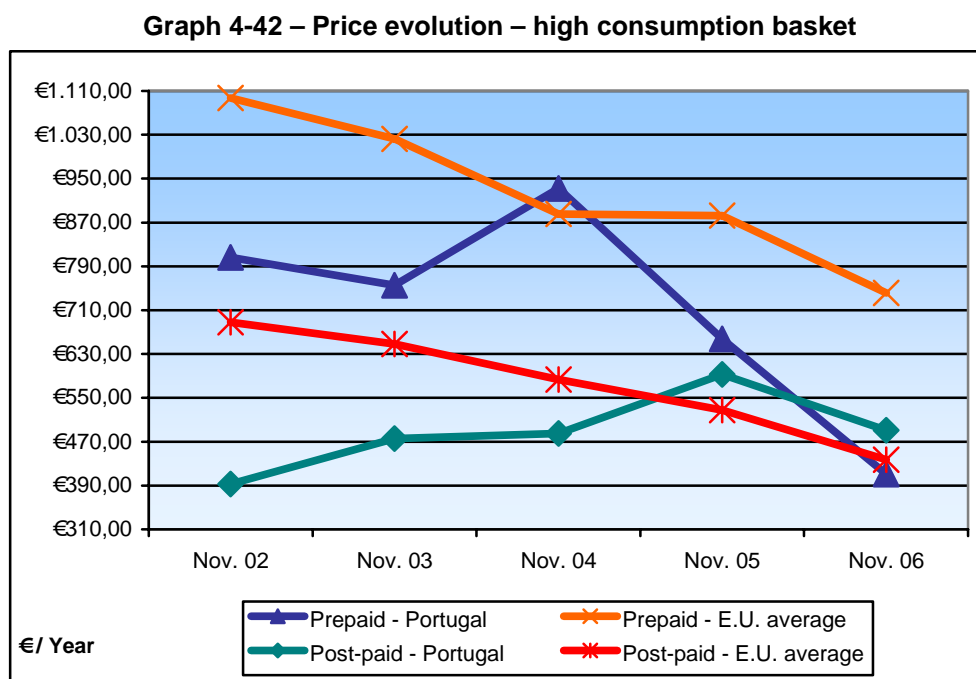
Regarding the medium consumption profile, post-paid plans have overtaken average.

Graph 4-41 – Price evolution – medium consumption basket



Source: Teligen, OECD, ICP-ANACOM

Regarding the high consumption profile, the prepaid plans' price has significantly decreased. As for the post-paid plan, in spite of a small decrease, it is still above average.



Source: Teligen, OECD, ICP-ANACOM

4.4.6. GSM networks' quality of service

ICP-ANACOM has been undertaking study assessing the quality of mobile networks in Portugal.

In 2006, it evaluated the quality of mobile voice (GSM), video telephony (UMTS) and network coverage (GSM and WCDMA) offered by the operators Optimus, TMN and Vodafone in mainland Portugal's main urban agglomerations and road axes, by analysing the technical parameters which translate quality perception from the consumer's standpoint⁴⁶.

⁴⁶ Cf. <http://www.anacom.pt/template12.jsp?categoryId=237202>

The results of the quality of service indicators that were analysed in this study show significant differences between the GSM and UMTS networks.

GSM networks have good coverage levels and a good voice service performance, both in the urban agglomerations and in the road axles. The UMTS networks had less favourable results. These networks still do not have a good WCDMA coverage: there are areas with poor or no coverage at all. On the other hand, the video telephony service's performance is reasonable in the urban agglomeration but substantially worse on road axles.

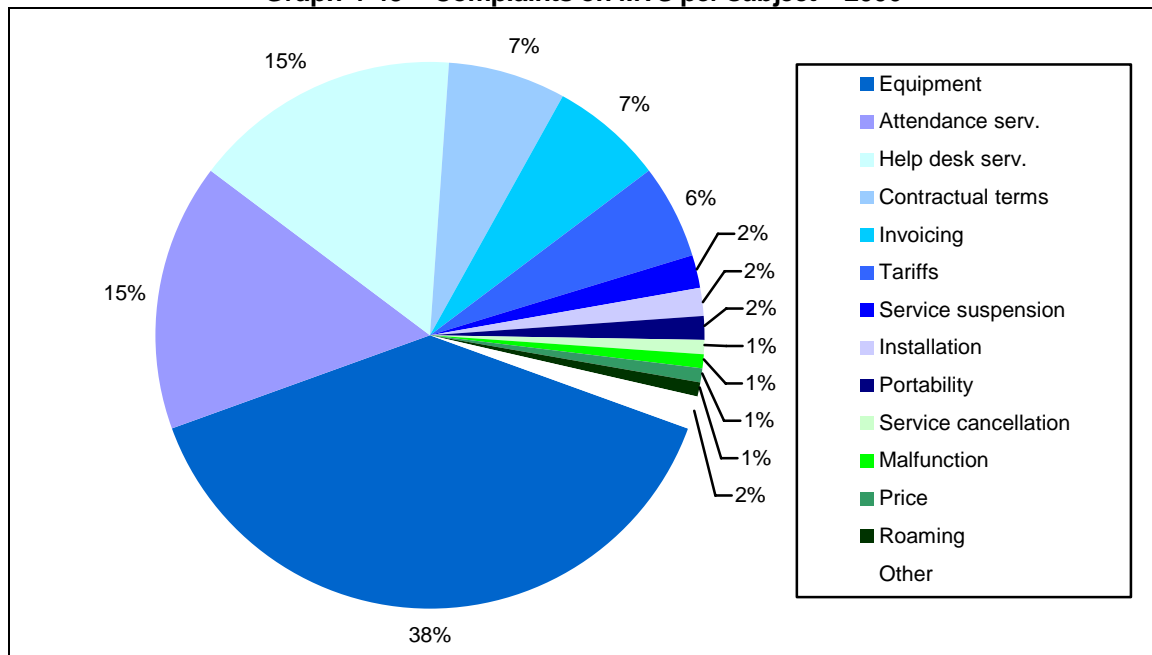
4.4.7. Consumers' evaluation

In order to evaluate consumers' perception on the quality of the MTS, below are some notes on the received complaints.

During 2006, ICP-ANACOM received around 4,644 complaints on the mobile telephone service and its providers. The MTS stands for around 27 per cent of the overall amount of complaints received at ICP-ANACOM regarding electronic communications services.

About half of those requests are issues regarding terminal equipment, which is largely out of the service providers' hands. However, the amount of complaints regarding the MTS operators-/providers' attendance and assistance services has increased.

Graph 4-43 – Complaints on MTS per subject – 2006



Source: ICP-ANACOM

Chapter 5 – Internet Access Service

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5. Internet Access Service

This chapter contains the state of the Internet Access Service in late 2006 and describes, namely, this service's offer, the profile of its use and that of its users and its evolution over that year.

This chapter namely focuses on the fixed Internet Access. Mobile access is dealt with in more detail in chapter 4, on mobile services – 4.4. MTS evolution in 2006.

Below are the main items of this service's evolution over 2006.

5.1. Main items of the evolution in 2006

- In 2006, the amount of the Internet Access Service customers reached 1.6 million, 11 per cent more than in the previous year. Forty per cent of Portuguese households had Internet connectivity, almost 5 per cent more than in late 2005.
- Broadband is becoming the preferential medium to access the Internet (more than 90% of all). By the end of the year, there were 1.46 million customers, 23 per cent more than in 2006. ADSL accesses were the main thrusts behind this growth (they grew 32 per cent in 2006 and already stand for 63 per cent of the overall broadband).

The penetration rate of fixed broadband in Portugal has reached 13.8 per 100 inhabitants.

- Broadband growth in Portugal was again below that of the EU, and the growth gap has even spread (1.8 regarding penetration, in 2006). This evolution occurred in spite of the service's availability all over the country, its prices in line with those of other countries and the providers' aggressive marketing.

This fixed broadband evolution in Portugal, versus the EU's, might be explained by the following factors: the launch of mobile broadband offerings (by the end of the second quarter of 2006, mobile broadband penetration has reached 1.6 accesses per 100 inhabitants)⁴⁷; the relatively low PC penetration in households, the existing gaps regarding human capital and income⁴⁸; and macroeconomic conditions of a cyclical nature.

- Consumers' perception of broadband quality of service is generally positive. Only 6.5 per cent of the inquired people believes that the service is below they're expectations.
- The progressively reduced shares of Group PT remained as a trend. The customer share of Group PT reached 71.5 per cent, 7 per cent less than at the end of the previous year.

In 2006, more than half of new ADSL customers and over $\frac{3}{4}$ of the new cable modem customers picked alternative operators' services.

The evolution of the ADSL Access shares is linked to the LLU: in 2006, the amount of new unbundlings was of around 124 thousand. By the end of that year, the accumulated amount of unbundled loops was 196 thousand (of which approximately 188 thousand were broadband – a figure that stands for about 20 per cent of the overall ADSL accesses).

5.2. Internet Access Service offer

Internet Access service may be provided over different technological suites. On the other hand, the service is provided with different throughputs, which translate into providing narrow band or broadband services.

⁴⁷ Estimated.

⁴⁸ According to the survey "Residential Internet and Broadband take-up in Portugal", available at <http://www.anacom.pt/template20.jsp?categoryId=204042&contentId=452239>, the "most important factors in adopting the Internet [are] age, education and income".

According to the legal framework in force, the service is provided by the entities with a general authorisation.

Below are described in detail the provided services and the evolution that occurred during 2006. The entities providing these services in Portugal are also listed.

5.2.1. Internet Access Service

This service is mainly provided by dial up access, dedicated access⁴⁹, ADSL access, cable modem access and access using third generation mobile networks.

Below is a summarised description of the main Internet access modes:

- Access using dial-up connection – Packages within this mode have a maximum throughput of 64 kbps (narrow band). This throughput is also affected by the need to convert data between digital and analogue formats. Switched (dial-up) connections are available to any subscriber with a fixed telephone line and a modem, just sufficing that they become a customer of one (or several) ISP. ISDN access makes higher throughputs possible, and the integration of voice and data into one single access. ISDN accesses can be basic⁵⁰ or primary⁵¹.
- Access using DSL technological suites (Digital Subscriber Lines or xDSL) – These technological suites use sophisticated modulation systems to increase data throughput over copper wires and use frequencies that are not used by the voice signal. This type of accesses opens up average throughputs quite above those of the dial-up connections over analogue telephone line and dial-up connections over ISDN. The fact that voice and data are carried in different frequencies makes it possible for these technological suites the ability to perform both these types of

⁴⁹ Dedicated Connection – a connection in which there is, between a user and an ISP, a communication channel that is used for Internet connection only; the channel is always open, whether the user is online or not.

⁵⁰ Basic Access (Basic Rate Access 2B+D) – Customer Access to ISDN using a copper pair and providing two 64kbps channels (B1 and B2 channels) for voice and data transfer, and a 16kbps D channel for signalling, package data transfer and telemetry. The global throughput is 192kbps.

⁵¹ Primary Access - 30B+D Access to the ISDN, with a global 2Mbps throughput. Both the 30 B voice/data channels and the D signalling channel carry 64kbps.

communication simultaneously, and Internet connection is always on. This technological suite is made available on pre-defined areas, where it is possible to have access to a connection with the minimum physical requirements.

There are different xDSL variations, of which the most common is ADSL (Asymmetric DSL)⁵². Regarding data throughput, ADSL offerings available in Portugal are between 256 kbps and 24 Mbps. Beyond ADSL, there are also other modes, such as SDSL (Symmetric DSL)⁵³, HDSL (High-data-rate DSL) and VDSL (Very-high-speed DSL).

- Co-axial cable access – co-axial cable is the first type of cable used by the cable television distribution industry. The way it is made makes a much larger data throughput possible (larger bandwidth), and a smaller exposition to electrical and radio interferences as well. The Internet access mode over cable television distribution networks, by using a cable modem and an expansion board for the PC, leads to higher access throughputs, if compared to those of the dial-up over copper wires. These connections' maximum throughputs are similar to those of an ADSL access, both downstream and upstream. In order for the Internet service to be provided over a network of this kind, this network has to stand bi-directionality, i.e., it has to be able to send and to receive data.
- Access over the mobile third generation– The third generation of mobile services was designed to materialize convergences between fixed communications and mobile communications and between electronic communications and multimedia, thus drawing mobile networks closer to the capacity of fixed networks and giving mobile users access to broadband multimedia services. Among the third generation mobile systems, UMTS, in the 2 GHz band, stands out. It is identified with the European standard of the global standard family of international mobile

⁵² Digital technology transforming analogue or ISDN telephone lines into greater capacity lines, making Internet access at much higher speeds possible. Data transmission is made asymmetrically, i.e. the downstream is faster than the upstream, which is currently at around 1 Mbps, and bandwidth is managed in an intelligent way. It makes it possible to simultaneously use the Internet and the traditional telephone line (for voice, fax service). An ADSL line has three data channels: a *downstream* high throughput channel (1.5 to 8Mbps), a duplex *upstream* medium throughput channel (16 to 640kbps) and a channel for the telephone service.

⁵³ Digital technology in which data transmission is made symmetrically.

communications systems (IMT2000). UMTS technology uses the WCDMA transmission mode⁵⁴, which is based on multiple access by code division.

Information regarding the mobile broadband Internet access service is on chapter 4, on the MTS – 4.4. MTS evolution in 2006.

- Other access media⁵⁵ – Other technological suites that can be used to Access the Internet is worth mentioning, namely access over dedicated connections, access over FWA and CDMA radio links, Access over power line cables (PLC), access over local radio networks and access over satellite links.

5.2.2. Internet Access Service providers – Fixed

In late 2006 there were 38 registered and entitled entities that could provide the Internet Access Service in Portugal. These entities are also known as ISP – Internet Service Providers.

Of the 38 legally entitled ISPs, 29 were active and the remaining 9 were not providing the service.

Table 5-1 – Amount of operators providing the Internet Access Service – Fixed

	2000	2001	2002	2003	2004	2005	2006
Amount of Registered Providers	41	51	57	52	39	39	38
Amount of Active Providers	29	30	32	25	30	30	29

Source: ICP-ANACOM

The table below shows the evolution of the amount of entities with a legally binding permission to provide this service, the entries and exists in/from the marketplace during the year standing out.

⁵⁴ Broadband Access system which access discipline to the various users shares the same frequency band through codes assigned to each one of them.

⁵⁵ The 2002 regulation report includes a brief description of these Internet Access technological suites.

Table 5-2 – Internet Access Service Providers in 2006 – Fixed

Name	2005	Entries	Exits	2006
Adianis – Telecomunicações & Multimedia, S.A.	NA			NA
AR Telecom – Acessos e Redes de Telecomunicações, S.A.	A			A
AT & T – Serviços de Telecomunicações, Soc. Unip., Lda. (*)	NA			NA
Bragatel – Comp. Televisão por Cabo de Braga, S.A.	A			A
Broadnet Portugal, S.A.	A			A
BT Portugal – Telecomunicações, Unipessoal, Lda.	NA			A
Cabo TV Madeirense, S.A.	A			A
Cabovisão – Sociedade de Televisão por Cabo, S.A.	A			A
CATVP – TV Cabo Portugal, S.A.	A			A
Clixgest – Internet e Conteúdos, S.A. ⁵⁶	A		X	-
Colt Telecom – Serviços de Telecomunicações, Unipessoal, Lda.	A			A
CONNEX – Tecnologias de Informação, Lda.	-	X		A
Equant Portugal, S.A. (ORANGE)	A			A
Fleximedia – Serviços e Meios Inf. e Comunicação, Lda.	A			A
Name	2005	Entries	Exits	2006
Global Crossing PEC Espana S.A. ⁵⁷	NA			NA
Hari-técnica Comércio e Indústria de Artigos Eléctricos e Electrónicos, Lda.	A		X	-
HSIA Hospitality Services Portugal, S.A. ⁵⁸	A			A
Media Capital – Telecomunicações, S.A.	A			A
Netacesso – Serviços Internet e Multimédia, Lda.	NA			NA
Netvoice – Comunicações e Sistemas, S.A.	A		X	-
Neuvex – Telecomunicações, Marketing e Inform., Lda.	-	X		NA
NFSI – Soluções Internet, Lda.	A			A
Nortenet – Sistemas de Comunicação, S.A.	A			A
Novis Telecom, S.A.	A			A
Onitelecom – Infocomunicações, S.A.	A			A
Pluricanal Leiria – Televisão por Cabo, S.A.	A			A
Pluricanal Santarém – Televisão por Cabo, S.A.	A			A
PT Acessos de Internet WI-FI, S.A.	A			A
PT Prime – Soluções Empresariais de Telecomunicações e Sistemas, S.A.	A			A
PT.Com – Comunicações Interactivas, S.A.	A			A
Radianz Portugal, Soc. Unipessoal, Lda. ⁵⁹	NA		X	-
Radiomóvel – Telecomunicações, S.A. ⁶⁰	NA			NA
REDSAT – Projecto, Instalação, Venda e Aluguer de Novas Tecnologias, Lda.	-	X		NA
Refer Telecom – Serviços de Telecomunicações, S.A.	A			A

⁵⁶ In 2005 companies KPNQwest Portugal – Telecomunicações, Lda. (Jun/05) and CLIXGEST – Internet e Conteúdos, S.A. (Nov/05) were merged into NOVIS TELECOM, S.A..

⁵⁷ GC Pan European Crossing España, S.A. changed its name to Global Crossing PEC Espana S.A. on 15-09-2006.

⁵⁸ Swisscom EPWLAN – Serviços de Internet, S.A. reported, on October 2006, the change of its name to HSIA Hospitality Services Portugal, S.A.

⁵⁹ On 19-07-2006 the company Radianz Portugal, Sociedade Unipessoal, Lda. was incorporated into BT Portugal – Telecomunicações, Unipessoal, Lda.

⁶⁰ Radiomóvel does not provide a fixed Internet access service; it provides mobile broadband Internet to closed user groups.

Name	2005	Entries	Exits	2006
Robot – Telecomunicações, Projectos e Serviços, Lda.	A			A
TeleMilénio, Telecomunicações, Sociedade Unipessoal, Lda. (Tele2)	A			A
TVTel Comunicações, S.A. ⁶¹	A			A
VERIZON Portugal, Sociedade Unipessoal, Lda. ⁶²	A			A
Via Net.Works Portugal – Tecnologias de Informação, S.A. (Clara.Net)	A			A
Vipvoz – Serviços de Telecomunicações Digitais, Lda.	NA			NA
Vodafone Portugal – Comunicações Pessoais, S.A.	A			A
Worldbroker Telecomunicações – Sociedade de Telecomunicações e Multimédia, Lda.	NA			NA
Total active	30	1	4	29
Total non-active	9	2	2	9
Total general	39	3	6	38

Source: ICP-ANACOM

A — Active NA — Non-Active X — Entry or Exit

(*) Entity entitled to provide the Internet access service, but only shows activity regarding Other Data Transmission Services (ODTS).

The following table lists the cable television distribution operators with broadband Internet access over cable offerings, with the use of cable modems, at the end of 2006.

Table 5-3 – Cable distribution network operators providing the Internet Access Service

Bragatel – Companhia de TV por Cabo de Braga, S.A.
Cabo TV Madeirense, S.A.
Cabovisão – Sociedade de Televisão por Cabo, S.A.
CATVP – TV Cabo Portugal, S.A.
Pluricanal Leiria – Televisão por Cabo, S.A.
Pluricanal Santarém – Televisão por Cabo, S.A.
TVTel Comunicações, S.A.

Source: ICP-ANACOM

Providers offering broadband Internet services over ADSL accesses are shown on the table below.

⁶¹ On 4-07-2006, TVTEL Grande Porto Comunicações, S.A. reported the change of its name to TVTEL Comunicações, S.A.

⁶² UUNET – Portugal, Sociedade Unipessoal, Lda. Changed its name to VERIZON Portugal, Sociedade Unipessoal, Lda., as from 11-12-2006.

Table 5-4 – Internet Access service Providers with ADSL Access offerings

AR Telecom - Acessos e Redes de Telecomunicações, S.A.
CATVP – TV Cabo Portugal, S.A.
Colt Telecom – Serviços de Telecomunicações, Unipessoal, Lda.
Nortenet – Sistemas de Comunicação, S.A.
Novis Telecom, S.A.
Onitelecom – Infocomunicações, S.A.
PT Acessos de Internet WI-FI, S.A.
PT Prime – Soluções Empresariais de Telecom. e Sistemas, S.A.
PT.Com – Comunicações Interactivas, S.A.
Via Net.Works Portugal – Tecnologias de Informação, S.A. (Clara.Net)
Vodafone Portugal – Comunicações Pessoais, S.A.

Source: ICP-ANACOM

Regarding the FWA technology, Table 5-5 shows the licensed providers who provided Internet Access Services in 2006 using this technology.

Table 5-5 – Internet Access Service Providers with FWA offerings

AR Telecom – Acessos e Redes de Telecomunicações, S.A.
Broadnet Portugal, S.A.
Novis Telecom, S.A.
Onitelecom – Infocomunicações, S.A.
Vodafone Portugal – Comunicações Pessoais, S.A.

Source: ICP-ANACOM

It is worth pointing out that, besides the mentioned providers, also the operators with national licenses for the International Mobile Telecommunications Systems (IMT2000/UMTS) are legally entitled to provide the Internet Access Services.

5.3. Internet Access Service usage and user profile

Below are some features of the Internet user and use.

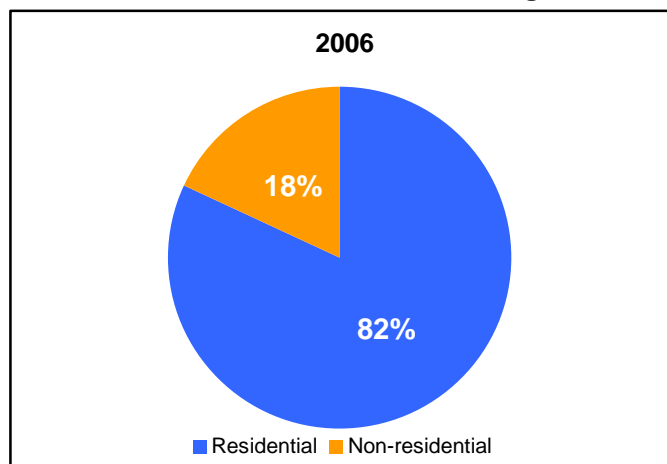
5.3.1. Internet Access Service customer's profile

Residential customers⁶³ are the great majority of the Internet Access Service's

⁶³ Residential customer is considered every customer that does not use the service at stake mostly as an intermediate of his/her professional activity.

customers, standing for 82 per cent of the overall amount of customers.

Graph 5-1 – Internet Access Service customers according to their customer segment



Source: ICP-ANACOM

According to the Survey on the Use of Broadband – 2006⁶⁴, residential Internet Access service customer mostly lives in largely sized agglomerates, in households with a larger amount of residents and has an above-average income.

⁶⁴ The universe defined for this survey was made up of users of both genders, 15 years old or older, living in Mainland Portugal and in the Autonomous Regions of Madeira and the Azores. The selection of interviewees referred to the method of gender and age, education and occupation quota. The sample was stratified by region and habitat. A total of 8676 telephone interviews were conducted, including 3036 interviews to broadband users, guaranteeing a maximum error of 1.8 per cent for the results concerning broadband users (for a significance level of 95 per cent). The fieldwork and handling of data was made by METRIS GFK between 1 November 2006 and 21 December 2006.

Table 5-6 – Profile of Internet households (%)

Habitat:	Dec-06
Less than 2,000 inhabitants	33.8
From 2,000 to 9,999 inhabitants	43.6
From 10,000 to 99,999 inhabitants	44.7
Over 100,000 inhabitants	42.9
Size of Household:	
1 person	12.7
2 people	18.3
3 people	50.4
4 or more people	55.8
Social class ⁶⁵	
A	86.2
B	73.7
C	54.6
D	22.7
E	29.1

Source: ICP-ANACOM, Survey on the Use of Broadband in Portugal, December 2006

At EU level, the size of the household, in number of residents, is a crucial factor for having broadband Internet: the larger the household, the higher the chance to subscribe to this service⁶⁶.

The fact that Internet penetration is higher among the lower age classes should also be pointed out.

⁶⁵ The social class variable is the result of crossing variables education of the members of the inquired household with their professional occupations and indirectly estimates the income class of the household. The A class has the highest levels of income and the E one the lowest ones.

⁶⁶ Cf. E-Communications Household Survey, European Commission, July 2006.

Table 5-7 – Internet penetration per age class (%)

Age classes	
<= 24	25.7
25 - 34	24.0
35 - 44	21.9
45 - 54	17.1
55 - 64	8.4
65+	3.0

Source: ICP-ANACOM, Survey on the Use of Broadband in Portugal, December 2006⁶⁶

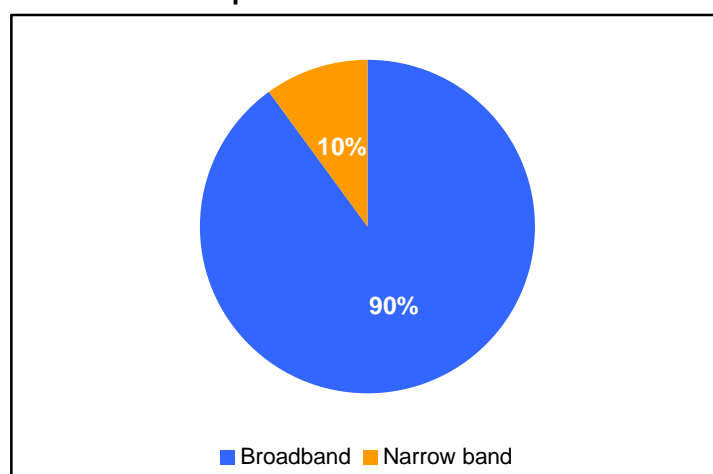
Regarding the non-residential service, 83 per cent of companies with ten or more workers and 80 per cent of companies with ten to 49 people had Internet connection. About 99 per cent of companies larger than 49 people have Internet Access. There are two industries with Internet penetration rates below 90 per cent: construction (69 per cent), and manufacturing (81 per cent)⁶⁷.

5.3.2. Internet Access Service usage profile

The majority of the Internet Access Service users use broadband. In late 2006, the ratio of broadband customers versus the overall amount of customers was 90 per cent. The growing weight of broadband mainly reflects the popularity of applications and contents requiring larger bandwidths and the coming about of *always-on* offerings at a fixed monthly rate that also give users a more economic and cost-controlled use.

⁶⁷ Cf. Survey on the Use of Information and Communication Technology by Companies 2006, by INE.

Graph 5-2 – Distribution of the Internet Access Service customers per bandwidth – 2006



Source: ICP-ANACOM

It should be pointed out that 68 per cent of households with Internet connection use broadband⁶⁸.

Among the main goals of Internet use, in 2006, the most important ones are sending/receiving e-mail, searching information on goods and services, downloading games, images or music and reading/downloading online newspapers and magazines. The analysis of the Internet usage patterns, considering the evolution between the two inquiries, shows that the above mentioned goals are stable, despite the relevant growth of the goal getting information through sites of bodies within the general Government and downloading official forms.

⁶⁸ Cf. Inquiry on the use of information and communication technology by families, INE, 2006. The field work took place between the months of April and May 2006 and focused on households with at least one individual aged between 16 and 74 and residing at their family's main home, to which corresponded 4,038 households with at least one individual aged between 16 and 74.

Table 5-8 – Goals for using the Internet (%)

Activities	Jan-06	Dec-06
Communication		
Sending/receiving e-mails	80.5	80.9
Internet calling / videoconferencing	10.0	15.6
Blogging		10.3
Other (access to chats, etc.)	38.9	38.7
Searching information and using online services		
Searching information on goods and services	80.8	83.8
Searching information on products that led to offline shopping (physical stores)		29.1
Using services in connection with travelling and lodging	32.8	35.1
Listening to radio/watching television over the Internet	28.1	30.0
Playing or downloading games, images or music	44.0	45.6
Software downloading	27.6	25.8
Online newspapers, magazines reading/downloading	51.3	44.5
Search for jobs or sending applications/CVs	12.4	14.3
Linking to State/regional/local bodies/services		
Collecting information from General Government's sites	36.7	39.4
Downloading official forms	25.8	30.1
Filling in and sending official forms	28.0	32.3
Using the Internet to interact with State/regional/local bodies/services	43.8	41.0
Education and training		
Taking on formal education activities	18.8	17.6
Taking on post-formal education courses	4.1	3.4
Taking on courses that are specifically linked to job opportunities	1.9	2.4
Health-related activities		
Search information on health issues (lesions, illnesses, nutrition, etc.)	31.3	38.8

Source: INE, Inquiry on the use of information and communication technology by families, 2005 and 2006

5.3.3. Barriers to joining the service

In 2006, just like in the previous year, the main reason that was pointed out for not joining the Internet was lack of interest or of use (47.1 per cent). In second comes the inexistence of a PC (33.3 per cent). The price of the service is also a barrier to joining the service (9.7 per cent).

Table 5-9 – Main reasons for not having an Internet Access at home (%)

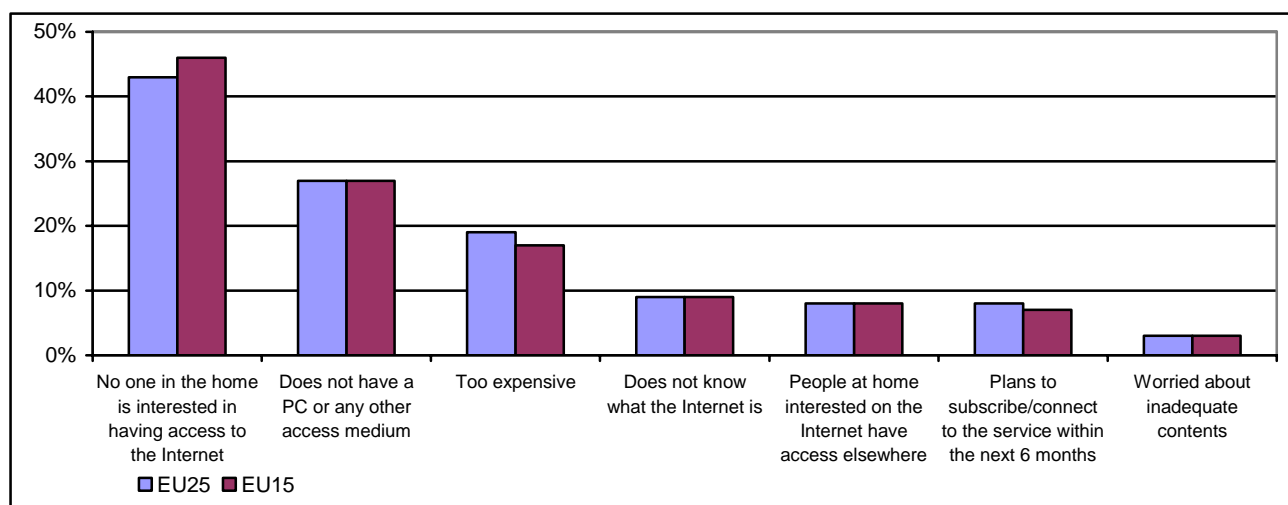
	Jan-06	Dec-06
Does not need / has no interest	38.3	47.1
Does not have a PC	34.0	33.3
The price is too high	8.6	9.7
Has no time	3.5	2.0
Has access in other places	2.5	4.6
Has no geographical coverage	2.2	0.9
Other	10.9	2.5
Total	100	100

Source: Survey on the Use of Broadband in Portugal: January 2006 and December 2006

Mention should be made to the fact that the above-mentioned main reasons are identical to those pointed out by EU consumers for not joining the Internet.

However, in Portugal, the barrier “not having a PC” is stronger.

Graph 5-3 – Main reasons for not having Internet access at home (%)



Source: European commission, E-communications household survey, July 2006.

5.4. Internet Access Service evolution in 2006

Below is the evolution in 2006 in terms of geographical availability of the service, its penetration, usage level, prices, innovation and development of competition.

5.4.1. Geographical availability of this service

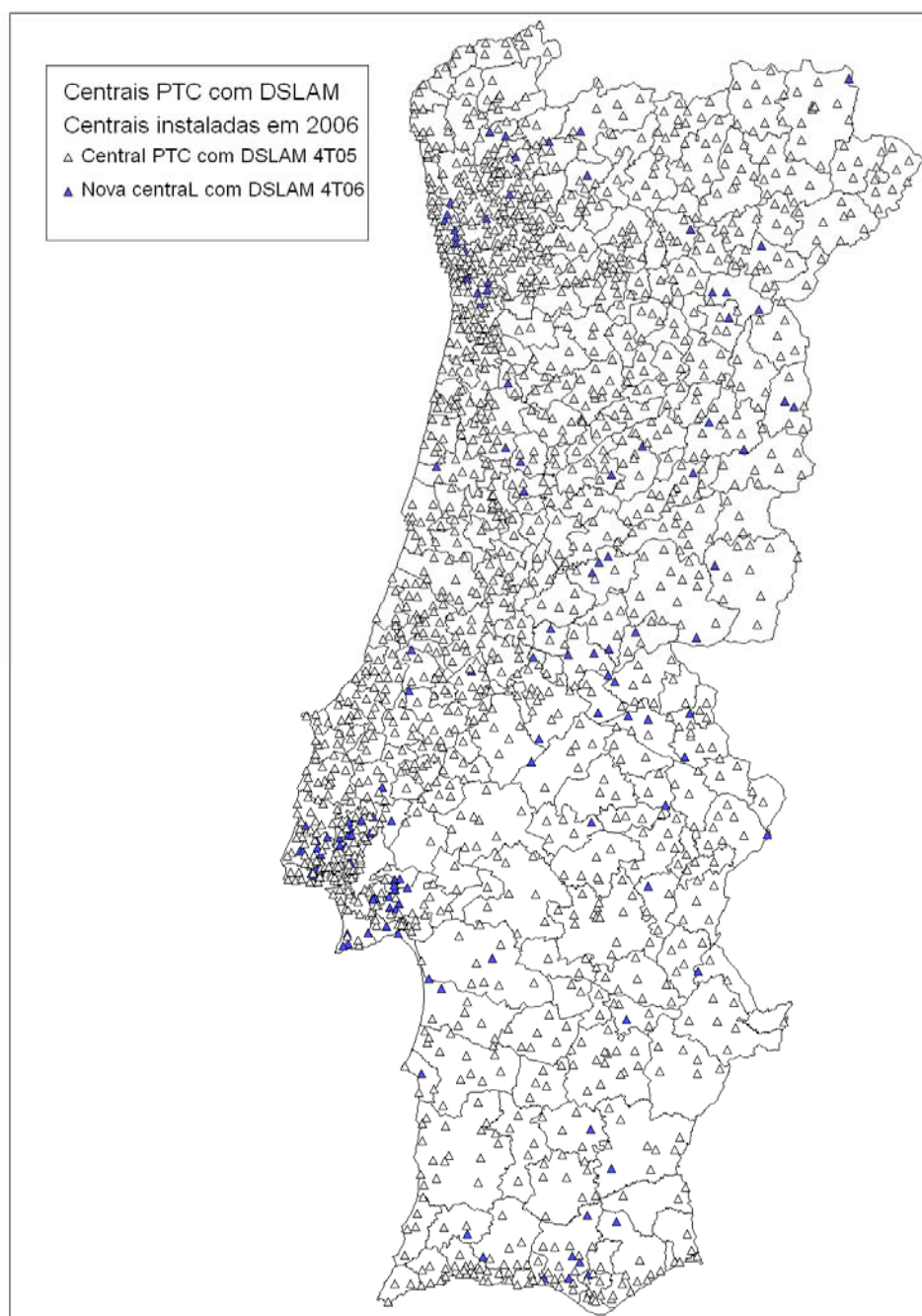
In 2006, the Internet Access Service was available in practically all of the Portuguese territory. Particularly, the dial-up Access is available all over the public switched network.

The availability of the broadband offerings depends on the availability of the public switched network's switchboards with DSLAMs (*digital subscriber line access multiplexers*) or on the availability of cable TV distribution networks ready to offer broadband.

At the end of 2006, there were 1,850 switchboards with DSLAMs in mainland Portugal, which is almost all of PT's switchboards – 99.7 per cent. This amount of switchboards is about 7 per cent higher than that of the previous year.

In the Autonomous Regions of Madeira and of the Azores, practically all switchboards have DSLAMs.

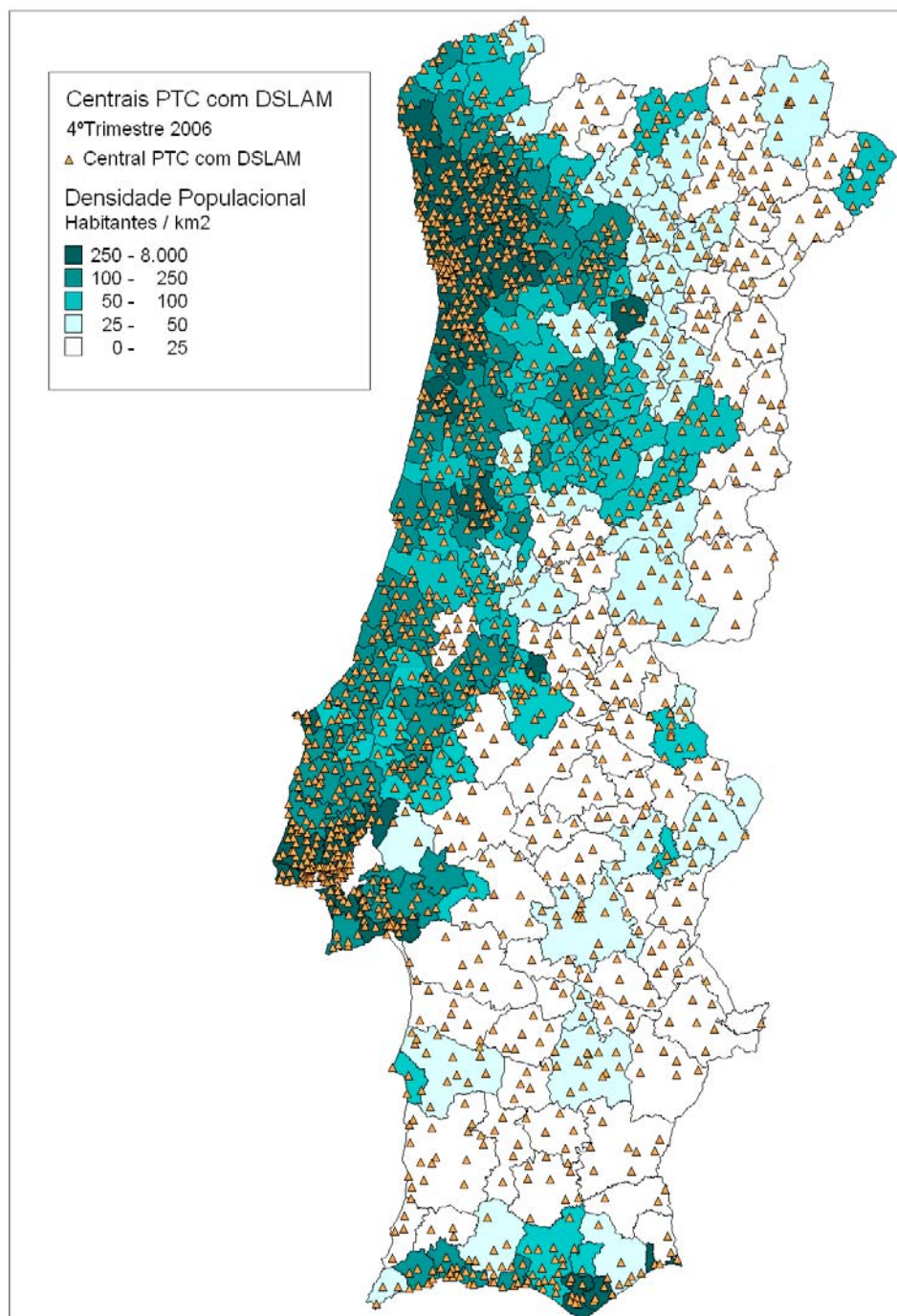
Graph 5-4 – Distribution per municipality of switchboards with DSLAM at the end of 2005 and 2006 (Mainland Portugal)



Source ICP-ANACOM

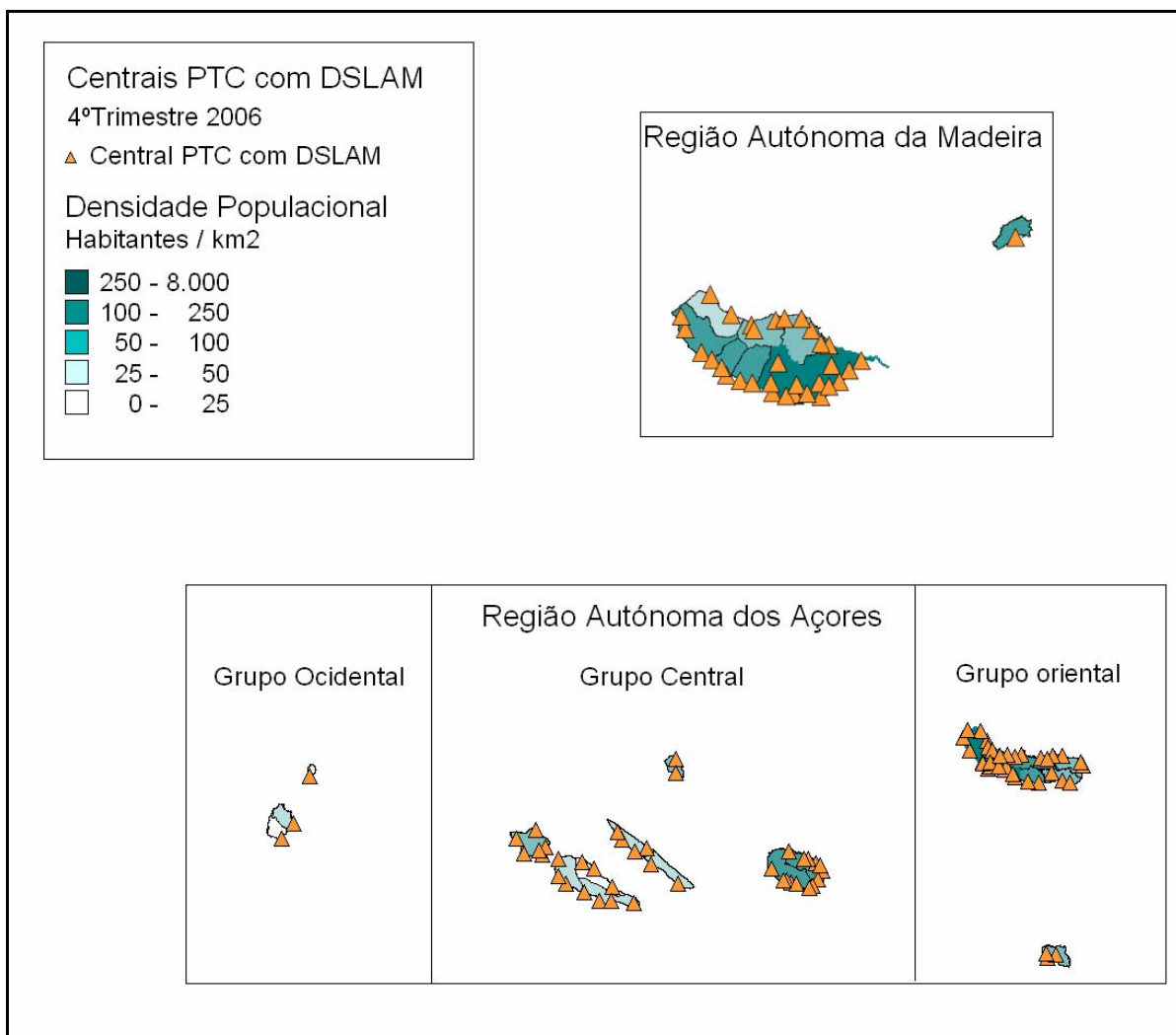
It should be underlined that there are exceptional cases when it is not possible to provide ADSL services over a given loop, due to its physical characteristics (namely length, section and its state of conservation).

Graph 5-5 – Distribution per municipality of switchboards with DSLAM at the end of 2006 and population density (Mainland Portugal)



Source: ICP-ANACOM

Graph 5-6 – Distribution per municipality of switchboards with DSLAM in 2006 and population density (Autonomous Regions of the Azores and of Madeira)



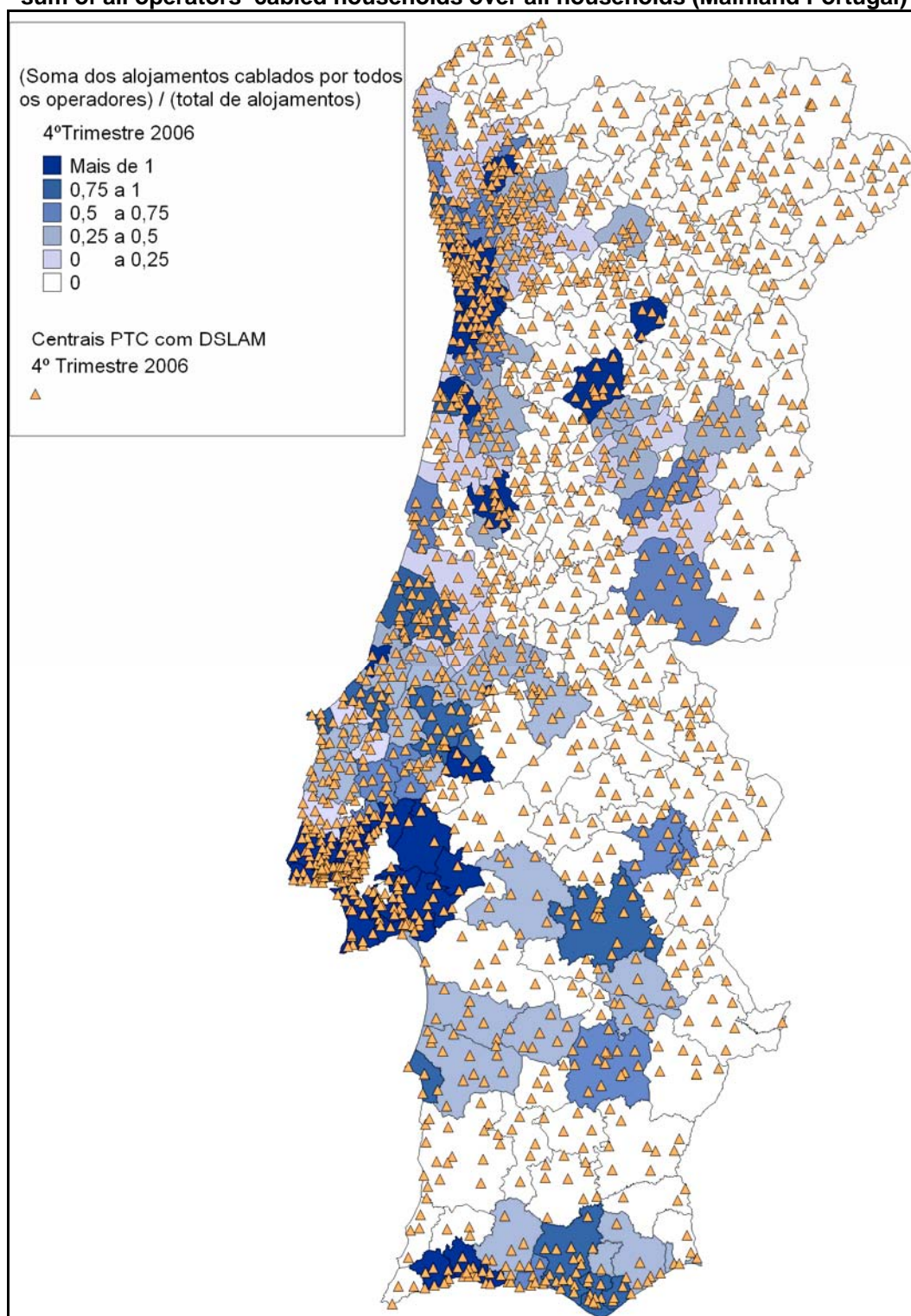
Source: ICP-ANACOM

Regarding broadband Internet access using cable modem, cable distribution networks in Mainland Portugal are focused on the Greatest Lisbon and Greatest Porto regions.

Regarding the autonomous regions, by the end of 2006, Madeira had a ratio of cabled homes above 93 per cent, whereas in the Azores this indicator reaches 60 per cent. These figures can be explained by the protocols among the Government of the Republic, the Regional Governments, ICP-ANACOM and the only cable television distribution network operator in both the autonomous regions. These protocols aim at ensuring the necessary conditions for the citizens of the autonomous regions to have access, for free, to the broadcasts of the general free-to-air channels available in

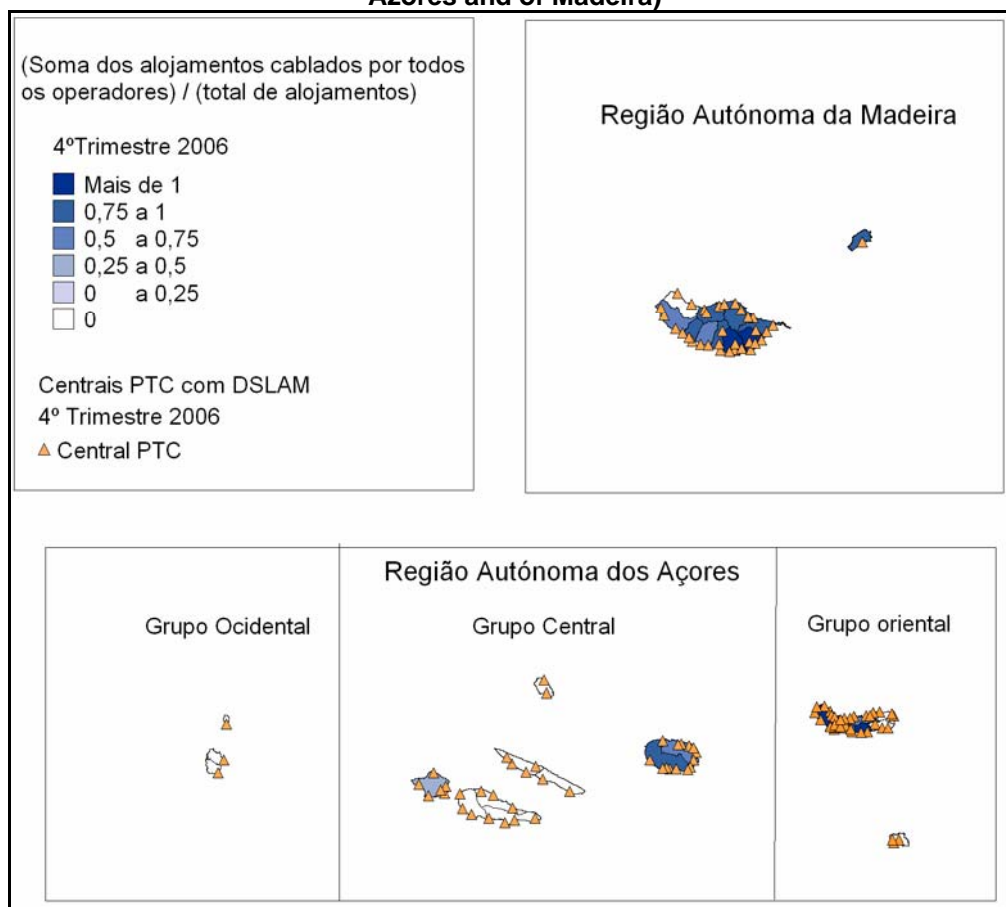
Mainland Portugal, namely RTP1, RTP2, SIC e TVI, as well as RTP Açores and RTP Madeira, respectively in each of the autonomous regions. The protocol in force in Madeira was signed on 6 August 2004 and the protocol regarding the Autonomous Region of the Azores was signed on 5 November 2005, and remained in force for a year.

Graph 5-7 – Distribution per municipality of switchboards with DSLAM in 2006 and ratio of the sum of all operators' cabled households over all households (Mainland Portugal)



Source: ICP-ANACOM

Graph 5-8 – Distribution per municipality of switchboards with DSLAM in 2006 and ratio of the sum of all operators' cabled households over all households (Autonomous Regions of the Azores and of Madeira)



Source: ICP-ANACOM

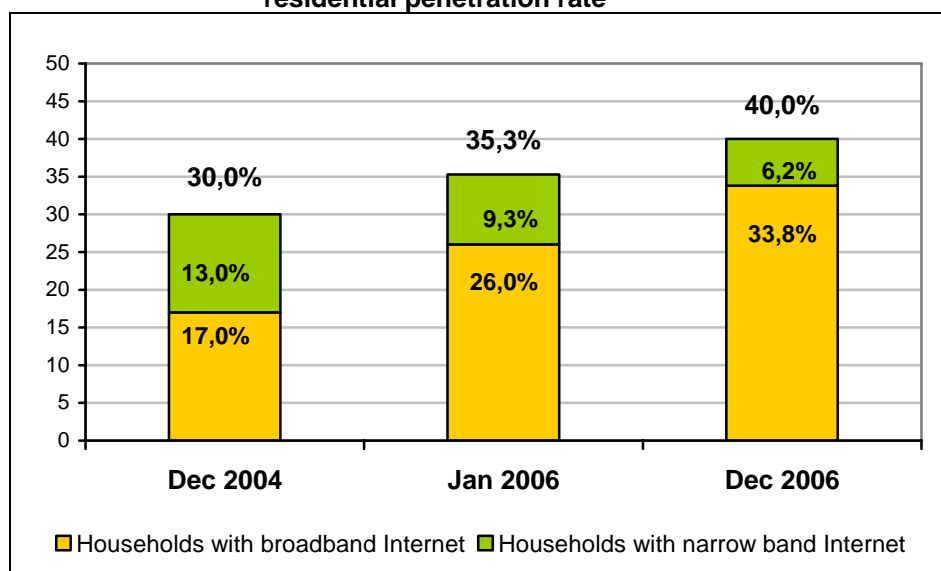
Taking into account the above-mentioned information, it is clear that the density of broadband accesses follows the density of the population within the territory.

Mobile broadband is available wherever third generation mobile networks are available.

5.4.2. Internet penetration in households

At the end of 2006, about 40 per cent of Portuguese households had Internet connectivity, 4.7 per cent more than at the end of the previous year. Broadband remained the preferential means to access the Internet and is in around 33.8 per cent of households, 7.8 more than in the previous year.

Graph 5-9 – Evolution of the Internet Access Service residential penetration rate



Source: ICP-ANACOM, Survey on the Use of Broadband – December 2004, January 2006 e December 2006

At the end of 2006, there were about 1.33 million active Internet access service residential customers, 8.7 per cent more than in the previous year.

Table 5-10 – Amount of residential and non-residential customers

	2005	2006	2005/2006 var. (%)
Total customers	1,457,848	1,618,690	11.0%
Residential customers	1,222,205	1,328,651	8.7%
Non-residential customers	235,643	290,039	23.0%

Source: ICP-ANACOM

Unit: 1 customer; %

In the residential segment, the data made available by the Surveys on the Use of Broadband in Portugal, promoted by ICP-ANACOM, show that there are regional asymmetries in Internet penetration.

Lisbon and Vale do Tejo is still the region with the highest Internet Access service penetration rate. On the other end, Internet penetration in the Azores, Alentejo and Algarve regions is below the national average.

Table 5-11 –Internet connections in households, by NUTS II (%)

Regions	Dec-04	Jan-06	Dec-06
North	24.4	30.0	40.0
Midland	25.0	36.0	39.8
Lisbon and Vale do Tejo	36.5	43.4	45.5
Alentejo	20.8	29.6	31.2
Algarve	26.8	27.8 ⁶⁹	28.8
Azores	21.1	25.8	26.7
Madeira	24.0	34.7	40.8

Source: ICP-ANACOM, Survey on the Use of Broadband – December 2004, January 2006 and December 2006

The geographical distribution of ADSL subscribers adds up to the above-mentioned conclusions.

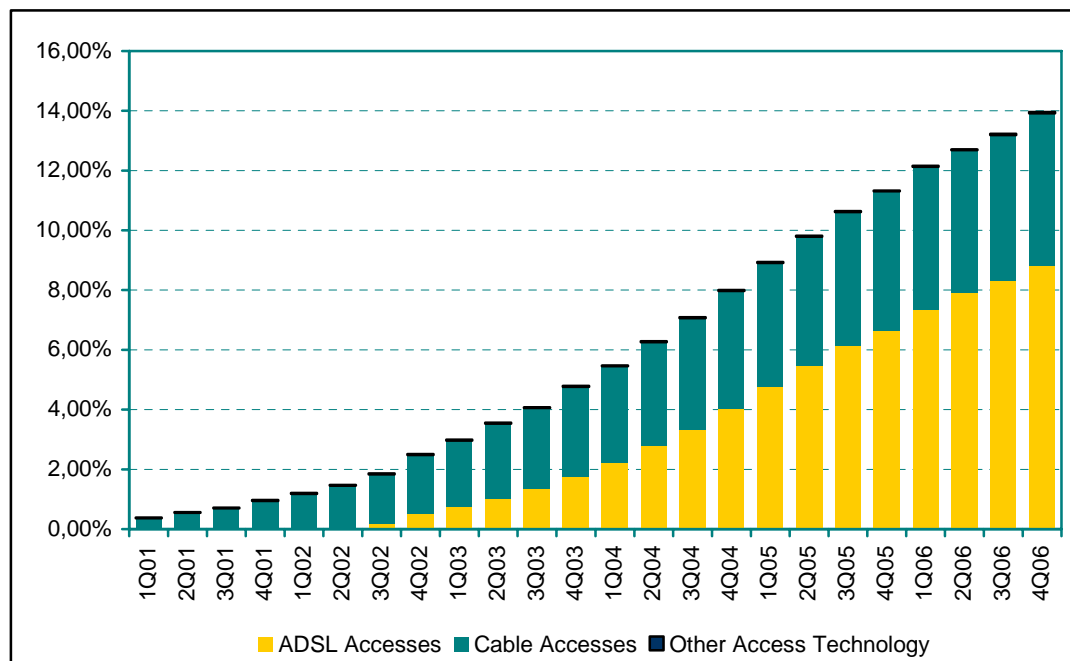
5.4.3. Fixed broadband penetration

At the end of 2006, there were 13.8 broadband customers per 100 inhabitants, about 2.6 per cent more than at the end of 2005.

Regarding accesses, the penetration rate reached around 14 accesses per 100 inhabitants.

⁶⁹ Estimated.

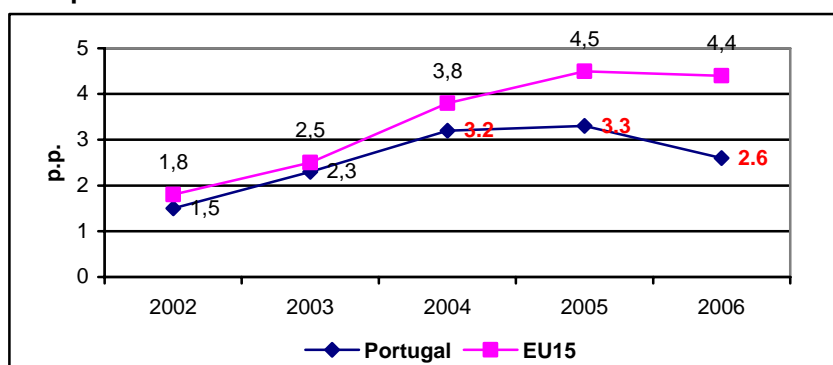
Graph 5-10 – Evolution of the amount of fixed broadband accesses per 100 inhabitants



Source: ICP-ANACOM

The growth in the broadband penetration rate in Portugal was however smaller than that of the remaining EU countries. The gap between broadband penetration growth in EU15 and broadband penetration growth in Portugal increased, reaching 1.8 per cent.

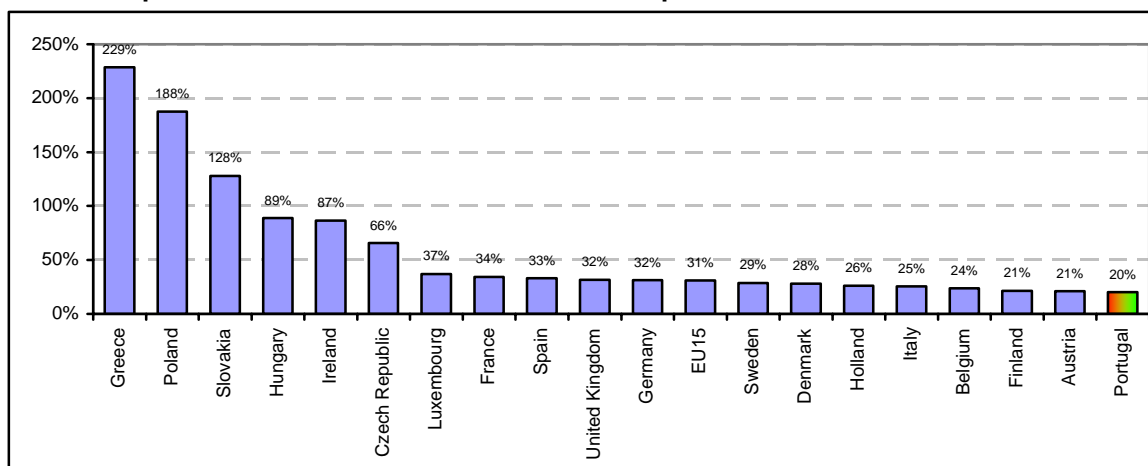
Graph 5-11 – Variation in the Fixed Broadband Penetration Rate



Source: OECD and ICP-ANACOM

Broadband penetration in Portugal grew around 20 per cent from 2005, whereas in EU15 the average growth was 31 per cent.

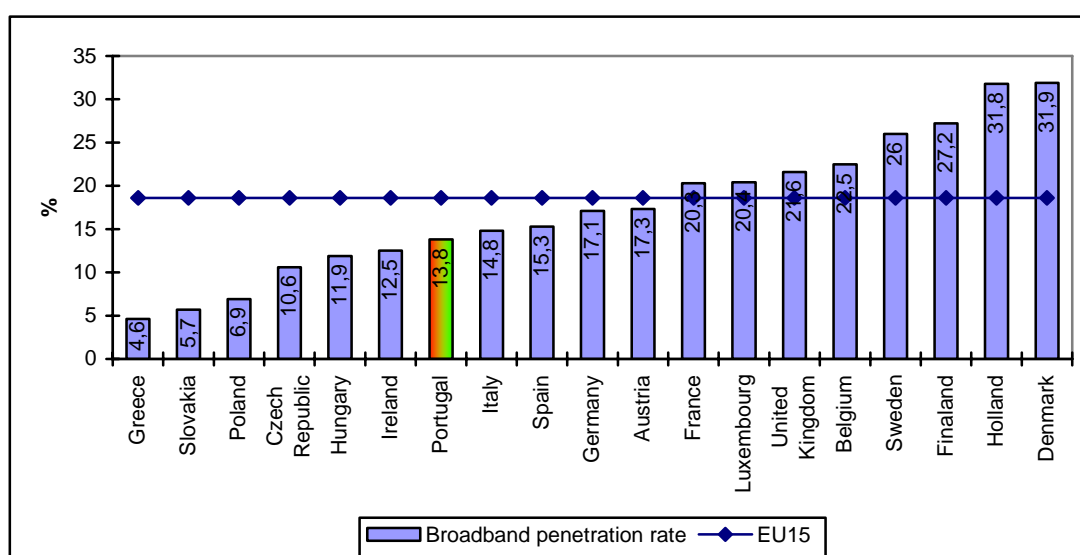
Graph 5-12 – Growth of the fixed broadband penetration rate in 2006 vs. 2005



Source: OECD

As a result of its performance in 2006, Portugal ranked as in the previous year, regarding broadband penetration (13th).

Graph 5-13 – Amount of fixed broadband customers per 100 inhabitants in EU15



Source: OECD

This evolution might have been influenced by the following factors:

- The launch of mobile broadband offerings. It is possible that fixed broadband consumption has been partially detoured to mobile broadband, which has been marketed as the fixed broadband substitute. The tariff structure and the price levels are similar. It is estimated that, at the end of the 2nd quarter of 2006, mobile broadband penetration has reached 1.6 accesses per 100 inhabitants;
- The relatively low penetration of PCs in households. As mentioned previously, the fact that consumers do not have a PC is a barrier to joining the Internet. The
- A relatively low household PC penetration. As mentioned above, the fact that consumers do not have a PC is a barrier to joining the Internet. The European Commission even mentions that:

*"...there is a very strong connection between an existing Internet access at home and an existing personal computer at home... 97 per cent of those who access the Internet use the PC to do it... Correlation between PC penetration and Internet penetration is almost linear (Pearson equals 0.97). It can therefore be said that the lack of a PC is an obstacle to the Internet access."*⁷⁰

In Portugal, the ratio of households with a PC was 45 per cent, whereas in UE15 it was 64 per cent. Simultaneously, in households with a PC, broadband penetration that was recorded in Portugal is identical to the EU average: 53 per cent.

It is therefore possible that the lack of a PC justifies the smaller growth in joining Broadband, as seen in Portugal in;

- Below-average human capital level. The lack of interest shown by consumers may possibly be linked with a relatively poorer level of human capital. Statistics on the level of education and of digital literacy should be revealing in connection with this.

⁷⁰ European Commission, "Special Eurobarometer 249: E-Communications Household Survey", July 2006, pp. 41-42.

Adding up to this, Internet penetration is already relatively high within the groups of the population with higher levels of education and in the youngest strata;

- Service's price levels. Some consumers point out price levels as a barrier to joining the service. The international comparisons shown below show that the price level is not substantially higher than in other countries. However, if each country's living standards are taken into account, it is possible that the price levels are indeed a barrier to joining the service.

Actions by ICP-ANACOM, such as the public consultation on the *Naked* ADSL and the reviewing of the wholesale conditions in connection with the service provision, will promote a decrease in the service's overall price;

- Cyclical conditions of a macroeconomic nature. In 2006, real salaries dropped 0.6 per cent. In the last 6 years, the national income growth rate has stood behind that of the EU. The macroeconomic environment might have affected this service's demand.

5.4.4. The service use level. Evolution of the amount of customers and of revenues

Below is described the evolution regarding the service's usage levels, measured in customers, accesses and revenues.

Customers: narrow band/broadband (fixed)

At the end of 2006, there were 1.6 million Fixed Internet Access Service registered customers, 11 per cent more than in the end of 2005.

Table 5-12 – Total amount of customers (cumulated figures)

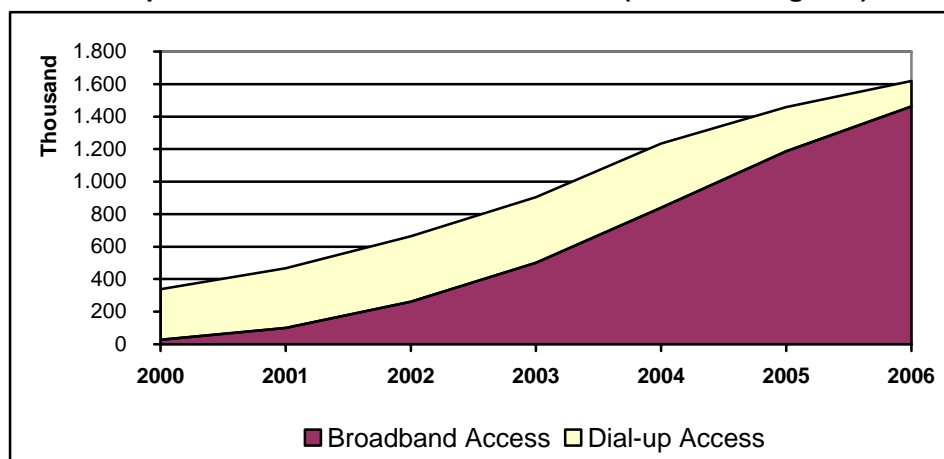
	2005	2006	2005/2006 var. (%)	2000/2006 average yearly var. (%)	2000/2006 cumulated var. (%)
Total customers	1,457,848	1,618,690	11.0%	29.9%	381.0%
Fixed broadband access	1,186,806	1,462,326	23.2%	96.8%	5713.5%
Dial-up access	271,042	156,364	-42.3%	-10.8%	-49.7%

Source: ICP-ANACOM

Unit: 1 customer, %

The trend of migration from narrow band to broadband is maintained. The amount of fixed broadband customers grew 23 per cent in 2006, whereas dial-up access customers decreased by 42 per cent. The ratio of broadband customers in the overall amount of customers reached per cent, 9 per cent more than in 2005.

Graph 5-14 – Internet Access Customers (cumulated figures)

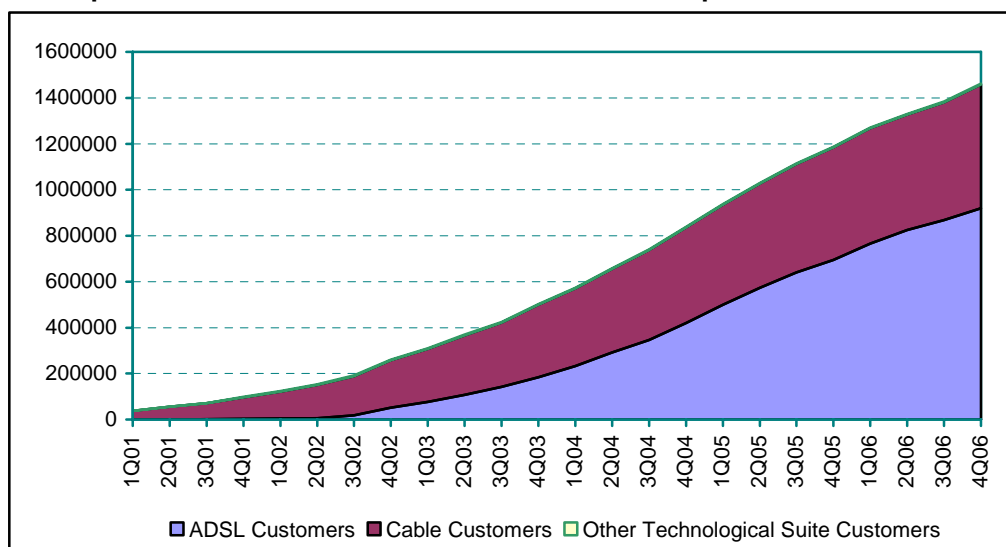


Source: ICP-ANACOM

Fixed Broadband Customers

In spite of its growth (+23 per cent), for the first time the amount of new broadband customers was below that of the previous year. In 2006, there were about 276 thousand new broadband customers, 73 thousand less than in the previous year. This evolution may be explained by the afore-mentioned factors.

Graph 5-15 – Evolution of the amount of customers per broadband access



Source: ICP-ANACOM

Unit: 1 customer

Broadband growth in Portugal was fuelled by ADSL, which, after becoming the prevalent Access technology by the end of 2004, continued reinforcing its stand in 2006. Between the end of 2005 and the end of 2006, four out of every five new broadband customers chose the ADSL access, thus resulting in a yearly growth of about 33 per cent. ADSL's prominence is explained by the broader geographical availability of this type of Access, and for the development of offerings based on the unbundling of the local loop.

Table 5-13 – Amount of customers per fixed broadband access modes

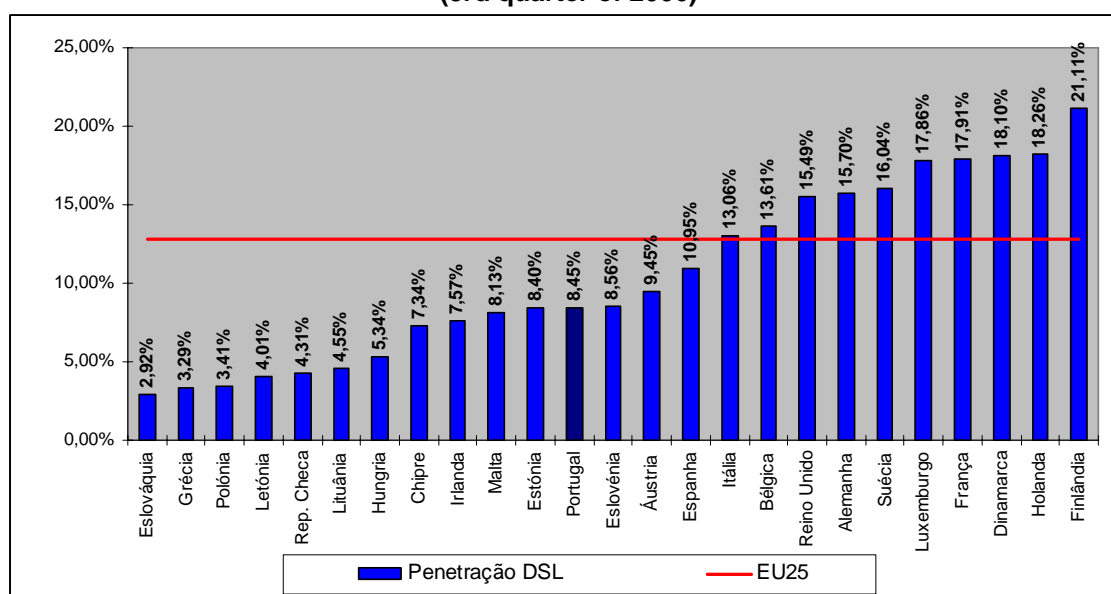
	2005	2006	2005/2006 var. (%)	2001/2006 average yearly var. (%)	2001/2006 cumulated var. (%)
Total Broadband Customers	1,186,806	1,462,326	23.2%	71%	1,370%
ADSL Access	694,164	920,018	32.5%	217%	31,779%
% of overall broadband	58,5%	62,9%			
Cable modem access	489,892	537,552	9.7%	42%	474%
% of overall broadband	41,3%	36,8%			
Other Access Technological Suites	2,750	4,756	73.0%	12%	76%
% of overall broadband	0,2%	0,3%			

Source: ICP-ANACOM

Unit: 1 customer; %

In spite of that evolution, DSL penetration in Portugal is below that of the EU. In September 2006, penetration in Portugal was around 4.4 points below the European average, ranking 14 among the European 25.

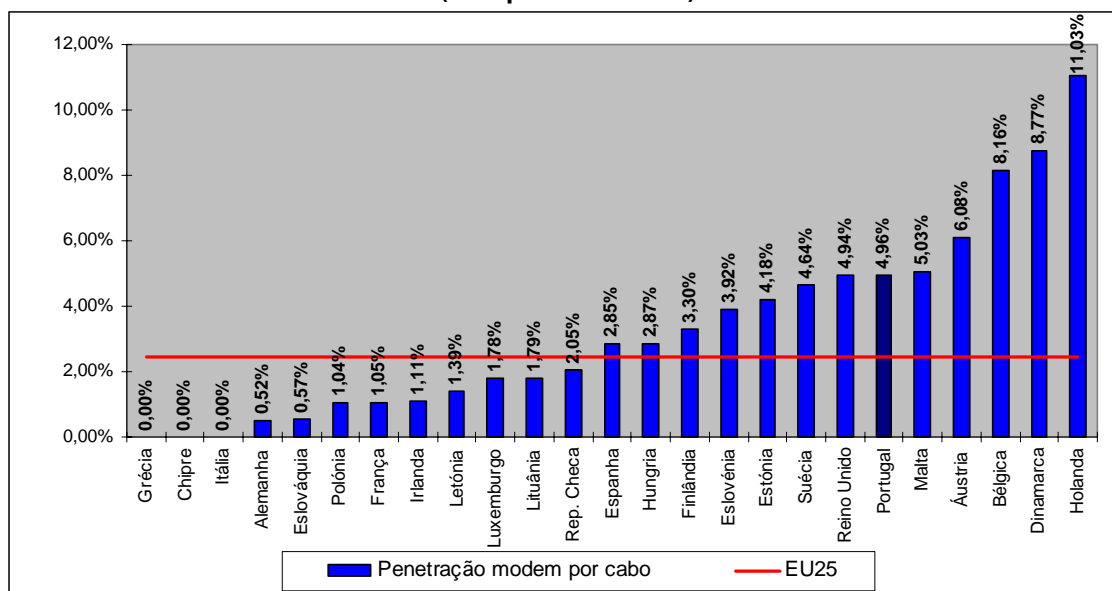
**Graph 5-16 – Amount of DSL broadband accesses per 100 inhabitants in EU25
(3rd quarter of 2006)**



Source: European Commission, 12th Implementation Report.

Internet Access by cable modem had a yearly growth close to 10 per cent. Cable modem access penetration is relatively high in Portugal, standing about 2.5 points above EU's average. Portugal ranks 6th.

**Graph 5-17 – Amount of cable modem accesses per 100 inhabitants in EU25
(3rd quarter of 2006)**



Source: European Commission, 12th Implementation Report.

In spite of its small weight within the overall amount of fixed broadband customers, other access technological suites grew around 72 per cent since the previous year. This growth is mainly explained by the evolution of the offer of Internet Access using the FWA technology.

Service's revenues

In 2006, the service's revenues increased about 8 per cent, fuelled by the broadband modes.

Broadband revenues grew at very high, although declining, rates, during the period now under analysis. ADSL took over cable modem in 2003 and has been behind the increasing revenues for this service.

Table 5-14 – (Fixed) Internet Access Service Revenues

	2005	2006	2005/2006 var. (%)	2001/2006 average yearly var. (%)	2001/2006 cumulated var. (%)
Total	420 748	454 982	8.1%	26.5%	224.0%
Dial-Up Access	47 315	27 767	-41.3%	-19.1%	-65.4%
ADSL Access	200 038	251 098	25.5%	192.2%	21211.6%
Cable Modem Access	126 310	135 377	7.2%	55.1%	796.2%
Other (fixed) Means	41 936	38 229	-8.8%	9.6%	58.0%
Other Revenues	5 149	2 512	-51.2%	-33.8%	-87.3%

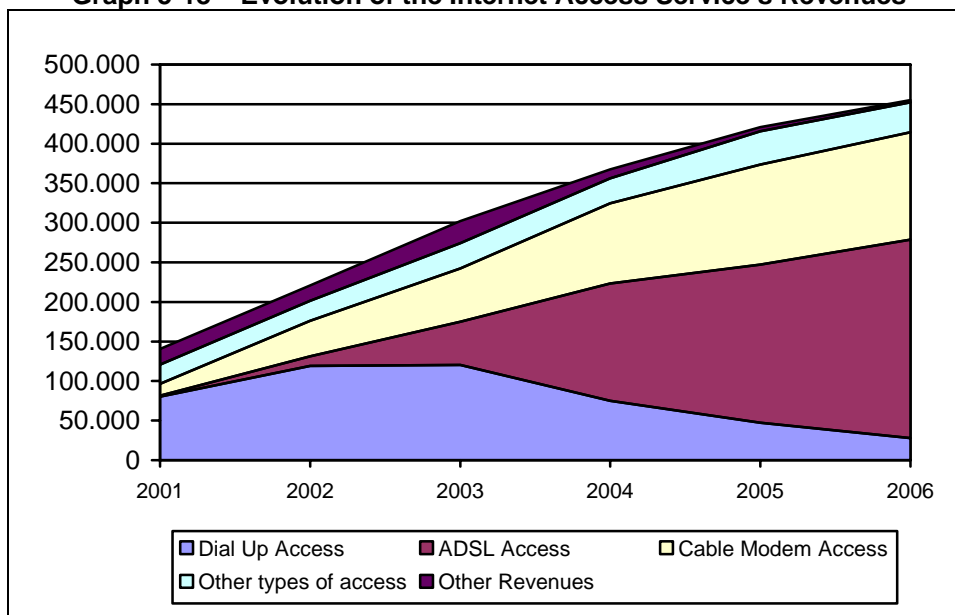
Source: ICP-ANACOM

Unit: Thousand Euros, %

The revenues evolution follows the evolution of the amount of customers.

Dial-up revenues, after a 50 per cent growth for 3 years, in the launching phase of the service, influenced by the service's dissemination and the introduction of free Internet offerings, began to decrease with the migration to broadband.

Graph 5-18 – Evolution of the Internet Access Service's Revenues



Source: ICP-ANACOM

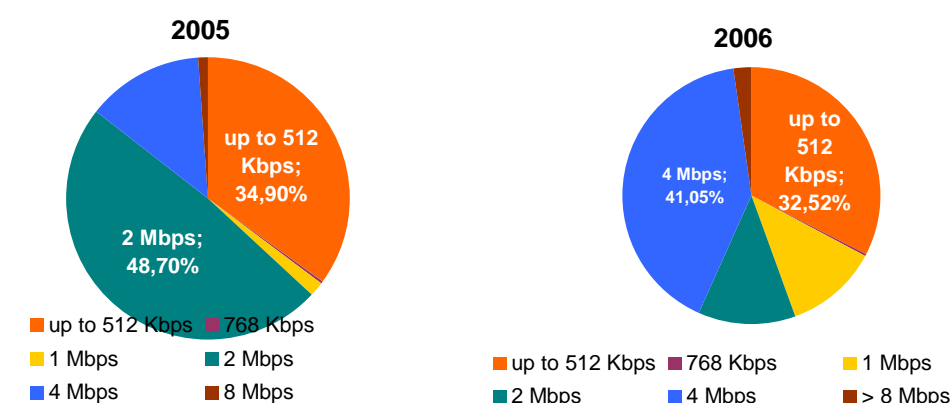
Unit: Thousand Euros

5.4.5. Diversity and innovation in the broadband offerings

During 2006 there was a significant growth in the download throughputs offered by broadband providers.

For example, regarding offerings based on Rede ADSL PT, the 4 Mbps throughput capacity became the mostly used one. In 2005, most accesses had a 2 Mbps throughput capacity.

Graph 5-19 – Evolution of Rede ADSL PT accesses by throughput capacity



Source: ICP-ANACOM

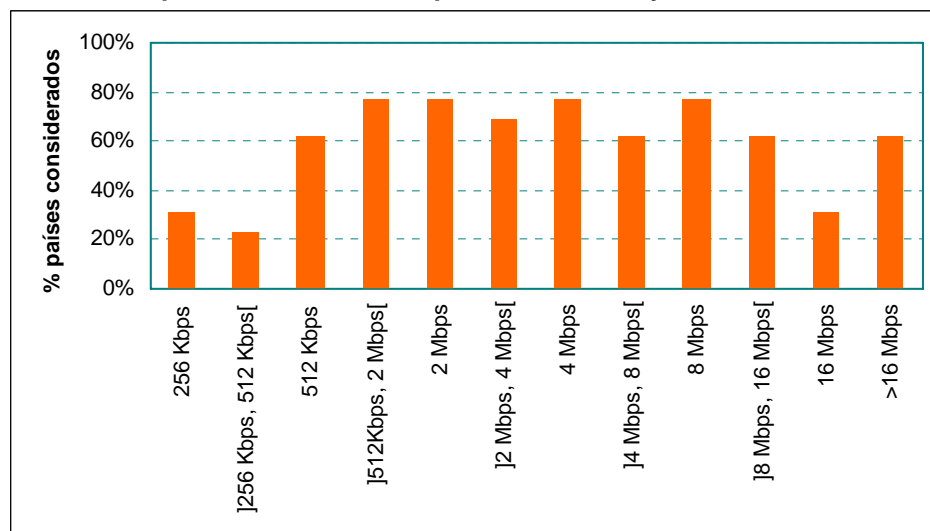
Regarding the remaining features of broadband offerings, and according to the available information⁷¹, Portuguese consumers are considered to have offerings as diversified as those of the remaining EU markets.

In Portugal, as in the remaining countries, there are ADSL-based offerings (LLU and PTC's wholesale offer) and cable modem-based ones. In other countries there are offerings based on fibre optics (Sweden, for example). In Portugal (AR Telecom) and in Ireland there are offerings to the residential market based on FWA. An offering based on Power Line technology in Portugal was also spotted (Onitelecom), which was terminated in the meantime.

⁷¹ Cf. methodological note in footnote ⁷².

Regarding throughputs, download speeds offered in Portugal are similar or above those offered in the analysed countries, in general. Currently, the main broadband offerings in Portugal are already above the average for the remaining countries.

Graph 5-20 – Download speeds in the analysed countries



Source: ICP-ANACOM

Regarding the applying tariff schemes, there are in Portugal, as in the remaining countries, bundled offerings (TV, FTS, terminal equipment, PC, etc...). Timed and not timed offerings were also identified, which are also relatively common-place in the analysed countries.

The tariff items of this service were also verified to be similar to those in other countries, including namely the activation price, installation fee and equipment prices (e.g. modems), flat-rate monthly fees (access + traffic), prices per minute (in the case with timed offerings), and prices fro traffic exceeding the defined limits. Offerings including e-mail and space for the lodging of Web pages are also common-place. In many cases, ISPs impose minimum 12-month contracts

A positive relation between prices and download and upload speeds should be pointed out.

On the other hand, promotional offerings with null joining/activation/installation prices, reduced monthly fees, or null in the first months after joining the service, offer of terminal equipment, offer of content, etc., is also common-place.

The following kinds of tariff discrimination should also be mentioned: residential/non-residential; students/non-students.

Regarding traffic limits, all of the analysed countries have offerings with traffic limits. In countries such as Austria, Belgium, Ireland, Luxembourg and Portugal, offerings with traffic limits are majority, among all the available ones. It should also be pointed out a significant amount of offerings for which it was not possible to verify whether they have traffic limits or not.

Traffic limits are of three kinds: (1) Traffic in MB (total; peak periods; *download/upload*); (2) Traffic in hours; (3) “fair use policy” (not-defined/disclosed limits).

Portugal is the single country, among those analysed, with offerings, namely by the incumbent operator, discriminating traffic limits by origin (national/international).

When traffic limits are exceeded, the following situations were identified: (1) certain amounts per traffic unit or per time period are charged; (2) the offering’s data throughputs are decreased to the stage below or to levels similar to narrow band; (3) the user is invited to join a different offering. (In some cases, ISPs have optional tariff schemes available, giving users the chance to purchase additional blocks of traffic.)

In Portugal, when traffic limits are exceeded, operators charge given amounts per additional MB.

5.4.6. Broadband Internet Access Service's price level

Regarding broadband price level, and according to the collected information, the following conclusions were drawn⁷²:

- The minimum broadband price in Portugal is 3.6 per cent below the average of the analysed countries, and ranks 5th among them. On the other hand, the incumbent operator's minimum price is the 2nd lowest among the incumbent operators of the 13 analysed countries.

Table 5-15 – Minimum broadband monthly fee – November 2006

Country	Minimum Price		Minimum Price – Incumb. Operator	
	Price	Rank	Price	Rank
Germany	16.33	10	23.22	10
Austria	15.75	8	16.58	3
Belgium	12.36	2	24.75	12
Denmark	17.06	12	17.06	5
Spain	15.90	9	29.90	13
France	16.64	11	23.33	11
Holland	12.56	4	12.56	1
Ireland	14.87	7	20.65	7
Italy	12.42	3	16.63	4
Luxembourg	19.13	13	22.61	8
Portugal	14.46	5	15.28	2
United Kingdom	12.27	1	22.64	9
Sweden	14.83	6	17.57	6
Total/Average Portugal excl.	15.01		20.63	
Portugal's % deviation from average	-3.6%		-25.9%	

Source: ICP-ANACOM

Unit: Euros VAT excl.

- From comparing the minimum broadband prices per download throughput in Portugal with the price average in the remaining analysed countries, it was clear

⁷² Methodology: sample made up of 334 offerings by 76 ISPs in an analysis of 13 EU15 countries. This analysis did not include Greece, due to the poor implementation of the service in this country, and Finland, due to difficulties in collecting data. For each of the analysed countries, the ISPs standing for at least 70-80 per cent of the market were identified. This was made further to consultation of documents of the European Commission, national regulators' sites, reports and accounts of some operators and press articles. In some cases, the ISPs' market shares were impossible to determine and Internet search engines were then used. The data collection procedure was made in October 2005. All items of the selected offerings were collected. However, it was assumed that the decision to join broadband would be incremental (i.e. the cable modem broadband subscriber already has CATV, the ADSL broadband subscriber already is a FTS customer, etc.), and that the new subscriber would pick the options that would lower its monthly fee (i.e. if there are discounts for payment by wire transfer, the subscriber would chose to pay by wire transfer. During the result reckoning procedure, offerings with downstream throughputs below 256 kbps and timed offerings were excluded. It should be mentioned that the presented results regard only the monthly subscription (non-promotional figures). Besides discounts and promotions, the survey did not also take into account the following: installation and subscription prices; equipment prices (not included in the offering), traffic limits; upstream throughput, number of mailboxes, space for mailbox, space for own site, software offers, equipment offers (e.g. MP3 player); offer of multimedia applications; training courses; offers linked to PC sales.

that prices in Portugal are below the average, namely in the cases with the most common-place access throughputs, as shown on the following table. Regarding 8 Mbps offerings, the price in Portugal ranks 6th within the analysed countries, 17.9 per cent below average. It should be pointed out that the considered minimum prices, for Portugal, for maximum throughput offerings up to 8 Mbps, regard cable modem access offerings. Regarding the remaining throughputs, the considered offerings are an ADSL offering based on an unbundled local loop. It should also be mentioned that the relatively low amount of offerings with throughputs equal or above 24 Mbps and these offerings' price dispersion do not permit safe conclusions on the price level practiced in Portugal.

**Table 5-16 – Minimum broadband price per access throughput
– November 2006**

Country	2 Mbps		4 Mbps		8 Mbps		20 Mbps	
Germany	21.54	10	24.95	9	25.85	8	-	
Austria	24.92	11	40.00	11	57.50	11	-	
Belgium	20.45	8	20.45	7	28.84	9	28.84	4
Denmark	21.35	9	49.25	12	69.42	12	92.17	8
Spain	35.00	13	35.00	10	36.00	10	36.00	7
France	16.64	6	16.64	5	16.64	3	16.64	1
Holland	12.56	2	12.56	2	20.13	4	20.13	2
Ireland	14.87	5	14.87	3	14.87	2	-	
Italy	14.08	3	16.63	4	24.96	7	30.79	6
Luxembourg	32.87	12	-		-		-	
Portugal	14.46	4	22.73	8	24.38	6	28.84	4
United Kingdom	12.27	1	12.27	1	12.27	1	-	
Sweden	17.57	7	19.24	6	20.22	5	21.98	3
Average Portugal excl.	20.34		23.80		29.70		35.22	
Portugal's deviation from average %	-28.9%		-4.5%		-17.9%		-18.1%	

Source: ICP-ANACOM

Unit: Euros VAT excl.

- If, instead of the minimum price, the simple average of the minimum prices of the several ISPs for the different throughputs is considered, it can be seen that Portugal has slightly improved its rank regarding the several throughputs.

**Table 5-17 – Average of the minimum broadband prices per access speed
– November 2006**

Country	2 Mbps		4 Mbps		8 Mbps		20 Mbps	
Germany	25.83	7	25.78	4	-		-	
Austria	31.17	9	40.83	9	57.50	9	-	
Belgium	-		27.21	5	42.98	7	-	
Denmark	29.22	8	51.82	10	77.58	10	-	
Spain	-		37.00	8	39.07	6	-	
France	-		-		27.51	4	25.00	1
Holland	18.21	2	22.23	3	45.78	8	-	
Ireland	22.72	4	-		14.87	1	-	
Italy	15.35	1	20.17	2	-		-	
Luxembourg	38.98	10	-		-		-	
Portugal	19.96	3	27.83	6	32.62	5	41.15	3
United Kingdom	24.66	6	31.46	7	22.60	2	-	
Sweden	23.57	5	19.24	1	26.53	3	30.50	2
Average Portugal excl.	25.52		30.64		39.38		27.75	
Portugal's deviation from average %	-21.8%		-9.2%		-17.2%		48.3%	

Source: ICP-ANACOM

Unit: Euros VAT excl.

- Considering the importance, in terms of market share, of the incumbent operators, below is the comparison of the prices of the incumbent operators of each country. The table below shows that the monthly fee of the offerings with a maximum throughput of at least 256 Kbps, 1 Mbps and 8 Mbps by the Portuguese incumbent operator is, respectively, 25.9 per cent, 12.6 per cent and 21.9 per cent below the monthly fee of the considered countries' incumbent operators. Regarding the 2 Mbps offering, it is 6.6 per cent above average. On the other hand, among the considered incumbent operators, only the Danish operator (in offerings with a maximum 256 Kbps throughput) and the Dutch one (in offerings with maximum 2 Mbps throughputs) have offerings that are the lowest in their countries.

**Table 5-18 – Average of the minimum broadband prices per incumbent operator's access speed
– November 2006**

Country	256 Kbps		1 Mbps		2 Mbps		4 Mbps		8 Mbps	
Germany	23.22	10	23.22	7	34.47	11	34.47	8	38.78	6
Austria	16.58	3	24.92	9	24.92	5	-		-	
Belgium	24.75	12	33.02	13	33.02	9	33.02	7	49.55	8
Denmark	17.06	5	27.79	11	34.23	10	+		+	
Spain	29.90	13	29.90	12	39.07	13	39.07	9	39.07	7
France	23.33	11	23.33	8	27.51	7	27.51	3	27.51	2
Holland	12.56	1	12.56	1	12.56	1	16.76	1	62.98	9
Ireland	20.65	7	20.65	3	24.79	4	-		-	
Italy	16.63	4	16.63	2	16.63	2	30.79	6	30.79	5
Luxembourg	22.61	8	22.61	5	34.87	12	-		-	
Portugal	15.28	2	20.65	3	29.40	8	29.40	4	29.40	3
United Kingdom	22.64	9	22.64	6	22.64	3	22.64	2	22.64	1
Sweden	17.57	6	26.39	10	26.39	6	29.93	5	29.93	4
Average Portugal excl.	20.63		23.64		27.59		29.27		37.66	
Portugal's deviation from average %	-25.9%		-12.6%		6.6%		0.5%		-21.9%	

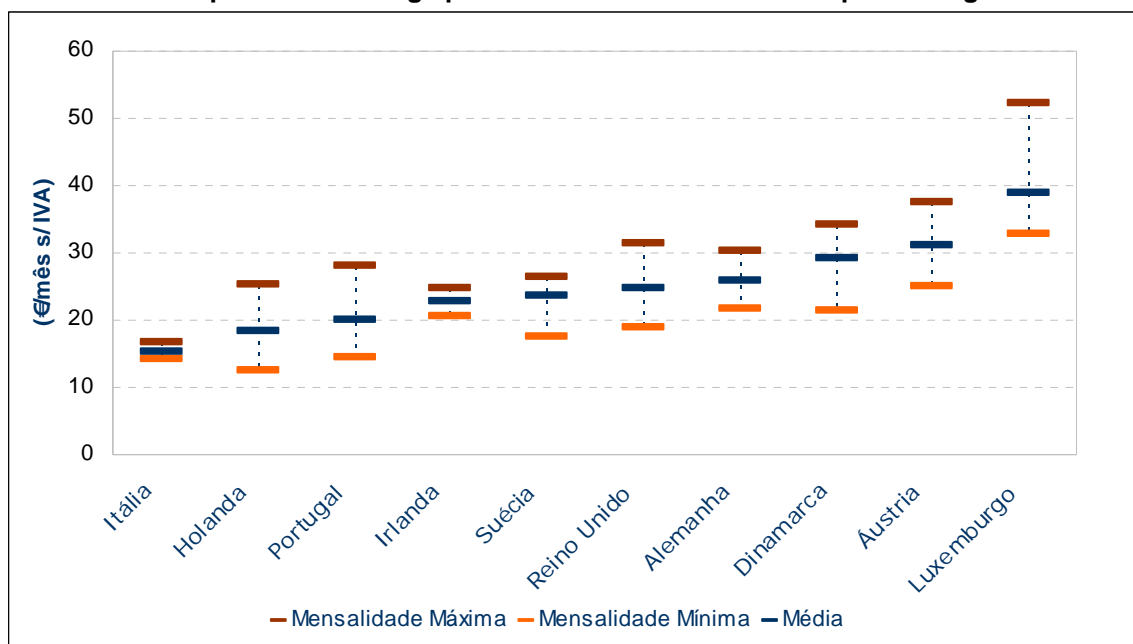
"+" – Offers which prices are exceedingly high.

Source: ICP-ANACOM

Unit: Euros VAT excl.

- The minimum 2 Mbps price in Portugal is the forth lowest one among the analysed countries. It is a CATV operator's offering. In Portugal, most 2 Mbps offerings by the alternative operators are priced between 14.5 Euros (plus VAT) and 28 Euros (plus VAT). There are, however, offerings with maximum throughputs above that with monthly rates below those figures.

Graph 5-21 – Average price variation interval for 2 Mbps offerings

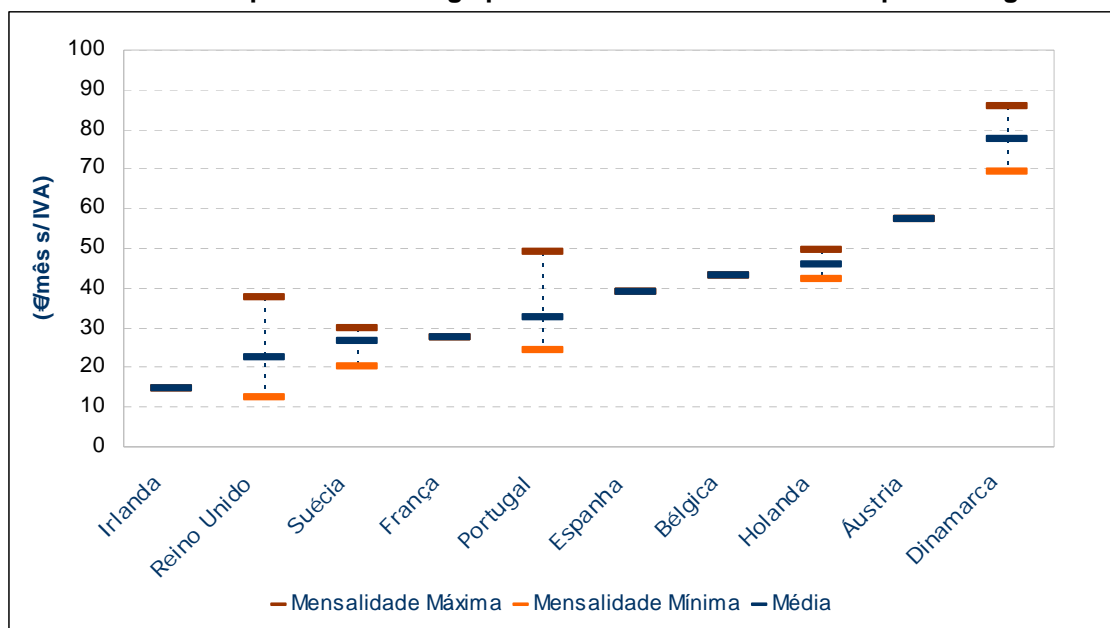


Source: ICP-ANACOM

- The minimum 8 Mbps offerings' price in Portugal is the fourth lowest one among the analysed countries. It is a CATV operator's offering. In Portugal, most 8 Mbps offerings by the alternative operators are priced between 24.4 Euros (plus VAT) and 30 Euros (plus VAT). If we take into account the variation interval⁷³ and the average 8 Mbps price offerings in the considered countries, we can conclude that prices in Portugal are not above the European average figures.

⁷³ The shown variation interval does not take into account all prices in force in one country for each throughput class – only those of each ISP which are more competitive in a given country. More expensive offerings including extras (e.g. upload speeds or higher traffic limits), which could bias the results, are thus excluded.

Graph 5-22 – Average price variation interval for 8 Mbps offerings



Source: ICP-ANACOM

5.4.7. Evaluation by consumers

According to the results of the Survey on the Use of Broadband⁶⁴, consumers' perception of the quality of the broadband services is positive, generally speaking. Only 6.5 per cent of the inquired people consider that the provided service is below their expectations.

Table 5-19 – Evaluation of the service vis-à-vis the broadband consumers' expectations⁷⁴

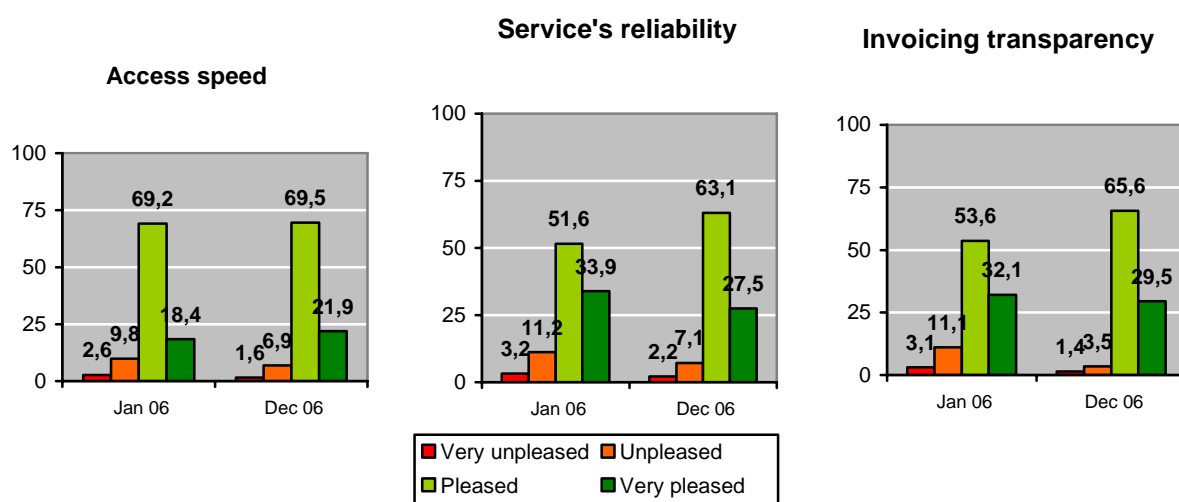
	Dec-06
Much better than hoped-for	1.0%
Better than hoped-for	18.4%
Same as hoped-for	74.0%
Worse than hoped-for	6.1%
Much worse than hoped-for	0.5%
Total	100.0%

Source: ICP-ANACOM, Survey on the Use of Broadband – 2006.

⁷⁴ Question to the inquired person: "Given your expectations towards the broadband Internet service, do you believe it to be...?"

If we analyse, particularly, some of the service's features, we can see that, in December 2006, the levels of satisfaction towards throughput, the service's reliability and the invoicing transparency are quite high, with figures above 90 per cent. On the other hand, it should be pointed out that, between January and December 2006, the levels of satisfaction towards those features have increased.

Graph 5-23 – Satisfaction of broadband Internet access consumers (%)



Basis: Inquired people with broadband Internet
Source: ICP-ANACOM, Survey on the Use of Broadband

Regarding complaints, about 21 per cent of the inquired people said that they had submitted complaints to their provider. Of these, 30.6 per cent claimed to be displeased or very displeased with the way their complaint had been handled. It is worth pointing out that this figure, albeit high, is 13 per cent below that of the previous year.

Table 5-20 – Evaluation of complaint handling⁷⁵ (%)

	Jan-06	Dec-06
Very pleased	17.5	17.6
Pleased	39.0	51.8
Unpleased	25.7	21.5
Very unpleased	17.9	9.1
Total	100.0	100.0

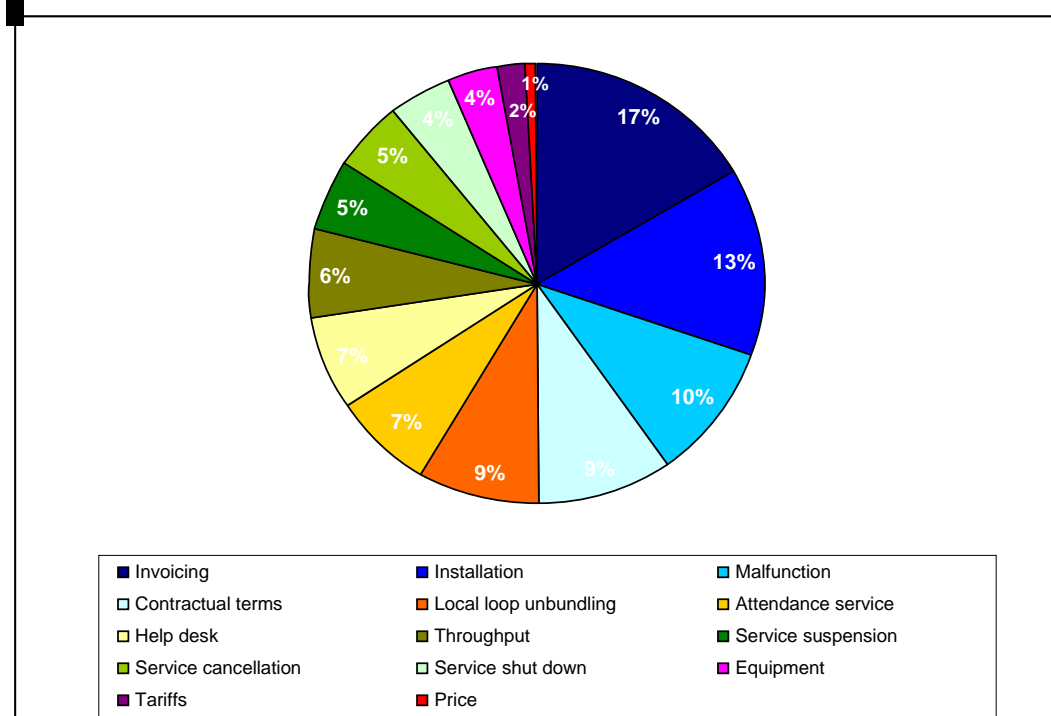
Source: ICP-ANACOM, Survey on the Use of Broadband in Portugal

⁷⁵ Question to the inquired person: "How pleased were you with the way your complaint was handled?"

ICP-ANACOM's UM-TSM (Mission Unit for Handling Market Requests) received, during 2006, 3,956 complaints regarding the Internet Access Service and its providers.

Most of those requests regard invoicing (17 per cent) and the installation procedure (13 per cent). Figures regarding malfunctions (10 per cent), contractual terms (9 per cent) and issues in connection with the unbundling of the local loop (9 per cent) also stand for a high proportion of the submitted complaints.

Graph 5-24 – Distribution of complaints received at ICP-ANACOM – 2006



Source: ICP-ANACOM

5.4.8. Evolution of the offer's structure

In 2006, the customer share of Group PT was 71.5 per cent, about 7 per cent less than at the end of the previous year. This was the second year in a row with Group PT's market share drops.

Table 5-21 – Group PT's broadband customer market shares

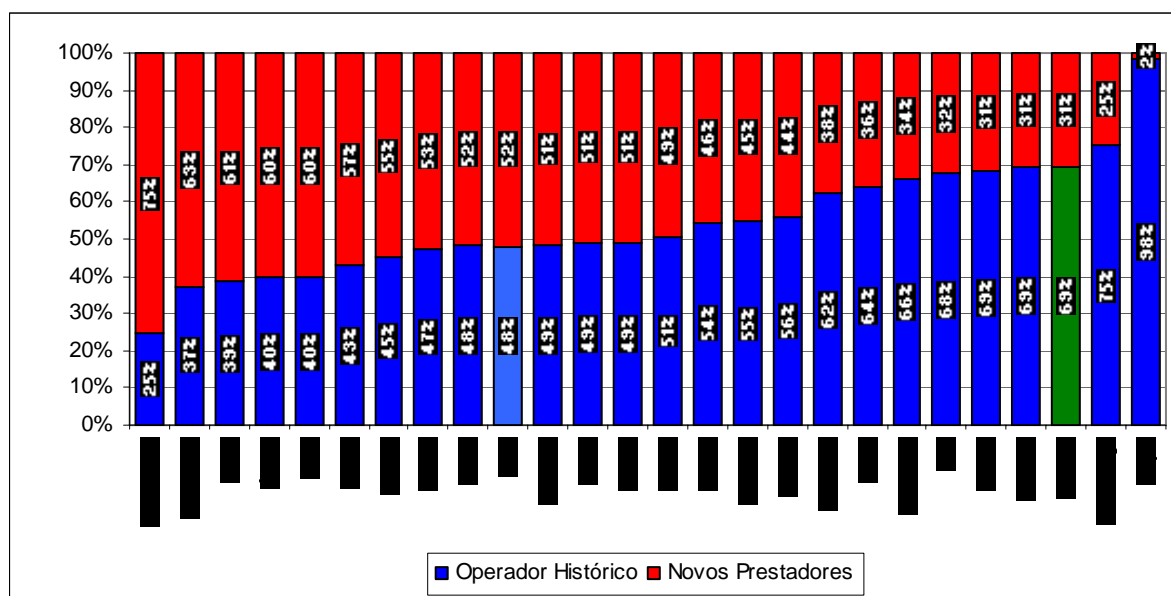
	2000	2001	2002	2003	2004	2005	2006
Total customers	74.6%	66.0%	71.1%	78.5%	82.3%	78.6%	71.5%
ADSL access customers	n.a.	92.1%	83.9%	87.2%	91.1%	84.3%	74.6%
Cable modem Access customers	74.6%	66.1%	68.4%	73.8%	73.6%	70.8%	66.7%
Other access technological suites customers	n.a.	34.9%	40.7%	41.0%	44.9%	45.3%	22.0%

Source ICP-ANACOM

Mention should be made to the fact that the incumbent operator's share in Portugal (69 per cent) is above the European average (48 per cent). That can be explained by the fact that Portugal is the only EU country in which the incumbent operator owns the main cable distribution network, a technology that still stands for over 37 per cent of the service's customers.

However, the deviation of Group PT's share from the average of the EU's incumbent operators has been reduced in about 7 per cent.

Graph 5-25 – Share of broadband Internet Access Service's accesses in EU25 in the 3rd quarter of 2006

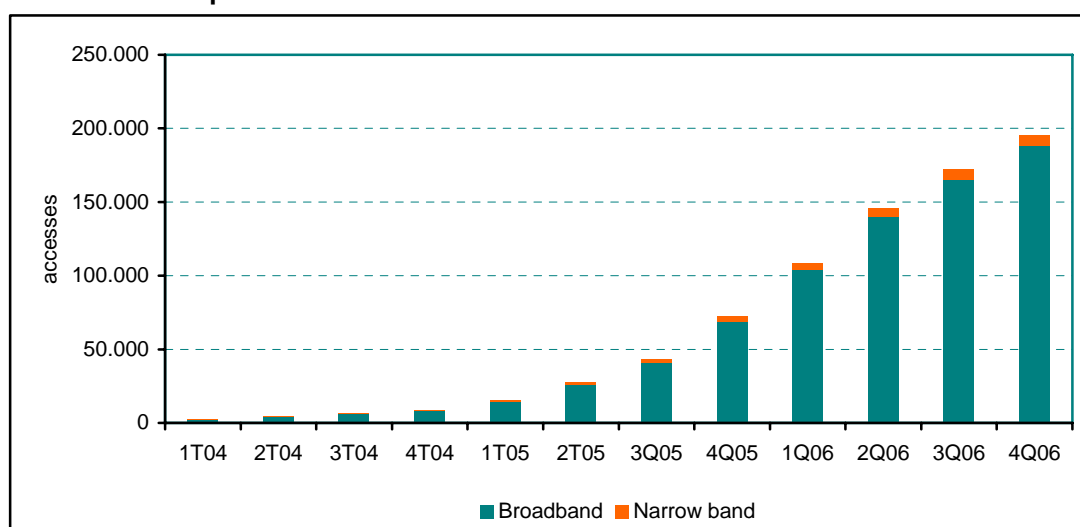


Source: European Commission, 12th Implementation Report.

The evolution of Group PT's share has not been homogeneous in time. On a first stage, broadband was supplied by cable modem and, at that time, Cabovisão and TV Cabo were the main operators. After the launch of the ADSL, Group PT took an even more significant lead. Group PT's customer share increased about 16 per cent between 2001 and 2004.

In 2005, that trend was reverted, as a result of ICP-ANACOM's action regarding the wholesale Internet access offers, namely the LLU. In 2005, 72 thousand loops were unbundled and in 2006 the amount of new unbundlings was 124 thousand. By the end of that year, the cumulated amount of unbundled loops was 196 thousand (of which over 188 thousand were broadband ones – about 20 of all ADSL accesses). Through this means, the new operators have directly reached the customers' households and developed more competitive voice and broadband offerings.

Graph 5-26 – Evolution of the amount of unbundled accesses



Source: ICP-ANACOM

Simultaneously, the increasing coverage of the Rede ADSL PT wholesale offer (bit stream access) has contributed, among other factors, to a strong increase in broadband penetration and to the launch of new, higher throughput offerings.

The companies that drew more benefits from the recent decrease in Group PT's share were ONI and Novis, which, by using the above-mentioned wholesale offers,

substantially increased their customer shares. However, the main alternative provider is Cabovisão.

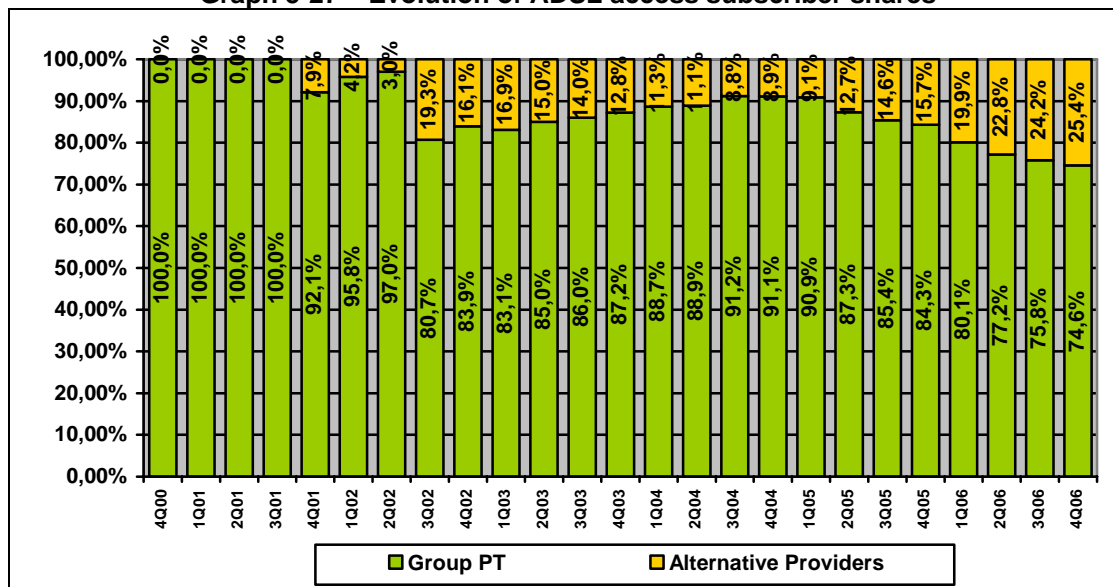
Table 5-22 – Evolution of broadband access customer shares

Service Providers	2005	2006
Group PT	78.6%	71.5%
PT.COM	47.3%	44.0%
CATV – TV Cabo	27.7%	23.2%
PT Prime	2.1%	2.8%
CaboTV Madeirense	1.5%	1.4%
PT WI-FI	0.0%	0.1%
Alternative providers	21.4%	28.5%
Cabovisão	10.5%	10.1%
Novis	5.0%	9.0%
Onitelecom	3.4%	6.0%
Other alternative Providers	2.5%	3.4%

Source: ICP-ANACOM

If we analyse market shares per Access technology, we will see that, in spite of the alternative operators' growth when it comes to ADSL, Group PT's customer share for this Access technology – 74.6 per cent – is still above the overall average.

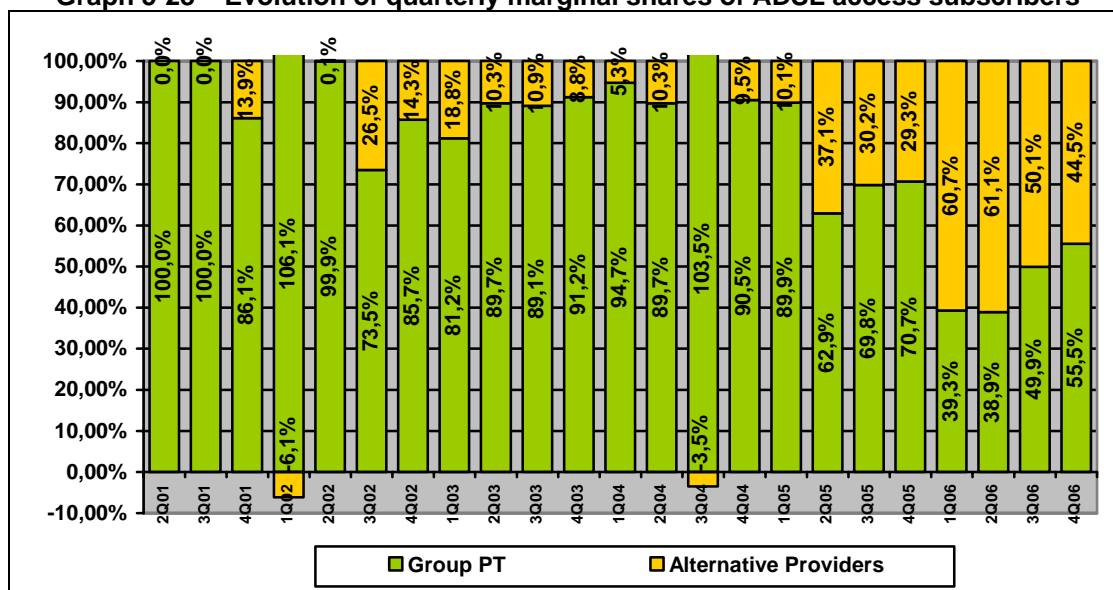
Graph 5-27 – Evolution of ADSL access subscriber shares



Source: ICP-ANACOM

The competitive situation of companies using this access technology has however been through quick changes since early 2005. In this period of time, Group PT's share dropped 16 per cent and, during 2006, about 55 per cent of the new customers picked the alternative operators' services.

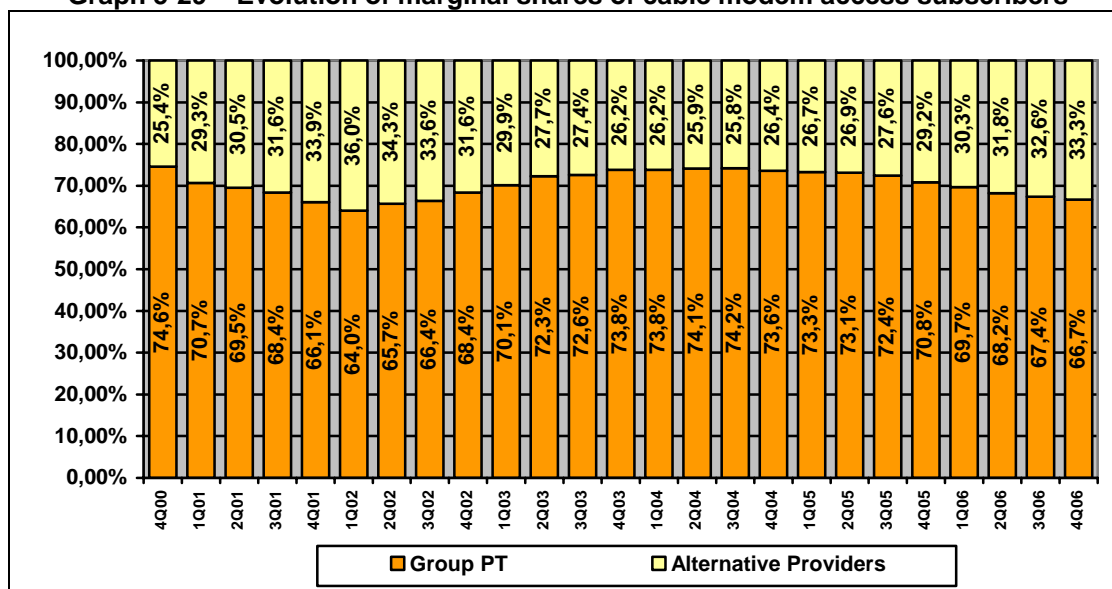
Graph 5-28 – Evolution of quarterly marginal shares of ADSL access subscribers



Source: ICP-ANACOM

Regarding cable modem Access, in 2006 the share of the alternative operators was 33.3 per cent, 4.1 per cent more than in 2005.

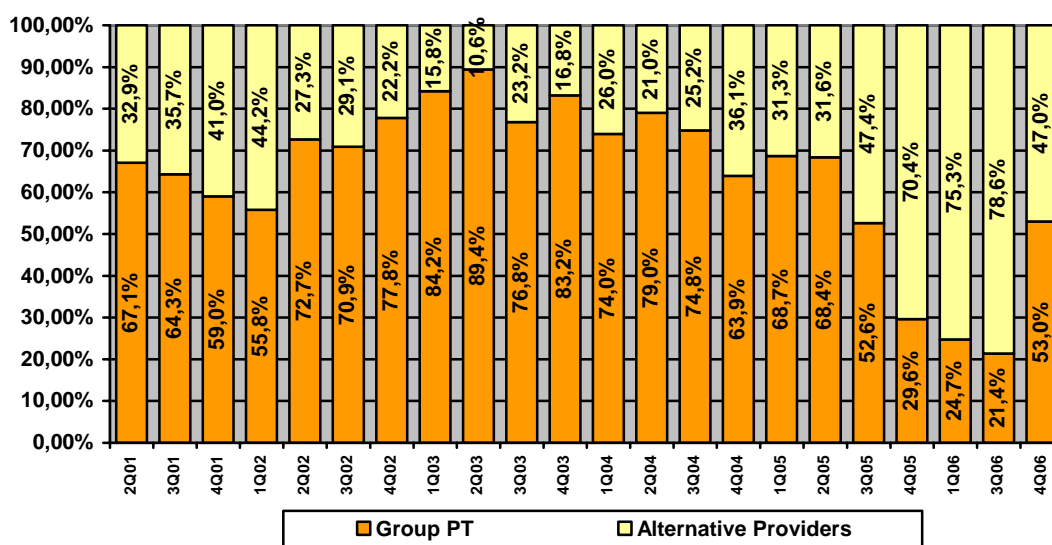
Graph 5-29 – Evolution of marginal shares of cable modem access subscribers



Source: ICP-ANACOM

About 3 out of every 4 new customers using this technology picked an alternative operator in 2006, Cabovisão and TVTel standing out.

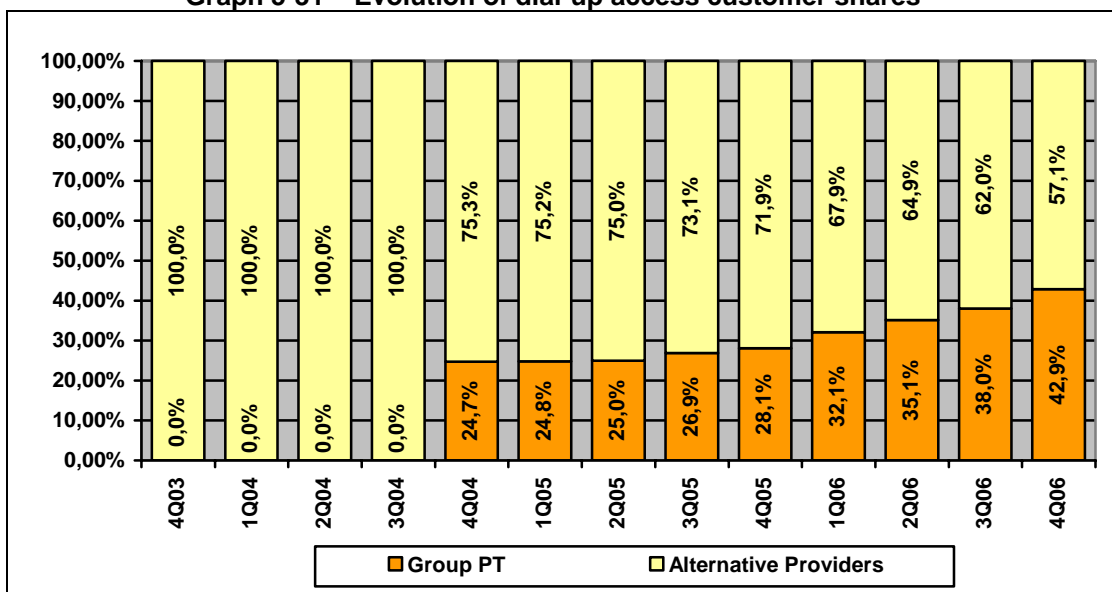
Graph 5-30 – Evolution of quarterly marginal shares of cable modem access subscribers



Source: ICP-ANACOM

Lastly, it is worth mentioning that, regarding dial-up, Group PT's share was 43 per cent by the end of 2006, 15 per cent more than in 2005. This increase in its share mostly reflects the fast decrease in the amount of customers using this type of access and the operators' stake on business models based on the LLU.

Graph 5-31 – Evolution of dial-up access customer shares



Source: ICP-ANACOM

Chapter 6 – Television Distribution Service

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6. Television distribution service

This chapter presents the state of the cable TV distribution service (CDS), via satellite (DTH – Direct to Home) and IPTV (Internet protocol television) at the end of 2006. It describes, namely, this service's offer, its usage and user profile, and the evolution occurred during that year.

The Mobile TV service is presented in the chapter concerning mobile services.

6.1. Main evolution items in 2006

- In 2006, the sum new cabled households per operator reached 252 thousand, a figure above the average recorder in the 200-2006 period. The corresponding growth rate reached 6.7 per cent.

Simultaneously, Novis' and AR Telecom's television and video signal distribution services, launched at the end of 2005, entered the market in 2006. These are integrating triple play offers. Novis' offer (Smartv) is based on IPTV, while AR Telecom's offer is based on DVB-T (digital video broadcast - terrestrial). This first service is provided over the public telephone network and the second one, using FWA.

On the other hand, Mobile Telephone Service operators launched the Mobile TV service. (This service's evolution is treated on the chapter concerning the MTS).

The geographical availability of the television distribution service was thus enlarged, and competition in the provision of these services is expected to increase.

- In 2006, the penetration rate of cable television subscribers, in percentage of households, was set on 26 per cent. According to the available data, and taking the

considered countries into account, cable TV penetration in Portugal stands at the middle of the European ranking.

At the end of 2006, there were more than 1.4 million CDS subscribers, 20 thousand more than a year before, which corresponds to a 1.4 per cent growth rate.

The decrease in the growth rate of the number of customers, which happened after 2002 and had a general impact on all regions, may be due to this service's entry into a maturity stage. During the mentioned period, factors such as the development of ADSL as a broadband Internet access means alternative to cable modem, the development of DTH, and the economic state may have influenced this evolution.

The considerable growths recorded in the autonomous regions of the Azores (9.4 per cent) and Madeira (3.5 per cent) were directly influenced by the protocols signed between the General Government, The Regional Governments, ICP-ANACOM and the only television distribution network operator currently operating in each of the autonomous regions.

- Grupo PT's CDS subscriber share reached 75.2 per cent in 2006, 3 per cent less than a year before.
- In 2006, the amount of subscribers to the satellite television distribution service (DTH) reached about 436 thousand, 10.4 per cent more than in 2005. DTH grew more than the cable networks and its geographical distribution partly complements cable distribution services. This service was a low-cost alternative to the installation of cable networks.

According to the most recent data, Portugal was classified in the middle of the European satellite television service penetration ranking, with a 12 per cent penetration.

- As mentioned previously, new distribution services supported on IPTV and DVB-T emerged by the end of 2005. These services' penetration is still very low.

6.2. Television distribution service's offer

The activity of the TV distribution operators is the transmission and re-transmission of data, namely comprising the distribution of television and audio broadcastings, their own or from third parties, codified or not, as well as the provision of addressed services and of data transmission.

Regarding the previous years, there were no changes to the full access regime that characterizes the access to and operation of this activity.

Bellow is a description of the services provided and the entities offering these services in Portugal.

6.2.1. CDS

In general, cable distribution network operators provide similar television services:

- Basic service – package with an average of 50 channels, including the four national open channels, generalist channels, entertainment, information, documentary, movies, for children, history, music, health channels, etc. This service implies the payment of an installation price and a monthly fee. Some operators provide packages with a lower number of channels, named “mini-basic” or “selection”, at lower prices.
- Premium or supplementary service – service that offers conditioned access channels and that are subject to the payment of an additional amount, such as Sport TV, movie channels, and Disney Channel among others. Most operators sell channel packages (e.g.: Sport TV + Disney Channel) at lower prices.

- Services offered in areas covered by digital head-ends, further to the installation of a power box, such as:
 - Near video-on-demand – possibility of watching movies on demand, by user request, at given schedules;
 - TV Guide or EPG (electronic program guide);
 - Interactive programming and multi-cam football – access to interactive channels and programmes.

In May 2005, Grupo PT companies started to replace analogue TV boxes by powerbox digital decodifiers, with their Premium customers. This process had a second stage in September 2005, when started to replace the cards for access to the satellite television distribution services (DTH). This equipment replacement process ended in 2006, after the advertisement that the first semester of 2007 would witness the launch of a new High-Definition powerbox, with new voice features, wireless and the personal video recorder (PVR).

It should also be mentioned that TV Cabo Portugal (CATVP), in a partnership with Microsoft, launched the so-called Interactive Digital Television in June 2001. Further to the installation of a smart box – a digital terminal developed by Octal – customers had the possibility of accessing interactive digital services, similar to those currently available through the Digital TV service, and also access to the Internet service named web TV service. The smart box thus included an Internet card, enabling the provision of this service, although with some limitations: even though it allowed web browsing, it was not possible to access e-mail addresses or make downloads. The end of this offer was announced by CATVP in March 2004. To those that were already customers, CATVP announced that the ending of the service would happen on 1 July 2004.

6.2.2. Other TV distribution service access platforms

Besides cable technology, television reaches consumers through the following platforms:

- Analogue radio-relay television – television broadcasting in Portugal was initially made using this platform. Currently consumers have access to the four open-air signal channels, without further payments, through the two existing networks: Grupo PT's, mostly supporting broadcasting from RTP and SIC, and RETI, belonging to TVI;
- Satellite television (DTH) – operators have been providing, since 1998, a satellite service alternative to cable, for non-cabled areas. In order to have this service, the customer needs a satellite dish, a receiver/decoder and an access card. This offer enlarged the geographical coverage of paid television services, while the corresponding amount of subscribers has been growing considerably. Currently, the offer for television is identical to cable's. However, interactivity, and thus the Internet service, is not possible.

Considering that this offer is part of the cable TV network operator's portfolio and that it complements this service's offer geographically, this chapter also presents the evolution of DTH.

- IPTV and DVB-T – At the end of 2005, two new television distribution services were launched: SmarTV by Novis (Clix), and TV.NET.TEL by AR Telecom. While the first one is an IPTV offer, the service provided by AR Telecom uses a special technology called Tmax. Tmax is a digital, wireless technology with a high transmission capacity supported on the DVB-T telecommunications standard and on the IP standard. Albeit using different technologies from those used by cable television network operators, these services have similar characteristics to cable television.

It should be mentioned that in June 2007, Grupo PT launched an IPTV commercial offer, only available in specific geographic zones of Lisbon, Porto and Castelo Branco.

Regardless of the relevant market definition that may be done in other scopes, the similarities between these services and the cable TV distribution services justifies the presentation of these services' evolution in this chapter;

- Lastly, one should mention the launch of television distribution offers based on 3G and 3,5G mobile services and on the DVB-H (Digital Video Broadcasting – Handheld) standard. The DVB-H standard is based on DVB-T, and enables the use of interactive services and the access to on demand programmes. The evolution of this type of mobile television offers is analyzed on this report's chapter concerning mobile services.



6.2.3. Active operators

Following we present the list of CDS providers, signalling those that were active by the end of 2006.

Table 6-1 – CDS providers – 2006

Name	
Associação de Moradores do Litoral de Almancil [*]	A
Associação de Moradores da Urbanização Quinta da Boavista [*]	A
Bragatel — Comp. Televisão por Cabo de Braga, S.A.	A
Cabo TV Açoreana, S.A.	A
Cabo TV Madeirense, S.A.	A
Cabovisão — Sociedade de Televisão por Cabo, S.A.	A
CATVP — TV Cabo Portugal, S.A. ⁷⁶	A
Entrónica – Serviços na Área de Telecomunicações, Lda.	A
Pluricanal Leiria — Televisão por Cabo, S.A.	A
Pluricanal Santarém — Televisão por Cabo, S.A.	A
TVTel Grande Porto — Comunicações S.A.	A
Total active	11
Total non active	0
Total	11

Source: ICP-ANACOM

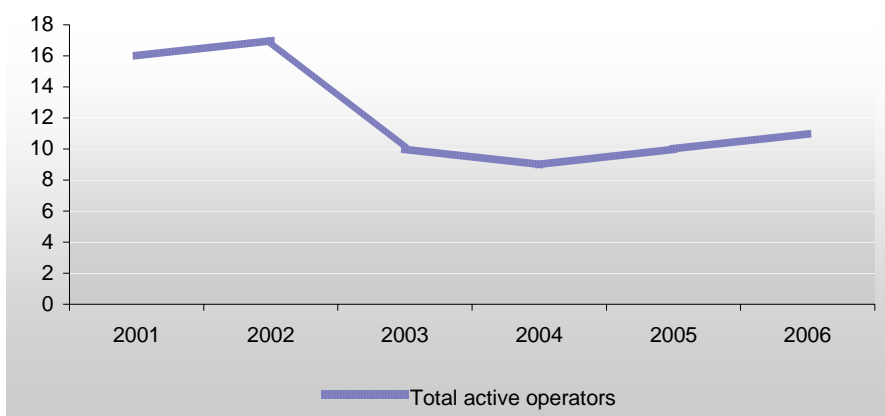
Legend: A – Active; NA – Not Active

^{*} Cable distribution networks not accessible to the public.

Between 2000 and 2006 there were no major changes in the amount of cable TV distribution networks operators. Indeed, the decrease in the number of active operators occurred in 2002 resulted from the replacement of CATVP regional companies operating in the mainland for one sole company. The increases registered in the recent years are explained by the authorizations granted to residents associations, which networks are small size and are not available to the public.

⁷⁶ After October 2005 the full capital of CATVP — TV Cabo Portugal, S.A., previously held by PT – Televisão por Cabo SGPS, S.A., became the property of PT Multimédia – Serviços de Telecomunicações e Multimédia, SGPS, S.A.

Graph 6-1 – Evolution of the amount of active operators



Source: ICP-ANACOM

Since cable distribution network operators' authorizations were granted until the end of 2003 by geographic area (municipality), the table below shows the list of entities operating in each region⁷⁷. It should be highlighted, however, that the presence of the operator in certain regions does not imply that they are present in all of those regions municipalities.

Table 6-2 – Cable distribution network operators authorized to operate, by NUT II

NUTS II	Active operators
North	Bragatel, Cabovisão, CATVP, TVTEL
Centre	CATVP, Cabovisão, Puricanal Leiria, Pluricanal Santarém
Lisbon	Cabovisão, CATVP
Alentejo	Cabovisão, CATVP, Pluricanal Santarém
Algarve	Associação de Moradores do Litoral de Almancil, Cabovisão, Associação de Moradores da Urbanização Quinta da Boavista, CATVP
Autonomous Region of Madeira	Cabo TV Madeirense
Autonomous Region of the Azores	Cabo TV Açoreana

Source: ICP-ANACOM

⁷⁷ Level 2 units of the Nomenclature of Territorial Units (NUTS) for Statistical Purposes, established by Decree-Law no. 244/2002 of 25 November. Under the terms of that diploma, the following 7 NUTS II were established in Portugal: North (Minho-Lima Cávado, Ave, Grande Porto, Tâmega, Entre Douro e Vouga, Douro and Alto-Trás-os-Montes), Centre (Baixo Vouga, Baixo Mondego, Pinhal Litoral, Pinhal Interior Norte, Pinhal Interior Sul, Dão-Lafões, Serra da Estrela, Beira-Interior Norte, Beira Interior Sul, Cova da beira, Oeste and Médio Tejo), Lisbon (Greater Lisbon and Setúbal Península), Alentejo (Lezíria do Tejo, Alentejo Litoral, Alto Alentejo, Alentejo Central and Baixo Alentejo), Algarve, ARA and ARM.

Grupo PT also offers the service through DTH.

Besides cable TV network operators, and as mentioned previously, the company AR Telecom – Acessos e Redes de Telecomunicações, S.A. is entitled to provide the television signal distribution services since April 2005, and Novis Telecom, S.A. is entitled to provide the television and video signal distribution services since November 2005.

6.3. The profile of the television service subscriber

This section characterizes the television subscriber, according to the data of the survey on the use of electronic communications of December 2006⁷⁸.

The television service subscriber mostly resides in the autonomous regions and in more heavily populated urban areas.

Table 6-3 – Percentage of households subscribing television per geographical location

North	Centre	Lisbon	Alentejo	Algarve	Azores	Madeira
34.9%	31.0%	64.4%	31.2%	40.3%	70.3%	73.6%

Source: ICP-ANACOM, Survey on the use of electronic communications December 2006

Table 6-4 – Percentage of households subscribing televisions per habitat size

Less than 2.000 inhabitants	From 2,000 to 9,999 inhabitants	From 10,000 to 99.999 inhabitants	City of Porto	City of Lisboa
15.8%	33.0%	47.6%	62.7%	64.9%

Source: ICP-ANACOM, Survey on the use of electronic communications December 2006

On the other hand, the higher the socio-economic level of the interviewee, the higher the probability that he/she will have access to a paid television service.

⁷⁸ The universe defined for this study included individuals of both genders, aged 15 years old or over, residing in Mainland Portugal and in the Autonomous Regions of Madeira and the Azores. Selection of those interviewed was made by method of gender, age, education and occupation quotas. The sample was stratified by region and habitat. 2,519 interviews were conducted overall. 997 were conducted via mobile phone and 1,522 were made via fixed network. The fieldwork and data handling was performed by MARKTEST between 9 November and 29 December 2006.

Table 6-5 – Percentage of households subscribing television per socio-economic level

Class A	Class B	Class C1	Class C2	Class D
75.9%	65.4%	51.0%	36.1%	27.5%

Source: ICP-ANACOM, Survey on the use of electronic communications December 2006

There is also a positive relation between the interviewee's education level and the percentage of households subscribing a television service.

Table 6-6 – Percentage of households subscribing television per education level

4th grade	6th grade	9th grade	12th grade	Higher education
26.1%	33.3%	49.8%	49.9%	66.1%

Source: ICP-ANACOM, Survey on the use of electronic communications December 2006

6.4. Barriers to service subscription

Geographical location and the income level are the main barriers to subscribing the service.

In fact, the cable TV distribution service is available in the urban areas of Lisbon, Porto, Algarve, littoral North and the autonomous regions. In the remaining regions, namely in the country's inland, there are no cable distribution networks available. These regions also show lower income levels. However, there are other television distribution technologies available in these areas.

These factors are the main barriers to the subscription of this service.

6.5. The evolution of CDS, DTH and IPTV in 2006

Bellow are some elements on the evolution of this service in 2006: geographic availability and penetration, service usage level, prices and quality of service.

6.5.1. CDS: geographic availability of the service

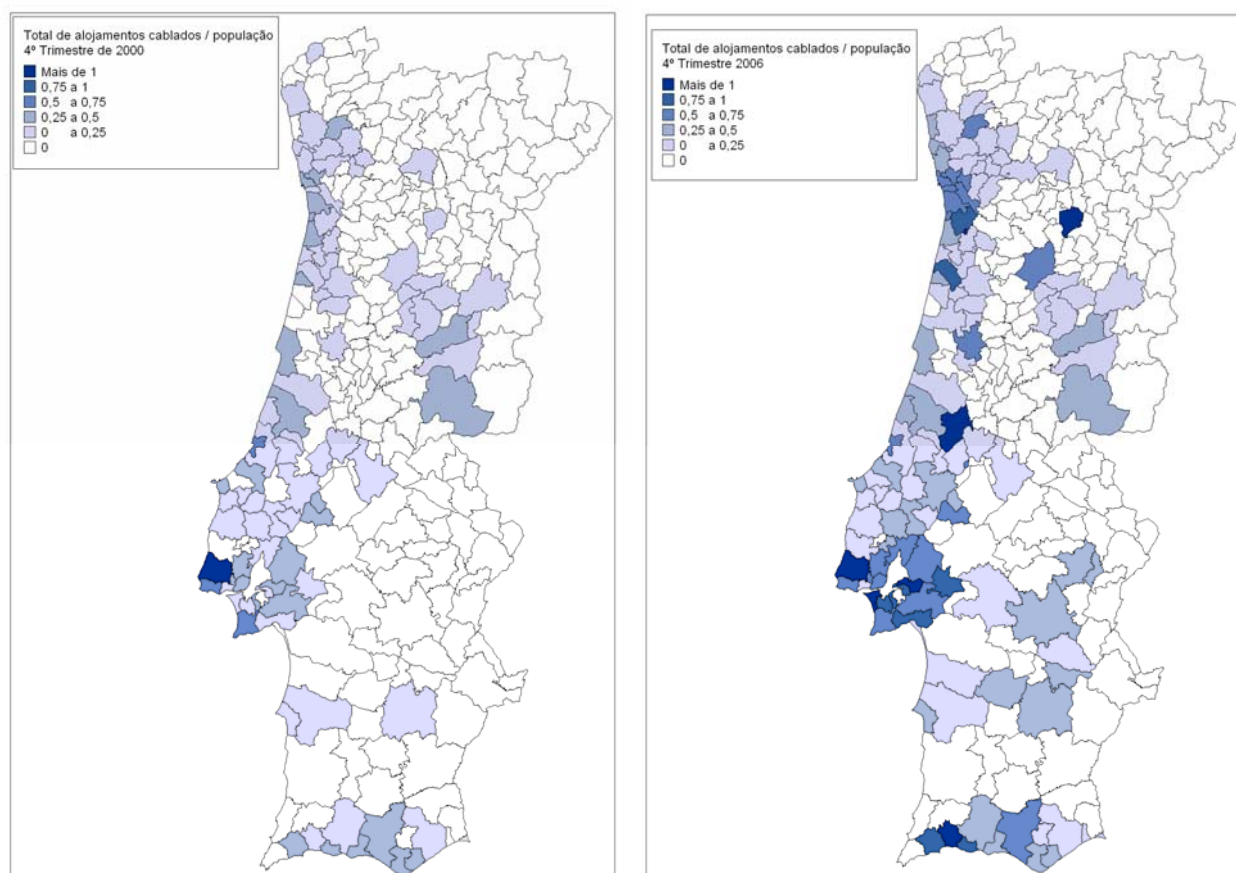
Concerning the service's geographical availability, we analyse below the geographical distribution o cabled households and the evolution of cabled household penetration in time.

The evolution of cabled households⁷⁹

The following maps show CDS's geographical availability at the end of 2000 and the end of 2006.

⁷⁹ The offer of the service by more than one operator in the same region implies that a same household may have multiple cabling. This means that when adding all operators' cabled households may result in double counting. This is evident, for example, in the Lisbon region, where the sum of all operators' cabled households is higher than the total amount of households. This fact has become more relevant with the increase of competition between operators.

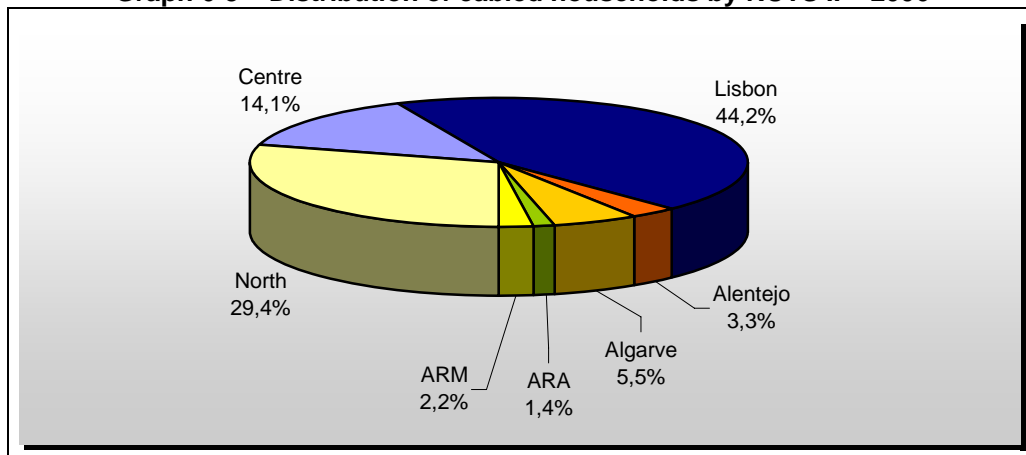
Graph 6-2 – Geographical distribution of all cabled households



Source: ICP-ANACOM

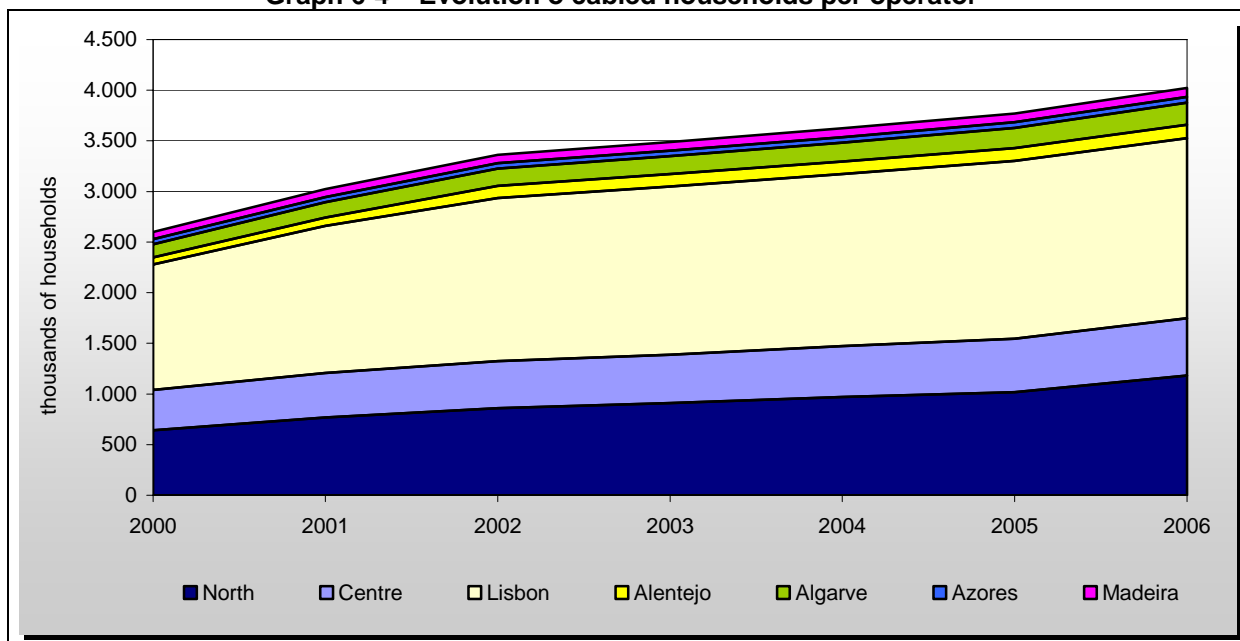
One concludes that cable distribution network operators installed their networks in the most populated areas, name Greater Lisbon, Greater Porto, the Setúbal peninsula, the North littoral and in the Algarve. More recently, there was an increase in the investment in area less heavily populated (North and Algarve), and in areas where cable TV networks had little development previously (Alentejo).

Graph 6-3 – Distribution of cabled households by NUTS II – 2006



Source: ICP-ANACOM

Graph 6-4 – Evolution of cabled households per operator



Source: ICP-ANACOM

The evolution registered between 2000 and 2006 occurred mainly in areas where the services already existed, or in surrounding areas.

This service's current geographical distribution explained by the following factors:

- This business' economy favours the installation of networks in more populated areas and with a much higher economic level, and the intensive use of the already installed infrastructures. In this feature, this service's special development is not different from other network industries demanding highly initial investment and with cost structures with a higher rate of fixed costs;
- The inter-relation between the historical operator's strategy and the new operators' strategies. The historical operator started installing its networks in urban areas of a greater size. New operators, on an early stage, started to operate in smaller size urban areas and/or in municipalities where the historical operator was not yet installed or where its presence was less important. Later, operators started providing services in areas surrounding their initial areas or in less populated areas-, currently there are several areas with more than one operator;
- The emergence and development of DTH as a less expensive alternative to for the provision of a television distribution services in less populated or remote areas.

In 2006, concretely, the sum of new households cabled by the operators was 252 thousand, a figure above that recorded in the 2000-2006 period (237 thousand households). The growth rate of all cabled households reported by the operators reached 6.7 per cent in 2006.

Table 6-7 – Cabled households

	2005	2006	2005/2006 var. (%)	2000/2006 average yearly var. (%)	2005/2006 var. (%)
North	1,016,627	1,181,054	16.2%	10.7%	84.4%
Centre	528,166	567,141	7.4%	6.0%	42.1%
Lisbon*	1,757,371	1,777,935	1.2%	6.2%	43.7%
Alentejo	128,024	132,726	3.7%	11.1%	88.3%
Algarve	197,318	219,628	11.3%	9.3%	70.3%
Autonomous Region of the Azores	55,888	55,891	0.0%	1.7%	10.6%
Autonomous Region of Madeira	86,793	87,711	1.1%	2.9%	19.0%
Total	3,770,187	4,022,086	6.7%	7.5%	54.7%

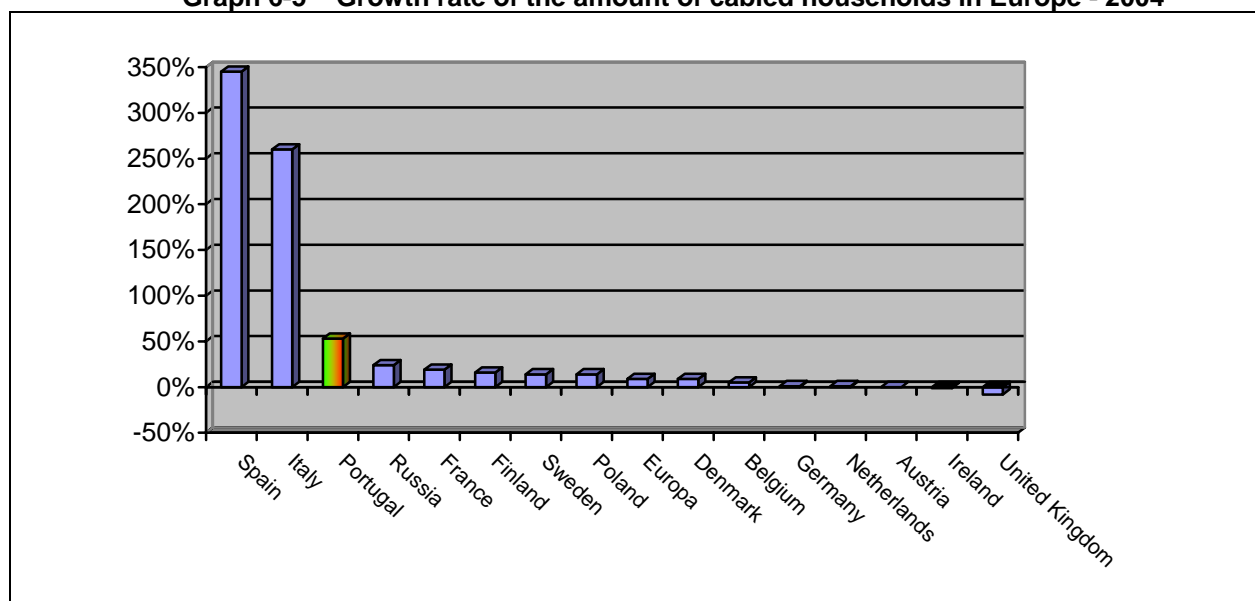
Source: ICP-ANACOM

Unit: 1 household, %

* The offer of the service by more than one operator in the same region may imply the multiple cabling of the same household. This fact has gained relevance, namely in the Lisbon region.

According to the available data, the investment made by cable TV distribution operators in Portugal was considerably higher than in most European countries.

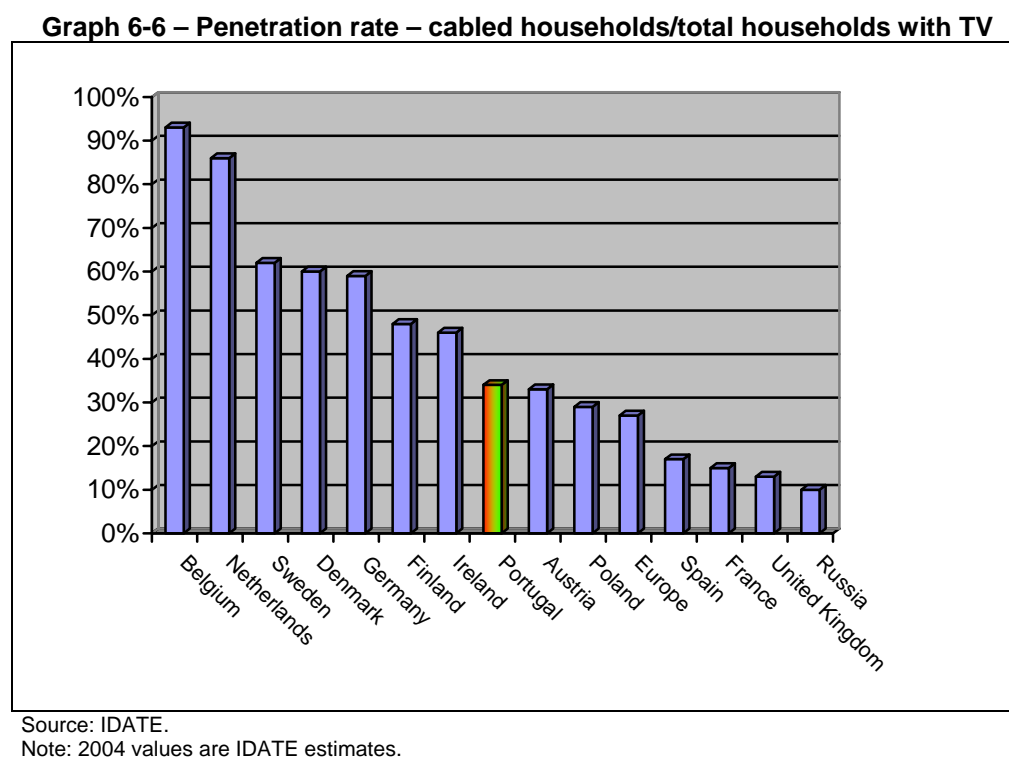
Graph 6-5 – Growth rate of the amount of cabled households in Europe - 2004



Source: IDATE

Cabled household penetration versus total households

According to the available data, Portugal presents a cabled household penetration above the European average⁸⁰.



It should be reminded that the important differences existing among the several countries under analysis are mainly due to the fact that, in some countries, the cable infrastructure has long been used as the most important means for television signals distribution (as, for example, in Belgium and the Netherlands), while in other countries TV broadcasting was initially radio-broadcasting analogue television, with the installation of cable networks arriving much later.

6.5.2. Service's usage level

⁸⁰Cf. IDATE, *World Television Market – 2005*, 16th edition.

Below we present the evolution in the number of subscribers and the corresponding penetration. We also present the evolution in the number of customers of the television distribution service using DTH, IPTV and DVB-T technology.

CDS evolution: amount of subscribers

At the end of 2006 there in Portugal more than 1.4 million subscribers to the cable television distribution service, 20 thousand more than a year before (a 1.4 per cent growth).

Table 6-8 – Amount of CDS subscribers

	2005	2006	Year-on-year variation	Average yearly variation (2000-2006)	Variation (2000-2006)
North	327,636	336,320	2.7%	9.8%	74.8%
Centre	167,996	171,089	1.8%	7.0%	50.2%
Lisbon*	707,391	708,617	0.2%	6.0%	41.9%
Alentejo	38,111	38,976	2.3%	15.5%	137.2%
Algarve	51,360	51,364	0.0%	8.7%	65.4%
Autonomous Region of the Azores	40,047	43,827	9.4%	5.6%	38.5%
Autonomous Region of Madeira	66,073	68,367	3.5%	9.3%	70.4%
Total	1,398,614	1,418,560	1.4%	7.4%	53.4%

Source: ICP-ANACOM

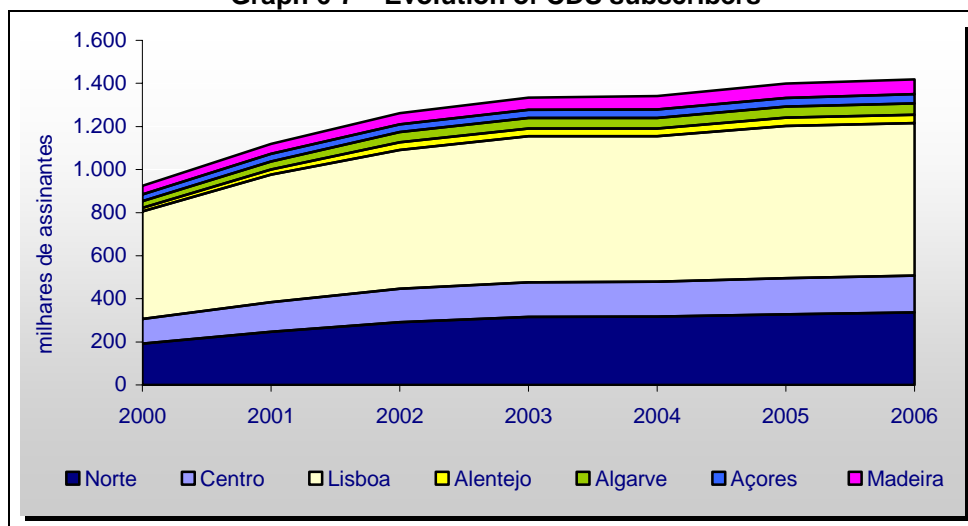
Unit: 1 subscriber, %

The important growths that occurred in the autonomous regions of the Azores (9.4 per cent) and Madeira (3.5 per cent) were directly influenced by the protocols signed between the General Government, The Regional Governments, ICP-ANACOM and the only television distribution network operator currently operating in each of the autonomous regions. The protocol in force in Madeira was signed on 6 August 2004, influencing the number of cable television service subscribers since the fourth quarter of that year. The Azores protocol was signed on 5 November 2006, with the validity of one year, with its effects being reflected during 2006, namely in the increase in the number of cable television service subscribers.

In general, between 2000 and 2006 this service was subscribed by an average of 82 thousand subscribers per year, which corresponds to a 7 per cent yearly growth average rate.

The fast increase in the number of this service's subscribers is comparable to the evolution corresponding to the first stages of a service's life cycle. It is considered that the evolution in the number of subscribers must have also been influenced by the launch of new offers – namely of additional channel and in Portuguese, by the continuous offer of new premium channels and premium channels packages -, and by the package offer of voice and broadband Internet access services. The generalized existence of promotional offers reducing, and some times eliminating, service access prices (installations, equipment prices) should also be stressed out. In some cases, these offers can be associated to an increase in competition in those fields where there is more than one operator on the market.

Graph 6-7 – Evolution of CDS subscribers

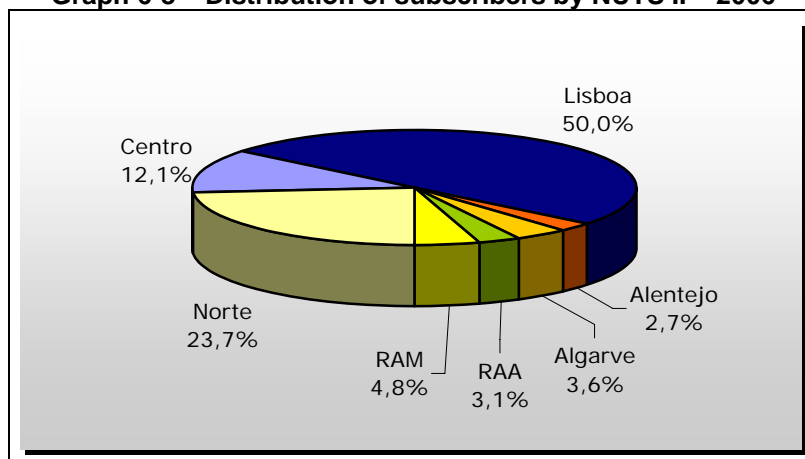


Source: ICP-ANACOM

The decrease of the number of customers' growth rate, which happened after 2002, and which had a generalized impact on all regions, could be the result of this service entering a maturity stage. During the mentioned period, factors such as the development of ADSL as a means of broadband Internet access alternative to cable modem, the development of the DTH service and the economic status could have influenced this evolution.

Concerning the spatial concentration of cable TV distribution subscribers, Lisbon concentrates 50 per cent of subscribers, followed by the North region (23.7 per cent).

Graph 6-8 – Distribution of subscribers by NUTS II – 2006



Source: ICP-ANACOM

ECDS evolution: Penetration

In 2006, the penetration rate of cable television subscribers reached 26 per cent of cable households. It should be noted that the penetration's rate negative variation registered in Lisbon and Algarve is not due to a decrease in the amount of subscribers, but to an increase in the number of households. In the period between 2000 and 2006, cable television subscriber penetration versus all Portuguese households grew 6.5 per cent. The same growth trends registered for cabled households still maintain, i.e., there was a slowing down after 2002. Once again highlight goes to growths registered in the Azores and Madeira, (7.9 and 17.2 per cent, respectively), here also due to the impact of the entry into force of the protocol signed with both autonomous regions.

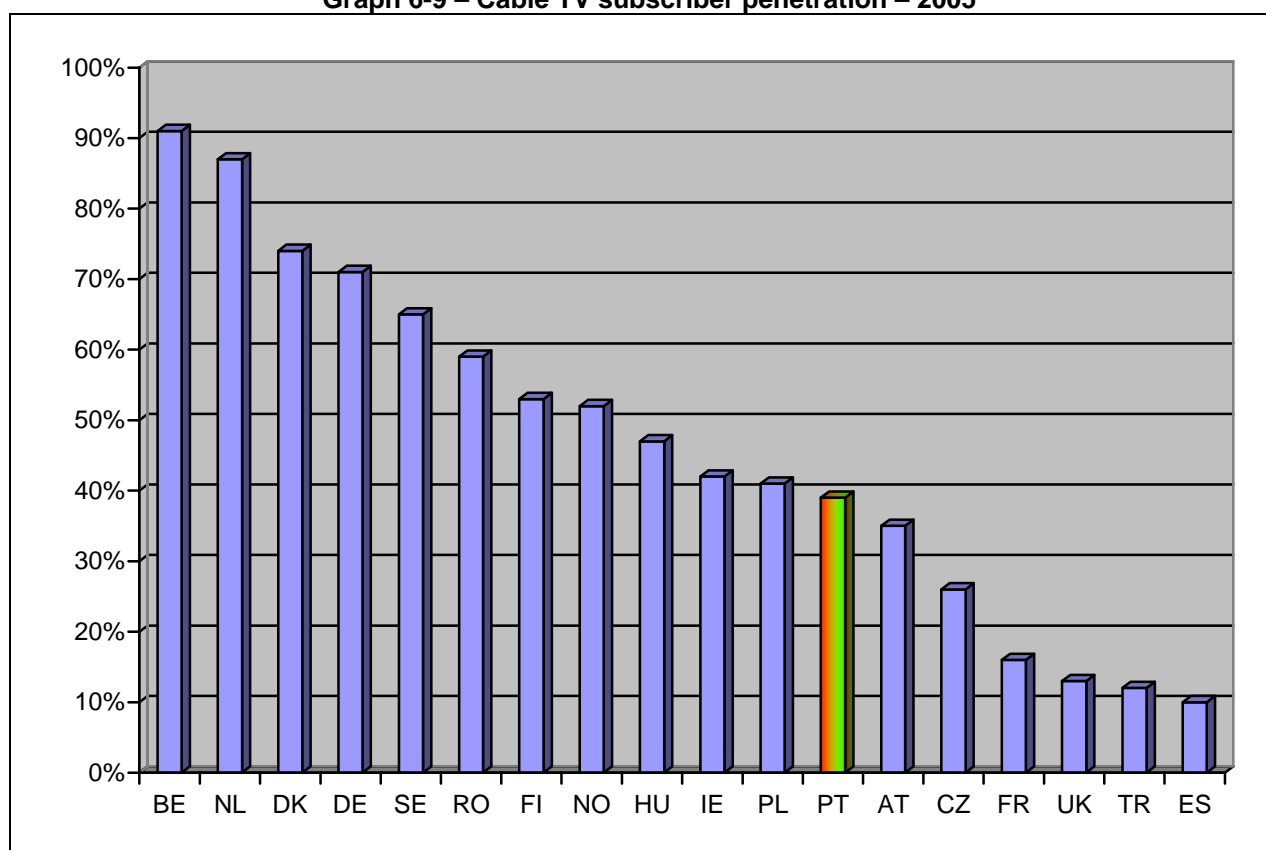
Table 6-9 – Cable TV subscribers penetration versus total households

NUTS II	2005	2006	2005/2006 Var. (%)	2000/2006 average Var. (%)	2000/2006 Var. (%)
North	18.5%	18.8%	0.3	1.0	6.1
Centre	12.5%	12.6%	0.1	0.1	0.3
Lisbon	51.7%	51.4%	-0.3	3.5	20.8
Alentejo	8.5%	8.6%	0.1	0.5	3.0
Algarve	16.1%	15.8%	-0.3	0.7	3.9
Autonomous Region of the Azores	40.0%	43.2%	3.2	1.3	7.9
Autonomous Region of Madeira	59.6%	59.9%	0.3	2.9	17.2
Total	25.6%	25.7%	0.1	1.1	6.5

Source: ICP-ANACOM

According to the available data, and taking into account the considered countries, Portugal occupies an average position in the European ranking.

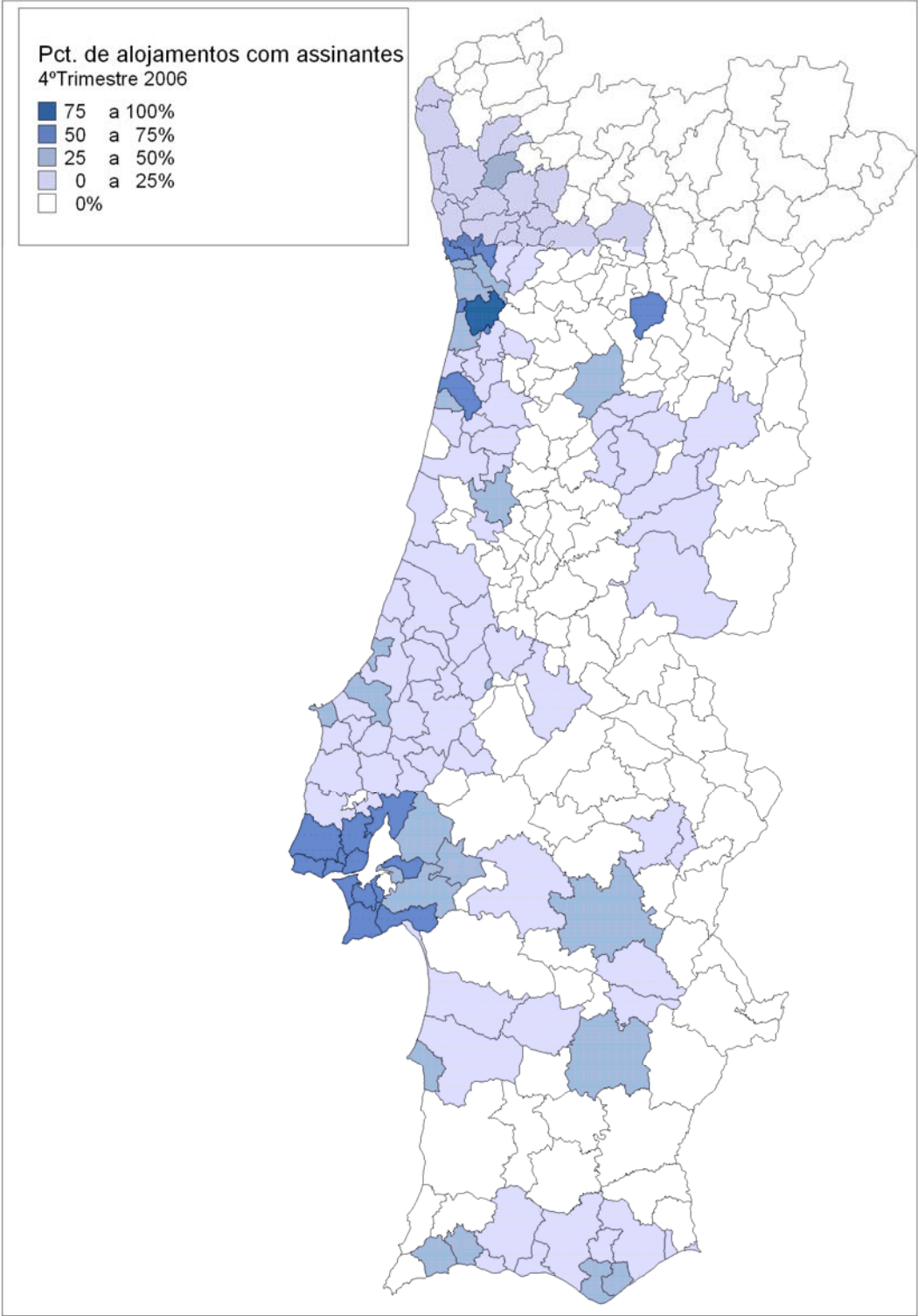
Graph 6-9 – Cable TV subscriber penetration – 2005



Source: Informa Telecoms & Media, TV International Sourcebook 2007.

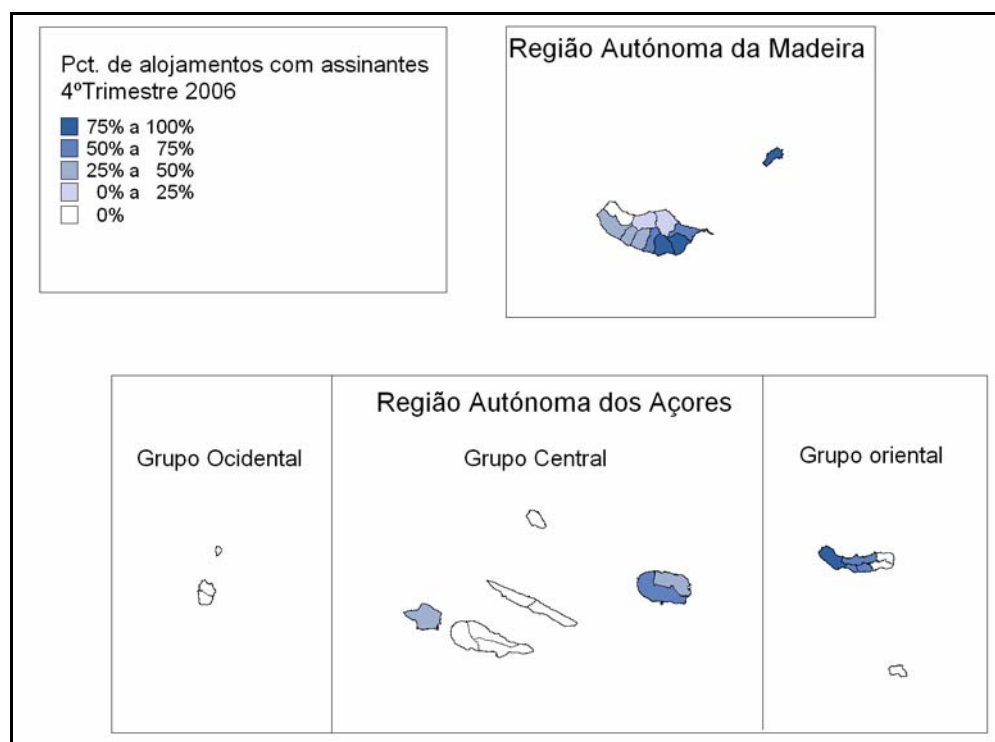
The map below shows this service's subscribers geographical distribution.

Graph 6-10 – Geographical distribution of cable TV subscribers (Mainland Portugal)



Source: ICP-ANACOM

Graph 6-11 – Geographical distribution of cable TV subscribers (Autonomous Regions of the Azores and Madeira)



Source: ICP-ANACOM

One registers that this service's subscriber penetration presents a pattern similar to that of cabled households: this service's subscribers are concentrated in the greater urban centres such as Greater Lisbon and Greater Porto, the Setúbal peninsula, littoral North and Algarve, while the autonomous regions also present a considerable number of subscribers, particularly in the main cities.

It is also possible to measure cable TV subscribers' penetration versus all cabled households. In 2006, the number of cable TV subscribers stood for 35 per cent of all cabled households, 1.8 per cent less than the year before. The drop of this indicator is common to the whole country except for the Autonomous Regions, registering considerably high penetration rates, namely in the Azores, with the highest level of penetration growth during this period (6.7 per cent more than the 2005 figures). The reasons for this particular behaviour have already been mentioned previously.

This indicator's global evolution results from the fact that the number of cable households per operator has outgrown the number of customers.

Table 6-10 – Cable TV subscribers versus cabled households

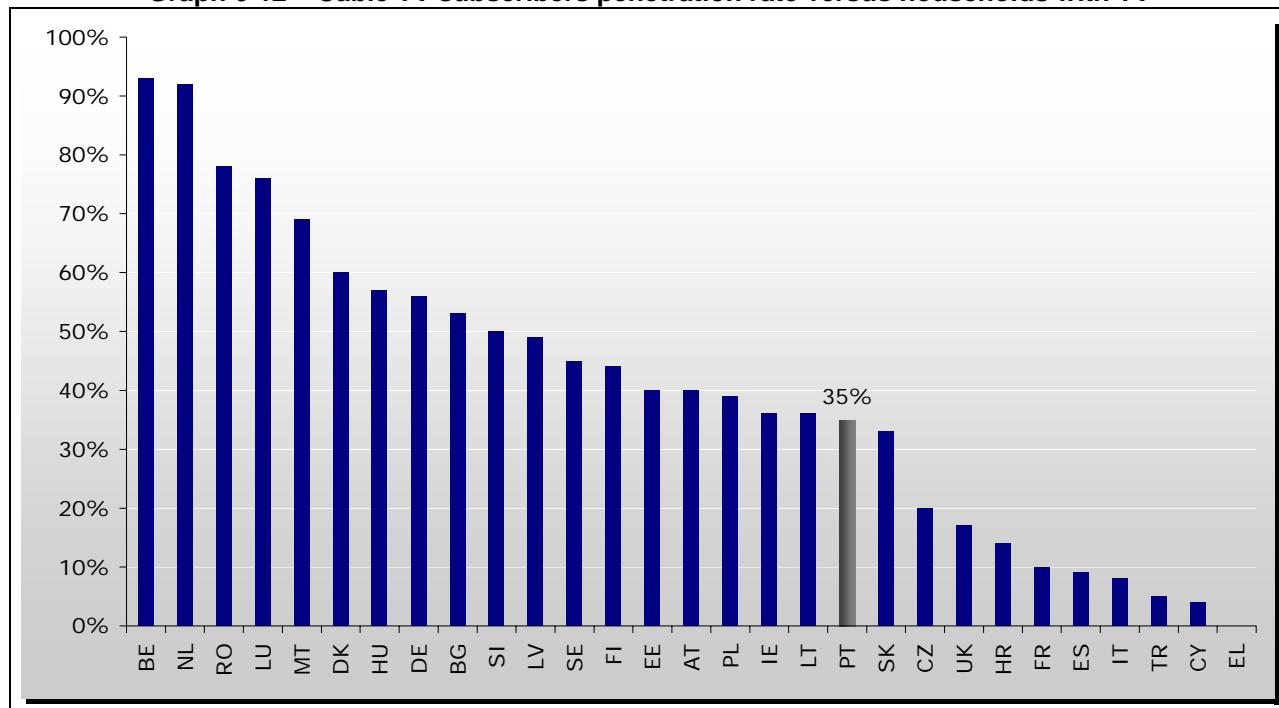
NUTS II	2005	2006	2005/2006 Var. (%)	2000/2006 average Var. (%)	2000/2006 Var. (%)
North	32.2%	28.5%	-3.70	-0.3	-1.5
Centre	31.8%	30.2%	-1.60	0.3	1.7
Lisbon	40.3%	39.9%	-0.40	-0.1	-0.5
Alentejo	29.8%	29.4%	-0.40	1.0	6.1
Algarve	26.0%	23.4%	-2.60	-0.1	-0.7
Autonomous Region of the Azores	71.7%	78.4%	6.70	2.6	15.8
Autonomous Region of Madeira	76.1%	77.9%	1.80	3.9	23.5
Total	37.1%	35.3%	-1.80	-0.1	-0.3

Source: ICP-ANACOM

Apparently operators are investing in the expansion of their networks. This fact will bring consequences, both in the amount of customers and at the completion level, during the next years. This indicator's evolution could also be justified by the lack of commercial dynamics by some operators, by a decrease in the service's demand, or by the emergence of competing services.

On the other hand, paid TV penetration in households with TV is still quite modest when compared with that registered in other countries of Europe.

Graph 6-12 – Cable TV subscribers penetration rate versus households with TV



Source: CE, Special Eurobarometer E-communications Household Survey (December 2005/January 2006)

DTH Service

The DTH service is an important component of the activity of some cable distribution network operator (CATVP, Cabo TV Madeirense and Cabo TV Açoreana).

By the end of 2006 the number of satellite television distribution service subscribers reached around 436 thousand. In 2006 this services registered a 10.4 per cent growth, which translates in to 41 thousand new subscribers.

Table 6-11 – Amount of DTH subscribers

	2005	2006	Year-on-year variation	(2001-2006) average yearly variation*	(2001-2006) variation *
North	123.444	141.296	14,5%	15,1%	102%
Centre	125.696	133.108	5,9%	14,2%	94%
Lisbon	37.213	39.985	7,4%	9,8%	60%
Alentejo	48.728	48.153	-1,2%	9,6%	58%
Algarve	19.703	20.454	3,8%	5,0%	28%
Autonomous Region of the Azores	23.047	34.545	49,9%	23,1%	182%
Autonomous Region of Madeira	16.662	18.020	8,2%	60,9%	978%
Total	394.493	435.561	10,4%	14,2%	95%

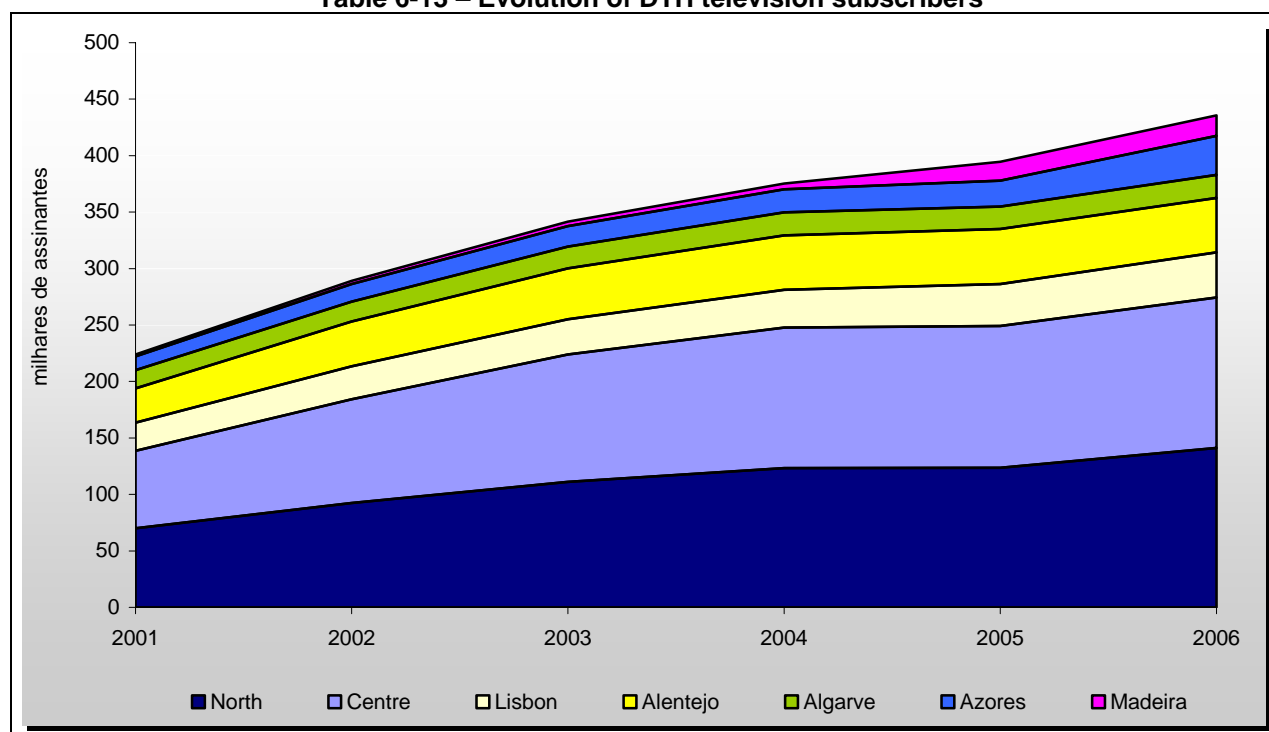
Source: ICP-ANACOM

Unit: 1 subscriber, %

* Only the last five years (2001-2006) are considered when reckoning the average and accumulated variations, since there are no available figures regarding DTH technology subscribers by region for 2000.

Between 2001 and 2006, the DTH service registered year-on-year growth rates above those registered by the cable television distribution service, and recorded an average of 42,000 new subscribers per year, which corresponds to a 14 per cent annual growth rate.

Table 6-13 – Evolution of DTH television subscribers

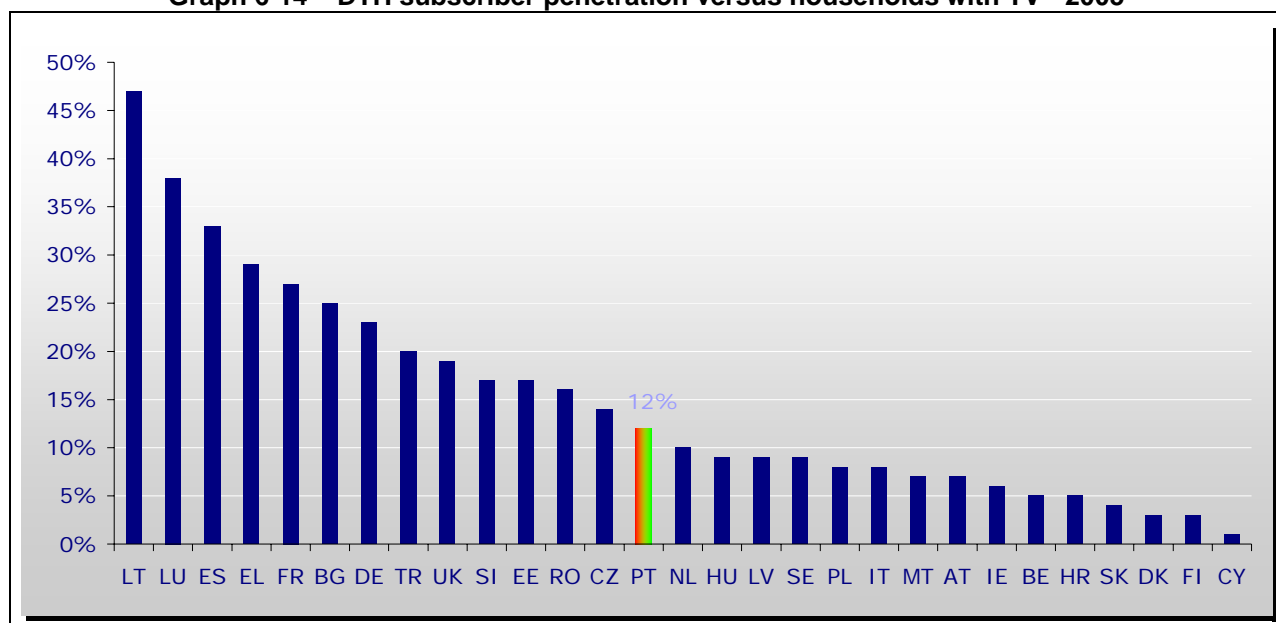


Source: ICP-ANACOM

It should be mentioned that these growth rates are explained by influence of the protocols signed with the autonomous regions, previously mentioned.

According to the most recent data, Portugal stood in the middle of the European ranking regarding satellite television service subscriber penetration, with a penetration of 12 per each 100 households equipped with TV

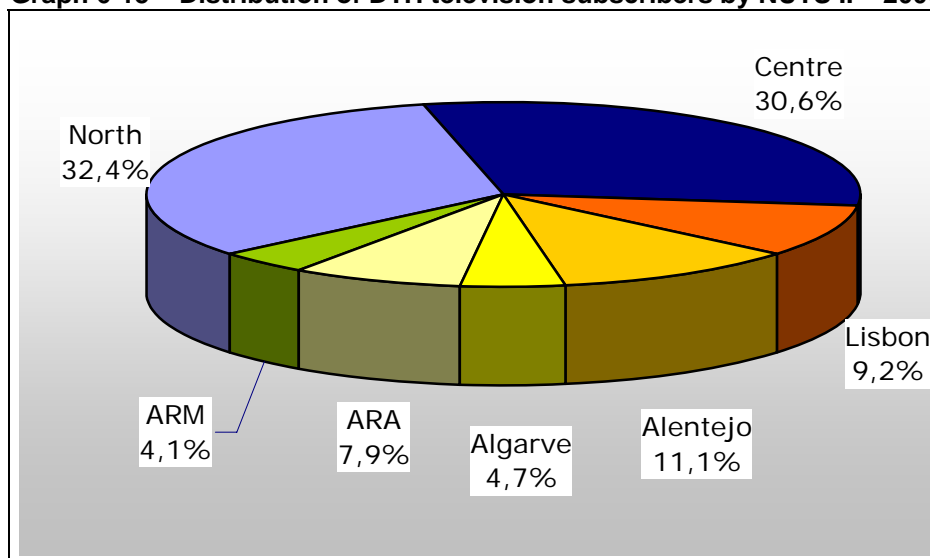
Graph 6-14 – DTH subscriber penetration versus households with TV - 2005



Source: European Commission, *Special Eurobarometer E-communications Household Survey (December 2005/January 2006)*

The graph below shows the geographical distribution of DTH technology subscribers at the end of 2006, where the North and Centre regions continue to concentrate the greater percentage of this technology's users.

Graph 6-15 – Distribution of DTH television subscribers by NUTS II – 2006



Source: ICP-ANACOM

In relative terms, the presence of DTH is particularly noticed in Alentejo, where DTH stands for 55 per cent of all households with access to paid TV services, in the Centre Region and in the Autonomous Region of the Azores. In the remaining regions the cable television service stands for 70 per cent and 90 per cent. DTH's geographical distribution partly complements cable services.

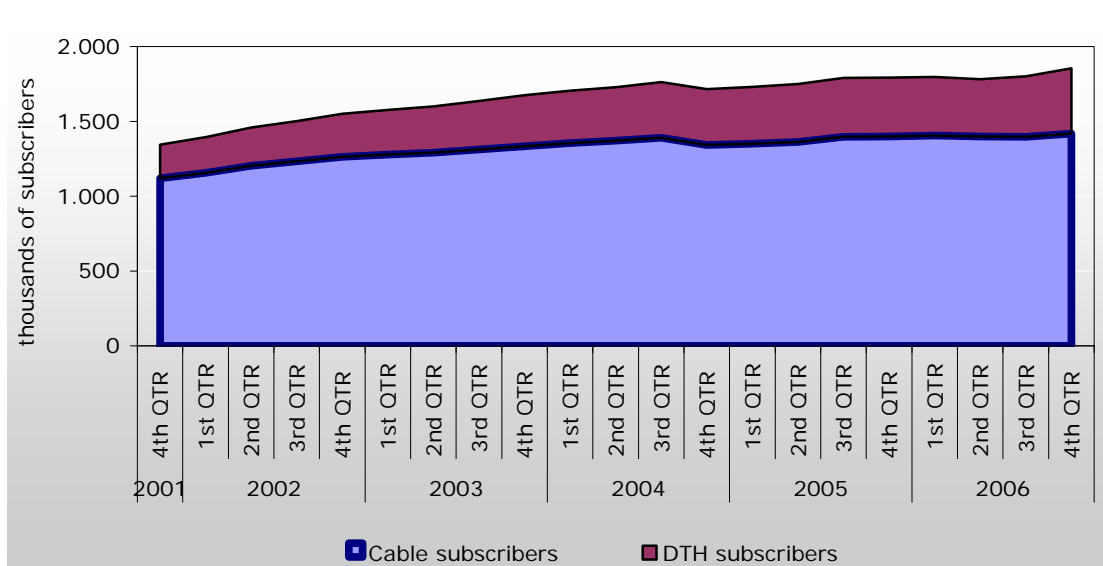
Table 6-12 – Total distribution of (cable + DTH) subscribers by technology – 2006

NUTS II	Percentage of television services subscribers	
	Cable	DTH
North	70.4%	29.6%
Centre	56.2%	43.8%
Lisboa	94.7%	5.3%
Alentejo	44.7%	55.3%
Algarve	71.5%	28.5%
Autonomous Region of the Azores	55.9%	44.1%
Autonomous Region of Madeira	79.1%	20.9%
Total	76.5%	23.5%

Source: ICP-ANACOM

In the end of 2006, households subscribing the cable television service represented 77 per cent of the overall figure, leading to the conclusion that cable is the main access technology. However, during the period under review, DTH's growth was faster than the cable networks'.

Graph 6-16 – Evolution in the total amount of paid TV subscribers by technology

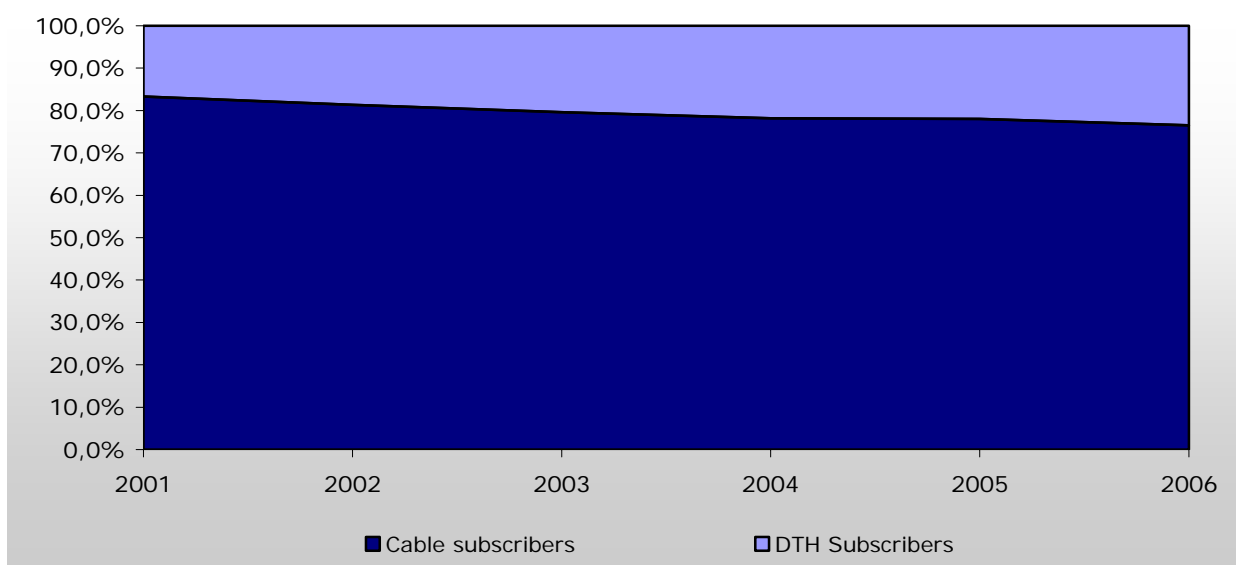


Source: ICP-ANACOM

These phenomena results from the historical operator's development strategy: this operator has used DTH technology to provide its services in location where geography, population dispersion and/or commercial prospect could not advise the installation of a cable network.

DTH as been slowly gaining market share from cable television.

Graph 6-17 – Evolution of the percentage of paid TV subscribers by technology



Source: ICP-ANACOM

IPTV and Tmax service

As mentioned previously, new TV distribution services emerged in 2005 using IPTV and DVB-T.

The following table shows the total amount of subscribers to the television signal distribution offers marketed since 2006 (in 2005 there were only test customers).

Table 6-13 – Subscribers of new television signal distribution offers – 2006

	2006
IPTV and similar (Tmax) subscribers	3,292

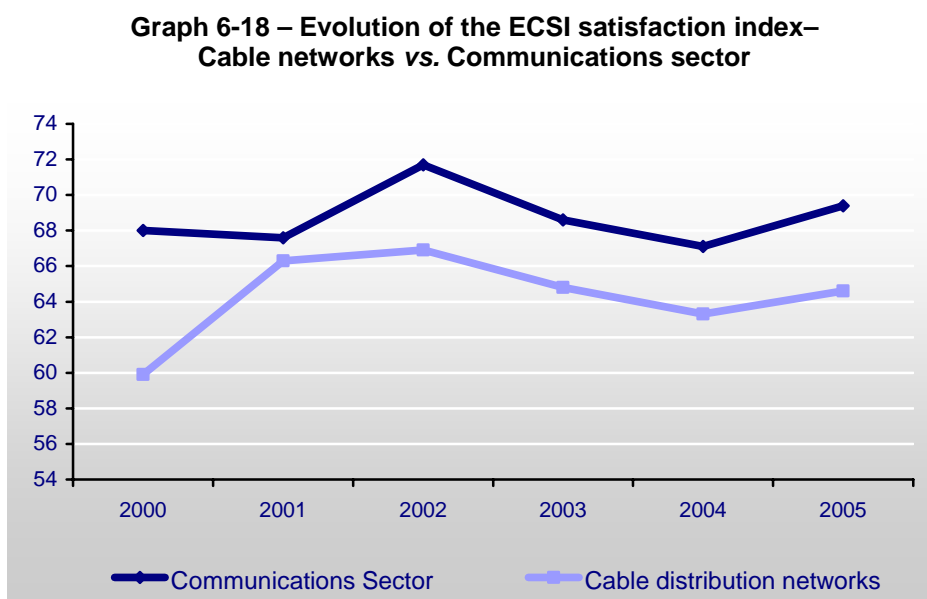
Source: ICP-ANACOM

Unit: 1 subscriber

As can be seen, these services' penetration is still very low.

6.5.3. Evaluation by consumers

The satisfaction index of the cable television distribution customers has stood about 4 per cent below the communications sector satisfaction index.



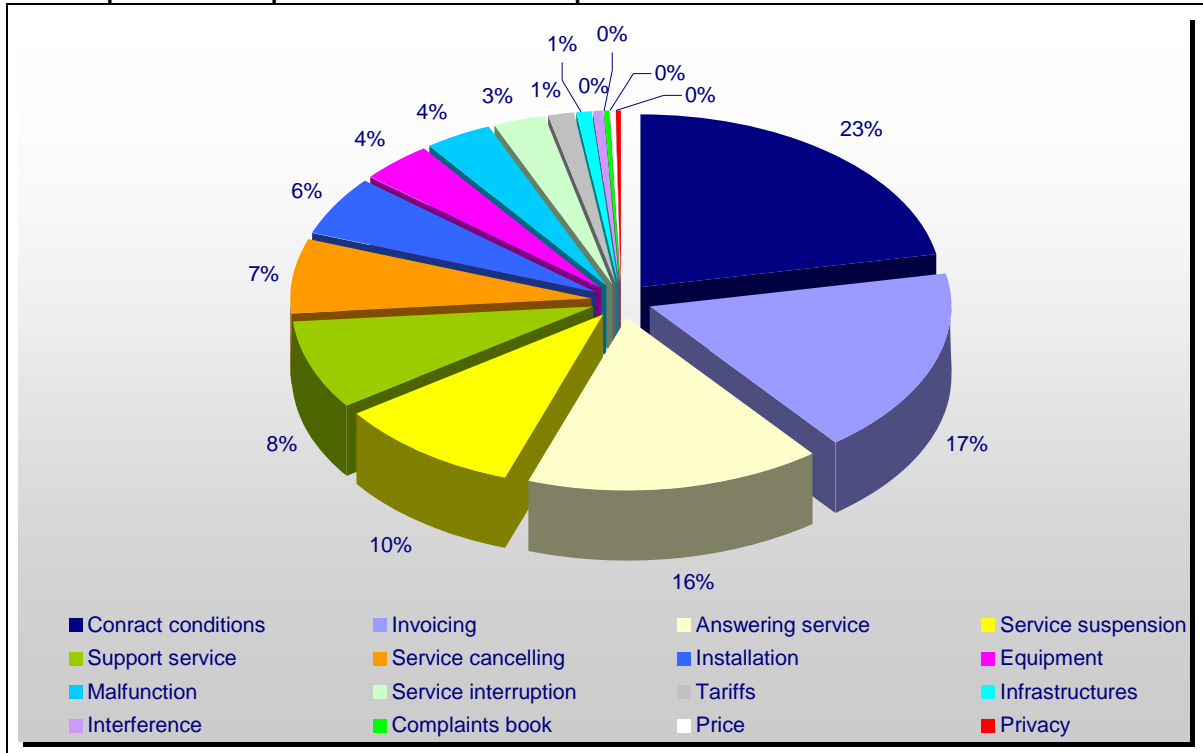
Source: ECSI, National customer satisfaction index – 2005⁸¹

On the other hand, during 2006, ICP ANACOM received 2,995 complaints and information requests concerning the television distribution services and its operators.

Contract condition, invoicing, the public support service and the suspension of the service are the main reasons why the service's users are not satisfied.

⁸¹ For setting up the ECSI index in Portugal, IPQ performed 2550 interviews by studied company (TV Cabo and other cable television operators). PLS methodology was used to estimate the ECS (econometric with simultaneous equations) model and to estimate the indexes on a scale from 0 to 100.

Graph 6-19 – Complaints and information requests on the television distribution service – 2006



Source: ICP-ANACOM

6.5.4. Development of the offer's structure

Specifically regarding the cable TV distribution services, on registers that Grupo PT has been losing market shares since 2004. In 2006, Grupo PT's subscribers share decreased 3 per cent.

Table 6-14 – Grupo PT subscribers share

2001	2002	2003	2004	2005	2006
82.9%	79.6%	80.7%	79.4%	78.2%	75.2%

Source: ICP-ANACOM

Chapter 7 – Postal Services

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7. Postal Services

This chapter presents the state of postal services at the end of 2006, as well as their evolution during that year.

7.1. Main items of evolution in 2006

- On 1 January 2006, a new stage of the postal sector's liberalization comes into force. On that date, the weight and price limits of the reserved area became: 50 gr. and two and a half times the public tariff for sending a 1st class correspondence of the fastest standardized weight category, respectively.
- In 2006, for the first time since the beginning of the second phase of the liberalization process, postal traffic decreased (-4.9 per cent). The traffic reduction is explained by the duplication of CTT's invoicing period and by the increase of electronic invoicing by other companies, namely electronic communications operators and financial institutions.
- At the end of that year, liberalized traffic increased 23.5 per cent. This evolution, as previously mentioned, is mainly explained by the beginning of the new postal sector's liberalization phase on 1 January 2006. I.e. traffic increase in the liberalized area was caused by the re-categorization of traffic previously considered to be reserved.

After 3 liberalization phases, reserved traffic still represents 75 per cent of overall traffic.

- Express mail traffic increased 9.7 per cent (traffic of the remaining services decreased 5 per cent). This growth in express services was mainly caused by

the providers of postal services operating in competition, namely by their parcels distribution activity.

- Grupo CTT's share is considerably high in the segment of services not framed by the express mail category (99.5 per cent). In the case of express mail, new operators altogether hold a 57 share.
- Since 2002, employment in the postal sector fell 7.9 per cent. In 2006, however, there was a slight 0.5 per cent increase in the amount of postal sector's employees. Grupo CTT companies continue to reduce the number of employees while competition employment increased 21 per cent during the year under analysis.
- The number of network access points⁸² continues to decrease, due to the policies followed by Grupo CTT. Postal density and coverage have decreased.
- The prices of the integrated provisions in the universal service have recorded real price decreases and stand below the EU15 average.

7.2. Postal services' offer

The postal sector in Portugal includes all entities and activities in connection with the establishment, management and operation of postal services on the national territory, as well as international services with origin or destination on the national territory.

A first segmentation of the sector results from the definition of universal service.

In Portugal, the universal service is the "permanent offer of postal services with a specified quality, provided on all locations of the national territory, at affordable prices

⁸² The network includes all operators.

to all users, in order to satisfy the communication's needs of the population and of economic and social activities"⁸³.

The scope of the universal service includes a postal service of sending correspondence, books, catalogues, newspapers and other periodicals weighting up to 2 Kg, and postal parcels up to 20 kg, as well as a service of registered sendings and a service of declared values, in the national and international scope.

To ensure the economic and financial viability of the universal service provision, there is a set of services – reserved postal services – that are exclusively provided by the universal service operator⁸³.

All postal services not included in the definition of reserved postal services are operated in competition and may be provided by the entity that provides the universal service or by single or collective legal persons properly entitled for the purpose. An individual licence system applies to the provision of postal services that are non-reserved or not included in the scope of the universal service. The provision of postal services that are non-reserved and not included in the scope of the universal service is subject to a legal authorization, which regime is characterized by being relatively less demanding, both in terms of access to the activity and in the setting of obligations.

7.2.1. Postal services

The following table sums up the reserved postal services, provided exclusively by CTT, and the non-reserved services, which can be provided by any entity entitled for that purpose.

⁸³ Law no. 102/99 of 26 January 1999.

Table 7-1 – Reserved and non-reserved postal services

Postal services	Name	Provider
Reserved services	<ul style="list-style-type: none"> • Postal service of sending correspondence, including addressed publicity, whether or not with express delivery, which price is two and a half times lower than the public tariff for sending a 1st class correspondence of the fastest standardized weight category, as long as it weights less than 50gr; nationally and internationally; • Postal service of sending registered correspondence and declared-value correspondence, including legal notices by mail and penal notice by mail service, within the same price and weight limits mentioned in the previous paragraph, nationally and internationally; • Issuance and sale of stamps and other postal values; • Issuance of money orders; • Placing of mail stands and mail boxes for the collection of postal sending in public areas 	CTT (CTT (operation under Concession Contract))
Non-reserved services (national and international)	<p><u>Operation under a licence</u></p> <ul style="list-style-type: none"> • Postal service of sending correspondence, including addressed publicity, whether or not with express delivery, which price is two and a half times lower than the public tariff for sending a 1st class correspondence of the fastest standardized weight category, as long as it weights more than 50gr and less than 2kg, nationally and internationally; • Postal service of sending books, catalogues, newspapers and other periodicals, weighing up to 2kg; • Postal parcels service with up to 20kg; • Postal service of sending registered correspondence and declared-value correspondence, including the legal notice by mail and the penal notice by mail service not included within the aforementioned price and weight limits <p><u>Operation under an authorization</u></p> <ul style="list-style-type: none"> • Express mail services (also usually known as courier). This service is characterized by the extra-fast acceptance/collection, handling, transportation and distribution of correspondence and parcels, being different from the corresponding basic services by fulfilling the following characteristics, among others: pre-defined delivery deadline; record of sendings; responsibility guarantee from the authorized provider; tracking of the sendings; • Operation of document exchange centres – places where the users may self-distribute by the mutual exchange of postal sendings, having their own mail boxes; in order to do so, the users must form a group of subscribers, further to subscribing that service. • Other services that fall in the definition of universal service and that are not included in the universal service's range, namely those which provision is made possible by technological evolution and that are different from traditional services. 	CTT and other entities entitle to provide postal services (further to a licence or authorization)

Source: ICP-ANACOM

It should be noted that on 1 January 2006 a new postal sector's liberalization phase came into force. Under the terms of no. 3 of article 4 of Decree-Law no. 150/2001 of 7 May, with the corrections introduced by Decree-Law no 116/2003 of 12 June, the reserved area started having the following weight and price limits: 50gr. and two and a half times the public tariff for sending a 1st class correspondence of the fastest standardized weight category, respectively.

In pursuing their activity, the entities providing postal services are based on a set of human and material resources which make up the postal network⁸⁴.

7.2.2. The postal service providers

In 2006 there were 45 entities entitled to provide postal services. 38 were entitled to provide express mail services and 8 were entitled to provide services outside the express mail category (CTT is entitled to provide both services simultaneously).

It should be noted that two of 8 the entities authorized to provide express mail services are not active in this segment: CTTexpresso (offering exclusively express mail services) and Lordtrans.

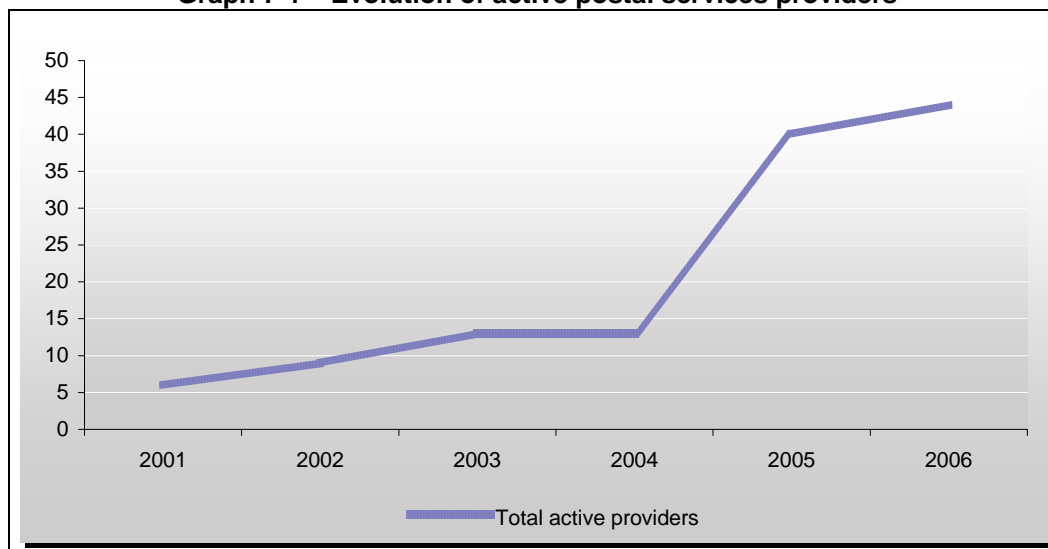
In 2006, 8 entities providing express mail services entered these markets: Ochôa, António Carlos Santos, ASL, Consigo Pelo Mundo, Felcourier, Flash, HMJ and LHSTUR. The last 7 ones are MRW franchises (it should be mentioned that 3 MRW franchises requested the cancellation of their authorization during 2006).

During this year two entities were entitled to provide services outside the express mail category: Iberomail e Lordtrans.

At the end of 2006 there were 44 active postal services providers.

⁸⁴ The postal network that is established, managed and operated by the universal service provider is called the public postal network. Entities licensed and authorized to provide non-reserved postal services may also establish, manage and operate their own postal network, as well as having access to the public postal network, according to the conditions agreed with the universal postal service concession holder. Licensed and authorized entities may also sign contracts with third parties that are not postal service providers, to provide the transportation and distribution of postal sendings.

Graph 7-1 – Evolution of active postal services providers



Source: ICP-ANACOM

The following tables show the postal service providers, the title authorizing them and its date of issuance. Some entities mentioned also operate in other markets, namely in the transportation of goods, and have activities complementary to the postal one.

Table 7-2 – Entitled providers of services not covered by the express mail category

Entity	Licence No.	Issue date	Services provided
CTT Correios de Portugal, S.A.*	The universal postal service concessionary (CTT) can operate non-reserved services and services that are not included in the scope of the universal service, without any need for an additional authorizing title.		Sending of correspondence, including addressed advertising (direct mail), books, catalogues, newspapers and other periodicals. Postal parcels.
CTTexpresso – Serviços Postais e Logística, S.A.**	ICP-01/2001-SP	01-10-2001	Sending of correspondence, including addressed advertising (direct mail), books, catalogues, newspapers and other periodicals. Postal parcels.
SDIM – Sociedade de Distribuição de Imprensa da Madeira, Lda.	ANACOM-01/2002-SP	13-12-2001	Distribution of books, catalogues, newspapers and other periodicals.
Notícias Direct – Distribuição ao Domicílio, Lda.	ANACOM-02/2002-SP	13-12-2001	Distribution of books, catalogues, newspapers and other periodicals.
MEEST Portugal – Unipessoal, Lda.	ICP-01/2005-SP	07-07-2005	Postal parcels.
TEX – Transporte de Encomendas Expresso, Lda.	ICP-02/2005-SP	15-07-2005	Postal parcels.

Entity	Licence No.	Issue date	Services provided
IBEROMAIL – Correio Internacional, Lda.	ICP-01/2006-SP	18-05-2006	Postal parcels.
LORDTRANS – Transportes Urgentes, Lda.	ICP-02/2006-SP	28-12-2006	Distribution of postal sendings and parcels.

Source: ICP-ANACOM

The universal postal service concessionary (CTT) can operate non-reserved services and services that are not included in the scope of the universal service, without any need for an additional authorizing title.

On 1 September 2003 ICP-ANACOM authorized the transmission of the licence held by Postexpresso – Correio de Cidade, Lda to Postlog – Serviços Postais e Logística, S.A. which, from the 4th quarter of 2004 was named CTTexpresso – Serviços Postais e Logística, S.A..

Table 7-3 – Entitled express mail services providers

Entity	Authorization no.	Issue date	Services provided
CTTexpresso – Serviços Postais e Logística, S.A.	ICP-01/2001-SP	01-10-2001	Express Mail
DHL – Express Portugal, Lda.	ICP-03/2001-SP	13-12-2001	Express Mail
Chronopost Portugal – Transporte Internacional, S.A.	ICP-04/2001-SP	13-12-2001	Express mail
TNT Express Worldwide (Portugal), S.A.	ICP-05/2001-SP	13-12-2001	Express mail
UPS of Portugal – Transportes Internacionais de Mercadorias, Lda.	ANACOM-01/2002-SP	17-10-2002	Express mail
Rangel Expresso, S.A.	ANACOM-02/2002-SP	19-12-2002	Express mail
Federal Express Corporation – Sucursal em Portugal	ANACOM-01/2003-SP	10-04-2003	Express mail
Ibercourier – Serviço de Transporte Urgente, Lda.	ANACOM-01/2005-SP	09-02-2005	Express mail
Entity	Authorization no.	Issue date	Services provided
Logista – Transportes, Lda.	ANACOM-02/2005-SP	09-05-2005	Express mail
Lisespo – Transportes, Lda.	ANACOM-03/2005-SP	15-07-2005	Express mail
Cavijo – Logística e Marketing, Lda.	ANACOM-05/2005-SP	08-09-2005	Express mail
Transworld Express – Correio Expresso, Lda.	ANACOM-06/2005-SP	08-09-2005	Express mail
Nuno Miguel Alves, Unipessoal, Lda.	ANACOM-07/2005-SP	08-09-2005	Express mail
Globe Logistics – Empresa de Courier, Logística e Transportes	ANACOM-08/2005-SP	08-09-2005	Express mail
Fozpost – Entrega e Recolha de Encomendas, Lda.	ANACOM-09/2005-SP	08-09-2005	Express mail
Mensageiro Azul – Serviços de Courier, Lda.	ANACOM-10/2005-SP	08-09-2005	Express mail
RANEXPRESS – Transportes Rodoviários, Lda.	ANACOM-11/2005-SP	08-09-2005	Express mail
Francisco & Silvina – Transportes de Documentos e Encomendas, Lda.	ANACOM-13/2005-SP	08-09-2005	Express mail
MAILGLOBE – Transporte de Correio Urgente, Lda.	ANACOM-14/2005-SP	08-09-2005	Express mail
EXPRESSODÃO – Transporte de Mercadorias, Lda.	ANACOM-16/2005-SP	08-09-2005	Express mail
FOXIL – Gestão de Transportes, Lda.	ANACOM-17/2005-SP	08-09-2005	Express mail

Entity	Authorization no.	Issue date	Services provided
Transportes António Garcia & César, Lda.	ANACOM-18/2005-SP	08-09-2005	Express mail
P.P.Expresso – Transportes de Mercadorias, Lda.	ANACOM-19/2005-SP	08-09-2005	Express mail
Portipost – Serviço de Transportes Urgentes, Lda.	ANACOM-20/2005-SP	08-09-2005	Express mail
JáEstá – Tráfego e Serviços Logísticos, Lda.	ANACOM-21/2005-SP	08-09-2005	Express mail
Multitagus – Transportes e Serviços, Lda.	ANACOM-22/2005-SP	27-09-2005	Express mail
Iberenvios – Actividades Postais e Transportes, Unipessoal, Lda.	ANACOM-23/2005-SP	27-09-2005	Express mail
Princeps – Comércio por Grosso, Lda.	ICP-ANACOM-24/2005-SP	04-11-2005	Express mail
Portomail – Transporte de Documentos e Encomendas, Lda.	ICP-ANACOM-25/2005-SP	04-11-2005	Express mail
ER – Encomendas Rápidas, Lda.	ICP-ANACOM-26/2005-SP	23-11-2005	Express mail
FELCOURIER – Distribuição de Encomendas Nacional e Internacional, Lda.	ANACOM-02/2006-SP	02-02-2006	Express mail
HMJ – Envio Rápido de Encomendas, Lda.	ANACOM-03/2006-SP	02-02-2006	Express mail
Flash Transportes Unipessoal, Lda.	ANACOM-04/2006-SP	02-02-2006	Express mail
Transportes Ochôa, S.A.	ANACOM-05/2006-SP	02-02-2006	Express mail
LHSTUR – Transportes Urgentes, Estafetagem, Lda.	ANACOM-06/2006-SP	07-02-2006	Express mail
Consigo Pelo Mundo – Transporte e Entrega de Documentos, Unipessoal, Lda.	ANACOM-07/2006-SP	07-02-2006	Express mail
António Carlos Santos – Entregas Rápidas, Unipessoal, Lda.	ANACOM-08/2006-SP	09-03-2006	Express mail
ASL Courier, Lda.	ANACOM-09/2006-SP	08-06-2006	Express mail

Source: ICP-ANACOM

7.3. The postal services usage profile

The main users of postal services are non-residential entities. The main traffic flows are originated by these entities and destined to individuals and companies. Estimates indicate that the flows originated on individual consumers stand for less than 10 per cent of postal traffic.

We following present the postal services' user and residential usage profile.

According to the available data⁸⁵, regular mail and priority (blue) mail are the most used postal services. On the other hand, there was an important increase in the number of interviewees that say they use pre-paid (green) mail⁸⁶.

The price level of express services should justify this type of mail's low consumption levels.

Postal services are used more intensely by individuals on a working age, with highlight to the 25-30 year old age group.

⁸⁵ Cf. ICP-ANACOM, Survey on the Consumption of Postal Services, November 2006. The Universe was made up of individuals over 15 years old, residing in Portugal (Mainland and Autonomous Regions). The sample size was determined in order to assure a +/-3.5% error margin for the main results (for a 95% confidence level). The sample was stratified by NUTS II based on the last General Population Census: 2001 Census. (CATI) telephone interviews were made. The fieldwork took place between 2 and 15 November 2006 and was carried out by Metris GFK. 1000

⁸⁶ The service pattern was approved by Regulation no. 1048/2004 of 16 August. Vide http://www.anacom.pt/streaming/port1048_04.pdf?categoryId=42989&contentId=224902&field=ATTACHED_FILE.

Table 7-4 – Use of postal services by age group

Age group	Standard mail	Priority mail	Express mail	Pre-paid mail	Parcels
15-24	46.7%	52.7%	1.8%	10.2%	12.0%
25-30	50.0%	61.5%	8.3%	20.8%	19.8%
31-49	41.6%	53.8%	5.5%	13.5%	15.6%
50-64	46.8%	45.4%	5.0%	6.4%	17.9%
65-mais	39.8%	26.9%	2.2%	3.2%	7.0%
Total	43.8%	47.2%	4.4%	10.1%	14.3%

Source: ICP-ANACOM, Survey on the consumption of postal services 2006

The use of postal services is greater among customers with higher education levels.

Table 7-5 – Use of postal services by education level

Education level	Standard mail	Priority mail	Express mail	Pre-paid mail	Parcels
Up to primary	42.0%	38.5%	2.8%	5.6%	7.7%
6th or 9th grade	50.0%	52.6%	5.3%	10.5%	15.8%
12th grade	53.4%	58.9%	5.5%	17.8%	19.2%
Above 12th grade	60.3%	58.7%	3.2%	14.3%	14.3%
Total	43.8%	47.2%	4.4%	10.1%	14.3%

Source: ICP-ANACOM, Survey on the consumption of postal services 2006

The higher income groups are those that use mail more intensely.

Table 7-6 – Use of postal services by social status

Status social	Standard mail	Priority mail	Express mail	Pre-paid mail	Parcels
High (A)	53.2%	66.0%	6.4%	21.3%	17.0%
Medium high (B)	46.8%	69.8%	10.1%	18.7%	20.1%
Medium (C)	49.4%	58.5%	5.1%	17.6%	20.5%
Medium low (D)	41.9%	38.2%	3.2%	6.7%	10.8%
Low (E)	37.8%	35.7%	1.4%	1.4%	9.8%
Total	43.8%	47.2%	4.4%	10.1%	14.3%

Source: ICP-ANACOM, Survey on the consumption of postal services 2006

Lastly, it should be noted that Internet usage does not seem to hinder the consumption of postal services, or to influence the use of parcels services.

Table 7-7 – Sending in the last 12 months, per Internet use

	Does no use e-mail	Uses e-mail	Average
Standard Mail	9.2%	15.9%	14.3%
Priority Mail	6.9%	9.5%	8.8%
Express Mail	3.3%	1.9%	2.1%
Pre-paid Mail	9.2%	7.9%	8.1%
Parcels	4.0%	5.0%	4.7%

Source: ICP-ANACOM, Survey on the consumption of postal services 2006

7.4. The evolution of postal services in 2006

Below is a set of elements on the evolution of postal services in 2005: penetration, use of postal services, employment, network infrastructures, prices, perception of quality of the postal services from the consumers' viewpoint, and the evolution of competition.

7.4.1. Penetration

Postal coverage is about 21 access points per each 100 km². The decrease in the universal service operator's access points has not been compensated by the increase of access points from the liberalized area operators.

Table 7-8 – Postal coverage

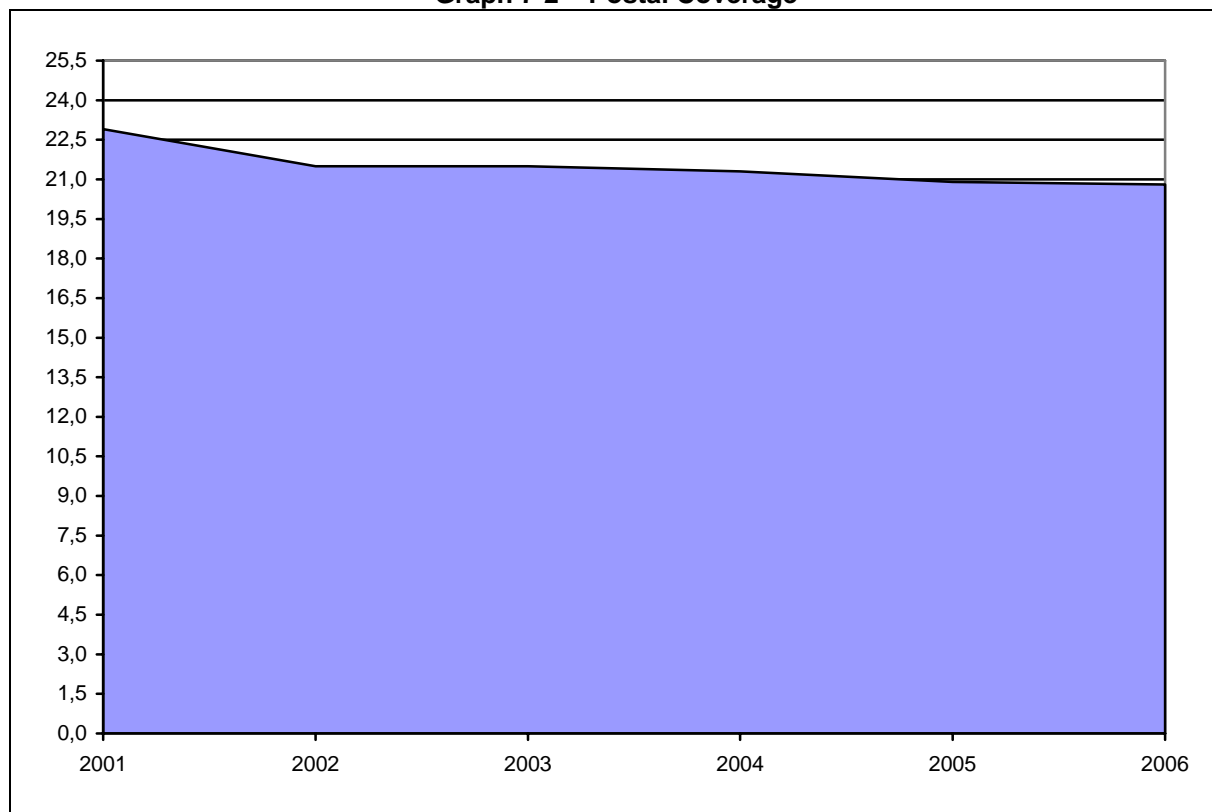
	2005	2006	2005/2006 Var. (%)	2001/2006 Average yearly Var. (%)	2001/2006 Var. (%)
No. of access points per 100km ²	20.9	20.8	-0.1	-0.4	-2.1

Source: ICP-ANACOM, INE

Note: 2003 INE's Portugal's Statistical Yearbook: Portugal's full area is 91.947km².

Unit: 1 access point, %

Graph 7-2 – Postal Coverage



Source: ICP-ANACOM

Unit: No. of access points per 100km²

On the other side, postal density also registers a downward trend, with the number of inhabitants per point of access growing since 2001. This evolution is explained by the already mentioned reduction in the number of access points and by the population growth registered during the period under analysis.

Table 7-9 – Postal density

	2005	2006	2005/2006 Var. (%)	2001/2006 Average yearly Var. (%)	2001/2006 Var. (%)
No. of inhabitants by access point	549	555	6	13	64

Source: ICP-ANACOM, INE

Unit: No. of inhabitants

Note: INE's population estimate on 31 December 2006: 10,599,095 inhabitants. The 2005 figures were corrected according to the update on population data made by INE.

The penetration rate of postal services measured in terms of postal capitation – postal traffic per inhabitant – decreased 6 per cent in 2006. The traffic evolution that determined this result will be presented in the following section.

Table 7-10– postal capitation

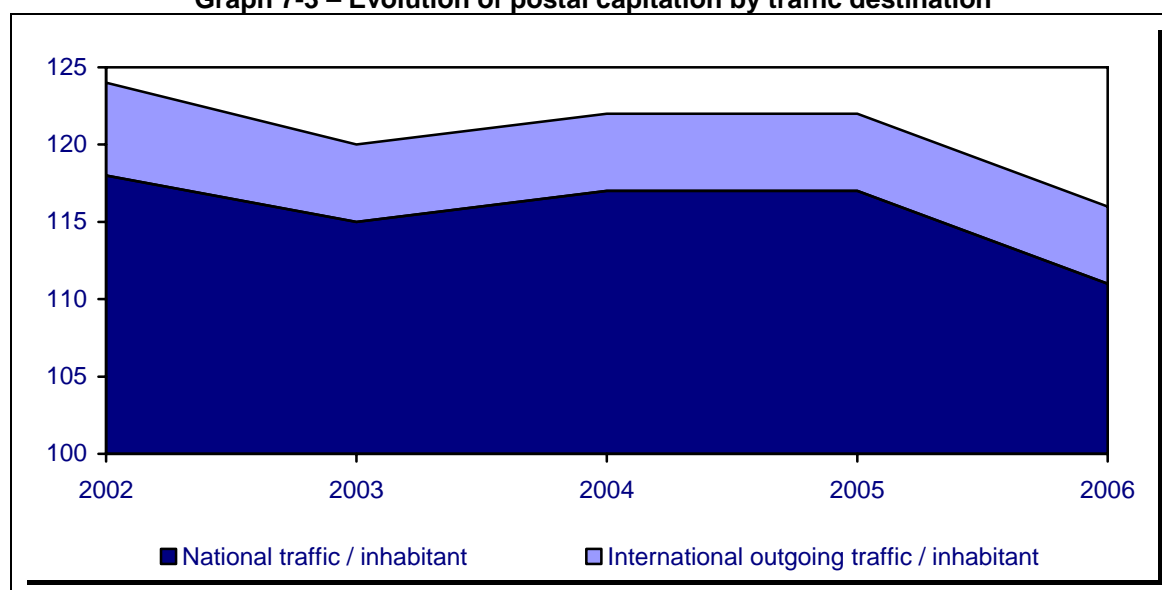
	2005	2006	2005/2006 Var. (%)	2001/2006 Average yearly Var. (%)	2001/2006 Var. (%)
Postal capitation	122	116	-5.1%	-1.8%	-7.1%
National traffic	117	111	-5.2%	-1.6%	-6.3%
International outgoing traffic	5	5	-5.1%	-5.9%	-21.5%
International incoming traffic	4	4	-6.3%	-1.3%	-5.1%

Source: ICP-ANACOM, INE

Unit: postal traffic per inhabitant

Note: INE's population estimate on 31 December 2006: 10,599,095 inhabitants. The 2005 figures were corrected according to the update on population data made by INE.

Graph 7-3 – Evolution of postal capitation by traffic destination



Source: ICP-ANACOM

Unit: postal traffic per inhabitant

7.4.2. Service's usage level

The following section assesses the evolution of overall traffic, liberalized traffic and traffic by destination.

Evolution of overall traffic

In 2006, postal traffic decreased (-4.9 per cent) for the first time since the beginning of the second phase of liberalization.

This traffic reduction was determined by the decrease in the number of invoices and extracts mail by companies providing basic public services (i.e. EDP), electronic communications services, banking services, etc. In the case of EDP, the traffic decrease is explained by the duplication of the invoicing periods (invoices were issued monthly and are now sent every two months). The remaining companies have increasingly invested on electronic invoicing.

Table 7-11 – Postal traffic

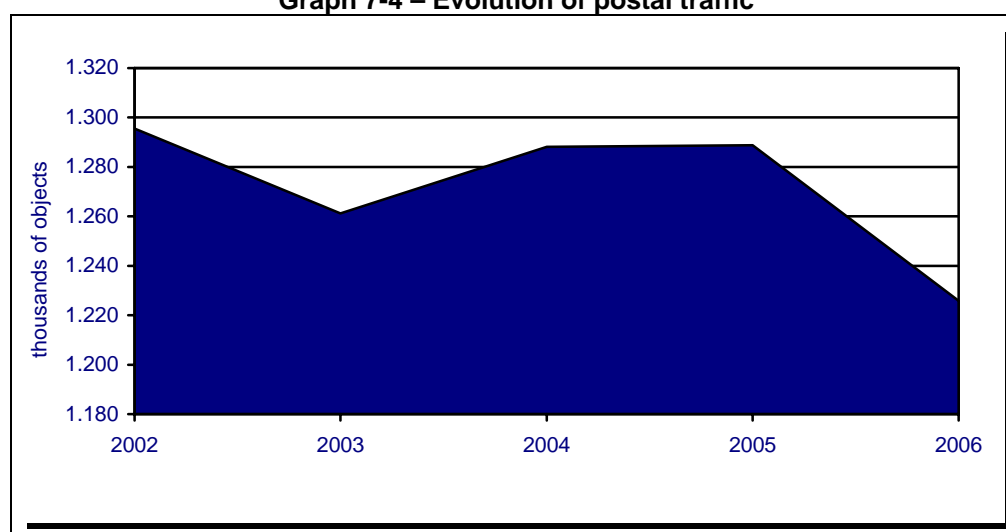
	2005	2006	2005/2006 Var. (%)	2001/2006 Average yearly Var. (%)	2001/2006 Var. (%)
Tráfego postal	1.288.836	1.225.891	-4,9%	-1,4%	-5,4%

Source: ICP-ANACOM

Unit: Thousands of objects

Note: 2005 figures were corrected following the data update sent by some operators after the publication of the 2005 State of Communications.

Graph 7-4 – Evolution of postal traffic



Source: ICP-ANACOM

Traffic composition: reserved area/liberalized area

The liberalized traffic's weight regarding overall traffic increased 5.7 per cent in 2006. However, after 3 liberalization phases, reserved traffic still stands for 75 per cent of the global amount.

Table 7-12 – Postal traffic: Reserved area/Liberalized area

	2005	2006	2005/2006 Var. (%)	2001/2006 Average yearly Var. (%)	2001/2006 Var. (%)
Reserved area	1,043,116	922,327	-11.6%	-5.3%	-19.6%
Liberalized area	245,720	303,564	23.5%	19.6%	104.5%

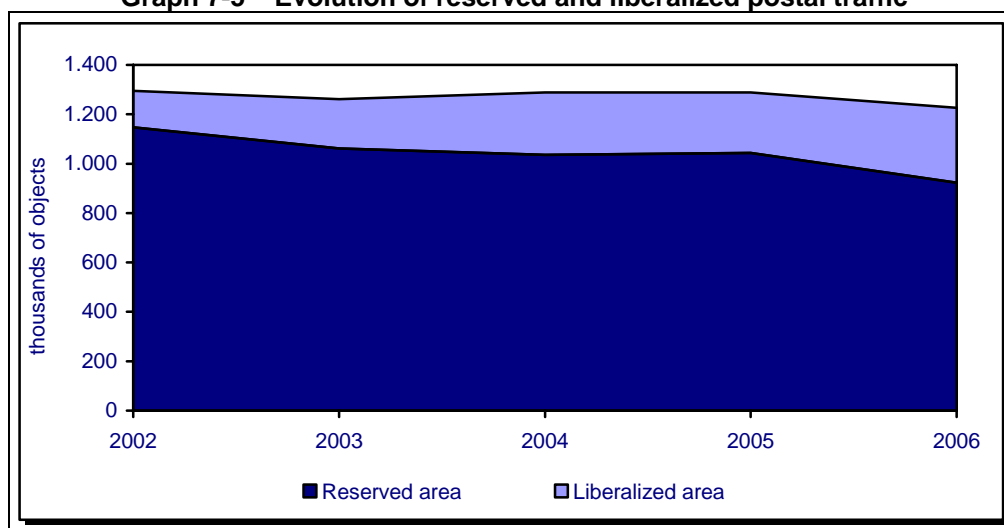
Source: ICP-ANACOM

Unit: thousands of objects

Note: 2005 figures were corrected following the data update sent by some operators after the publication of the 2005 State of Communications

The considerable changes occurred in the traffic's composition (reserved area/liberalized area) are mainly explained by the beginning of the postal sector's new liberalization phase on 1 January 2006, as previously mentioned. On that date, the reserved area started having the following weight and price limits: 50gr. and two and a half times the public tariff for sending a 1st class correspondence of the fastest standardized weight category, respectively.

Graph 7-5 – Evolution of reserved and liberalized postal traffic



Source: ICP-ANACOM

This artificial traffic increase in the liberalized area also occurred in 2003 and in 2004: In 2003, traffic of the liberalized postal area grew around 34.8 per cent. Later, this effect had impact on the 2004 traffic and partly justifies the 26 per cent increase registered on the liberalized area traffic during that year.

I.e. traffic increase in the liberalized area has been mainly caused by the re-categorization of traffic previously classified as reserved.

Liberalized area traffic by type of objects: correspondence and parcels

Liberalized traffic is mostly made up of correspondence (93 per cent).

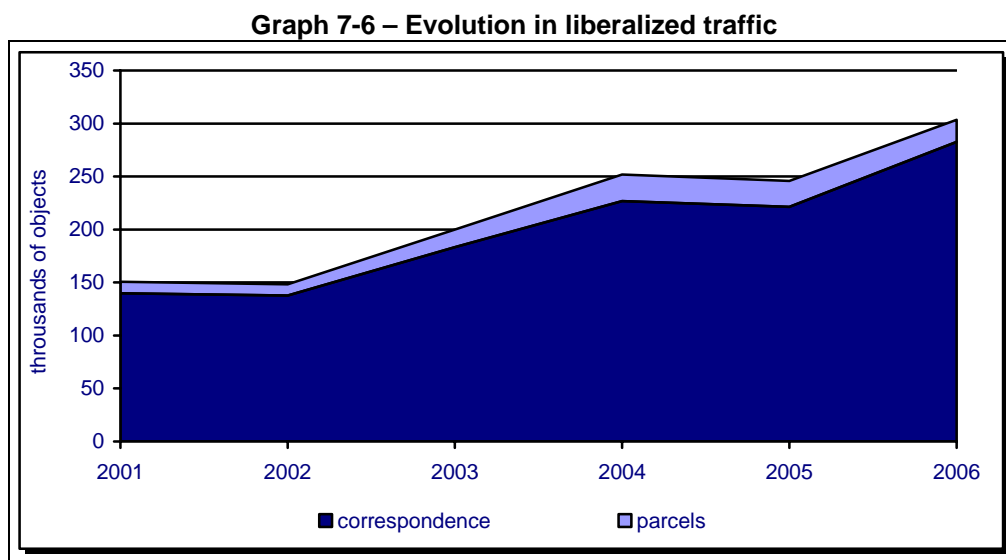
Table 7-13 – Postal traffic in the liberalized are

	2005	2006	2005/2006 Var. (%)	2001/2006 Average yearly Var. (%)	2001/2006 Var. (%)
Liberalized area	245,720	303,564	23.5%	15.0%	101.3%
Correspondence	221,268	282,770	27.8%	15.1%	102.4%
Parcels	24,452	20,794	-15.0%	13.4%	87.7%

Source: ICP-ANACOM

Unit: Thousands of objects

Note: 2005 figures were corrected following the data update sent by the incumbent operator after the publication of the 2005 State of Communications, and the correction of traffic data regarding other providers.



Source: ICP-ANACOM

Evolution of traffic by destination: national/international

Analysing the behaviour of postal traffic by traffic destination, one registers that both national and international traffic suffered a decrease of about 5 per cent.

Table 7-14 – Postal traffic by traffic destination

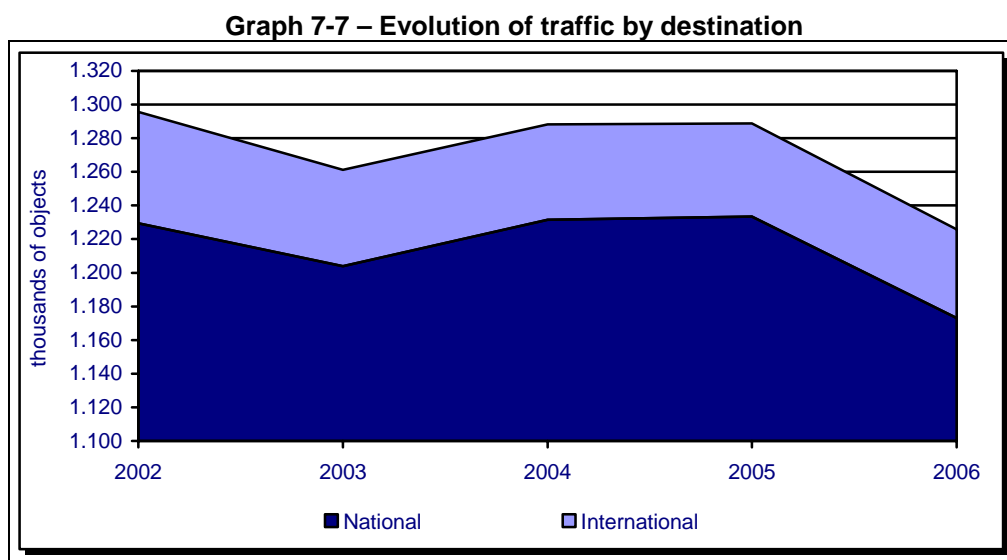
	2005	2006	2005/2006 Var. (%)	2001/2006 Average yearly Var. (%)	2001/2006 Var. (%)
Postal traffic	1,288,836	1,225,891	-4.9%	-1.4%	-5.4%
National	1,233,342	1,173,057	-4.9%	-1.2%	-4.6%
International	55,494	52,834	-4.8%	-5.4%	-20.1%
International incoming	47,434	44,560	-6.1%	-0.8%	-3.4%

Source: ICP-ANACOM

Unit: Thousands of objects

Note: 2005 figures were corrected following the data update sent by the incumbent operator after the publication of the 2005 State of Communications.

While national traffic decreased about 1.2 per cent per year, in average, between 2002 and 2006, international traffic recorded an average 5.4 per cent decrease during that period.



National traffic stands for about 96 per cent of postal traffic.

Evolution of traffic by type of service

Regarding traffic evolution by type of service, the growth registered in the express mail services segment (9.7 per cent in 2006) stands out. This evolution is explained by the greater scope of the reserved area, and by the granting of titles to new entities for the provision of this type of services. Furthermore, this express mail service growth was mostly due to the new providers of postal services operated in competition and, namely, to their activity of distribution of addressed correspondence.

Table 7-15 – Postal traffic by type of service

	2005	2006	2005/2006 Var. (%)	2001/2006 Average yearly Var. (%)	2001/2006 Var. (%)
Postal traffic	1,288,836	1,225,891	-4.9%	-1.4%	-5.4%
Express	15,671	17,194	9.7%	9.4%	43.0%
Not within the express category	1,273,164	1,208,697	-5.1%	-1.5%	-5.8%

Source: ICP-ANACOM

Unit: Thousands of objects

Note: 2005 figures were corrected following the data update sent by the incumbent operator after the publication of the 2005 State of Communications.

7.4.3. Employment in postal services

Employment in postal services has shown a slightly downward trend. In 2006, there was slight increase of 0.5 per cent in the number of employees of the postal sector, explained by the new operators. The companies of Grupo CTT continue to reduce its work force while employment at the competition increased 21 per cent during that year.

Notwithstanding, since 2002, employment in the postal sector fell 7.9 per cent.

Table 7-16 – Employment in postal services

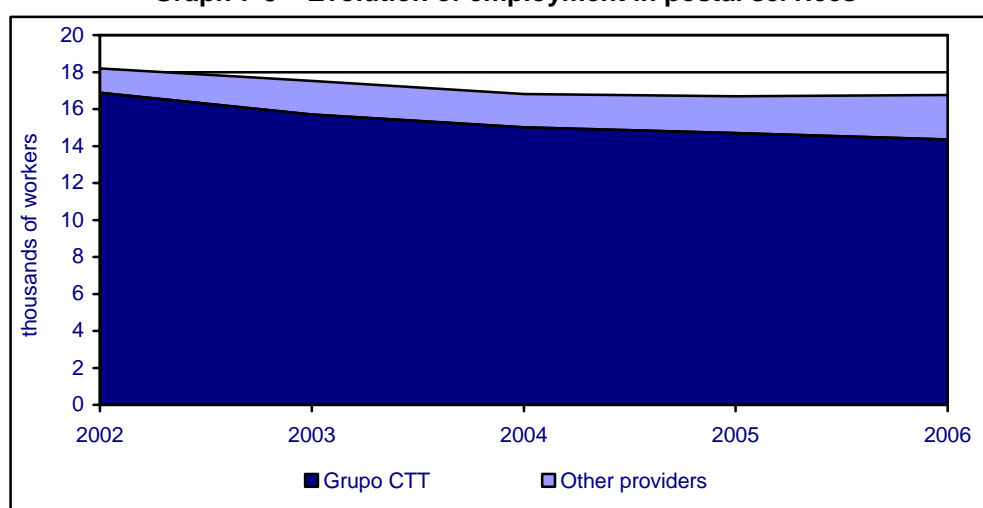
	2005	2006	2005/2006 Var. (%)	2001/2006 Average yearly Var. (%)	2001/2006 Var. (%)
No. Of employees	16,686	16,769	0.5%	-2.0%	-7.9%
Grupo CTT	14,695	14,355	-2.3%	-4.0%	-14.9%
Other providers	1,991	2,414	21.2%	16.1%	81.8%

Source: ICP-ANACOM

Unit: 1 employee, %

Note: 2005 figures were corrected following the data update sent by one operator after the publication of the 2005 State of Communications

Graph 7-8 – Evolution of employment in postal services



Source: ICP-ANACOM

7.4.4. The postal network

The evolution of the material resources of the global postal network held by the universal service provider and by the entities entitled for the provision of postal services operated in competition is shown on the following table.

Table 7-17 – Material resources of the postal network

	2005	2006	2005/2006 Var. (%)	2001/2006 Average yearly Var. (%)	2001/2006 Var. (%)
No. of access points	19,257	19,111	-0.8%	-0.9%	-3.4%
Grupo CTT	19,202	19,032	-0.9%	-0.9%	-3.6%
Other operators	55	79	43.6%	26.3%	154.8%
No. of distribution centres	446	442	-0.9%	-1.0%	-3.9%
Grupo CTT	391	381	-2.6%	-3.0%	-11.6%
Other operators	55	61	10.9%	20.4%	110.3%
Vehicles	5,807	5,592	-3.7%	2.1%	8.8%
Grupo CTT	4,479	4,261	-4.9%	-0.8%	-3.3%
Other operators	1,328	1,331	0.2%	16.1%	81.6%

Source: ICP-ANACOM

In 2006, three postal network indicators registered a decrease. In the case of access points and of the distribution centres, this decrease was about 1 per cent. The fleet of vehicles decreased 4 per cent regarding the previous year.

Has shown, the companies of Grupo CTT are responsible for the negative evolution registered in each one of these postal network indicators, since the same indicator increases when providers under competition are handled independently.

7.4.5. Price level of the universal service

The rules for the setting of prices of the postal services that make up the universal service⁸⁷ are subject to an Agreement (Universal Postal Service Prices Agreement) established between the regulator (ICP-ANACOM) and the universal service provider (CTT).

On 21 April 2006 CTT and ICP-ANACOM signed the Universal Postal Service Prices Agreement⁸⁸, valid from 01/01/2006 to 31/12/2006.

Form what is stated in the Prices Agreements, one should point out the fact that the weighted average variation of the prices of the reserved postal services cannot be above CPI-0.3 per cent, in nominal terms. For this purpose, the Consumer Price Index (CPI) is the figure officially forecasted by the Government and used in the State Budget for that year. Since the value registered by the State Budget for 2006 was 2.3 per cent, the average variation of the prices of the reserved postal services allowed for 2006 was 2 per cent.

In 2006, the price of the standard mails' basic tariff (tariff of a 20gr national letter) decreased, in real terms, 3 per cent regarding 2005. Regarding 2003⁸⁹ there is a real reduction of 7.7 per cent.

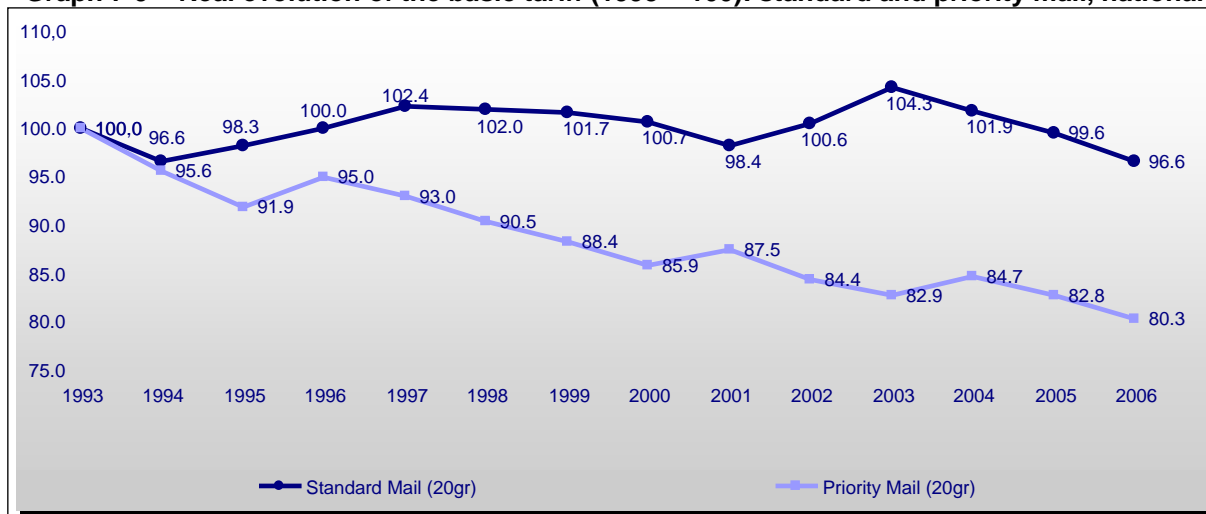
In real terms, the national priority (blue) mail's basic tariff decreased 3 per cent regarding 2005 and 19.7 per cent between 1993 and 2006.

⁸⁷ The Prices Agreement defines the rules for the formation of the universal service's prices, which comprises a service of sending correspondence, books, catalogues, newspaper and other periodicals weighting up to 2kg, and of parcels up to 20kg, as well as a service of registered sendings and a money order service, both for the national and international services (nos. 1 and 2 of article 6 of the Basic Law).

⁸⁸ <http://www.anacom.pt/template12.jsp?categoryId=190245>.

⁸⁹ Year when the first Prices Agreement, signed between ICP-ANACOM, CTT and the former Directorate-General for Commerce and Competition, came into force.

Graph 7-9 – Real evolution of the basic tariff (1993 = 100): standard and priority mail, national



Source: ICP-ANACOM

These prices stand favourably when compared with EU's average in 2006⁹⁰:

- The price of the 20g national priority mail (blue mail in Portugal) is 13.2 per cent below the EU15⁹¹ average and equal to the EU24⁹² average (not including Cyprus);
- The price of sending a 20g non priority national mail (standard mail) letter is 30 per cent below the average of the EU countries that provide an equivalent service⁹³.

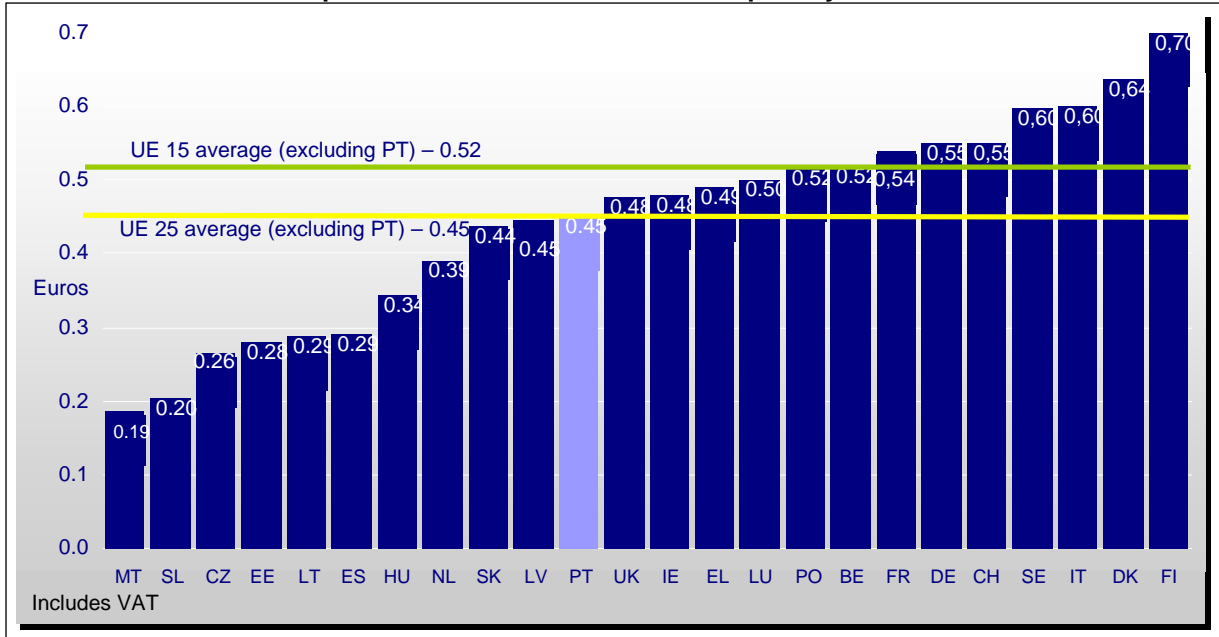
⁹⁰ According to the collection of prices made by ICP-ANACOM, directly from the universal postal service operators' Internet sites.

⁹¹ Average excluding Portugal.

⁹² Average excluding Portugal.

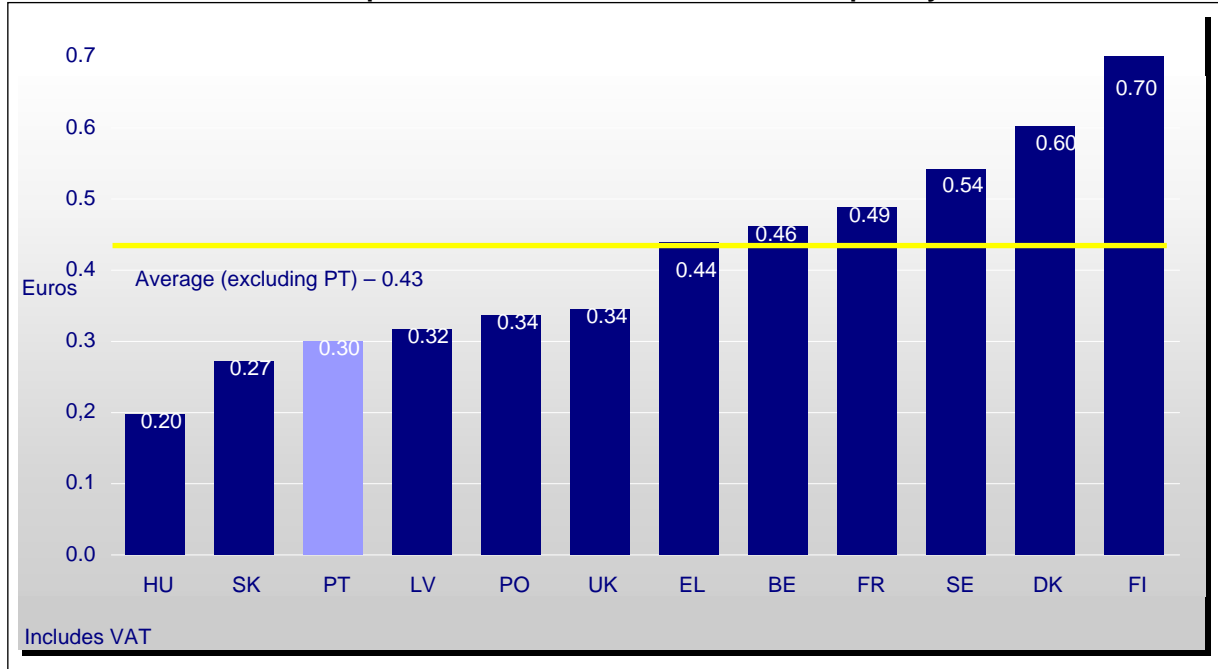
⁹³ Average excluding Portugal.

Graph 7-10 – Basic tariff of domestic priority mail



Source: ICP-ANACOM

Graph 7-11 – Basic tariff of domestic non-priority mail



Source: ICP-ANACOM

7.4.6. The quality of the universal service

When the Prices Agreement was signed (21 April 2006), the Universal Service Quality Convention⁹⁴ was also established, to be in force from 1 January 2006 to 31 December 2006. It sets the parameters and minimum quality of service levels associated to the provision of the universal postal service, which CTT is obliged to comply with.

The Quality Convention defines the quality of service indicators (QSI) for i) delays in delivery of standard mail, priority mail, newspapers and periodicals, intercommunity mail and parcels, ii) loss of standard and priority mail, and for iii) waiting time at postal establishments. For each of QSI there is a minimum and target level of quality of service defined. The target level is the one that CTT is expected to achieve, each year, however, the minimum level corresponds to the minimum quality that CTT must ensure.

The 2006 Quality Convention established, in regards to 2005⁹⁵, higher quality levels for the universal postal service, in all defined parameters, except for intercommunity mail (QSI7 and QSI8), which maintain the levels in force in 2005.

⁹⁴ <http://www.anacom.pt/template12.jsp?categoryId=190302>.

⁹⁵ <http://www.anacom.pt/template12.jsp?categoryId=90481>.

Table 7-18 – Comparison of QSI defined in the 2006 Quality Convention and in the 2004-2005 Quality Convention

Quality of service indicators		2004-2005 Convention			2006 Convention			Evolution	
		IR (%)	Minimum	Target	IR (%)	Minimum	Target	Minimum	Target
IQS1	Transit time for Non-Priority Mail (D+3)	46,0	95,2	96,0	45,0	95,5	96,3	0,3	0,3
IQS2	Transit time for Priority Mail – Mainland (D+1)	15,0	93,0	94,0	15,0	93,5	94,5	0,5	0,5
IQS3	Transit time for Priority Mail – CAM (D+2)	4,0	82,0	85,0	4,0	84,0	87,0	2,0	2,0
IQS4	Non-priority mail not delivered within 15 working days (per one thousand letters)	5,0	2,5	1,5	5,0	2,3	1,4	0,2	0,1
IQS5	Priority mail not delivered within 10 working days (per one thousand letters)	3,0	2,6	1,6	3,0	2,5	1,5	0,1	0,1
IQS6	Transit time for Newspapers and Periodicals	15,0	95,0	96,0	11,0	95,5	96,3	0,5	0,3
IQS7	Transit time for Intra-community Cross-border	3,5	85,0	88,0	3,5	85,0	88,0	=	=
IQS8	Transit time for Intra-community Cross-border Mail	3,5	95,0	97,0	3,5	95,0	97,0	=	=
IQS9	Transit time for Non-priority Parcels (D+3)	3,0	90,0	91,7	5,0	90,5	92,0	0,5	0,3
IQS10	Waiting time at Post Establishments (% of events < 10min)	2,0	70,0	80,0	5,0	75,0	85,0	5,0	5,0

Source: Universal Postal Service Quality Convention, of 21/04/2006 and 20/01/2004

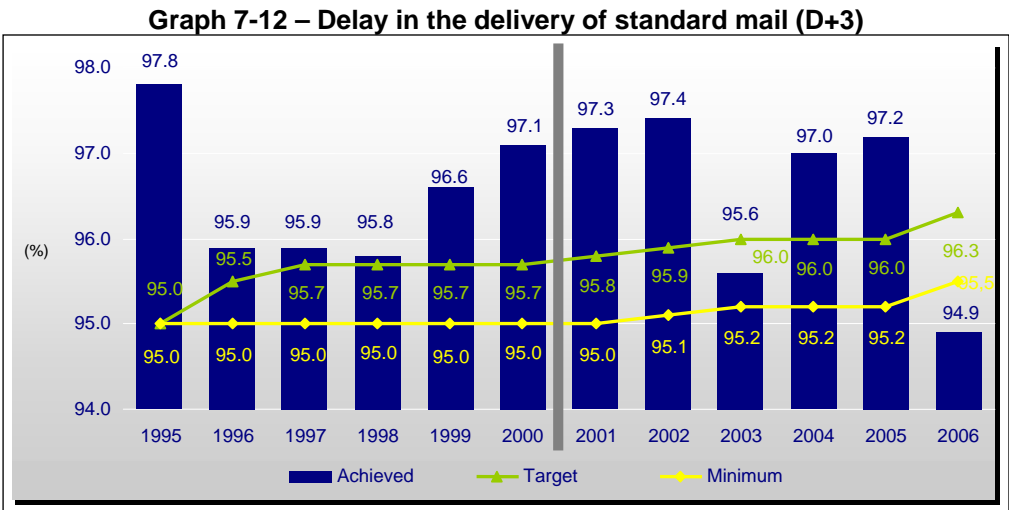
The Quality Convention also sets a Global Quality of Service Indicator (GI)⁹⁶, which is reckoned depending on the quality of service levels reached by CTT for the previously mentioned QSI.

In 2006, the values of some indicators did not reach the minimum levels and/or the targets set.

⁹⁶ The OQSI is reckoned the following way: **Firstly**, each QSI defined in the Quality Agreement is given a classification in accordance with the following methodology: i) given the value set for each QSI, the target value is given the value 100 ii) non-fulfilment of the minimum value = 0; iii) proportional value from 0 to 100 for values situated in the interval between the target and the minimum; iv) for values above the target, the classification will also be above 100, in proportion to the positive variation regarding the target. **Secondly**, sum of the classifications given to each QSI, weighted by their corresponding relative importance. **Thirdly**, should the GI be: i) 100 or above 100, there is no application of the subtraction associated to the GI; ii) below 90, one fully applies the maximum deduction foreseen, of 1 per cent; iii) between 90 and 100, one applies the subtraction proportionally. The subtraction corresponds to deducting up to 1 per cent to the price variation of the reserved services allowed for the year following the year of the non-fulfilment.

CTT did not reach the minimum values of the following QSI:

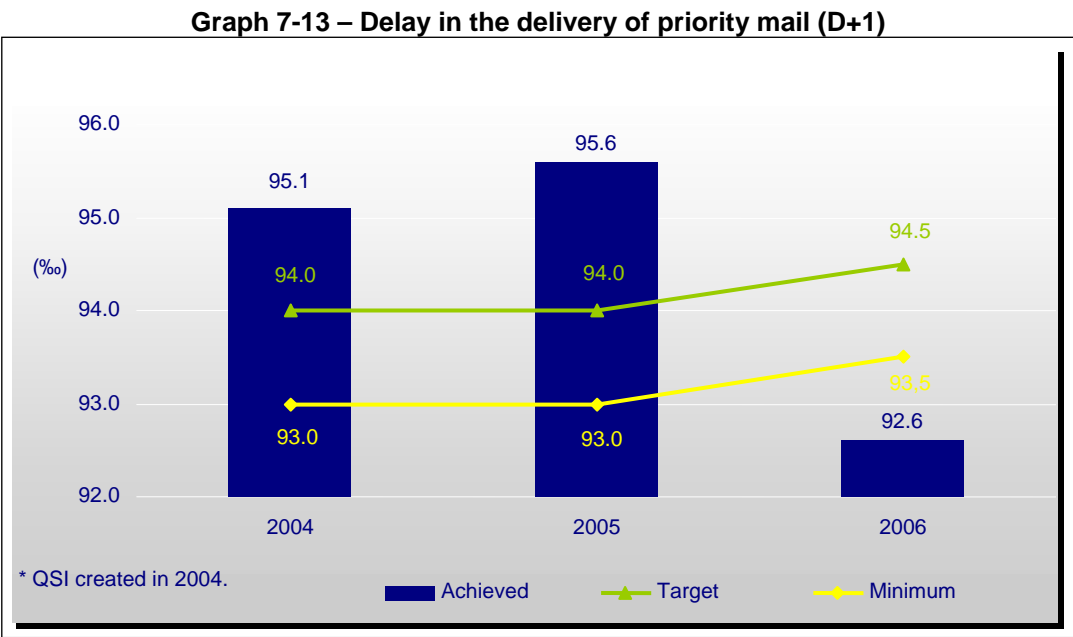
- Delay in the delivery of standard mail (D+3).



Source: CTT

Regarding the delay in delivering of standard mail (D+3), it has always stood above the target value except for the years 2003 and 2006.

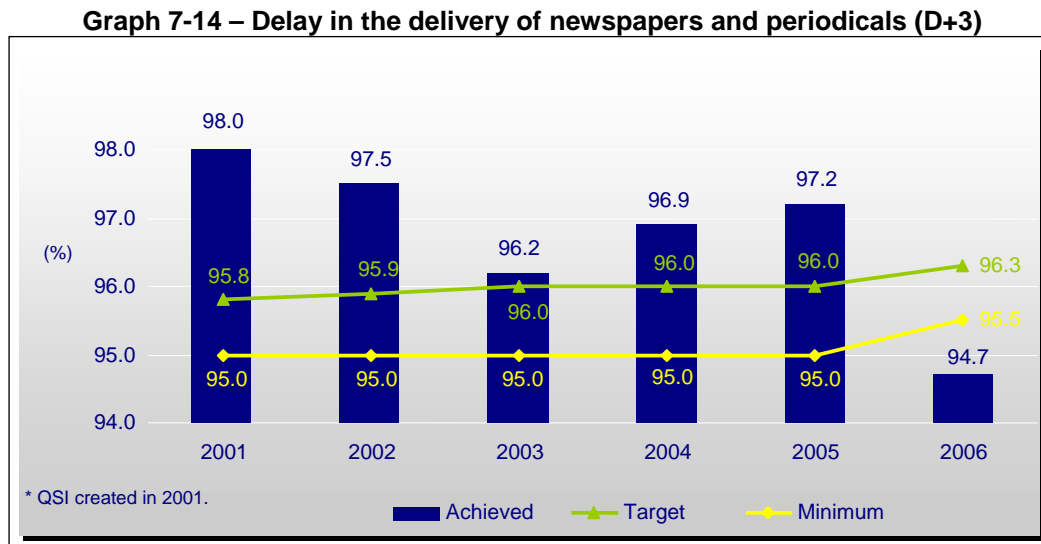
- Delay in the delivery of priority mail – Mainland (D+1);



Source: CTT

Regarding the delay in delivering priority mail in the Mainland (D+4) there is a negative evolution in 2006, regarding 2004 and 2005;

- Delay in the delivery of newspapers and periodicals (D+3).



Source: CTT

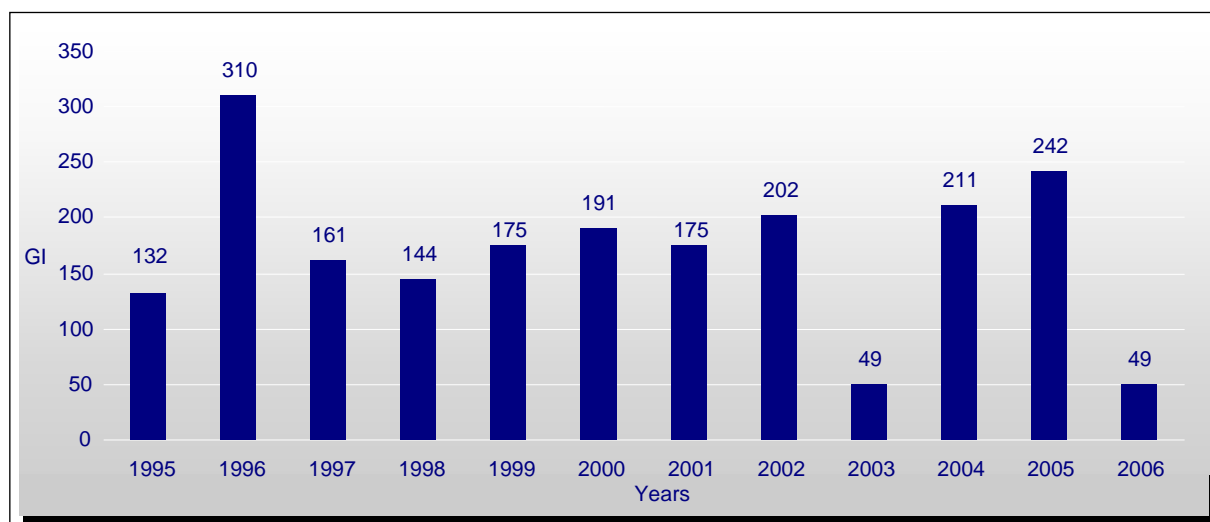
In 2006 there was an interruption in the positive evolution registered since 2003 concerning the delay in the delivery of Newspapers and Periodicals (D+3)

On the other hand, although reaching the minimum value, CTT did not reach the target value for “priority mail not delivered within 10 working days”.

The remaining QSI surpassed the target values.

The GI shows a positive evolution since 1997, with interruptions in 2003 and 2006.

Graph 7-15 – Global Quality of Service Indicator (GI)

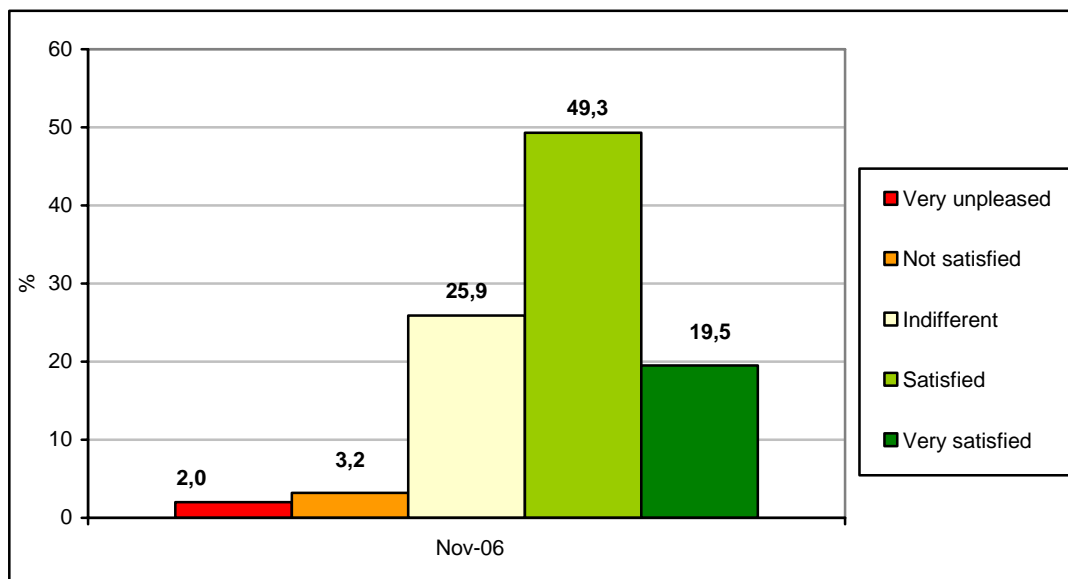


Source: ICP-ANACOM

7.4.7. Users' evaluation

According to the Survey on the consumption of postal services promoted by ICP-ANACOM in 2006, 68.8 per cent of users are "satisfied" or "very satisfied" with the evolution in the quality of posts during the last 12 months.

Graph 7-16 – Perception of the evolution of the quality of posts in the last 12 months



Source: ICP-ANACOM, Survey on the consumption of postal services 2006

About 8 per cent of those interviewed had already placed a complaint at the post office. “Delay in delivery” continues to be one of the main reasons for complaints for 33.3 per cent of those complaining.

Table 7-19 – Reasons for complaint

	Nov-06
Complained:	8.0%
Reasons:	
Delivery at wrong address	17.5%
Delay in delivery	33.3%
Loss of object	15.9%
Misunderstanding with the mail person	9.5%
Deterioration of the object	0.0%
Mail person does not ring to deliver a registered letter	7.8%
Publicity in the mail box	6.3%
Other	19.0%
NA	1.6%

Source: ICP-ANACOM, Survey on the consumption of postal services 2006

The average time for answering to a complaint is 15 days. However, 50 per cent of those presenting complaints saw their complaint solved within 2 days or less.

Table 7-20 – Average waiting time for the reply to a complaint (days)

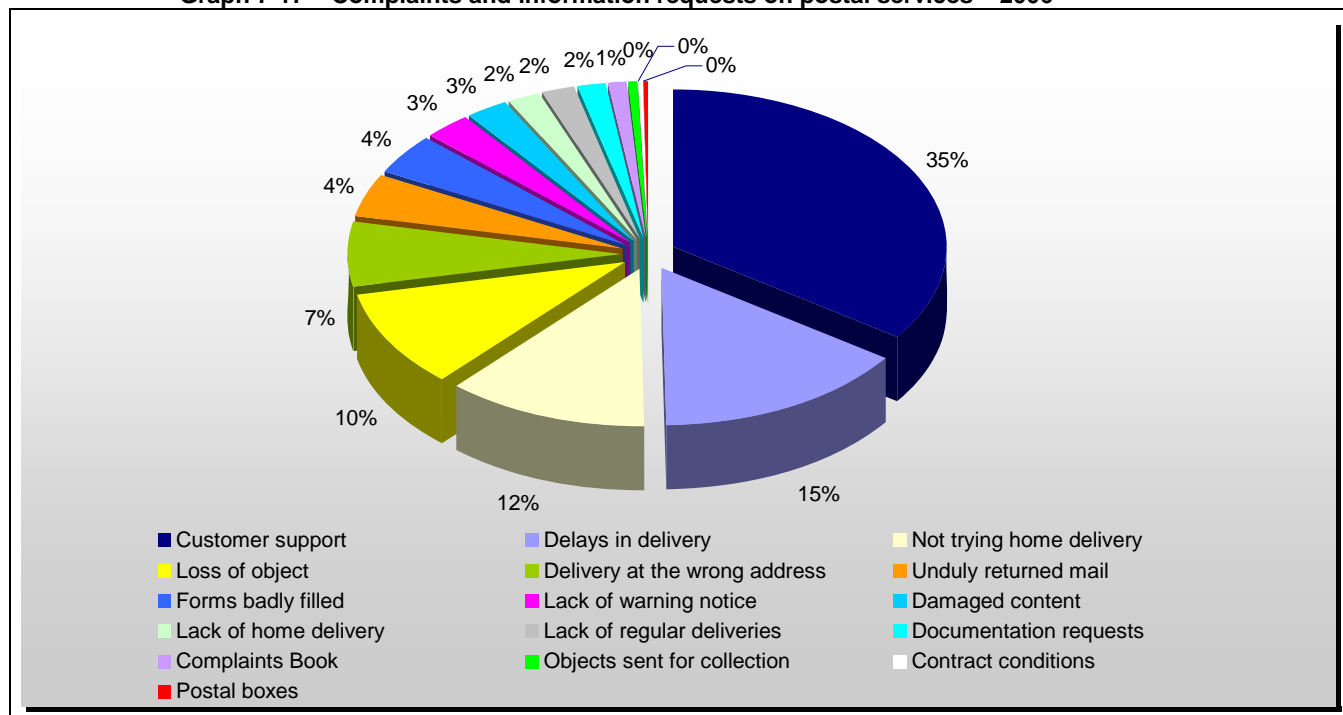
	Nov-06
Time (days):	15
Percentile 50	2
Percentile 75	21

Source: ICP-ANACOM, Survey on the consumption of postal services 2006

Regarding complaints, during 2006 ICP-ANACOM received 4,285 complaints and information requests concerning postal services and their operators.

According to the following graph, 35 per cent of those requests relate to matters regarding customer attendance (while in 2005, objects gone astray were the main reasons for postal services consumers to go to the regulator). Issues concerning the delay in the delivery of mail still come in second on the list of motives for complaint.

Graph 7-17 – Complaints and information requests on postal services – 2006



Source: ICP-ANACOM

7.4.8. Evolution of the offers' structure

Analysing the market shares in each traffic destination segment, Grupo CTT's share hasn't practically changed, reaching around 99 per cent in the case of nation traffic, and 96 per cent in the case of international traffic.

Table 7-21 – Postal traffic shares by destination

	2002		2003		2004		2005		2006	
	CTT*	Other	CTT*	Other	CTT*	Other	CTT*	Other	CTT*	Other
National	99.2%	0.8%	98.9%	1.1%	98.9%	1.1%	99.0%	1.0%	98.9%	1.1%
International	99.0%	1.0%	97.9%	2.1%	97.8%	2.2%	96.8%	3.2%	96.2%	3.8%
Int. incoming	99.2%	0.8%	96.8%	3.2%	95.8%	4.2%	91.8%	8.2%	92.6%	7.4%

Source: ICP-ANACOM

* Includes CTT and CTTexpresso

Disaggregating this type of service enables us to see that Grupo CTT's share is quite high in the services outside the express mail category (99.5 per cent). In the case of express mail, new operators altogether hold a 57 per cent share.

Table 7-22 – Postal traffic shares by type of service

	2002		2003		2004		2005		2006	
	CTT*	Other	CTT*	Other	CTT*	Other	CTT*	Other	CTT*	Other
Express serv.	60.7%	39.3%	52.2%	47.8%	47.5%	52.5%	43.3%	56.7%	43.4%	56.6%
Serv. outside express cat.	99.5%	0.5%	99.4%	0.6%	99.4%	0.6%	99.6%	0.4%	99.5%	0.5%

Source: ICP-ANACOM.

* Includes CTT and CTTexpresso

Statistical Annex

Statistical Annex

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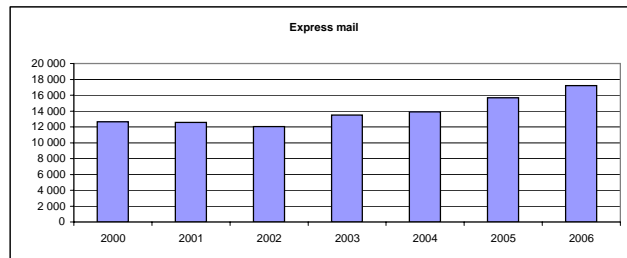
1 Postal traffic
1.1 Total Postal Traffic

	2000	2001	2002	2003	2004	2005	2006
Postal traffic *	1 339 534	1 389 769	1 295 582	1 261 241	1 288 184	1 288 836	1 225 891
Express mail	12 648	12 557	12 024	13 493	13 895	15 671	17 194
Services not included in the express mail category	1 326 886	1 377 212	1 283 558	1 247 748	1 274 289	1 273 164	1 208 697

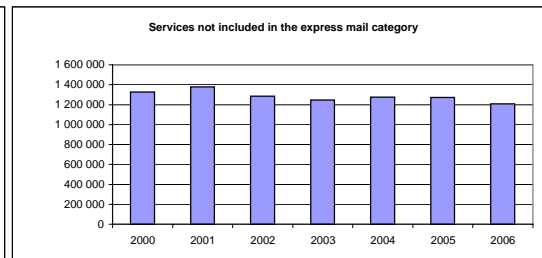
Source: ICP-ANACOM

Unit: Thousands items

* Values are corrected comparing to the previous Statistic Yearbook, which result from Providers information update.



Source: ICP-ANACOM



Postal traffic/ Thousands Inhabitants

1.1.1 Per Capita Postage

	2000	2001	2002	2003	2004	2005	2006
Per Capita Postage*							
Postal traffic by inhabitant	133,6	135,0	124,5	120,4	122,3	121,9	115,7

Source: ICP-ANACOM, INE

Postal traffic/ Thousands Inhabitants

* Values are corrected comparing to the previous Statistic Yearbook, which result from Providers information update.

1.2 Postal Network Indicators
1.2.1 Equipment

	2000	2001	2002	2003	2004	2005	2006
Equipment							
Access Points (*)	19 942	21 080	19 775	19 798	19 563	19 257	19 111
Distribution Centers	457	453	460	459	462	446	442
Vehicles	5 231	5 169	5 138	5 608	5 362	5 807	5 592

Source: ICP-ANACOM

Unit: unit values

* Physical sites where users may deposit mail in the postal network, including postboxes placed or not in public space, among others.

1.2.1.1 Geographic coverage

	2000	2001	2002	2003	2004	2005	2006
Geographic coverage							
Geographic coverage	21,7	22,9	21,5	21,5	21,3	20,9	20,8

Source: ICP-ANACOM

Access Points/ 100 Km2

1.2.1.2 Postal Density

	2000	2001	2002	2003	2004	2005	2006
Postal Density							
Number of inhabitants served by a access point	503	488	526	529	538	549	555

Source: ICP-ANACOM

Unit: Inhabitants/ Access Points

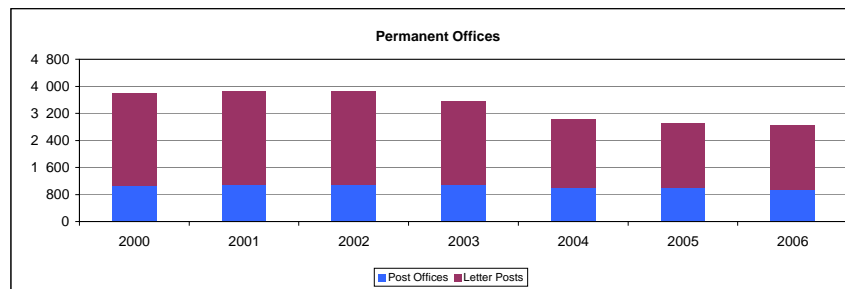
1.3 Universal Postal Service Provider Indicators

1.3.1 Number of Permanent Offices

	2000	2001	2002	2003	2004	2005	2006
Number of Permanent Offices	3 795	3 845	3 865	3 549	3 037	2 898	2 863
Post Offices	1 073	1 079	1 090	1 078	1 005	981	960
Letter Posts	2 722	2 766	2 775	2 471	2 032	1 917	1 903

Source: CTT

Unit: 1 Post office



Source: CTT

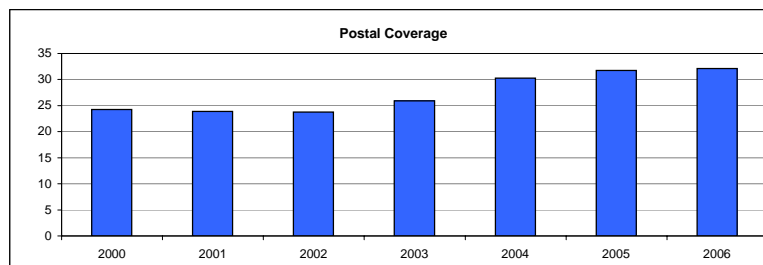
Unit: 1 Post office

1.3.1.1 Postal Coverage

	2000	2001	2002	2003	2004	2005	2006
Postal Coverage							
Area covered by a permanent office	24,2	23,9	23,8	25,9	30,3	31,7	32,1

Source: CTT, INE

Unit: Km2 / Permanent office



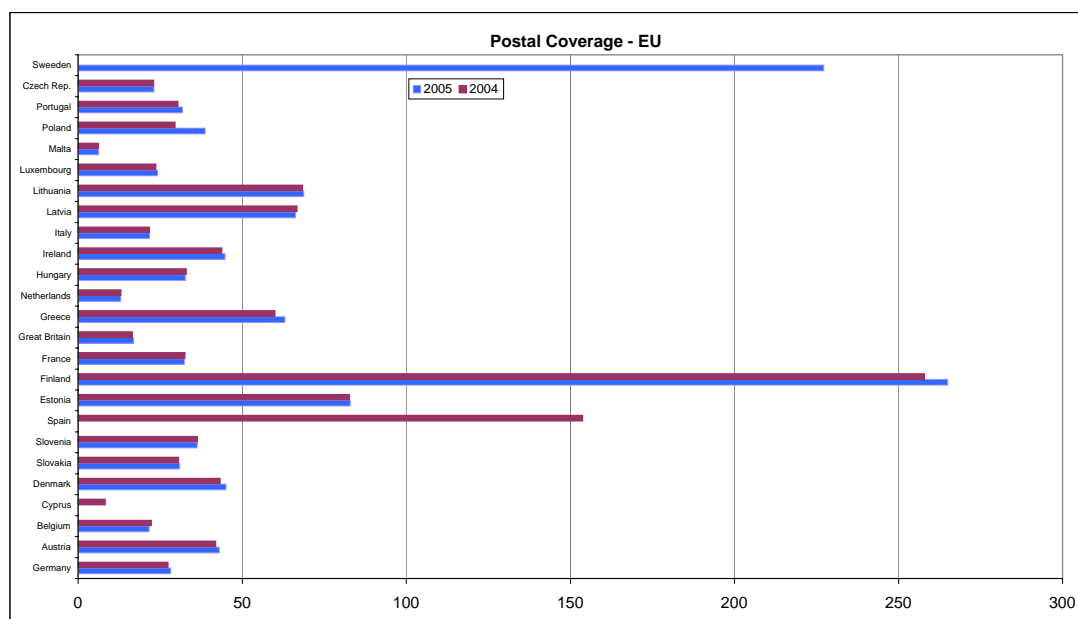
Source: CTT, INE

Unit: Km2 / Permanent office

	2000	2001	2002	2003	2004	2005
Postal Coverage - EU						
Germany	26,4	27,46	28,15	26,42	27,42	28,18
Austria	33,6	34,48	40,47	41,78	41,95	43,07
Belgium	22,3	22,53	23,45	23,47	22,3	21,66
Cyprus	ND	8,56	8,35	8,24	8,33	nd
Denmark	38,6	40,2	41,12	42,29	43,27	45,06
Slovakia	ND	30,05	30,11	30,31	30,67	30,92
Slovenia	ND	36,83	36,7	36,56	36,37	36,30
Spain	135,8	138,67	145,78	151,36	153,75	nd
Estonia	ND	79,26	82,15	82,15	82,75	82,90
Finland	229,9	ND	243,8	251,22	257,93	265,00
France	33,1	32,33	32,41	32,46	32,54	32,43
Great Britain	ND	13,78	14,09	15,31	16,63	16,90
Greece	74,2	64,31	60,89	59,49	59,98	63,05
Netherlands	17,9	19,02	17,73	16,11	13,03	13,01
Hungary	ND	28,49	28,46	29,99	32,94	32,71
Ireland	36,7	39,41	39,79	42,38	43,81	44,76
Italy	20,2	21,85	21,92	21,95	21,75	21,79
Latvia	ND	66,67	67,01	67,01	66,74	66,26
Lithuania	ND	ND	ND	ND	68,37	68,81
Luxembourg	23,9	23,94	23,94	23,94	23,73	24,17
Malta	ND	6,2	6,32	6,32	6,2	6,20
Poland	ND	39,31	39,22	38,93	29,59	38,71
Portugal	24,2	24,02	24	26,01	30,4	31,84
Czech Rep.	ND	22,17	22,18	22,99	23,07	23,09
Sweden	ND	ND	ND	ND	ND	227,26

Source: ICP-ANACOM, UPU

Unit: Km2 / Permanent office



Source: ICP-ANACOM, UPU

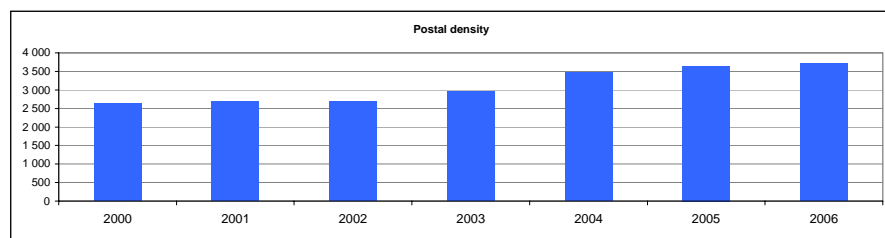
Unit: Km2 / Postal office

1.3.1.3 Postal Density

	2000	2001	2002	2003	2004	2005	2006
Postal Density							
Number of inhabitants served by a permanent office	2 641	2 686	2 693	2 951	3 467	3 647	3 702

Source: CTT, INE

Inhabitant/Permanent Office



Source: CTT, INE

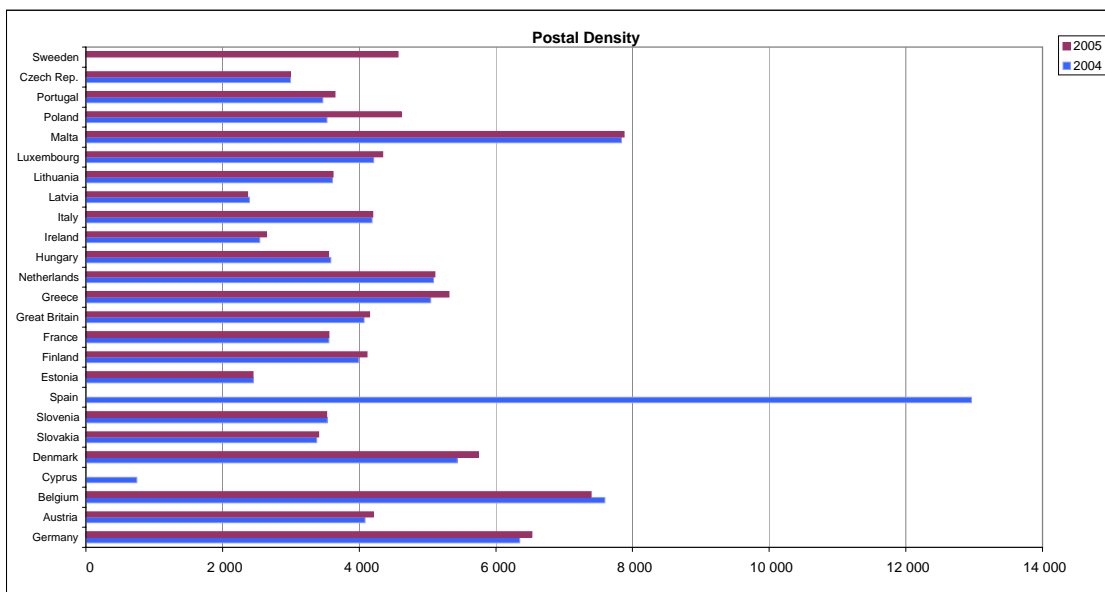
Inhabitant/Permanent Office

1.3.1.4 European Union

	2000	2001	2002	2003	2004	2005
Postal Density						
Germany	6 087	6 341	6 505	6 111	6 348	6 526
Austria	3 244	3 335	3 923	4 061	4 088	4 206
Belgium	7 493	7 625	7 954	7 978	7 597	7 395
Cyprus	ND	737	728	727	743	nd
Denmark	4 785	5 000	5 133	5 296	5 436	5 747
Slovakia	ND	3 312	3 318	3 341	3 380	3 405
Slovenia	ND	3 576	3 563	3 551	3 532	3 525
Spain	10 622	11 268	11 988	12 607	12 958	nd
Estonia	ND	2 385	2 456	2 443	2 450	2 444
Finland	3 521	ND	3 753	3 879	3 993	4 114
France	3 534	3 488	3 512	3 532	3 556	3 557
Great Britain	ND	3 339	3 426	3 736	4 071	4 151
Greece	5 627	5 368	5 098	4 993	5 045	5 313
Netherlands	6 792	7 321	6 860	6 266	5 090	5 108
Hungary	ND	3 124	3 113	3 272	3 585	3 551
Ireland	1 980	2 167	2 227	2 417	2 543	2 642
Italy	3 872	4 192	4 210	4 222	4 189	4 200
Latvia	ND	2 432	2 430	2 417	2 395	2 366
Lithuania	ND	ND	ND	ND	3 606	3 615
Luxembourg	4 074	4 085	4 141	4 195	4 211	4 345
Malta	ND	7 726	7 922	7 960	7 840	7 875
Poland	ND	4 698	4 685	4 647	3 530	4 614
Portugal	2 641	2 686	2 693	2 951	3 467	3 647
Czech Rep.	ND	2 883	2 881	2 985	2 992	2 992
Sweeden	ND	ND	ND	ND	ND	4 566

Source: ICP-ANACOM, UPU

Inhabitant/Permanent Office



Source: ICP-ANACOM, UPU

Unit: Inhabitants/Postal office

1.3.2 Quality of Service Indicators

	Unit	2000	2001	2002	2003	2004	2005	2006
Ordinary Mail								
Delivery Delay (up to 3 workingdays)	%	97.1%	97.3%	97.4%	95.6%	97.0%	97.2%	94.9%
Ordinary Mail not delivered up to 15 working days	per 1000 objects	1,3	1,5	1,2	1,4	1,5	1,1	1,3
Priority Mail								
Delivery Delay (next workingday deliveries)	%	96.4%	93.7%	93.1%	91.7%	95.1%	95.6%	92.6%
Priority Mail not delivered up to 10 working day	per 1000 objects	1,1	1,7	1,5	1,7	1,8	1,4	1,6
Waiting Queue at the Post Office¹								
Average Time		nd	nd	nd	nd	92.1%	92.3%	92.6%

Source: CTT, ICP-ANACOM

¹ Average percentage of waiting queue at post office of less than 10 minutes.

2 Electronic communications infrastructures

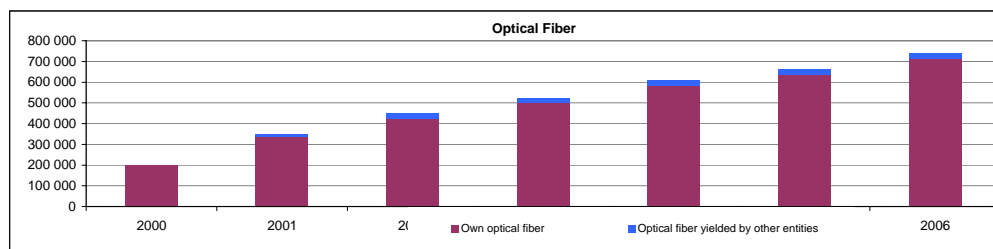
2.1 Optical fiber

	2000	2001	2002	2003	2004	2005	2006
Installed optical fiber (*)							
Own optical fiber	202 213	335 721	426 404	499 215	583 220	636 781	709 661
Optical fiber yielded by other entities	8 487	11 486	23 832	22 618	25 026	27 332	28 534

Source: ICP-ANACOM

Unit: Km.pair

* Values are corrected comparing to the previous Statistic Yearbook, witch result from Providers information update.



Source: ICP-ANACOM

Unit: Km.pair

2.2 Installed Resources in Transmission Network

	Unit	2000	2001	2002	2003	2004	2005	2006
Installed resources *								
Optical Fiber	Km.pair	157 649	228 986	301 446	351 723	442 297	456 689	501 007
Radio Link	Km	8 730	11 939	11 939	14 532	16 343	17 390	20 564
Coaxial Cable (includes fiber-coaxial access)	Km	n.d.	n.d.	n.d.	n.d.	1473	1487	648
Satellite Access	Km	n.d.	3 835	3 835	3 835	512	512	512
Fixed Wireless Radio (FWA)	Km	n.d.	n.d.	11 939	14 532	16 343	17 390	20 564

Source: ICP-ANACOM

* Values are corrected comparing to the previous Statistic Yearbook, witch result from Providers information update.

2.3 Installed access - Access Network/Distribution

	2000	2001	2002	2003	2004	2005	2006
Installed access (*)							
Pair of copper	6 130 270	6 200 433	6 242 194	6 171 182	6 164 484	5 740 093	5 649 285
Coaxial Cable	1 188 517	1 573 921	1 798 097	1 932 961	1 911 475	1 948 011	1 919 129
Optical fiber	1 310	1 714	2 940	3 518	4 446	8 689	11 054
Satellite access	131 530	223 823	291 123	320 360	350 548	355 656	383 777
xDSL	n.a.	4 180	54 573	188 822	436 937	689 189	944 088
Fixed Wireless Radio (FWA) **	1 310	869	1 070	4 861	5 434	5 703	9 476

Source: ICP-ANACOM

Unit: 1 Access

* Values are corrected comparing to the previous Statistic Yearbook, witch result from Providers information update.

** The FWA data is in the scope of the licenses attributed in the public competition. The decrease of the number of FWA accesses is due to the fact that two of the operators ceased to provide the service.

3 Leased Lines Service

⁽¹⁾ Offered in the scope of the license of Public Telecommunications Networks operator (Law no. 5/2004 of 10 of February).

3.1 Leased Lines Service Customers

	2000	2001	2002	2003	2004	2005	2006
Customers							
Retail Leased Lines	nd	nd	nd	5 234	5 530	3 714	3 298
Wholesale Leased Lines	nd	nd	nd	108	125	120	144

Source: ICP-ANACOM

Unit: 1 Customer

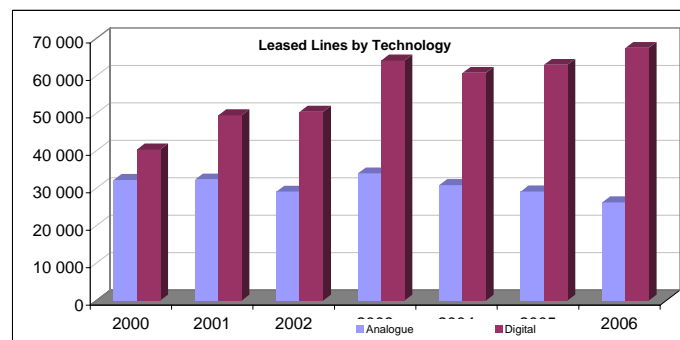
3.2 Leased Lines

	2000	2001	2002	2003	2004	2005	2006
Leased Lines by technology *							
Retail and Wholesale Leased Lines							
Analogue	32 233	32 300	29 108	33 970	30 870	29 151	26 225
Digital	40 336	49 511	50 419	64 091	60 812	62 947	67 483
< 64 Kbps	194	147	77	99	132	143	151
64 Kbps	15 652	16 538	15 670	17 651	13 752	11 370	13 317
n * 64 Kbps	7 687	12 848	14 498	19 789	19 050	19 444	23 804
2 Mbps	16 599	19 204	19 492	25 686	26 733	30 884	28 933
34 Mbps	102	422	387	423	388	476	496
>= 140 Mbps	102	352	295	443	757	630	782
Retail Leased Lines							
Analogue				8 762	7 518	6 809	6 170
Digital				16 865	9 565	8 989	8 600
< 64 Kbps				45	103	118	109
64 Kbps				3 153	787	623	3 051
n * 64 Kbps				3 889	868	874	3 762
2 Mbps				9 647	7 540	7 318	1 583
34 Mbps				59	19	51	77
>= 140 Mbps				72	248	5	18
Wholesale Leased Lines							
Analogue				25 208	23 352	22 342	20 055
Digital				47 226	51 247	53 958	58 883
< 64 Kbps				54	29	25	42
64 Kbps				14 498	12 965	10 747	10 266
n * 64 Kbps				15 900	18 182	18 570	20 042
2 Mbps				16 039	19 193	23 566	27 350
34 Mbps				364	369	425	419
>= 140 Mbps				371	509	625	764

Source: ICP-ANACOM

Unit: 1 Circuit

* Values are corrected comparing to the previous Statistic Yearbook, witch result from Providers information update.



Source: ICP-ANACOM

Unit: 1 Circuit

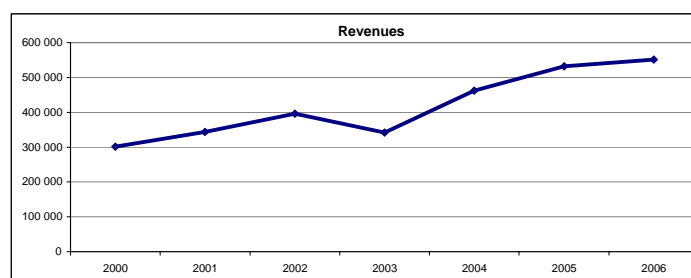
3.3 Leased Lines Service Revenues

	2000	2001	2002	2003	2004	2005	2006
Revenues *	301 717	343 436	396 204	341 899	461 829	532 076	551 017
Leased Lines Retail Revenues	nd	nd	nd	59 641	59 495	53 162	45 736
Leased Lines wholesale Revenues	nd	nd	nd	282 258	402 334	478 914	505 281

Source: ICP-ANACOM

Unit: 10³ Euros

* Values are corrected comparing to the previous Statistic Yearbook, witch result from Providers information update.



Source: ICP-ANACOM

Unit: 10³ Euros

4 Fixed Telephony and Public Telephones Service

4.1 Active Providers

	2000	2001	2002	2003	2004	2005	2006
Number of Licensed Providers	24	28	27	26	21	22	23
Number of Active Providers	14	14	13	13	13	14	13
with direct access traffic only	2	2	3	2	2	1	2
with indirect access traffic only	6	4	3	3	3	3	2
with direct and indirect access traffic	6	8	7	8	8	10	9

Source: ICP-ANACOM

Unit: 1 Provider

4.2 Access Lines

4.2.1 Number of Main Lines*

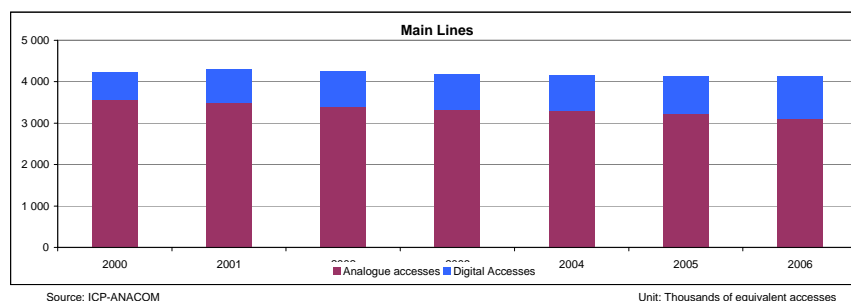
	2000	2001	2002	2003	2004	2005	2006
Total Main Lines **	4 321,1	4 384,6	4 350,5	4 281,1	4 238,3	4 233,7	4 234,0
Accesses installed on customer request	4 226,8	4 292,4	4 266,5	4 197,1	4 146,7	4 127,5	4 128,0
Analogue accesses	3 571,1	3 482,4	3 403,6	3 334,5	3 290,8	3 219,7	3 090,0
Digital Accesses	655,7	810,0	862,9	862,7	855,9	907,8	1 038,0
ISDN Basic Rate	371,9	480,4	534,8	542,5	535,7	528,1	514,4
ISDN Primary Rate	273,2	321,3	323,7	317,4	316,3	302,6	306,2
ISDN Partitioned Primary Rate	0,8	3,1	1,9	1,4	2,9	4,6	5,3
Others (Diginet,...)	9,7	5,2	2,5	1,4	1,1	72,5	212,1

Source: ICP-ANACOM

Unit: Thousands of equivalent accesses

* Values are corrected comparing to the previous Statistic Yearbook, witch result from Providers information update.

** Includes Public Payphones and own complement



Source: ICP-ANACOM

Unit: Thousands of equivalent accesses

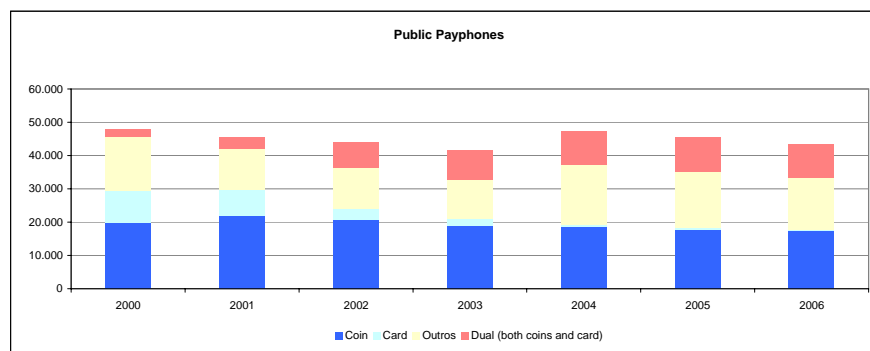
4.2.2 Public Payphones

	2000	2001	2002	2003	2004	2005	2006
Total Public Payphones	47 742	45 486	43 805	41 525	47 444	45 355	43 233
Coin	19 865	22 057	20 899	18 854	18 534	17 776	17 186
Card	9 673	7 542	3 342	2 054	648	551	557
Dual (both coins and card)	2 261	3 403	7 560	8 784	10 259	10 317	10 082
Other	15 943	12 484	12 004	11 833	18 003	16 711	15 408

Source: ICP-ANACOM

Unit: 1 Phone

* includes commercial public telephones



Source: ICP-ANACOM

Unit: 1 Stand

4.3 Penetration rate

4.3.1 Portugal

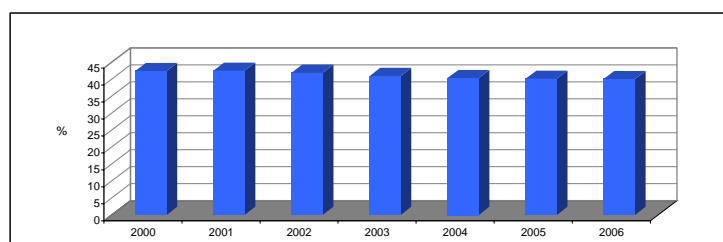
	2000	2001	2002	2003	2004	2005	2006
Penetration rate	42,3	42,4	41,8	40,9	40,3	40,1	39,9

Source: INE, ICP-ANACOM

Note: Includes Public Payphones

Unit: Accesses/100 inhabitant

Penetration rate



Source: INE, ICP-ANACOM

Unit: %

4.3.2 European Union

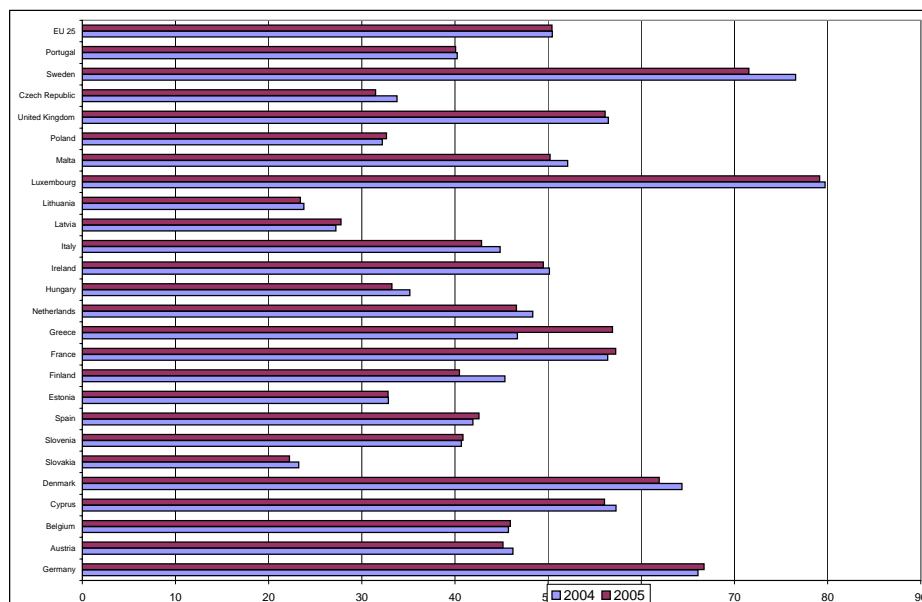
Main Telephone Lines per 100 Inhabitants - EU

	2000	2001	2002	2003 *	2004	2005
Germany	61,1	63,6	65,2	65,6	66,1	66,7
Austria	49,9	49,8	49,4	47,8	46,2	45,2
Belgium	51,8	50,0	49,8	47,8	45,8	46,0
Cyprus	63,7	62,4	60,6	58,9	57,3	56,1
Denmark	71,5	72,3	69,7	67,0	64,4	61,9
Slovakia	31,5	28,9	26,1	24,7	23,2	22,2
Slovenia	39,5	40,3	40,7	40,7	40,7	40,9
Spain	42,8	43,4	45,8	43,9	41,9	42,6
Estonia	38,1	37,0	34,9	33,9	32,9	32,8
Finland	55,1	54,9	54,9	50,1	45,4	40,5
France	57,9	57,6	57,3	56,8	56,4	57,2
Greece	51,9	51,3	0,0	23,4	46,7	56,9
Netherlands	62,3	62,6	62,1	55,2	48,4	46,6
Hungary	37,2	36,7	36,0	35,6	35,2	33,2
Ireland	48,5	48,5	50,6	50,4	50,1	49,5
Italy	47,7	48,0	48,2	46,5	44,8	42,9
Latvia	30,8	30,5	29,9	28,5	27,2	27,8
Lithuania	33,8	33,0	26,9	25,4	23,8	23,4
Luxembourg	76,3	79,0	0,0	0,0	79,7	79,1
Malta	53,7	53,1	52,5	52,3	52,1	50,2
Poland	28,3	29,8	0,0	0,0	32,2	32,6
United Kingdom	59,2	59,6	59,4	58,0	56,5	56,1
Czech Republic	37,7	37,7	36,0	34,9	33,8	31,5
Sweden	75,9	75,6	73,8	75,2	76,6	71,5
Portugal	42,3	42,4	41,8	40,9	40,3	40,1
EU 25	51,6	52,2	48,6	49,5	50,5	50,4

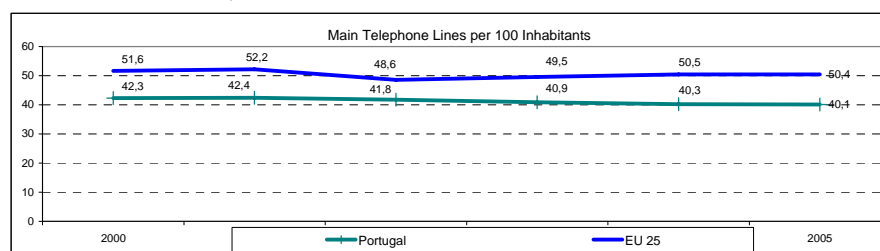
Source: Accesses: ICP-ANACOM and ITU; Population: Eurostat

* Estimated

Main Telephone Lines per 100 Inhabitants



Source: Accesses: ICP-ANACOM and ITU; Population: Eurostat



Source: Accesses: ICP-ANACOM and ITU; Population: Eurostat

Unit: %

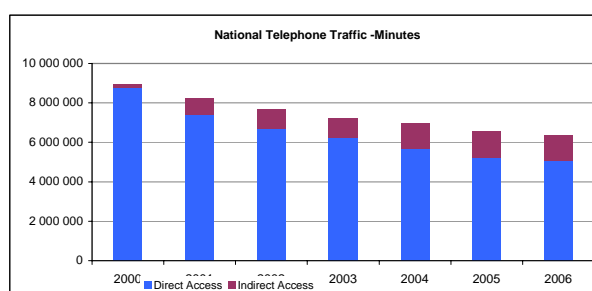
4.4 Telephone Traffic

4.4.1 National Telephone Traffic

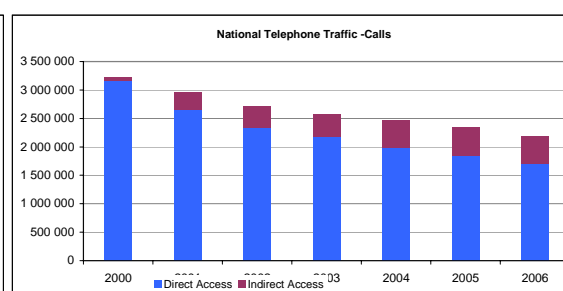
	2000	2001	2002	2003	2004	2005	2006
Minutes	15 907 101	16 592 774	15 737 064	13 560 723	11 413 374	9 678 335	8 497 338
Geografic National Voice Traffic	8 957 689	8 250 964	7 672 215	7 208 172	6 989 899	6 574 502	6 345 358
Direct Access	8 803 282	7 418 319	6 670 519	6 200 693	5 702 758	5 214 446	5 032 705
Indirect Access	154 407	832 645	1 001 697	1 007 478	1 287 141	1 360 056	1 312 653
Fixed-to-Mobile National Traffic	1 316 935	1 400 021	1 455 428	1 301 530	1 253 890	1 219 520	1 154 572
Direct Access	1 295 755	1 253 609	1 266 711	1 133 272	1 037 296	992 070	927 732
Indirect Access	21 179	146 412	188 717	168 259	216 594	227 450	226 840
Internet Access Traffic	5 632 478	6 941 789	6 609 421	5 051 021	3 169 586	1 884 313	997 408
Calls	4 353 950	4 174 457	3 878 136	3 581 613	3 323 178	3 093 732	2 854 403
Geografic National Traffic	3 232 178	2 953 506	2 718 659	2 565 137	2 468 281	2 339 764	2 180 976
Direct Access	3 170 872	2 645 638	2 338 528	2 178 144	1 983 702	1 842 103	1 702 681
Indirect Access	61 305	307 868	380 131	386 994	484 580	497 661	478 295
Fixed-to-Mobile National Traffic	813 082	818 236	779 782	724 750	699 827	660 127	615 225
Direct Access	798 792	742 390	687 770	634 639	583 209	539 797	497 363
Indirect Access	14 290	75 846	92 011	90 111	116 618	120 330	117 862
Internet Access Traffic	308 691	402 715	379 695	291 726	155 069	93 841	58 202

Source: ICP-ANACOM

Unit: Thousand Minutes
Thousand Calls



Source: ICP-ANACOM



Unit: Thousand Minutes
Thousand Calls

4.4.2 International Telephone Traffic

	2000	2001	2002	2003	2004	2005	2006
Minutes							
Outgoing	504 551	526 950	510 965	485 496	507 937	591 320	549 526
Direct Access	414 580	421 210	427 800	414 600	408 404	489 328	456 532
Indirect Access	89 961	105 740	83 165	70 896	99 533	101 992	92 994
Calls							
Outgoing	154 793	144 449	138 159	121 131	120 660	133 890	124 168
Direct Access	117 949	111 472	109 663	100 007	93 743	106 555	98 465
Indirect Access	36 844	32 977	28 496	21 125	26 918	27 335	25 703

Source: ICP-ANACOM

Unit: Thousand Minutes
Thousand Calls

4.5 Fixed Telephony and Public Telephones Revenues

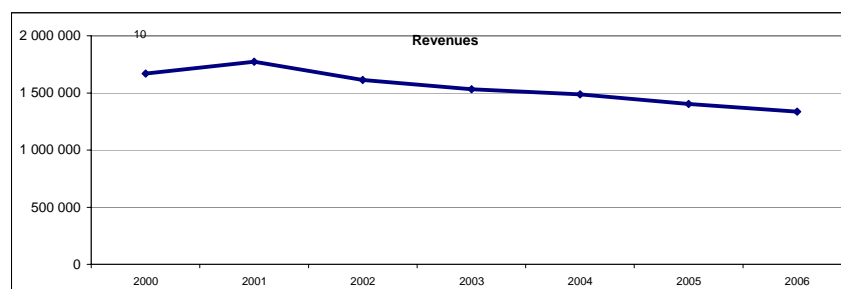
	2000	2001	2002	2003	2004	2005	2006
Total Receltas *	1 669 253	1 773 221	1 613 807	1 532 165	1 488 167	1 403 051	1 335 902
Contratcts	586 082	613 871	606 707	649 657	0	704 474	657 262
Traffic	847 084	1 114 757	975 391	858 819	783 536	726 877	613 121
Nacional Traffic	691 817	970 914	773 216	679 486	616 756	570 830	474 746
International Traffic	155 267	143 843	148 138	128 286	121 733	115 461	104 638
SMS and Public Telephones			54 037	51 047	45 047	40 586	33 738
Other Revenues	236 087	44 594	31 709	23 688	704 631	15 751	65 519

Source: ICP-ANACOM

* Historic values were updated. Includes only retail revenues.

Note: Includes revenues from virtual call-cards and public payphones

Unit: 10⁶ Euros



Source: ICP-ANACOM

Unit: 10⁶ Euros

5 Mobile Telephone Service

5.1 Number of Service Providers

	2000	2001	2002	2003	2004	2005	2006
Number of Service Providers	3	3	3	3	3	3	3

Source: ICP-ANACOM

Unit: 1 Provider

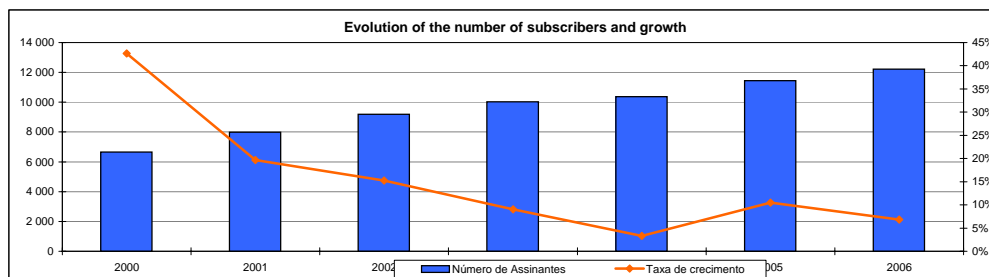
5.2 Number of Subscribers

	2000	2001	2002	2003	2004	2005	2006
Number of Subscribers*	6 665	7 978	9 197	10 030	10 362	11 447	12 226

Source: ICP-ANACOM

Unit: Thousand subscribers

* Values are corrected comparing to the previous Statistic Yearbook, witch result from Providers information update.



Source: ICP-ANACOM

Unit: Thousand subscribers

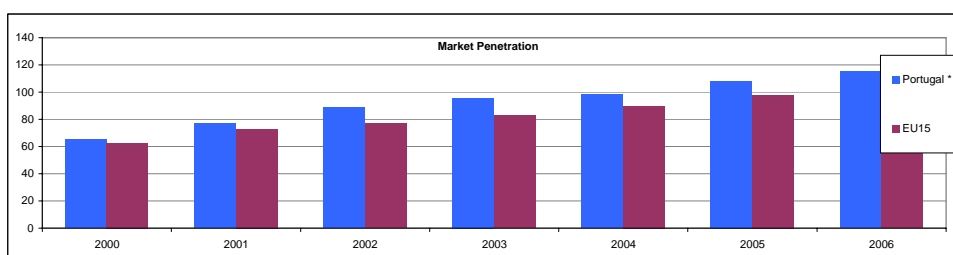
5.3 Market Penetration

	2000	2001	2002	2003	2004	2005	2006
Portugal *	65	77	88	96	98	108	115
EU15	63	73	77	83	90	98	106

Source: ICP-ANACOM, INE, Eurostat, Mobile Communications by Baskerville, from Informa Telecomms Group.

Unit: Number of subscribers per 100 inhabitants

* Values are corrected comparing to the previous Statistic Yearbook, witch result from Providers information update.

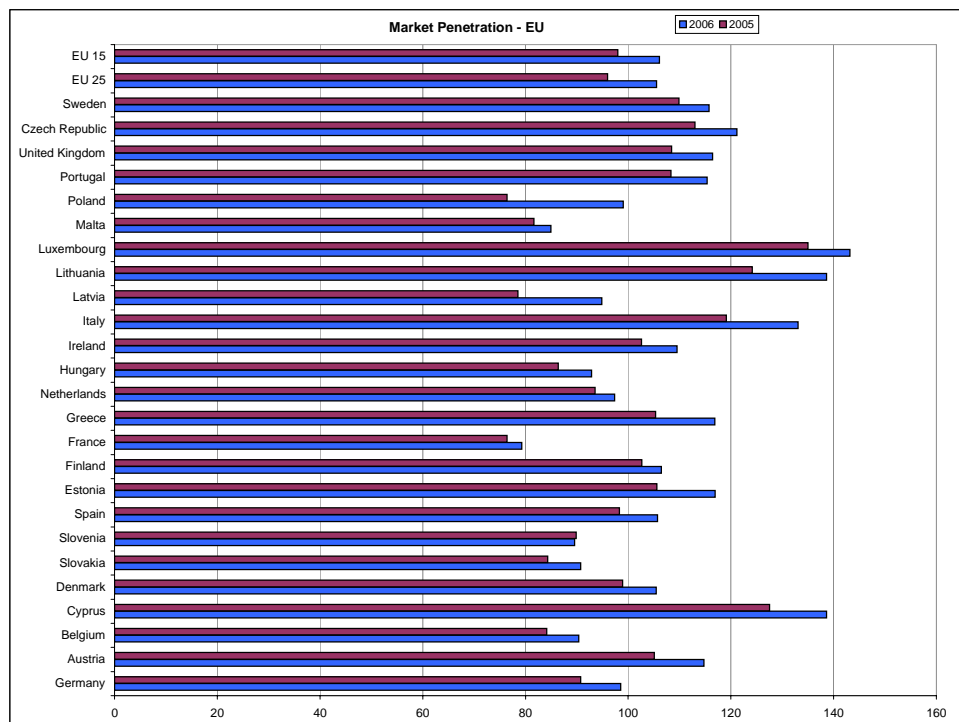


Source: ICP-ANACOM, INE, Eurostat, Mobile Communications by Baskerville, from Informa Telecomms Group.

	2000	2001	2002	2003	2004	2005	2006
Market Penetration - EU							
Germany	59	68	69	75	82	91	99
Austria	76	82	82	91	97	105	115
Belgium	55	70	73	76	82	84	90
Cyprus				77	90	128	139
Denmark	66	74	79	92	97	99	105
Slovakia				68	79	84	91
Slovenia				91	96	90	90
Spain	62	73	83	89	92	98	106
Estonia				73	93	106	117
Finland	73	82	88	92	95	103	106
France	50	62	60	69	70	76	79
Greece	56	69	76	90	94	105	117
Netherlands	68	73	74	82	93	94	97
Hungary				75	82	86	93
Ireland	63	76	80	86	91	103	109
Italy	73	88	92	97	103	119	133
Latvia				51	63	79	95
Lithuania				64	99	124	139
Luxembourg	68	91	106	118	127	135	143
Malta				73	77	82	85
Poland				46	61	76	99
Portugal	65	77	88	96	101	108	115
Kingdom	67	76	83	90	101	108	116
Czech Republic				95	106	113	121
Sweden	76	80	88	97	109	110	116
EU 15				80	88	96	106
EU 25	63	73	77	83	90	98	106

Source: ICP-ANACOM, INE, Eurostat, Mobile Communications by Baskerville, from Informa Telecomms Group.

Unit: %



Source: ICP-ANACOM, INE, Eurostat, Mobile Communications by Baskerville, from Informa Telecomms Group.

Unit: %

5.4 Mobile traffic

	2000	2001	2002	2003	2004	2005	2006
Calls (millions)							
Outgoing traffic *	4 244	5 264	5 598	5 810	6 052	6 461	6 648
National mobile-fixed	594	599	588	542	517	512	534
Mobile-international	78	113	165	173	196	208	226
Mobile-mobile on-net	2 674	3 532	3 701	3 857	4 023	4 353	4 439
Mobile-mobile off-net	898	1 020	1 143	1 238	1 316	1 388	1 448
Incoming traffic	1 545	1 946	2 039	2 076	2 152	2 205	2 254
Mobile-mobile off-net	662	1 007	1 139	1 240	1 318	1 390	1 455
Fixed-mobile	794	815	762	691	659	626	593
International-mobile	89	124	138	145	175	189	206
Minutes (millions)							
Outgoing traffic *	6 176	7 963	9 346	10 004	10 649	11 599	12 452
National mobile-fixed	861	856	886	864	823	829	858
Mobile-international	224	339	468	479	510	537	583
Mobile-mobile on-net	3 699	5 240	6 201	6 663	7 169	7 920	8 520
Mobile-mobile off-net	1 392	1 528	1 792	1 998	2 147	2 314	2 491
Incoming traffic	2 600	3 277	3 558	3 659	3 836	4 008	4 225
Mobile-mobile off-net	1 020	1 522	1 792	1 999	2 148	2 314	2 493
Fixed-mobile	1 306	1 389	1 348	1 235	1 176	1 147	1 119
International-mobile	274	366	418	425	512	546	613

Source: ICP-ANACOM

Unit: Millions

* Values are corrected comparing to the previous Statistic Yearbook, witch result from Providers information update.

5.5 SMS, MMS traffic and Video calls

	2000	2001	2002	2003	2004	2005	2006
Written messages (SMS) sent 1 *							
on-net ²	n.d.	n.d.	1 373,4	1 469,6	1 673,5	3 785,1	11 504,1
off-net ²	n.d.	n.d.	727,5	833,0	855,3	904,3	983,9
Written messages (SMS) sent "normal" 1							
on-net	n.d.	n.d.	1 361,1	1 434,0	1 615,6	3 683,9	11 370,1
off-net	n.d.	n.d.	727,5	819,6	832,1	870,6	944,8
Written messages (SMS) sent "Premium" 1							
incoming	n.d.	n.d.	12,4	49,2	81,1	134,9	173,1
outgoing	n.d.	n.d.	0,0	13,6	23,2	33,6	39,1
Multimedia messages (MMS) sent							
on-net	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	31,9
off-net	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	26,1
Video calls made							
Video calls sent	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	4,2
Video calls traffic volume (milhões de minutos/millions of minutes)							
Video calls traffic volume	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	9,7

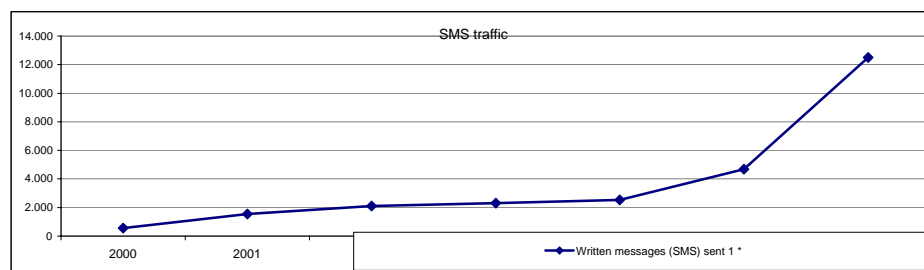
Source: ICP-ANACOM

Unit: Millions

¹ Include added value messages to content (incoming) and/or televoting (outgoing) services.

Note: Composition of sent simple message for a subscriber of own network (on-net) or of another network (off-net).

* Values are corrected comparing to the previous Statistic Yearbook, witch result from Providers information update.



Source: ICP-ANACOM

Unit: Millions

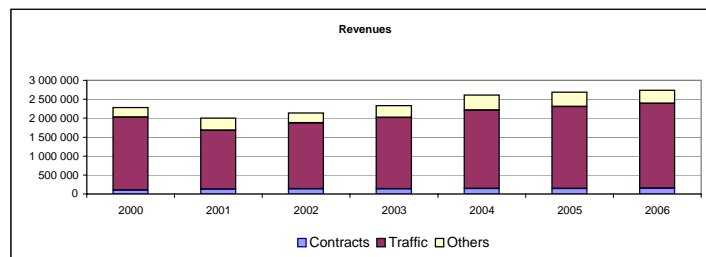
5.6 Mobile Telephone Service Revenues

	2000	2001	2002	2003	2004	2005	2006
Total Revenues *	2 283 441	2 006 456	2 135 497	2 329 800	2 611 697	2 686 465	2 739 220
Contracts	105 400	127 872	136 022	133 290	145 031	145 866	148 796
Traffic	1 918 744	1 556 249	1 741 617	1 886 543	2 072 194	2 161 422	2 242 180
Voice Traffic					1 822 321	1 880 046	1 907 623
Data					249 873	281 377	334 557
Others	259 297	322 334	257 858	309 967	394 472	379 176	348 244

Source: ICP-ANACOM

Unit: 10³ Euros

* Values are corrected comparing to the previous Statistic Yearbook, witch result from Providers information update.



Source: ICP-ANACOM

Unit: 10³ Euros

6 Subscription TV Networks

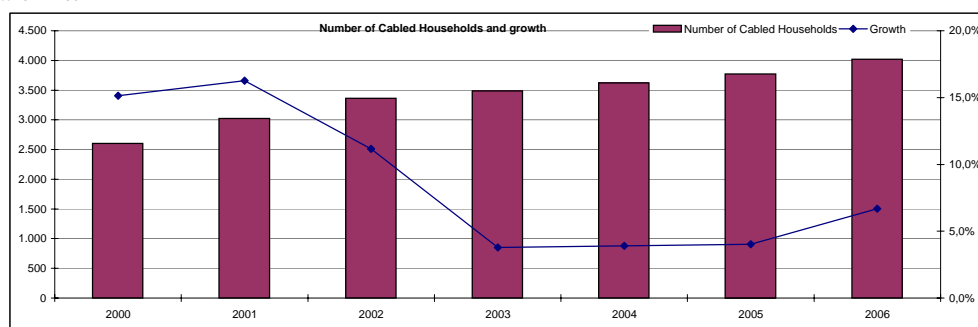
6.1 Cable Networks

6.1.1 Number of Cabled Households

	2000	2001	2002	2003	2004	2005	2006
Number of Cabled Households	2 601	3 024	3 361	3 488	3 624	3 770	4 022

Source: ICP-ANACOM

Unit: Thousands of Households



Source: ICP-ANACOM

Unit: Thousands of Households

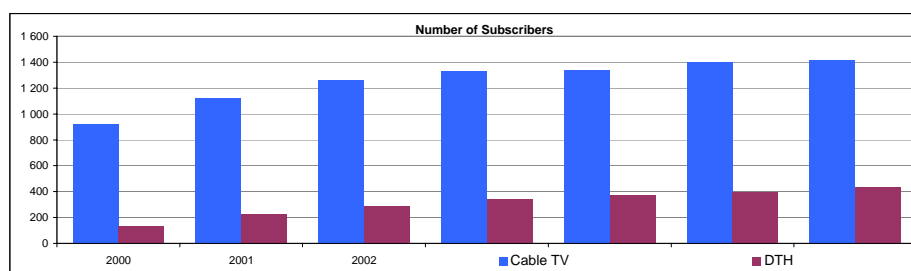
6.1.2 Number of Cable TV Subscribers

	2000	2001	2002	2003	2004	2005	2006
Cable TV	925	1 119	1 262	1 334	1 341	1 399	1 419
Direct to home (DTH)	132	224	289	341	375	394	436

Source: ICP-ANACOM

Unit: Thousand subscribers

* Values are corrected comparing to the previous Statistic Yearbook, witch result from Providers information update.



Source: ICP-ANACOM

Unit: Thousand subscribers

6.1.3 Network infra-structure

	2000	2001	2002	2003	2004	2005	2006
Network heads (Nr.)	36	38	37	32	32	31	31
Cells (Nr.)	1 588	1 911	2 139	2 105	2 186	2 237	2 438
Bidirectional cells (Nr.)	685	1 351	1 879	1 939	2 055	2 150	2 387
Optical cable (Km)	n.d.	n.d.	n.d.	3 465	3 455	3 581	3 723
Coaxial Cable (Km)	n.d.	26 645	28 285	32 775	33 208	34 323	37 205
Cables households with bidirectionality (Thousands)	1 507	2 997	3 013	3 136	3 481	3 656	3 953

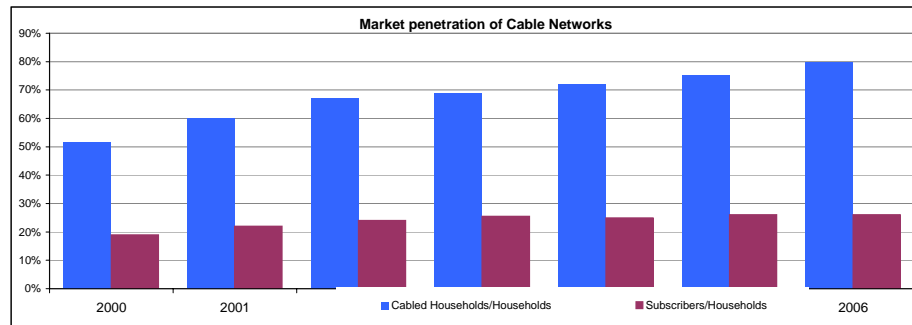
Source: ICP-ANACOM

6.1.4 Market penetration of Cable Networks*

	2000	2001	2002	2003	2004	2005	2006
Cabled Households/Households	52%	60%	67%	69%	72%	75%	80%
Subscribers/Households	19%	22%	24%	26%	25%	26%	26%
Subscribers/Cabled Households	36%	37%	38%	38%	37%	37%	35%
Subscribers/Population	9%	11%	12%	13%	13%	13%	13%

Unit: %

* Values are corrected comparing to the previous Statistic Yearbook, witch result from Providers information update.



Source: ICP-ANACOM

Unit: %

6.1.5 Number of Subscribers and Cabled Households per NUTS III

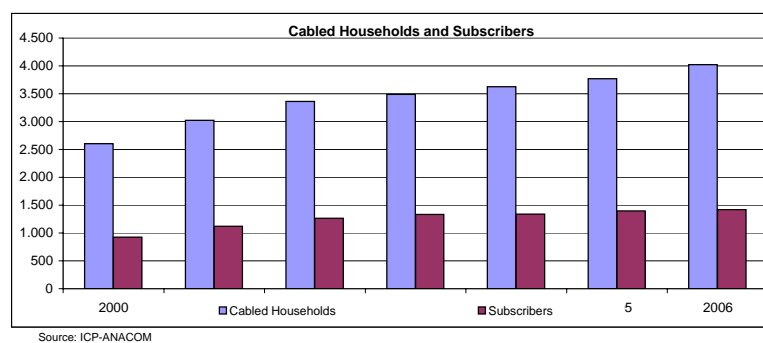
		Cabled Households						
		2000	2001	2002	2003	2004	2005	2006
North	Minho -Lima	12 644	14 882	15 356	15 703	16 236	17 534	21 008
	Cávado	104 724	107 318	112 051	114 087	118 362	125 847	145 518
	Ave	31 103	32 505	35 273	36 941	38 428	44 060	75 431
	Greater Porto	432 191	505 336	573 942	614 837	667 933	696 057	772 941
	Tâmega	9 706	10 672	10 768	11 433	11 829	12 630	31 261
	Entre Douro e Vouga	41 193	88 754	103 509	106 110	107 171	109 706	123 592
	Douro	9 011	9 302	9 615	10 052	10 342	10 793	11 303
	Alto Trás-os-Montes	0	0	0	0	0	0	0
Centre	Baixo Vouga	100 397	101 674	112 529	114 191	115 999	119 107	126 942
	Baixo Mondego	61 219	66 199	73 051	79 884	90 303	102 277	108 512
	Pinhal Litoral	59 282	60 703	61 901	64 975	68 999	71 253	73 870
	Pinhal-Interior-Norte	2 570	5 004	2 681	2 681	2 687	2 687	2 780
	Pinhal-Interior-Sul	0	0	0	0	0	0	0
	Dão-Lafões	20 985	37 891	44 237	46 417	46 898	48 311	53 178
	Serra da Estrela	6 307	6 322	7 002	7 003	7 047	7 047	7 138
	Beira-Interior-Norte	9 738	9 962	10 042	10 060	10 261	10 441	10 541
	Beira-Interior-Sul	16 874	17 020	17 160	17 160	17 180	17 451	18 697
	Cova da Beira	20 529	21 017	21 111	21 127	21 256	22 140	22 331
	Oeste	71 883	78 283	79 544	80 288	84 878	88 362	99 286
	Médio Tejo	815 624	33 932	34 413	35 156	35 783	39 090	43 866
Lisbon	Greater Lisbon	421 533	871 123	997 906	1 024 832	1 052 988	1 091 877	1 105 203
	Península de Setúbal	29 438	583 117	613 506	636 362	648 312	665 494	672 732
Alentejo	Lezíria do Tejo	51 514	55 612	59 230	60 677	61 751	65 329	66 599
	Alentejo Litoral	11 680	15 089	15 331	15 348	15 587	15 712	16 027
	Alto Alentejo	0	0	0	0	0	0	0
	Alentejo Central	0	2 432	32 175	34 031	34 266	34 858	36 478
	Baixo Alentejo	7 309	10 171	11 959	12 011	12 028	12 125	13 622
Algarve	Algarve	128 931	149 388	172 237	177 639	185 022	197 318	219 628
Azores	Autonomous Region of the Azores	50 532	52 690	53 243	54 227	55 403	55 888	55 891
Madeira	Autonomous Region of Madeira	73 714	77 436	81 036	84 792	86 943	86 793	87 711
Portugal	Total	2 600 631	3 023 834	3 360 808	3 488 024	3 623 892	3 770 187	4 022 086

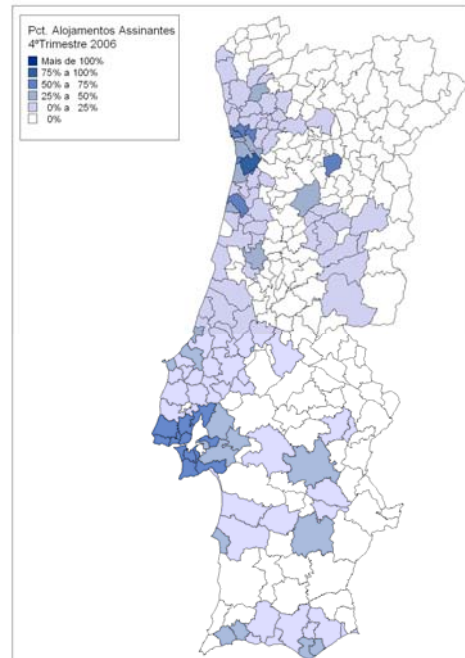
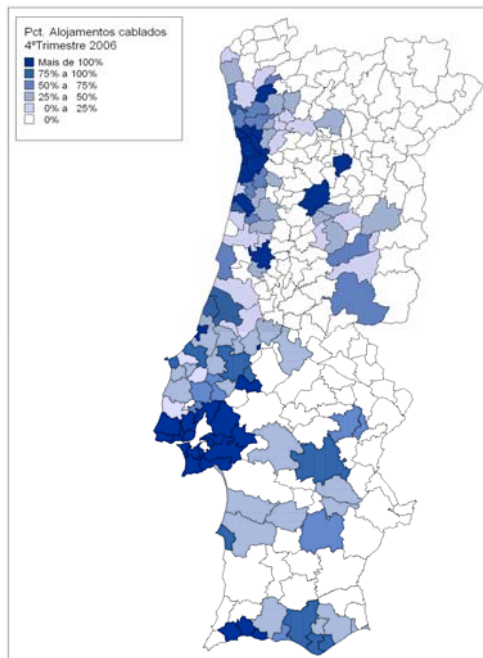
		Subscribers						
		2000	2001	2002	2003	2004	2005	2006
North	Minho -Lima	3 058	5 440	5 987	6 452	5 251	5 343	5 631
	Cávado	18 288	22 652	25 153	26 989	27 372	27 668	28 902
	Ave	9 737	11 218	12 750	13 742	13 148	13 270	15 756
	Greater Porto	144 712	176 185	206 917	226 207	230 117	238 085	240 931
	Tâmega	4 152	3 469	3 546	3 999	3 874	3 993	5 012
	Entre Douro e Vouga	9 831	25 073	34 181	34 457	34 813	36 138	37 080
	Douro	2 589	2 544	2 747	3 065	3 153	3 139	3 008
Centre	Alto Trás-os-Montes	0	0	0	0	0	0	0
	Baixo Vouga	30 686	33 768	40 623	41 380	41 981	44 261	45 002
	Baixo Mondego	21 122	23 988	28 463	30 980	30 402	31 320	31 435
	Pinhal Litoral	13 560	15 233	15 060	17 158	16 249	16 894	16 906
	Pinhal-Interior-Norte	696	1 612	992	989	1 020	1 033	1 028
	Pinhal-Interior-Sul	0	0	0	0	0	0	0
	Dão-Lafões	4 934	10 783	13 870	13 682	13 132	13 729	13 835
	Serra da Estrela	1 589	1 966	2 465	2 378	2 390	2 462	2 457
	Beira-Interior-Norte	3 108	3 649	4 368	4 399	4 552	4 727	4 865
	Beira-Interior-Sul	5 997	6 426	7 261	7 336	7 633	7 929	8 343
	Cova da Beira	6 122	7 460	8 101	7 828	7 941	8 272	8 638
	Oeste	19 738	23 982	25 096	25 743	26 252	27 402	28 863
Lisbon	Médio Tejo	369 987	424 306	9 353	9 891	9 659	9 967	9 717
	Greater Lisbon	129 404	168 633	466 826	496 172	495 580	515 539	513 809
Alentejo	Península de Setúbal	6 336	8 351	177 561	182 166	180 363	191 852	194 808
	Lezíria do Tejo	8 729	11 545	13 867	12 930	13 301	13 963	13 559
	Alentejo Litoral	4 391	6 205	6 933	7 127	7 269	7 547	7 665
	Alto Alentejo	0	0	0	0	0	0	0
	Alentejo Central	0	320	8 993	9 817	10 614	11 302	12 036
Algarve	Baixo Alentejo	3 309	4 757	5 366	5 237	5 143	5 299	5 716
	Algarve	31 053	38 401	47 614	49 397	49 100	51 360	51 364
Azores	Autonomous Region of the Azores	31 635	35 483	36 680	37 881	38 751	40047	43827
Madeira	Autonomous Region of Madeira	40 127	45 893	51 156	56 461	62 365	66073	68367
Portugal	Total	924 890	1 119 342	1 261 929	1 333 863	1 341 425	1 398 614	1 418 560

Source: ICP-ANACOM

*Values are corrected comparing to the previous Statistic Yearbook, witch result from Providers information update.

Note: According to Decree-Law nr 244/2002, of November 5th, the region previously denominated "Lisbon e Vale do Tejo" were disaggregated. Now, the "Oeste" and "Médio Tejo" regions are part of "Centro" zone, and "Lezíria do Tejo" are part of "Alentejo" zone. The zone "Lisbon" region, only includes "Lisbon" and "Península de Setúbal" regions.

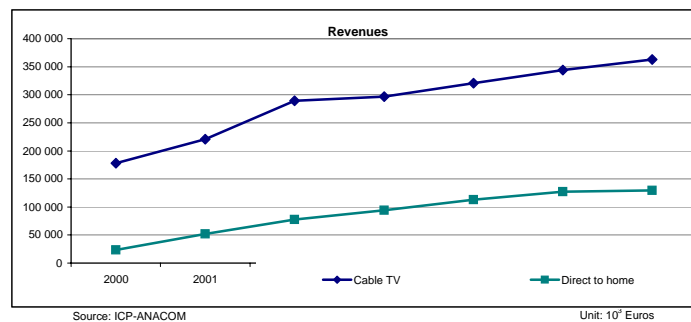




6.1.6 Cable Networks Revenues

	2000	2001	2002	2003	2004	2005	2006
Revenues	201 410	272 779	366 964	390 714	433 765	471 253	492 344
Cable TV	178 083	220 716	289 197	296 488	320 732	344 007	362 747
Direct to home	23 327	52 063	77 767	94 226	113 033	127 246	129 597

Source: ICP-ANACOM

Unit: 10³ Euros

Source: ICP-ANACOM

Unit: 10³ Euros

6.2. Other television distribution technologies (IPTV, DVBT, etc.)

6.2.1 Numer of Subscribers from Other television distribution Technologies (IPTV, DVBT, etc)

	2005 *	2006
IPTV subscribers and similar ones	348	3.292

Source: ICP-ANACOM

Unit: No. Subscribers

* There were only "test" customers in 2005.

6.2.2 Receitas de Outras Tecnologias de distribuição de televisão (IPTV, DVBT, etc)

	2005 *	2006
IPTV and similar revenues	13	516

Source: ICP-ANACOM

Unit: 103 Euros

* The 2005 revenues figure only refers to "test" customers.

7 Data Transmission Services / Internet Access Service

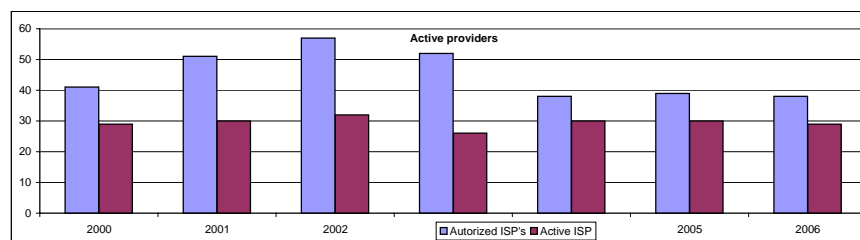
7.1 Active Providers

	2000	2001	2002	2003	2004 ¹	2005	2006
Internet Access Service Providers / Data Transmission Services Providers							
Autorized ISP's	41	51	57	52	38	39	38
Active ISP	29	30	32	26	30	30	29
Other Data Transmission Services	13	15	15	14	16	17	16

Source: ICP-ANACOM

¹ The 2004 values were updated.

Unit: 1 Provider



Source: ICP-ANACOM

Unit: 1 Provider

7.2 Internet Access Service

7.2.1 Number of Internet Customers *

	2000	2001 ¹	2002 ¹	2003 ¹	2004	2005	2006
Total number of customers¹	336 140	466 813	664 678	903 948	1 233 309	1 457 848	1 618 690
Residenciais					1 066 022	1 222 205	1 328 652
Não residenciais					167 287	235 643	290 038
Dial Up Customers ¹	310 986	367 497	404 087	401 918	394 938	271 042	156 364
Residential	n.d.	n.d.	n.d.	n.d.	371 696	253 286	139 783
Non-residential	n.d.	n.d.	n.d.	n.d.	23 242	17 756	16 581
Dedicated access customers	0	2 709	3 298	3 207	2 830	2 750	4 756
Residential	0	0	0	0	0	0	2 018
Non-residential	0	2 709	3 298	3 207	2 830	2 750	2 738
ADSL access customers	0	2 886	52 005	184 344	420 625	694 164	920 018
Residential	0	n.d.	n.d.	n.d.	299 432	502 075	675 579
Non-residential	0	n.d.	n.d.	n.d.	121 193	192 089	244 439
Cable Modem Customers	25 154	93 721	205 288	314 479	414 916	489 892	537 552
Residential	24 272	90 038	192 820	295 839	394 894	466 844	511 272
Non-residential	882	3 683	12 468	18 640	20 022	23 048	26 280

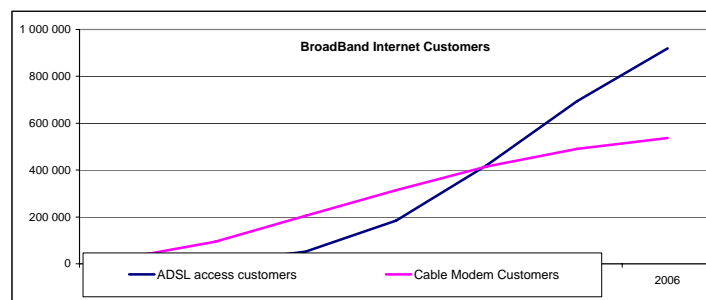
Source: ICP-ANACOM

Unit: 1 Customer

¹ The number of dial-up clients accounting criteria was changed at 2004. The published series in 2000, 2001, 2002 and 2003 did not contained active clients only. The corresponding values were estimated, including total clients.

* Some values of the former version have been corrected following some provider's updated values.

Note: The commercial offer of internet access service via cable distribution networks began at the end of 1999. The commercial offer of ADSL access began in the 1st quarter of 2001.



Source: ICP-ANACOM

Unit: 1 Customer

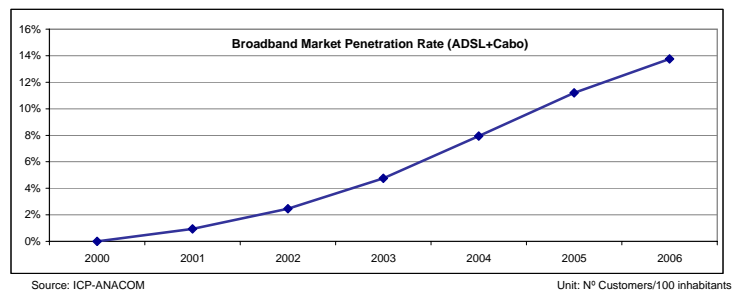
	2000	2001	2002	2003	2004	2005	2006
Penetration Rate **	0,0%	4,5%	6,4%	8,6%	11,7%	13,8%	15,3%
Broadband Market Penetration (ADSL + Cabo)	0,0%	0,9%	2,5%	4,8%	7,9%	11,2%	13,8%

Source: ICP-ANACOM

Unit: Nº Customers/100 inhabitants

* Values are corrected comparing to the previous Statistic Yearbook, with result from Providers information update.

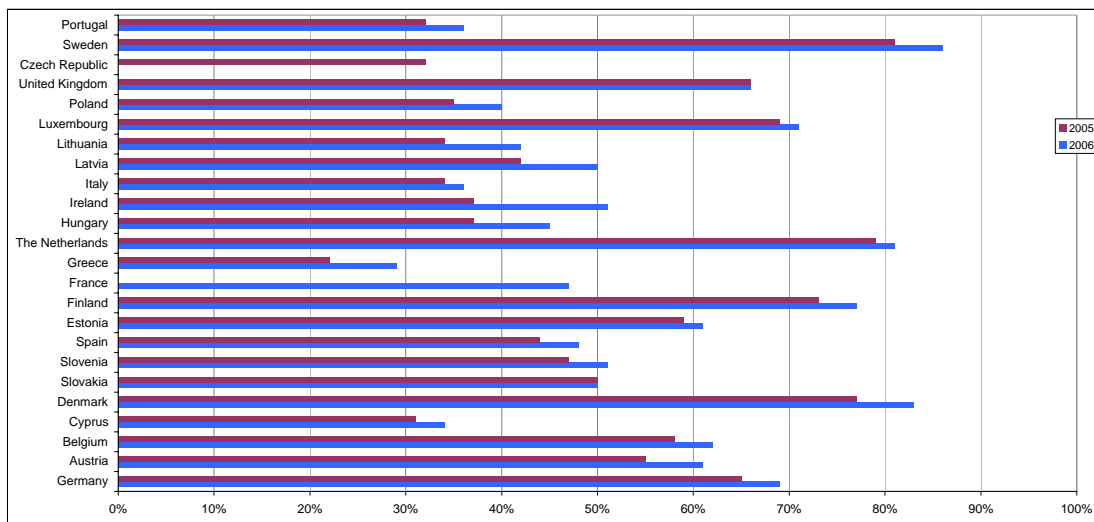
** To calculate penetration, the total customers for any access type was considered.



	2002	2003	2004	2005	2006
Internet Users - EU					
2002-2006, (%) Individuals between 16 to 74 years old					
Germany	49%	54%	61%	65%	69%
Austria	37%	41%	52%	55%	61%
Belgium				58%	62%
Cyprus			32%	31%	34%
Denmark	64%	71%	76%	77%	83%
Slovakia			46%	50%	50%
Slovenia			37%	47%	51%
Spain	20%	37%	40%	44%	48%
Estonia			50%	59%	61%
Finland	62%	66%	70%	73%	77%
France					47%
Greece	15%	16%	20%	22%	29%
The Netherlands	61%	64%		79%	81%
Hungary			28%	37%	45%
Ireland		31%	34%	37%	51%
Italy	28%	29%	31%	34%	36%
Latvia			33%	42%	50%
Lithuania	18%	24%	29%	34%	42%
Luxembourg	40%	53%	65%	69%	71%
Poland			29%	35%	40%
United Kingdom	56%	61%	63%	66%	66%
Czech Republic		28%	32%	32%	
Sweden	71%	77%	82%	81%	86%
Portugal	19%	26%	29%	32%	36%
EU25			46%	51%	54%
EU15	41%	47%	50%	55%	56%

Source: Eurostat - Survey on ICT Usage in Household and by Individuals 2002-2006

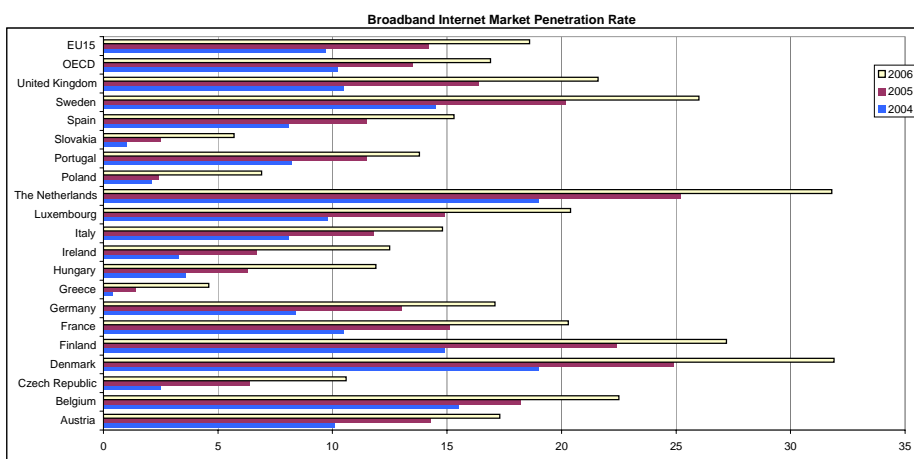
Unit: %



	2001	2002	2003	2004	2005	2006
Internet Broadband Market Penetration Rate (%)						
Austria	3,6	5,6	7,6	10,1	14,3	17,3
Belgium	4,4	8,7	11,7	15,5	18,2	22,5
Czech Republic	0,1	0,2	0,5	2,5	6,4	10,6
Denmark	4,4	8,2	13	19	24,9	31,9
Finland	1,3	5,5	9,5	14,9	22,4	27,2
France	1,0	2,8	5,9	10,5	15,1	20,3
Germany	2,3	4,1	5,6	8,4	13	17,1
Greece	0	0	0,1	0,4	1,4	4,6
Hungary	0,3	0,6	2	3,6	6,3	11,9
Ireland	0	0,3	0,8	3,3	6,7	12,5
Italy	0,7	1,7	4,1	8,1	11,8	14,8
Luxembourg	0,3	1,5	3,5	9,8	14,9	20,4
The Netherlands	3,8	7	11,8	19	25,2	31,8
Poland	0,1	0,3	0,8	2,1	2,4	6,9
Portugal	1	2,5	4,8	8,2	11,5	13,8
Slovakia	0	0	0,3	1	2,5	5,7
Spain	1,2	3	5,4	8,1	11,5	15,3
Sweden	5,4	8,1	10,7	14,5	20,2	26
United Kingdom	0,6	2,3	5,4	10,5	16,4	21,6
OECD	2,9	4,9	7,3	10,2	13,5	16,9
EU15	1,6	3,4	5,9	9,7	14,2	18,6

Sources: OCDE, Communications Outlook 2007

Unit: %



Sources: OCDE, Communications Outlook 2007

Unit: %

7.2.3 Other Indicators *

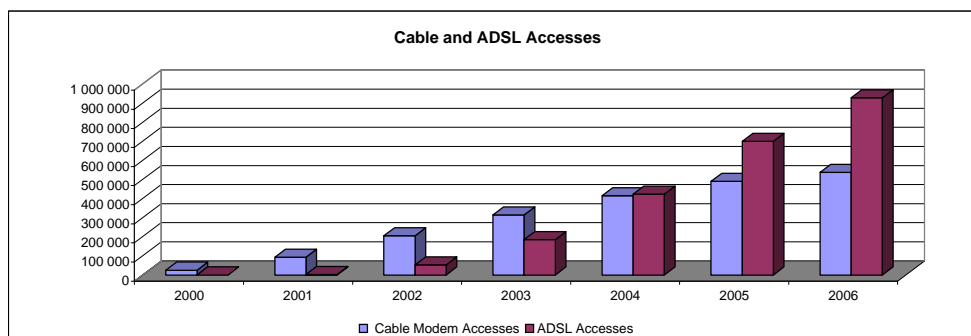
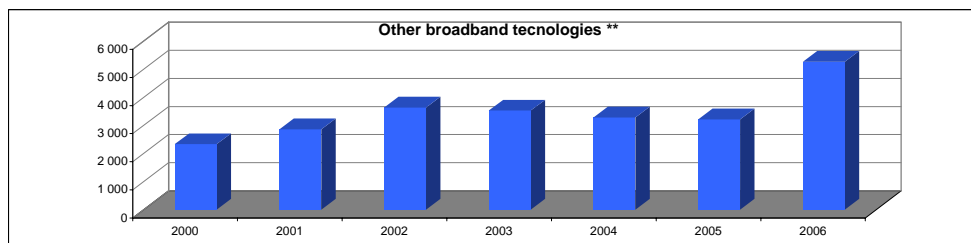
	Unit	2000	2001	2002	2003	2004	2005	2006
Other broadband technologies **	1 Access	2 333	2 868	3 636	3 530	3 282	3 218	5 268
Cable Modem Accesses	1 Access	25 154	93 721	205 474	314 679	415 107	490 132	537 650
ADSL Accesses	1 Access	0	2 886	52 810	184 860	424 169	700 456	928 438
Number of users that access broadband mobile Internet in the year ***	1 user	0	0	0	0	0	n.d.	270 111

Source: ICP-ANACOM

* Values are corrected comparing to the previous Statistic Yearbook, with result from Providers information update.

** It includes the supply of internet access service by dedicated lines, using diverse technologies and that is mainly broadband and addressed to the business category. It includes service supply using FWA (fixed wireless access) accesses.

*** ANACOM estimate.



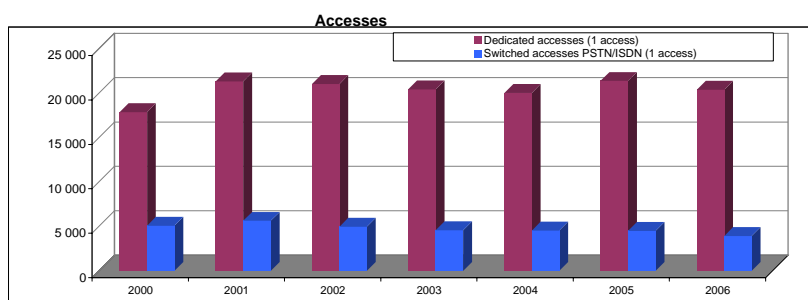
Source: ICP-ANACOM

Unit: 1 Access

7.3 Packet Data Communications

	2000	2001	2002	2003	2004	2005	2006
Active providers (Providers)	8	8	10	11	14	16	16
Dedicated accesses (1 access)	17 877	21 342	21 041	20 412	20 033	21 379	20 379
Switched accesses PSTN/ISDN (1 access)	5 086	5 638	4 970	4 560	4 537	4 515	3 933

Source: ICP-ANACOM



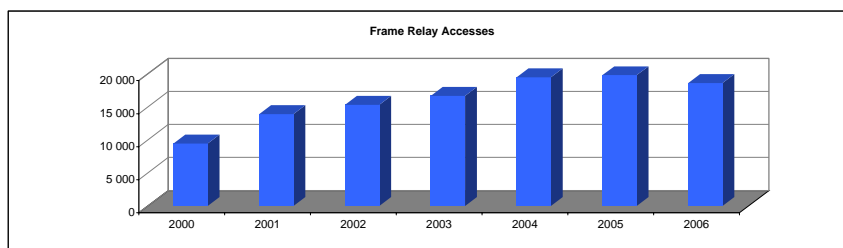
Source: ICP-ANACOM

Unit: 1 Access

7.4 Frame Relay

	Unit	2000	2001	2002	2003	2004	2005	2006
Active providers	1 Empresa	9	11	10	6	6	7	7
Accesses	1 Access	9 460	13 916	15 318	16 683	19 494	19 811	18 621

Source: ICP-ANACOM



Source: ICP-ANACOM

Unit: 1 Access

7.5 Voice over IP (VoIP)

7.5.1 Non-nomadic VoIP

	Unit	2006
Number of Customers	1 Customer	5 130
Outgoing Traffic	minutos	3 475 772
Outgoing Traffic	chamadas	1 457 106
Nomadic VoIP Revenues	Euros	1 325

Source: ICP-ANACOM

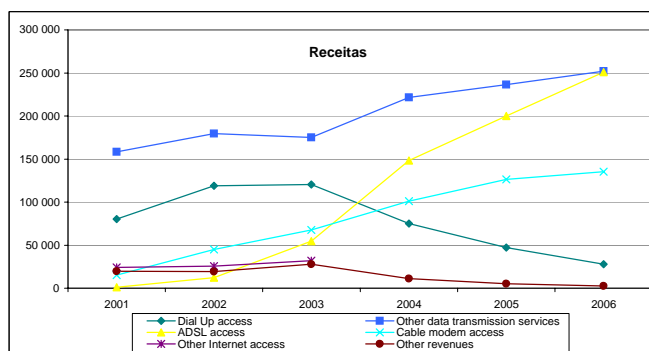
7.6 Data Transmission Services Revenues (DTS)

	2000	2001	2002	2003	2004	2005	2006
Data Transmission Services Revenues *	222 860	298 671	400 501	477 127	589 109	657 082	706 841
Internet access service	82 139	140 429	220 825	302 011	367 365	420 748	454 982
Dial Up access	n.d.	80 228	119 033	120 287	75 108	47 315	27 767
ADSL access	n.d.	1 178	12 172	54 482	148 248	200 038	251 098
Cable modem access	n.d.	15 106	44 803	67 574	101 212	126 310	135 377
Other Internet access	n.d.	24 196	25 646	31 806	31 619	41 936	38 229
Other revenues	n.d.	19 721	19 170	27 863	11 178	5 149	2 512
Other data transmission services	140 721	158 242	179 677	175 116	221 744	236 334	251 859

Source: ICP-ANACOM

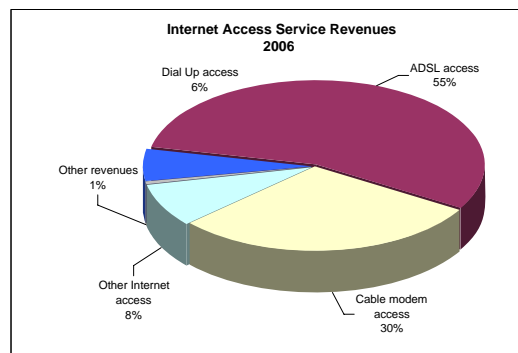
Unit: 103 Euros

* Values are corrected comparing to the previous Statistic Yearbook, witch result from Providers information update.



Source: ICP-ANACOM

Unit: 103 Euros



Source: ICP-ANACOM

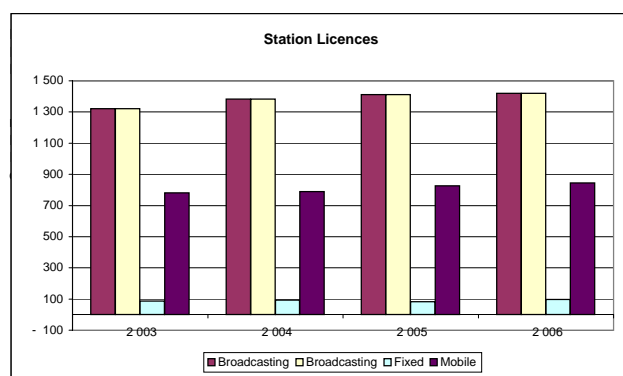
Unit: %

8.1 Licences by Service

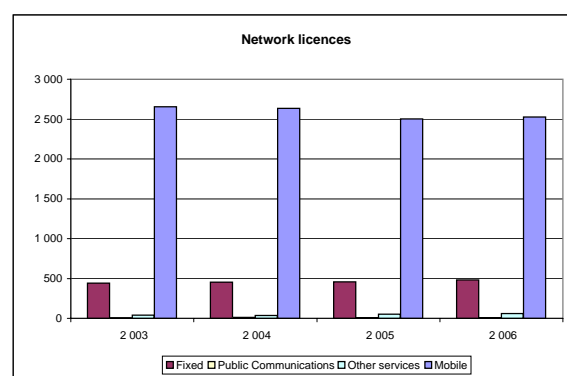
	2003		2004		2005		2006	
	Station Licences	Network licences	Station Licences	Network licences	Station Licences	Network licences	Station Licences	Network licences
Broadcasting	1 322	-	1 382	-	1 412	-	1 419	-
Audio MF Broadcasting	636	-	673	-	665	-	661	-
Audio SW Broadcasting	3	-	3	-	3	-	3	-
Audio MW Broadcasting	54	-	54	-	54	-	54	-
Television Broadcasting	629	-	652	-	690	-	701	-
Fixed	86	443	94	454	82	458	98	483
Fixed - FWA Point Multipoint	-	9	-	10	-	9	-	8
Fixed - Point to Point	-	434	-	444	-	449	-	475
Fixed - Short Wave	14	-	14	-	14	-	24	-
Fixed - Satellite	72	-	80	-	68	-	74	-
Mobile	781	2 654	789	2 636	827	2 503	845	2 526
Mobile Telephone Service - Private	-	2 654	-	2 636	-	2 503	-	2 526
Aeronautics Mobile Service	231	-	235	-	222	-	229	-
Maritime Mobile Service	550	-	554	-	605	-	616	-
Public Communications	-	6	-	11	-	10	-	9
Paging - Public	-	0	-	0	-	0	-	0
Tunking - Public	-	3	-	5	-	4	-	3
Mobile Telephone Service - Public	-	3	-	6	-	6	-	6
Other services	-	40	-	37	-	53	-	60

Source: ICP-ANACOM

Unit: No. of licences



Source: ICP-ANACOM



Unit: No. Of licences

List of acronyms and abbreviations

3G	Third generation
ADSL	Asymmetric digital subscriber line
BTS.....	Base transceiver station
CATV	Cable television distribution networks
CATVP	TV Cabo Portugal, S.A.
DSL.....	Digital subscriber line
DSLAM	Digital subscriber line access multiplexer
DTH	Direct to home satellite television services
DVB-H.....	Digital Video Broadcasting - Handheld
DVB-T	Digital Video Broadcasting - Terrestrial
EDGE.....	Enhanced data for GSM environment
EPG	Electronic programming guide
ETSI.....	European Telecommunications Standard Institute
FDMA.....	Frequency division multiple access
FM.....	Frequency modulated
FWA.....	Fixed wireless access
GPRS.....	General Packet radio service
GSM.....	Global system for mobile communication
GSM/DCS	Global system for mobile communications/Digital communications system
HSDPA	High-speed downlink packet access
GI	Global quality of service indicator
IP	Internet protocol
IPTV	Internet protocol television
QSI.....	Quality of service indicator
ISP	Internet Service Provider
MDF	Main distribution frames
MMS	Multimedia messaging service
MVNO	Mobile virtual network operator
LLU	Local Loop Unbundling
RUO.....	Reference unbundling offer

SLRO	Subscriber line resale offer
PC	Personal computer
PDA	Personal digital assistant
PLC	Power line communications
SME	Small and medium enterprises
PT	Portugal Telecom
PTC	PT Comunicações, S.A.
PVR	Personal video recorder
ISDN	Integrated Services Digital Network
IAS	Internet access service
CDS	cable television distribution services
SMS	Short messaging service
SOHO	Small Office, Home Office
FST	Fixed telephone service
MTS	Mobile telephone service
TDMA	Time division multiple access
ICT	Information and Communication Technologies
TLP	Telefones de Lisboa e Porto
TV	Television
EU	European Union
UMTS	Universal mobile telecommunication system
UM-TSM	Mission Unit for the Handling of Market Requests
USB	Universal series bus
VoIP	Voice over Internet protocol
WAP	Wireless application protocol
WCDMA	Wideband code division multiple access
Wi-Fi	Wireless fidelity
WiMAX	Worldwide interoperability for microwave access