

● 3. Fixed Telephone Service (FTS)

This chapter shows the state of the FTS at the end of 2008, in particular, the offer of this service, the profile of its usage and its users and the evolution that has occurred.

A summary of the main aspects of the evolution of the service during 2008 is presented below.

Main aspects of the evolution in 2008

- In 2008, there was a decrease in the rate of penetration of the FTS, which reached 38.9 per 100 inhabitants. This decrease, which may be associated with the phenomenon of fixed-to-mobile replacement, was less than the EU average mainly due to the new FTS offers, namely offers based on GSM/UMTS provided in a fixed location and VoIP offers (namely, provided within the scope of multiple play offers).
- The number of FTS operators in the market remained the same as in the previous year.
- There was also a decrease in the level of usage of the service: traffic originating from the fixed network decreased 2.8 per cent in 2008, mainly influenced by the migration of dial-up internet access traffic to broadband; voice traffic fell 2.4 per cent, in line with what has occurred in recent years. This downward trend in voice traffic is mainly associated with the phenomenon known as fixed-to-mobile replacement. With regard to the revenue from the service, this fell 10 per cent in relation to 2007.
- In 2008, the prices paid by residential customers of the FTS in Portugal were lower than the average of the prices charged in the EU19 in the case of medium and high consumption profiles. In the case of low consumption, the prices charged in Portugal were 0.2 per cent above the average. In all of the aforementioned profiles Portugal's position in the rankings fell in relation to the previous year due to the fact that, although there were reductions in the prices charged by the Portuguese incumbent operator, more significant price reductions occurred in the other countries of the EU19.

- Mention should also be made of the overall high levels of satisfaction with the FTS. According to the most recent electronic communications consumer survey conducted by ICP-ANACOM, 86 per cent of users were satisfied with the overall quality of the service. As for consumer satisfaction regarding the prices charged in the FTS, the appraisal is less positive, with around 52 per cent of those surveyed stating that they were dissatisfied with the prices charged.

- Regarding the structure of the offer, the alternative operators' emphasis on offers with no monthly subscription fee (in particular, based on GSM, cable television distribution networks or multiple play) led to a 3 per cent drop in the Portugal Telecom (PT) Group's share of accesses. The incumbent operator's share reached around 69 per cent in 2008.

FTS offer

The FTS consists of the offer to the general public of voice routing, in real time, between fixed locations, allowing any user, by means of equipment connected to a terminal point of a network, to communicate with another terminal point.

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

A more detailed description of the services and the entities providing these services in Portugal is provided below.

Service access platforms and technologies

Access to the public telephone network at a fixed location can be provided using several media:

- Copper wire pairs – this medium is mostly used by PTC, the incumbent operator, and is the one that currently ensures greater geographical and population coverage. With the implementation of the ORALL¹⁴, the alternative operators have begun to offer access to the public telephone

¹⁴ ORALL – Oferta de referência de acesso ao laçete local (Local loop access reference offer)

network at a fixed location using the unbundled local loops of the incumbent operator;

- 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 essential elements of hybrid networks of cable television distribution (CATV).

In the first years of liberalization of the service, this form of access allowed Cabovisão to acquire a significant share of accesses to the public telephone network at a fixed location;

- Fixed Wireless Access (FWA) – access technology enabling operators to provide customers with 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, Sonaecom, Vodafone, Onitelecom and PTC] with fixed wireless access licenses¹⁵. Radio connections are used as a complement to the respective non-radio access networks, usually for access to non-residential clients;
- Power Line Communication (PLC) – access technology using energy cables for broadband voice and data transmission. This technology enables the supply of access services to high speed internet, telephone and fax. Onitelecom was the only FTS provider to offer fixed access via PLC. However, it suspended the offer in October 2006;
- Optical fibre – physical means of transmission (usually a cable with glass fibres) in which data is routed as light impulses. It is a broadband medium that can supply the capacity to transmit large amounts of data over a large distance with little distortion, when connected to the proper device. Both the new operators (Onitelecom, Sonaecom, Colt Telecom, AR Telecom, Refer Telecom, Cabovisão) and PTC have installed optical fibre in their access networks.

In 2007 and 2008 the first offers using optical fibre appeared, although their penetration is very limited.

As previously mentioned, the Government and the operators signed a protocol within the scope of the development of the NGNs which forecasts that in 2009 around 1.5 million users will have access to optical fibre networks;

- Radio-relay – transmission system by dissemination of electromagnetic waves into the atmosphere using satellite dishes. The use of radio-relay connections is negligible, considering the large amount of investment needed to maintain them;
- Access using the frequencies assigned for the provision of the MTS and CDMA. ICP-ANACOM authorized the use of frequencies assigned to the GSM, UMTS and CDMA networks for the provision of the FTS, having imposed limits on the mobility of the equipment used to provide this service.

This is a telephone service provided at a fixed location, using GSM, General Packet Radio Service (GPRS), Universal Mobile Telecommunications System (UMTS) and CDMA technologies and networks for access to the end client, and with access via mobile terminals. The mobile terminals receive and make calls in a limited geographical area, which corresponds to the customer's address.

Following a determination of ICP-ANACOM, access to the service must be ensured via a terminal connected to a single predetermined Base Transceiver Station (BTS) when calls are made, received and maintained. In exceptional cases, which are technically justified and have been recognized as such by ICP-ANACOM, it is acceptable for the terminal to be connected to two – or at the most three – predetermined BTSs. The provider must also inform the end users of the characteristics of the service, clarifying, in particular, that the access to the service is ensured exclusively in the address stated by the end user and that there are limitations in terms of locating the caller in calls made to the single European emergency number (112).

¹⁵ The rights of use were reconfigured by ICP-ANACOM in 2006. The reformulation of the system was achieved by transforming a national coverage system into a system made up of several geographic areas.

These solutions have boosted the market of accesses to the public telephone network at a fixed location since the end of 2004.

It should be mentioned that virtually all of the main means of access to the public telephone network at a fixed location are present in Portugal, with the exception of PLC, the offer of which was discontinued.

The following types of access are offered via these physical media:

- Analogue accesses – accesses that provide a single 64kbit/s channel, in principle to carry voice and data up to 56 kbit/s;
- Basic digital accesses [basic ISDN (Integrated Services Digital Network) accesses] – accesses with two 64 kbit/s channels, for carrying voice and data, and one 16 kbit/s channel, for signalling;

- Primary digital accesses (primary ISDN accesses) – accesses in which 30 64 kbit/s channels are provided for voice or data, one 64 kbit/s channel for signalling and another channel for synchronizing, with a global bit rate of 2 Mbit/s;
- Other types of digital access, namely those provided by the cable TV operators and by the mobile operators.

Geographic availability of the service

The fixed public telephone network operated by the incumbent operator is available throughout mainland Portugal. In the autonomous regions there is also a strong presence of the fixed network, with exchanges and telephone concentrator systems on all the Portuguese islands. The graph below also shows the distribution of MDF (Main Distribution Frames) with unbundled local loops, which are concentrated in the two main urban centres of mainland Portugal. The unbundling of the local loop has enabled the emergence of bundled offers from the alternative providers.

Distribution of PT exchanges and PT exchanges with unbundled local loops (Mainland Portugal)
Graph 3.1



Distribution of PT exchanges and PT exchanges with unbundled local loops (Autonomous Regions of Madeira and the Azores)
Graph 3.2



It is also possible to access the service using the mobile networks, which cover most of the resident population, the cable TV distribution operators' networks, which provide reasonable cover (See Chapter 6), and the alternative networks, in particular those based on FWA and optical fibre accesses, which currently provide limited cover.

Regarding publicly available telephone services at a fixed location, it is possible to use the services of the alternative operators throughout Portugal via indirect access and, since 2006, VoIP offers (in the case of users with access to fixed broadband internet).

FTS providers

The FTS providers are presented below, in addition to Nomadic VoIP and public payphone providers.

FTS providers

At the end of 2008 there were 25 entities qualified to provide the Fixed Telephone Service.

The following table provides a list of the entities that were legally qualified to provide the FTS in 2008. The table includes data on the state of each provider at the beginning and end of the year, and also information on the market entries and exits during this period.

FTS providers in 2008
Table 3.1

Name	Beginning	Entries	Exits	End
ADIANIS – Telecomunicações & Multimédia, S.A. ¹⁶	NA			NA
AR Telecom – Acessos e Redes de Telecomunicações, S.A.	A			A
BROADMEDIA – Comunicações Globais, S.A. ¹⁷	NA			NA
BT Portugal – Telecomunicações, Unipessoal, Lda.	NA			NA
CABOVISÃO – Televisão por Cabo, S.A.	A			A
COLT Telecom – Serviços de Telecomunicações, Unipessoal, Lda.	A			A
EQUANT Portugal, S.A. (ORANGE) ¹⁸	A			A
G9 SA – Telecomunicações, S.A.	A			A
MEDIA CAPITAL – Telecomunicações, S.A.	NA			NA
NEUVEX – Telecomunicações, Marketing e Informática, Lda.	NA		X	–
ONITELECOM – Infocomunicações, S.A.	A			A
PT Comunicações, S.A.	A			A
PT PRIME – Soluções Empresariais Telecomunicações e Sistemas, S.A.	A			A
RADIOMÓVEL – Telecomunicações, S.A.	A			A
REFER TELECOM – Serviços de Telecomunicações, S.A.	A			A
SONAECON – Serviços de Comunicações, S.A.	A			A
T – SYSTEMS ITC IBERIA, S.A. (Sociedade Unipessoal) - (Sucursal em Portugal)	NA			NA
TELEMILÉNIO – Telecomunicações, Sociedade Unipessoal, Lda (TELE2) ¹⁹	A			A
TELSOCOMM – Telecomunicações, Marketing e Informática, Lda.	NA			NA
TMN – Telecomunicações Móveis Nacionais, S.A.	A			A
TRANSIT TELECOM, Sociedade Unipessoal, Lda.	–	X		NA
UNITELDATA – Telecomunicações, S.A.	–	X		NA
VODAFONE PORTUGAL – Comunicações Pessoais, S.A.	A			A
ZON TV Cabo Açoreana, S.A. ²⁰	A			A
ZON TV Cabo Madeirense, S.A. ²¹	A			A
ZON TV Cabo Portugal, S.A. ²²	A			A
Total active	17	–	–	17
Total not active	7	–	–	8
Overall total	24	2	1	25

Source: ICP-ANACOM.

A – Active NA – Not Active

¹⁶ Company with post returned to sender.

¹⁷ BROADNET Portugal, S.A. changed its company name to BROADMEDIA – Comunicações Globais, S.A.

¹⁸ In Portugal, the provision of EQUANT (ORANGE)'s fixed telephone service is through NOVIS.

¹⁹ TELEMILÉNIO – Telecomunicações, S.A. (TELE2) was incorporated into SONAECON – Serviços de Comunicações, S.A. following a merger, as of 02-01-2009.

²⁰ CABO TV Açoreana, S.A. changed its company name to ZON TV Cabo Açoreana, S.A.

²¹ CABO TV Madeirense, S.A. changed its company name to ZON TV Cabo Madeirense, S.A.

²² CATVP - TV Cabo Portugal, S.A. changed its company name to ZON TV Cabo Portugal, S.A.

Of the 25 entities legally qualified to provide these services, 17 were active at the end of 2008²³.

provided the service only by indirect access and the others provided the service by both types of access.

Of the 17 entities which were active at the end of 2008, five provided the service exclusively by direct access, one

FTS providers Table 3.2

	2004	2005	2006	2007	2008
Qualified providers	21	22	23	24	25
Active providers	13	14	13	17	17
Providers with direct access and indirect access traffic	8	10	9	11	11
Providers with direct access traffic only	2	1	2	5	5
Providers with indirect access traffic only	3	3	2	1	1

Unit: Euros
Source: ICP-ANACOM.

Regarding the ratio of population per number of active FTS providers, Portugal has one of the highest ratios in the EU, trailing only Italy, France, Spain, Belgium and Romania.

Nomadic VoIP providers

With regard to nomadic VoIP, there were 18 providers qualified to provide nomadic VoIP services in 2008.

²³ Besides the 25 entities legally qualified to provide the FTS, 5 entities qualified to provide VoIP were also registered.

Nomadic VoIP providers²⁴
Table 3.3

Name	Beginning	Entries	Exits	End
AR Telecom – Acessos e Redes de Telecomunicações, S.A.	NA			NA
EPOTEL – Prestação de Serviços em Telecomunicações, Lda	NA			NA
G9 SA – Telecomunicações, S.A.	A			A
NACACOMUNIK – Serviços de Telecomunicações, Lda.	–	X		NA
NETCALL – Telecomunicações e Tecnologias de Informação, S.A.	A		X	–
NEUVEX – Telecomunicações, Marketing e Informática, Lda.	NA		X	–
PDM & FC – Projecto, Desenvolvimento, Manutenção, Formação e Consultoria, Lda.	–	X		NA
PT Comunicações, S.A. ²⁵	A			A
PT PRIME – Soluções Empresariais de Telecomunicações e Sistemas, S.A.	A			A
RADIOMÓVEL – Telecomunicações, S.A.	NA			A
SIPTELNET – Soluções Digitais, Unipessoal, Lda. ²⁶	NA			NA
SONAECOM – Serviços de Comunicações, S.A.	–	X		NA
TRANSIT Telecom, Sociedade Unipessoal, Lda.	–	X		NA
UNITELDATA – Telecomunicações, S.A.	–	X		A
VODAFONE PORTUGAL – Comunicações Pessoais, S.A.	–	X		NA
VOXBONE, S.A.	NA			NA
WEBMEETING – internet e Consultoria Informática, Lda. (TNTVOIP)	A			A
ZON TV Cabo Açoreana, S.A. ²⁷	NA			NA
ZON TV Cabo Madeirense, S.A. ²⁸	NA			NA
ZON TV Cabo Portugal, S.A. ²⁹	A			A
Total active	6	–	–	7
Total not active	8	–	–	11
Overall total	14	6	2	18

Source: ICP-ANACOM.

A – Active NA – Not Active

Of the 18 operators qualified to provide the nomadic VoIP service, only seven were active. Most of the other operators expect to start their commercial operations in 2009.

²⁴ Companies allocated with range "30".

²⁵ PT.Com - Comunicações Interactivas, S.A. disappeared following the merger with PT Comunicações as of 10-03-2008.

²⁶ The company did not start its commercial operations. It only has a VoIP service pilot-project.

²⁷ CABO TV Açoreana, S.A. changed its company name to ZON TV Cabo Açoreana, S.A.

²⁸ CABO TV Madeirense, S.A. changed its company name to ZON TV Cabo Madeirense, S.A.

²⁹ CATVP - TV Cabo Portugal, S.A. changed its company name to ZON TV Cabo Portugal, S.A.

Public payphone providers

Below is the list of public payphone service providers.

Public payphone service providers in 2008
Table 3.4

Name	Beginning	Entries	Exits	End
ADIANIS – Telecomunicações & Multimedia, S.A.	NA			NA
BLUE CARD – Serviços de Telecomunicações e Informática, Lda.	A			A
CGPT, Lda.	–	X		NA
DIVAGAR Letras, Unipessoal, Lda.	–	X		NA
EPORTEL – Prestação de Serviços em Telecomunicações, Lda.	NA			A
FLASHAD – Electrónica e Comunicações, Unipessoal, Lda.	A			A
FREQU NCIA ÚNICA – Comunicações, Lda.	NA		X	–
G9 SA – Telecomunicações, S.A.	A			A
GLOBEVOX – Serviços de Telecomunicações, Lda.	NA		X	–
MAGIC LASER, Lda.	–	X		NA
MINUT MIX – Comunicações, Lda.	–	X		A
MONEYCALL – Serviços de Telecomunicações, Lda.	A			A
MUNDIAL – Agência de Câmbios, Lda.	A			A
NETCALL – Telecomunicações e Tecnologias de Informação, S.A.	A		X	–
OPTION 1 – Serviços de Telecomunicações, Lda.	A			A
PALCO DA VIDA – Telecomunicações Unipessoal, Lda.	–	X		A
PHONE ONE – Serviços de Telecomunicações, Lda.	A			A
PT Comunicações, S.A.	A			A
TELEMO Comunicaciones, S.L.	–	X		A
ULTRASERVE – Consultoria e Apoio Empresarial, Lda.	–	X		NA
WORLD FUN TELECOM – Redes de Telefonia, S.A.	A		X	–
XALAT – Comunicações Electrónicas, Unipessoal, Lda.	NA		X	–
Total active	10			12
Total not active	5			5
Overall total	15	7	5	17

Source: ICP-ANACOM.

A – Active NA – Not Active

At the end of 2008, there were 12 active public payphone providers, with the entry of seven new operators, three of which were active, and the exit of five, two of which were active.

Structure of the offer and operator switching

In 2008, the share of accesses installed at the request of PT Group customers decreased 3 per cent. (It should be

mentioned that the accesses benefiting from the SLRO were counted as alternative provider direct accesses).

Since the end of 2004, PT Group has lost 25 per cent of the share of accesses installed by customer request.

PT Group access shares
Table 3.5

	2004	2005	2006	2007	2008
Total main accesses	93.3	89.2	78.5	72.0	69.0
Accesses installed at customer request	93.2	89.0	78.0	71.2	68.3
Analogue accesses	93.9	91.3	88.4	84.7	86.8
ISDN equivalent accesses	90.5	81.1	85.8	83.7	81.2

Unit: %
Source: ICP-ANACOM.

The evolution of the share of direct access customers was similar to the evolution of the share of accesses.

(Once again it was assumed that customers with active SLRO were direct customers of alternative operators.)

PT Group customer shares
Table 3.6

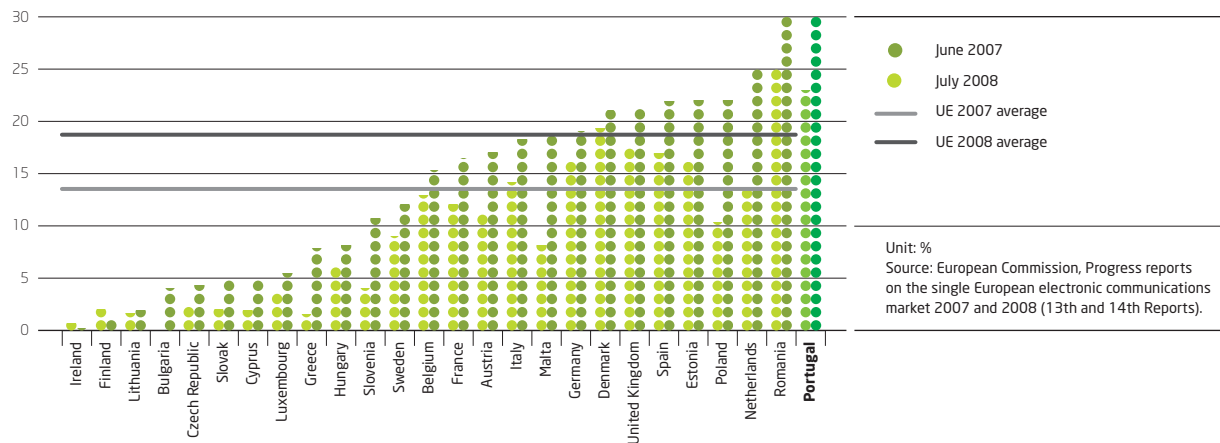
	2004	2005	2006	2007	2008
Direct access customers	93.8	88.9	76.3	68.3	63.8
Indirect access customers	0.6	0.8	1.2	2.0	19.8

Unit: %
Source: ICP-ANACOM.

It should be mentioned that, according to the European Commission, the share of direct access customers of the

alternative providers in Portugal is the highest, together with Romania, among the countries considered.

Alternative providers' share of direct access customers in the EU
Graph 3.3



With regard to indirect access, it should be highlighted that PT Group increased its share of indirect access customers. This evolution is due to the commercial activity of the entities which make up PT Group and also to the reduction in Tele2 customers, which were meanwhile included in the Sonaecom Group.

Alongside this evolution of access and customer shares, number portability has also been boosted. During 2008, ported geographic numbers maintained the trend in growth, increasing 38.2 per cent. In absolute terms, the volume of ported numbers reached around 920 thousand numbers, a figure equivalent to 23.3 per cent of all accesses.

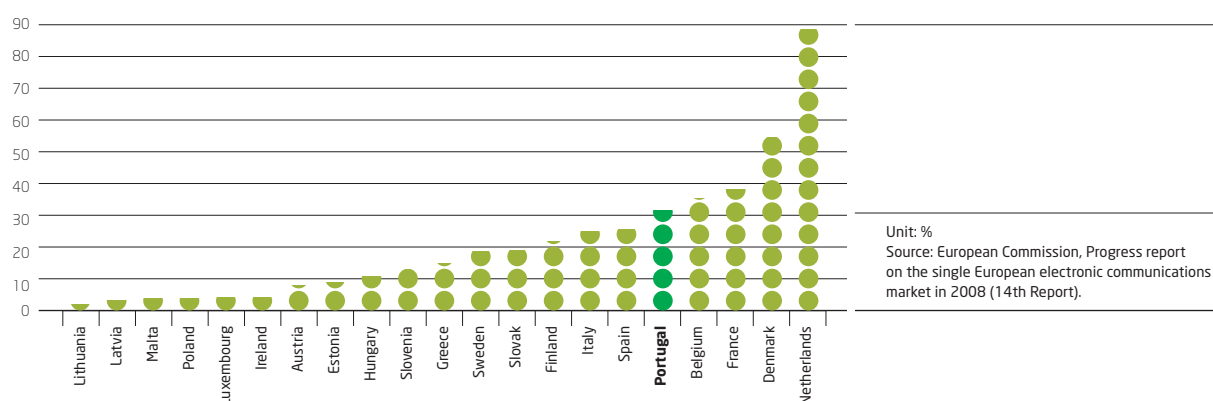
Ported numbers
Table 3.7

	2004	2005	2006	2007	2008
Geographic numbers	158,623	265,077	446,371	664,684	918,953
Non-geographic numbers	277	351	571	739	885

Unit: 1 number
Source: ICP-ANACOM.

At the EU level, Portugal ranks fifth with regard to ported numbers.

Ported fixed numbers (October 2008)
Graph 3.4



Regarding traffic shares, since the beginning of liberalization there has been a progressive decrease in the proportion of voice traffic routed by the incumbent operator. In line with this, 2008 recorded a decrease of 2.4

per cent in the share of voice traffic routed by the incumbent operator in terms of minutes and a 1.8 per cent decrease in terms of calls.

PT Group traffic shares (minutes)
Table 3.8

	2004	2005	2006	2007	2008
Voice traffic	78.1	74.1	71.0	68.7	66.3
National traffic (voice)	78.1	74.2	70.6	68.3	65.9
National fixed-to-fixed traffic	78.3	74.4	71.0	69.0	66.4
National fixed-to-mobile traffic	76.8	72.9	68.3	64.6	63.0
Outgoing international traffic	77.4	73.0	76.4	74.2	71.3
internet access traffic	99.4	96.3	92.9	91.4	94.1
Total traffic (voice + internet)	83.7	78.2	73.4	69.8	67.0

Unit: %
Source: ICP-ANACOM.

PT Group traffic shares (calls)
Table 3.9

	2004	2005	2006	2007	2008
Voice traffic	<77.3	74.2	70.9	68.4	66.6
National traffic (voice)	77.3	74.3	70.8	68.3	66.7
National fixed-to-fixed traffic	77.2	74.3	71.2	69.0	67.7
National fixed-to-mobile traffic	78.0	74.3	69.2	65.6	63.5
Outgoing international traffic	75.4	72.1	72.5	70.2	64.8
Internet access traffic	97.7	93.8	84.0	69.0	56.6
Total traffic (voice + internet)	78.2	74.8	71.1	68.4	66.6

Unit: %

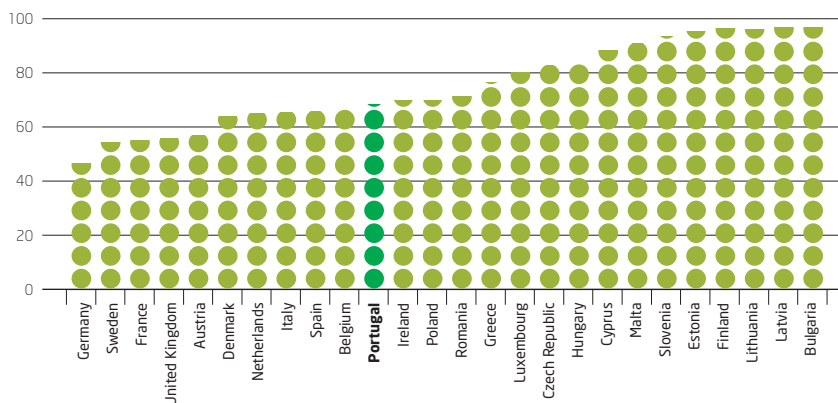
Source: ICP-ANACOM.

Regarding the destinations of national voice traffic (mobile and fixed geographic), in 2008 the alternative providers were responsible for around 33.3 of traffic in terms of calls and 34.1 per cent in terms of minutes.

Within the EU, Portugal occupies a middle position in the rankings for the incumbent operator's traffic share.

In relation to outgoing international traffic, in 2008 the share of the alternative providers was around 28.7 per cent in minutes routed and 35.2 per cent in originated calls.

Incumbent operator's traffic share in December 2007 (minutes)
Graph 3.5



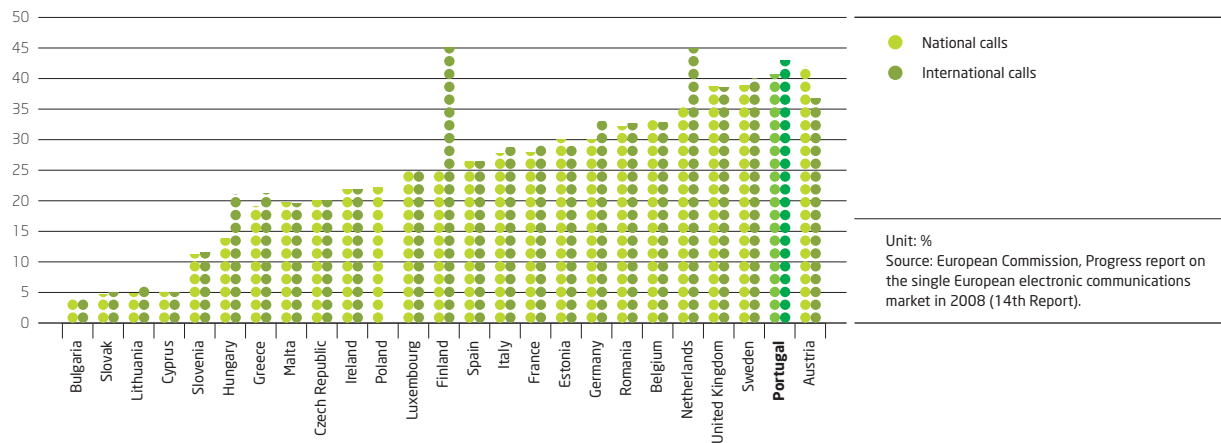
Unit: %

Source: European Commission, Progress report on the single European electronic communications market in 2008 (14th Report).

Regarding the proportion of customers that use alternative providers to make calls, compared to the other EU countries

Portugal is 2nd in the rankings in terms of national calls and 3rd in terms of international calls.

Percentage of customers using alternative providers to make fixed voice calls, July 2008
Graph 3.6



In terms of revenue, in 2008 PT Group's share reached 76.2 per cent, 0.9 per cent less than in the previous year.

PT Group shares of revenue from the FTS
Table 3.10

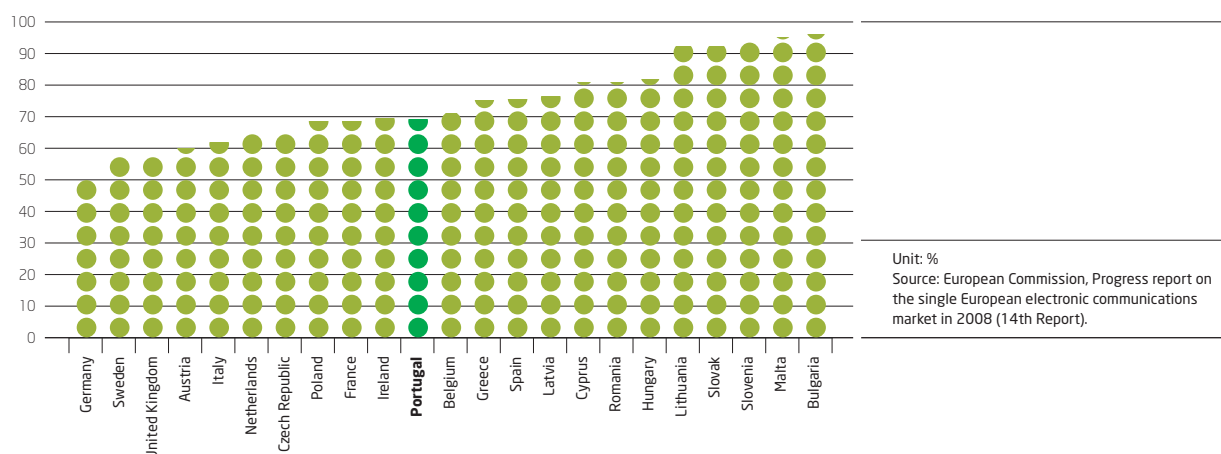
	2004	2005	2006	2007	2008
Total revenue	87.7	86.4	83.7	77.1	76.2

Unit: %
Source: ICP-ANACOM.

In international terms, in December 2007 the revenue share of the incumbent operator in Portugal was close to the

average share of incumbent operators in the EU countries considered, which stood at 75.8 per cent.

Incumbent operator's revenue share in December 2007 (revenue)
Graph 3.7



The evolution of the shares presented above is the result of the previously mentioned factors explaining the underlying variables. However, it is important here to cite the consumers' reasons for switching operator. In this context, it

can be seen that the main reasons reported for switching operator were related to the prices of the service or to issues related to tariffs (lack of a monthly subscription fee).

Reasons for switching fixed operator
Table 3.11

	Dec. 08
Dissatisfaction with prices	52.6
New operator does not charge monthly fee	19.0
Interest in trying new products/services	4.1
The previous operator did not offer a bundle with the internet and TV access	5.3
Dissatisfaction with the quality of the service	6.5
The previous operator did not offer a bundle with internet access	2.7
Most of the people they are in touch with are customers of this new operator	1.1
Other responses	7.7
Na/Nr	1.0
Total	100.0

Unit: %

Source: ICP-ANACOM, Electronic Communications Consumer Survey, December 2008³⁰.

³⁰ Electronic Communications Consumer Survey 2008. The universe is composed of individuals of 15 years or more who reside in private housing units located in Mainland Portugal or in the Autonomous Regions (Azores and Madeira). The sample is representative at the level of NUTS I having been composed of 2040 interviews on the Mainland and 780 interviews in each of the Autonomous Regions. Households were selected by means of proportional stratified random sampling according to the crossing of the NUTS II Region variables and the size of the household. Within each household one individual was selected by means of sampling by quotas guaranteeing the marginal totals of the sex, age class, level of education and employment status variables, according to the General Population Census (2001) of the National Institute of Statistics (INE). The gathering of information was by CAPI - Computer Assisted Personal Interviewing which took place between 5 November and 29 December 2008. The results regarding the Mobile Telephone Service are based on the universe of the individuals and present a maximum margin of error of less than 2 p.p. (with a degree of reliability of 95 per cent). The results regarding the Fixed Telephone Service, internet Service and paid Television Service are based on the universe of the households and present a maximum margin of error of less than 3 p.p. (with a level of reliability of 95 per cent). The company TNS-Euroteste was responsible for the fieldwork and data handling.

In fact, the operators that launched offers with no monthly subscription fee (namely based on GSM, on cable TV distribution networks or multiple play), and the providers that advertised their offers, namely of indirect access, as being cheaper than the offers of the incumbent operator, are the main responsible parties for the decrease in the incumbent operator's share of accesses and traffic (another relevant factor within this scope will be the decrease in the use of the service in its traditional form).

Offers of access to the fixed telephone network and telephone services offered 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.

Traditionally, telephone services were offered together (bundled) with the access to the public telephone network at a fixed location. The service was provided via 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 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 access item (installation and subscription) from the usage item (price of calls). Regarding call prices, there was peak-load pricing and call prices were proportionate to their distance.

This situation changed due to the regulatory, technological and commercial alterations which have occurred in recent years.

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.

As from 1 January 2000, the users of publicly available telephone services at a fixed location began being served by the indirect access service in the call-by-call selection mode. This function allows FTS users to make telephone calls using the services of other FTS providers besides their access provider, by simply dialling the 10xy code of each operator. Initially, only long-distance and international calls were eligible for the provision of this indirect access service.

As from 1 July 2000, a new indirect access mode was launched: provider pre-selection. This function makes it possible for the calls made by any user to be routed to the provider that they prefer without the need to dial the selection codes. Initially, pre-selection was implemented through the installation of an auto-dialler device in the customer's phone. On 1 October 2000, pre-selection ended its interim stage in the networks of Porto and Lisbon, with the installation of an auto-dialler no longer being needed; pre-selection began to be programmed at the operators' exchanges. On that same date, calls originating from the fixed networks destined for a mobile network (fixed-to-mobile calls) became 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 in the rest of the country in its final format (without the installation of auto-diallers).

After 1 January 2001, local and regional connections also became eligible for indirect access.

Indirect access was initially the means preferred by most of the alternative operators for entering the markets of telephone services provided at a fixed location, allowing them to obtain relatively high shares in terms of national and international traffic.

Portability

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

Portability, the function giving subscribers of publicly available telephone services requesting it the possibility to keep their number or numbers, within the scope of the same service, regardless of the company offering it, in the case of geographical numbers in a given location, and in the case of other numbers throughout Portugal, was introduced to fixed networks on 30 June 2001 and to 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 established the principles and rules applicable to portability in the public telephone networks, and which is mandatory for all companies with portability obligations³¹.

Change is only possible within the same type of service, i.e. it is possible to change the provider of the telephone service accessible at a fixed location and maintain the same number, it is possible to change the provider of the mobile telephone service and maintain the same number, and it is also possible to change the provider of a given non-geographic service (ex. 800) and maintain the same number. However, it is not possible, for example, to port a number from a provider of the telephone service accessible at a fixed location to a mobile telephone service provider, or vice versa.

Tariff changes and changes to the marketing of the service

Regarding tariffs, there are constant innovations revolutionizing traditional tariff models. On one hand, there is a trend towards creating tariff bundles with merged access and usage items, by elimination of the access item, with usage prices subsidizing the access, or by creating access prices that are convertible into calls or with an associated calling credit.

Multiple play bundled offers merging voice services, internet access, television (TV) distribution and contents are sometimes associated to these tariff changes. These offers are provided via cable TV distribution networks or via the LLU – regulated offer, via FWA and optical fibre.

In 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 the 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 greater 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 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 will ensure the most appropriate level of revenue.

Single invoice

With the introduction of indirect access, users began receiving two telephone invoices: one for access sent by the incumbent operator, and another for communications charged by the alternative providers.

Following a determination of 14 December 2004, the alternative providers were given the possibility of presenting the end customer with a single invoice and a joint offer of access service and telephone services. This possibility is a result of the regulatory obligation of the SLRO – Subscriber line resale offer.

SLRO is available to companies that, duly qualified for the purpose by ICP-ANACOM, provide the following services via a given subscriber line of PTC:

³¹ This regulation has been the object of successive amendments (See <http://www.anacom.pt/template15.jsp?categoryId=1589>). The most recent amendment occurred in February 2009.

- 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 based on unbundled lines in the shared access mode.

Voice over internet Protocol Services (VoIP)

Lastly, mention should be made of the introduction of voice services based on broadband internet access offers, within the scope of the aforementioned multiple play offers. These offers based on the internet Protocol (VoIP) for the most part have very low price levels.

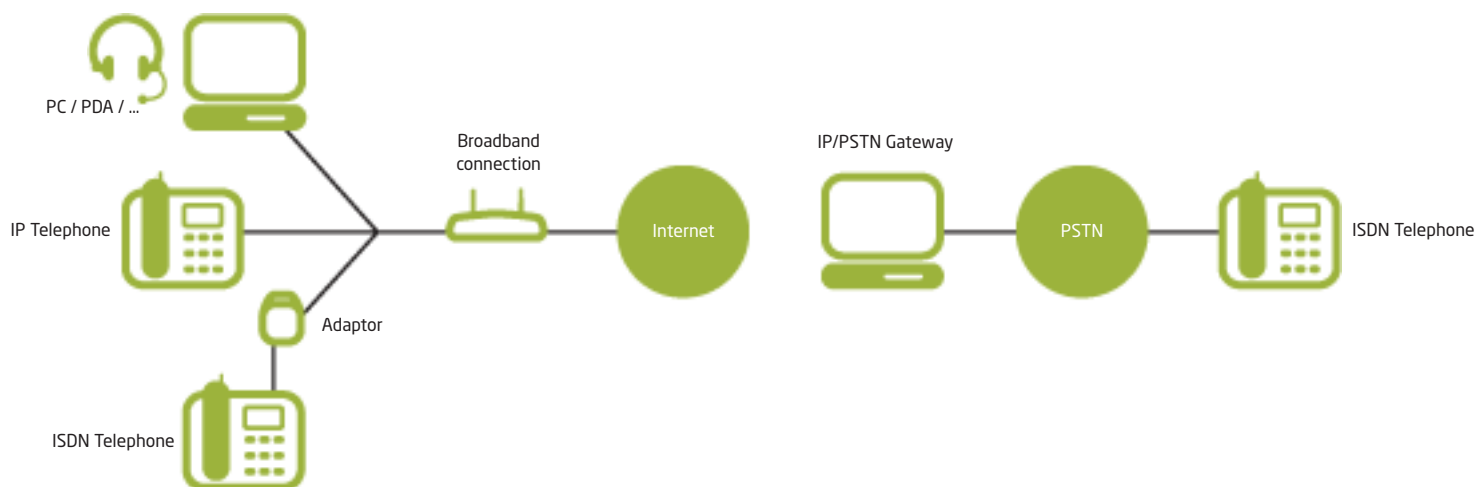
VoIP technology enables users to establish telephone calls through a data network such as the internet, converting an analogue voice signal into a set of digital signals, in the form of IP address packages, which can be sent, namely, via an internet connection (preferably broadband).

The increase in broadband accesses for internet use, together with the emergence of increasingly more stable

protocols in terms of standardization, enable the current development of applications supporting video and voice interactive services, such as VoIP, assuring a voice quality seen by the user as being close to that of the traditional telephone service. Thus, the VoIP service is increasingly sought by end users.

There are currently 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 over a narrowband connection to the public internet. Broadband access may be based on wired technologies, such as Asymmetric Digital Subscriber Line (ADSL), cable, optical fibre, and powerline, or on wireless technologies, such as 3G, satellite, Fixed Wireless Access (FWA), Wi-Fi (Wireless fidelity) or WiMax (Worldwide interoperability for microwave access).

Configuration of a typical network using VoIP as a publicly available electronic communications service
Graph 3.8



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

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

On the subject of numbers and portability, ICP-ANACOM believes that VoIP offers provided at a fixed location may be assigned geographic numbers, it being the VoIP provider's responsibility to ensure the fulfilment of this requirement (use at one single location);

- ii) Through nomadic use offers, able to be used at several locations, supported on third party accesses, i.e., without

control of the access network (Skype-OUT/IN is an example of this kind of service), and being able to make and receive calls.

- iii) It was considered appropriate to assign this nomadic VoIP mode a new range of non-geographic numbers³² – "30" – distinguishing it from the telephone service provided at a fixed location.

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

³² 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 within the scope of portability.

Products and services offered by the FTS providers
Table 3.12

Products/services	Brief description
Analogue telephone line (only applicable to direct access ³³)	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 applicable to 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 applicable to direct access)	Service also provided using a public telephone network enabling the integration of voice and data services into a 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 packaged-mode 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 via 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 an FTS provider other than the one owning 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 applicable to direct access)	Feature enabling 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.

Fonte: ICP-ANACOM.

³³ Depending on whether the local access is held by the FTS provider or not, it can be direct access FTS, or indirect access FTS.

Due to the increasing 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 adapted to the segments they target (residential, self-employed professionals, companies, etc.).

Price level of the incumbent operator's offers

The evolution of the incumbent operator's prices and an international comparison of FTS prices in 2008 are presented below.

Evolution of the incumbent operator's price index

In 2008, and in average yearly terms, local call prices decreased 4 per cent, and national call prices decreased 4.1

per cent. Monthly subscription fee and installation prices stabilized. It should be highlighted that, within the scope of the regulation of the prices of the universal service, a price-cap was established for the bundle of prices of the service, with the operator being able to freely set the prices of the components of the bundle so long as the overall limit and the principle of cost orientation is complied with. In this precise case, PTC decided to reduce the prices of the communications and maintain the installation and monthly subscription fee.

Compared to 2006, the incumbent operator's price bundle remained the same in nominal terms. It should also be mentioned that in 2008, in nominal terms, a national call cost almost 13 per cent less than a similar call in 2006.

Incumbent operator's nominal price index
Table 3.13

	2007	2008	2007/2008 var. (%)	2006/2008 average annual var. (%)	2006/2008 var. (%)
Installation	100.0	100.0	0.0%	0.0%	0.0%
Monthly fee	100.0	100.0	0.0%	0.0%	0.0%
Local	90.9	87.2	-4.0%	-6.6%	-12.8%
National	90.8	87.1	-4.1%	-6.7%	-12.9%
Bundle	100.0	100.0	-0.001%	-0.003%	-0.005%

Unit: base index (2006 = 100)
Source: ICP-ANACOM.

Since 2006 there has been a generalized decrease in the real price of calls to the various traffic destinations. In fact, the incumbent operator's price bundle registered a 4.5 per cent decrease in real terms between 2006 and 2008.

Regarding the monthly fee and service installation, during that period there was a real decrease of 4.4 per cent in both of these indicators.

Incumbent operator's real price index
Table 3.14

	2007	2008	2007/2008 var. (%)	2006/2008 average yearly var. (%)	2006/2008 cumulative var. (%)
Installation	97.6	95.6	-2.1%	-2.2%	-4.4%
Monthly fee	97.6	95.6	-2.1%	-2.2%	-4.4%
Local	88.7	83.3	-6.0%	-8.7%	-16.7%
National	88.6	83.2	-6.1%	-8.8%	-16.8%
Bundle	97.6	95.5	-2.1%	-2.3%	-4.5%

Unit: base index (2006=100)
Source: ICP-ANACOM.

International comparisons of FTS prices

International comparisons of FTS prices are presented below³⁴.

Regarding the annual average invoice (bundle), prices paid by FTS residential customers in Portugal are below the average price charged in the countries under analysis, in the case of average and high consumption profiles. In the case of low consumption, the prices charged in Portugal are 0.2 per cent above the average, which seems to be a consequence of the way in which PTC chose to implement

the aforementioned price-cap (reduction in the price of calls and maintaining the monthly fee and installation charge).

For all of the aforementioned profiles, Portugal's relative position in the rankings fell in relation to the previous year.

This change in Portugal's relative position in these rankings is a result of the fact that, although there were reductions in the prices charged by the Portuguese incumbent operator, there were more significant price reductions in the other countries of the EU19 for all the profiles considered.

International comparisons of FTS prices – residential segment
Table 3.15

		Nov. 2006	Nov. 2007	Nov. 2008
Low consumption	Deviation from the average	3.0%	-1.7%	0.2%
	EU19 Ranking	13	9	11
Medium consumption	Deviation from the average	2.4%	-8.0%	-6.9%
	EU19 Ranking	11	4	7
High consumption	Deviation from the average	6.2%	-7.1%	-7.0%
	EU19 Ranking	13	6	7

Unit: %
Source: Telfigen, OECD, ICP-ANACOM.

³⁴ OECD's usage profiles/bundles were taken into account. Values are in Euros and correspond to annual invoices, without VAT, and purchasing power parity was not used. The currency rates are collected by the OECD. The figures for the residential segment do not include discounts and promotions, while these were included in the business segment. The average is calculated with the results of the 19 EU countries taken into account by the OECD.

In spite of the fact that, overall, the residential consumer's average annual invoice in Portugal is below the average of the countries considered, there are certain components in the bundle where it is above the average. This is the case of fixed-to-mobile and international calls.

It should be mentioned that, for the average and high consumption segments, Teligen selected a tariff option with a subscription fee and free calls. Thus, installation and monthly subscription fee are relatively more expensive than the average. However, free national calls more than make up for this effect and, also, the effect of the relatively more expensive fixed-to-mobile and international calls.

International comparisons of FTS prices (II) – residential segment
Table 3.16

		Low consum.	Average consum.	High consum.
Installation and monthly subscription	Annual expenses with installation and monthly subscription	€166.3	€288.7	€288.7
	Deviation from the average	-0.6%	27.2%	19.6%
	EU19 Ranking	9	17	16
National calls	Annual expenses with national calls	€48.5	€0	€0
	Deviation from the average	-18.2%		
	EU19 Ranking	5		
Fixed-to-mobile calls	Annual expenses with fixed-to-mobile calls	€37.6	€108.9	€293.2
	Deviation from the average	9.4%	9.7%	10.7%
	EU19 Ranking	13	14	13
International calls	Annual expenses with international calls	€37.6	€36.1	€144.3
	Deviation from the average	32.8%	34.8%	39.9%
	EU19 Ranking	15	15	16

Unit: Euros, %

Source: Teligen, OECD, ICP-ANACOM.

Concerning the business segment, in the SOHO (Small Office, Home Office) segment the prices charged in Portugal are practically the same as the EU average.

In the SME (Small and Medium-sized Enterprises) segment, the results are less favourable. In this case, the prices

charged in Portugal rank 14th, and the average invoice of these customers is 11.3 per cent higher than the average of the other countries under analysis.

International comparisons of FTS prices – business segment
Table 3.17

		Nov. 2007	Nov. 2008
SOHO	Deviation from the average	2%	0.2%
	EU19 ranking	12	12
SME	Deviation from the average	13.5%	11.3%
	EU19 ranking	15	14

Unit: %
Source: Teligén, OECD, ICP-ANACOM.

In the business segment, the prices charged in Portugal are below the European average in the installation, monthly subscription and calls to mobile numbers items, and above the average in the calls to fixed numbers and calls to international numbers items.

It is important to note that in the business segment the prices charged in Portugal for calls to mobile networks are the most competitive in the EU19.

International comparisons of FTS prices (II) – business segment
Table 3.18

		SOHO	SME
Installation and monthly subscription	Annual expenses with installation and monthly subscription	€187.2	€5615.0
	Deviation from the average	-7.3%	19.8%
	EU19 ranking	6	4
National calls	Annual expenses with national calls	€133.3	€6598.0
	Deviation from the average	18.2%	31.1%
	EU19 ranking	12	14
Fixed-to-mobile calls	Annual expenses with fixed-to-mobile calls	€101.5	€3251.9
	Deviation from the average	-30.7%	-31.3%
	EU19 ranking	1	1
International calls	Annual expenses with international calls	€56.3	€5255.7
	Deviation from the average	50.1%	50.1%
	EU19 ranking	17	17

Unit: Euros, %
Source: Teligén, OECD, ICP-ANACOM.

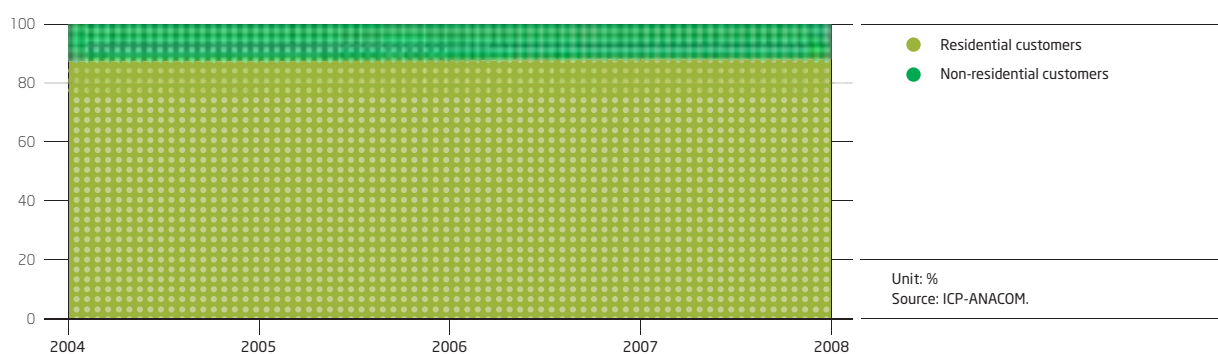
Profile of the customer and FTS usage

The main characteristics of FTS users and usage are presented below, in addition to the users' evaluation of the services provided. The main reasons reported by non-users for not subscribing to the service are also detailed³⁵.

Characterization of the FTS user

FTS users are mostly residential customers. Only around 12 per cent of FTS customers are non-residential customers. As the following graph shows, these proportions have not varied significantly over the last 5 years.

Residential and non-residential clients
Graph 3.9



Among the residential customers, penetration is above average in the case of the over 45s and in the case of customers with a lower education level.

FTS penetration by age group
Table 3.19

Age group	Dec. 2008
15-24	46.3
25-34	38.2
35-44	53.6
45-54	56.4
55-64	62.3
65-mais	68.0
Total	55.2

Unit: %
Source: ICP-ANACOM, Electronic Communications Consumer Survey, December de 2008.

³⁵ The results presented here contain differences in size in relation to the surveys of previous years. This is due to a change in the methodology for gathering information. Previously subscribers of the FTS and the MTS were interviewed. This year physical interviews were used.

Customers in the Alentejo and in the Autonomous Region of the Azores subscribe to the FTS more intensely than those in the other regions of the country.

FTS penetration by NUTS II
Table 3.20

Region	Dez. 2008
North	55.6
Centre	55.1
Lisbon and Tagus Valley	54.9
Alentejo	69.7
Algarve	24.5
Madeira	36.2
Azores	77.3
Total	55.2

Unit: %

Source: ICP-ANACOM, Electronic Communications Consumer Survey, December 2008.

Barriers to service subscription

According to the data gathered in the Electronic Communications Consumer Survey 2008, and as illustrated in the following table, the main reason for not subscribing to the FTS is the use of the mobile phone.

Tariff issues also play an important role. Around 29 per cent of those who have not subscribed to the service consider it to be too expensive (19.5 per cent) or state that they would prefer a service with no monthly subscription fee (9.6 per cent).

Reasons for not having a fixed network telephone
Table 3.21

	Dec. 2008
Uses mobile phone	54.9
Too expensive	19.5
Doesn't need	13.0
Prefers not to pay monthly subscription fee	9.6
Other responses	3.0
Total	100.0

Unit: %

Source: ICP-ANACOM, Electronic Communications Consumer Survey, December 2008.

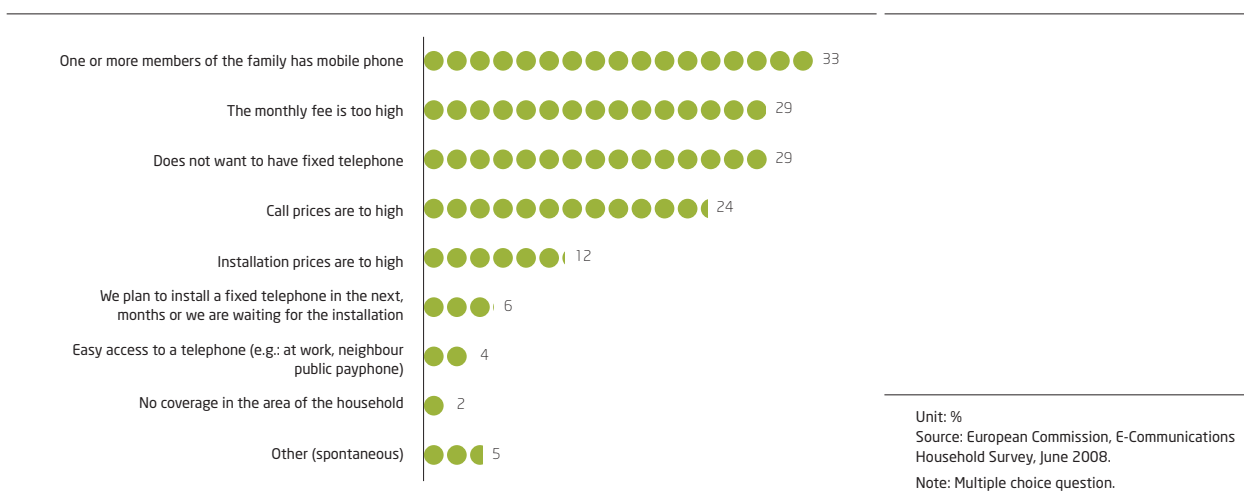
Note: Base of respondents without fixed network.

It is of note that the reasons given by Portuguese consumers for not subscribing to the FTS are the same as those mentioned in previous years and very similar to those stated by their European counterparts.

According to the European Commission³⁶, the fact that at least one person in the family has a mobile phone is the most stated reason for not having fixed network. The costs

associated with a fixed telephone line are also indicated as a reason for not having a fixed telephone. One in three homes without a fixed telephone mentioned the amount of the monthly subscription fee as an obstacle to subscription. One in four considered the price of calls to be high and 12 per cent of the respondents stated they are unable to pay the installation cost.

Reasons for not having a fixed telephone in the EU
Graph 3.10



pparently, tariff-related barriers to subscribing to the service are lower in Portugal than in the EU, where together they count for the majority. On the other hand, the influence of the MTS is much greater in Portugal, in line with the greater penetration of this service (See Chapter 4).

Characterization and level of FTS usage

The level of subscription to the service and the consumption of FTS accesses and calls will be characterized below.

Number of clients

In 2008 there was a 2 per cent decrease in the number of direct access customers in relation to 2007. Indirect access customers, for their part, decreased 41.3 per cent, in the case of pre-selection, and 45.3 per cent in the case of call-by-call selection.

Customers of the nomadic VoIP service grew considerably. However, this FTS mode represents only 4 per cent of the total number of customers.

³⁶ European Commission, E-Communications Household Survey, Special Eurobarometer June 2008.

Number of FTS customers
Table 3.22

	2007	2008	2007/2008 var. (%)	2004/2008 average annual var. (%)	2004/2008 var. (%)
Direct access customers ⁽¹⁾	3,207,252	3,144,668	-2.0%	0.1%	0.4%
Pre-selection customers	292,780	171,817	-41.3%	-18.8%	-56.5%
Call-by-call selection customers	41,469	22,697	-45.3%	-31.3%	-77.7%
Nomadic VoIP customers	76,290	133,874	75.5%		

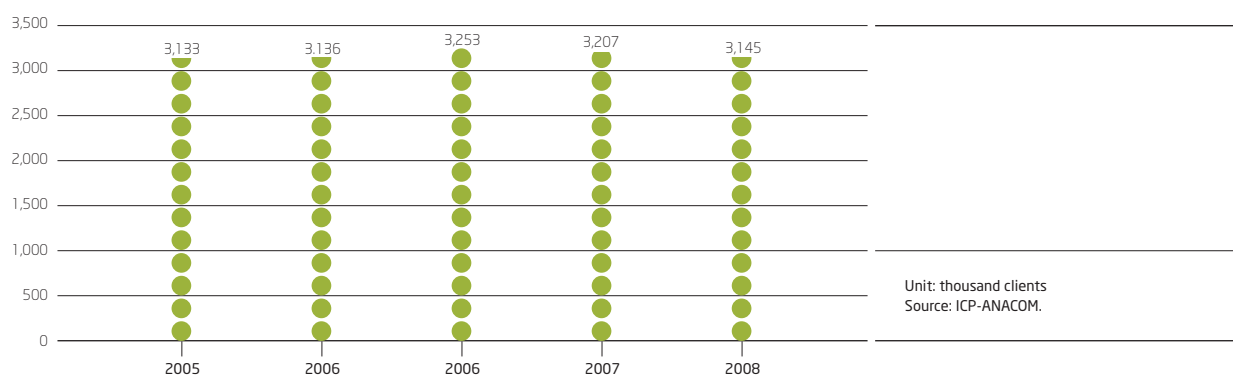
Unit: 1 customer, %
Source: ICP-ANACOM.

⁽¹⁾ Includes Direct Access clients with active SLRO.

The decrease in the number of direct access customers, who still count for 3.1 million customers, is mostly due to the progressive reduction in the incumbent operator's direct

access customers and, in the last year, in the customers of Tele2 (operator included within Sonaecom), Cabovisão and other alternative providers.

Evolution of the number of direct access customers
Graph 3.11



However, it should be highlighted that an increase in the number of direct customers was recorded in the last quarter of the year. In fact, in that quarter, the number of new customers of ZON Group, Vodafone and other alternative providers surpassed the number of customers of the other operators that abandoned the service.

On the other hand, indirect access customers fell significantly between 2001 and 2003, after a significant

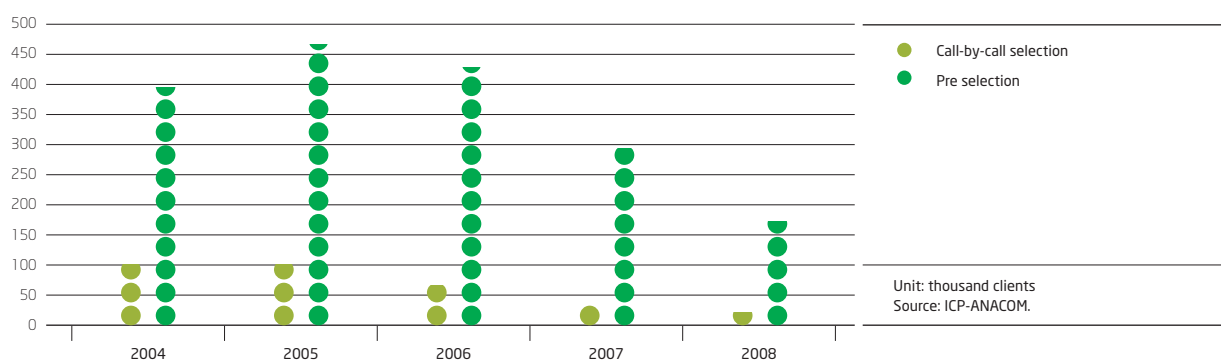
increase in the first two years after liberalization – when this means of access was the one preferred by the new providers in order to enter these markets. This evolution has been explained by the new providers' emphasis on other business models with better prospects in terms of profitability (for example, bundled offers based on direct access, namely offered based on the RUQ).

At the end of 2003 Tele2 entered these markets, which boosted the offer of indirect access. From then on the number of customers has increased significantly.

In 2006, the previously described trend was reversed and in 2007 and 2008 the trend towards a decrease in the number of indirect access customers intensified. These variations

are explained by the growth in offers from alternative operators in the direct access mode. The development of the SLRO (in the case of call-by-call selection), and the new optional price plans launched by the incumbent operator may have affected this evolution.

Evolution of the number of indirect access customers
Graph 3.12



In this context it should be mentioned that at the end of 4Q08, around 76 thousand customers were benefiting from the SLRO, with one single alternative operator, Tele2, being responsible for about 60 per cent of the customers with active SLRO. However, in relation to the previous year, there was a 46 per cent decrease in the number of customers with this type of access, due to the significant fall in the number of customers with SLRO of the aforementioned alternative operator.

Accesses

The majority of the FTS direct accesses consist of analogue accesses (55 per cent of the total). However, since the beginning of the liberalization process, the weight of ISDN accesses has increased significantly. At the end of 2008 these counted for around 19.4 per cent of the total accesses. On the other hand, since 2005-2006 accesses using GSM networks have acquired increasing importance within the scope of the FTS, and at the end of 2008 represented around 10 per cent of total accesses. Other

accesses, which include those associated with voice services via the internet provided at a fixed location and in conditions seen by the user as being equivalent to those of the traditional FTS and the cable telephony accesses, have experienced significant growth during the last year and now represent 15.6 per cent of total accesses. This evolution is mostly due to the commercial strategies of the alternative operators that have invested in these types of offer, namely the CATV operators.

At the end of 2008 around 4.1 million main accesses were installed, 1.8 per cent less than at the end of the previous year. Despite this overall evolution, an increase of around 103 per cent in the number of other accesses can be highlighted, as previously mentioned. Likewise, the 9.5 per cent increase in the accesses using GSM technology can also be noted. These increases mitigated the falls in the analogue accesses (-15.2 per cent), ISDN accesses (-3.8 per cent) and in the number of public payphones installed (-12.3 per cent).

Number of equivalent accesses installed
Table 3.23

	2007	2008	2007/2008 var. (%)	2004/2008 average annual var. (%)	2004/2008 var. (%)
Accesses installed at customer request	4,098,684	4,023,762	-1.8%	-0.7%	-3.0%
Analogue accesses	2,610,728	2,213,351	-15.2%	-8.0%	-28.5%
ISDN accesses	812,809	781,767	-3.8%	-2.2%	-8.4%
GSM accesses	364,888	399,520	9.5%	-	-
Other accesses ⁽²⁾	310,259	629,124	102.8%	33.6%	218.9%
Public payphones	41,498	36,391	-12.3%	-6.4%	-23.3%
Total main accesses⁽¹⁾	4,203,800	4,130,158	-1.8%	-0.6%	-2.6%

Unit: %

Source: ICP-ANACOM.

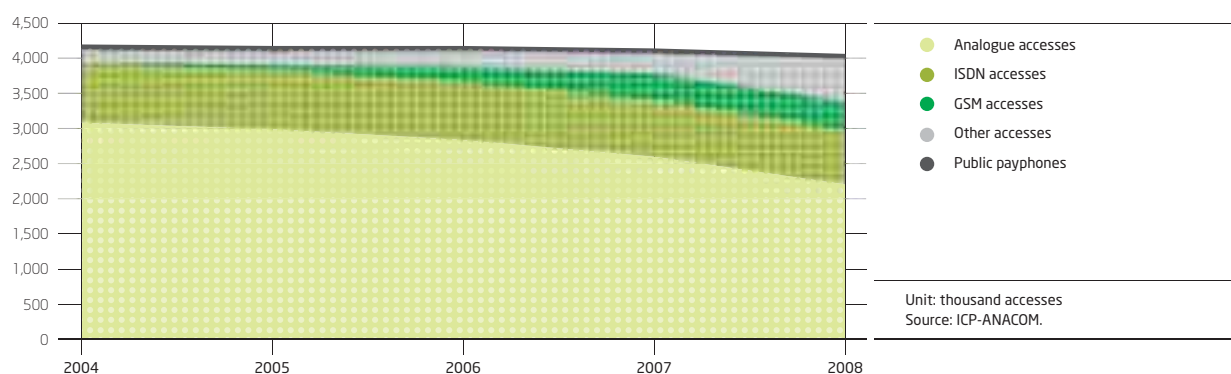
⁽¹⁾ Includes accesses installed at client request, own stock and public payphones.

⁽²⁾ Includes accesses associated with voice services via the internet provided at a fixed location in conditions seen by the user as being equivalent to those of the traditional FTS, accesses associated with voice services via the internet in conditions which may be seen by the user as being equivalent to those of the traditional FTS and cable telephony accesses.

Since 2001 there has been a slight trend towards a reduction in the number of accesses installed at the request of customers (-3 per cent between the end of 2004 and

2008), which may be linked to some of the factors mentioned in section Barriers to service subscription.

Evolution of the number of accesses
Graph 3.13



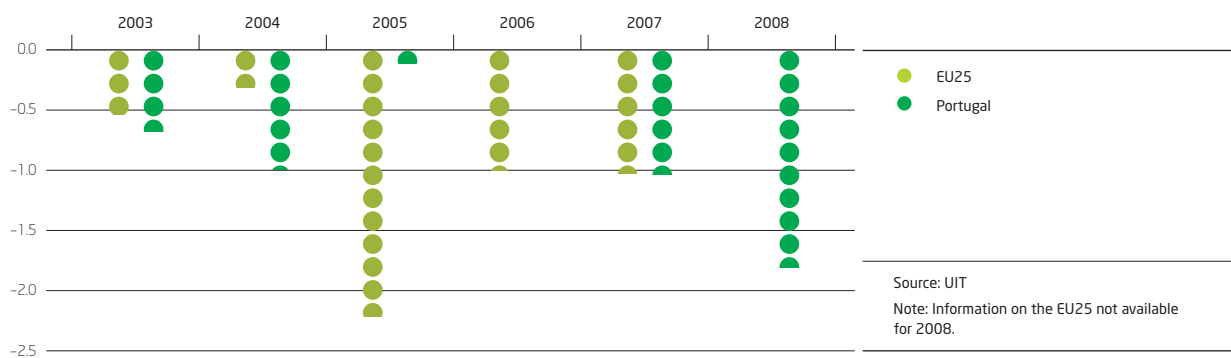
The investment made by the alternative operators at the level of the local network was not sufficient to reverse the trend described. The new providers decided for the most part to enter the market using the regulated offers of

indirect access or local loop unbundling. The exception was Cabovisão, which placed emphasis from a relatively early stage on a multiple play strategy using its cable TV network, and which until recently had become the second

largest provider of access service to the fixed telephone network. Recently there has been an exponential increase in the offers based on voice services via the internet provided at a fixed location and a progressive increase in the offers based on the mobile networks. However, as can be seen, the net result in overall terms is negative.

The decrease in the number of accesses in Portugal was more pronounced than in the other EU countries, until 2004. From then on, firstly due to the effect of the offers based on mobile networks and, now, due to the offers mentioned in the previous paragraph, the decrease in the number of accesses in Portugal has been lower or the same as that recorded in Europe.

Evolution of the number of accesses in the EU and in Portugal
Graph 3.14

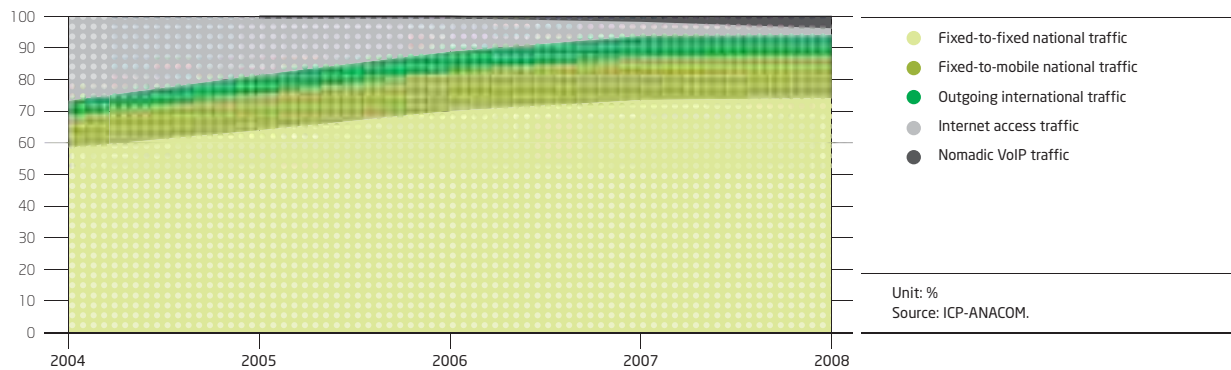


Traffic

In 2008, switched traffic carried on the fixed network was, considering the number of minutes, mostly made up of fixed-to-fixed calls (74.2 per cent). This was followed by fixed-to-mobile traffic (13.3 per cent), outgoing international traffic (6.8 per cent), traffic associated with the nomadic VoIP service (3.2 per cent) and, lastly, traffic associated with the internet (2.5 per cent).

The weight of internet access switched traffic (dial-up), which was initially significant in the total traffic due to the increasing popularity of the internet and the introduction of offers from alternative operators (free internet), has experienced a rapid decrease due to the migration to broadband offers. This fact has contributed to the increase in the weight of the other traffic destinations. Traffic associated with the nomadic VoIP service began to be noted in 2007.

Distribution of traffic by destination (minutes)
Graph 3.15

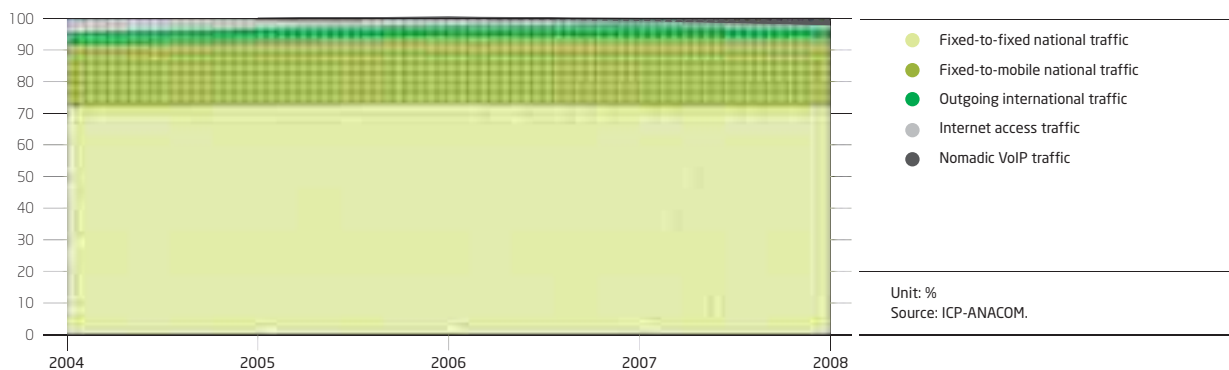


The distribution described above alters significantly if we consider the number of calls. This is explained by the fact that the number of minutes of internet access calls is much greater than the number of calls (i.e. internet access calls are much longer than other calls). In terms of the number of calls, the fixed-to-fixed traffic represents around 72 per cent of the total, while fixed-to-mobile traffic and international calls are responsible for around one fifth and 4

per cent of traffic, respectively. internet access calls represent only 0.8 per cent of the total calls and those related to the nomadic VoIP service make up around 2 per cent of the total.

The phenomenon of migration to broadband internet access has also affected the distribution of traffic over time in this case.

Distribution of traffic by destination (calls)
Graph 3.16



2008 was characterized by a generalized drop in traffic originating from the fixed network (-2.8 per cent in minutes and -5 per cent in calls). The exception was the traffic associated with the nomadic VoIP service. The most

accentuated decrease was recorded in internet access traffic (-51 per cent in minutes and -33 per cent in calls), for the reasons mentioned above.

Traffic originating in the fixed network (minutes)
Table 3.24

	2007	2008	2007/2008 var. (%)	2004/2008 average annual var. (%)	2004/2008 var. (%)
Voice traffic	7,939	7,748	-2.4%	-3.0%	-11.5%
National traffic (voice)	7,372	7,190	-2.5%	-3.4%	-12.8%
Fixed-to-fixed national traffic	6,217	6,095	-2.0%	-3.4%	-12.8%
Fixed-to-mobile national traffic	1,155	1,096	-5.2%	-3.3%	-12.6%
Outgoing international traffic	566	558	-1.5%	2.4%	9.9%
Internet access traffic	415	202	-51.4%	-49.8%	-93.6%
Nomadic VoIP traffic	93	263	182.3%		
Total traffic (voice + internet + nomadic VoIP)	8.446	8.213	-2.8%	-8.9%	-31.1%

Unit: million minutes, %
Source: ICP-ANACOM.

Traffic originating in the fixed network (calls)
Table 3.25

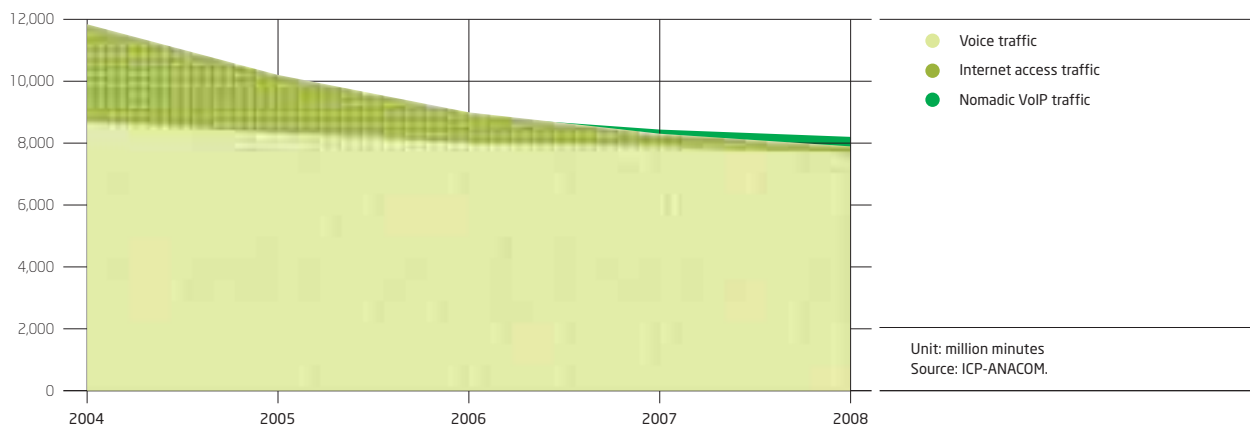
	2007	2008	2007/2008 var. (%)	2004/2008 average annual var. (%)	2004/2008 var. (%)
Voice traffic	2,787	2,621	-6.0%	-5.5%	-20.3%
National traffic (voice)	2,658	2,514	-5.4%	-5.6%	-20.7%
Fixed-to-fixed national traffic	2,049	1,942	-5.2%	-5.8%	-21.3%
Fixed-to-mobile national traffic	609	571	-6.2%	-4.9%	-18.4%
Outgoing international traffic	129	108	-16.9%	-2.8%	-10.8%
Internet access traffic	30	20	-33.1%	-39.8%	-86.9%
Nomadic VoIP traffic	20	54	172.7%		
Total traffic (voice + internet + nomadic VoIP)	2.838	2.696	-5.0%	-5.9%	-21.7%

Unit: million calls, %
Source: ICP-ANACOM.

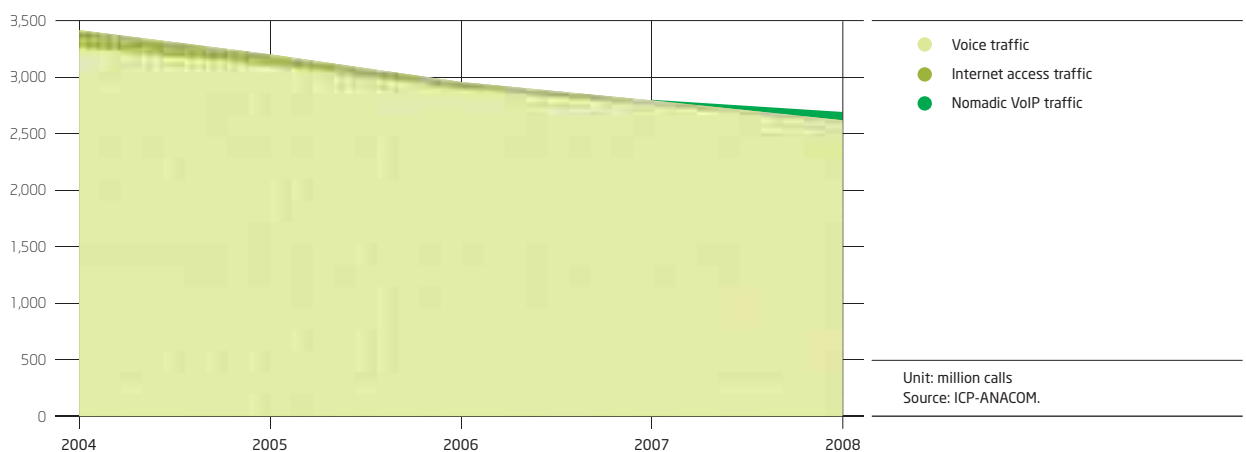
Voice traffic has been decreasing since 2000. In cumulative terms, the volume of minutes decreased 11.5 per cent and the volume of calls fell around 20 per cent, between 2004 and 2008. It should be mentioned that the fall in traffic is more intense than the fall in accesses and direct clients.

Traffic associated with the nomadic VoIP service has shown very high increases since it is at an early stage in its life cycle.

Traffic originating in the fixed network (minutes)
Graph 3.17



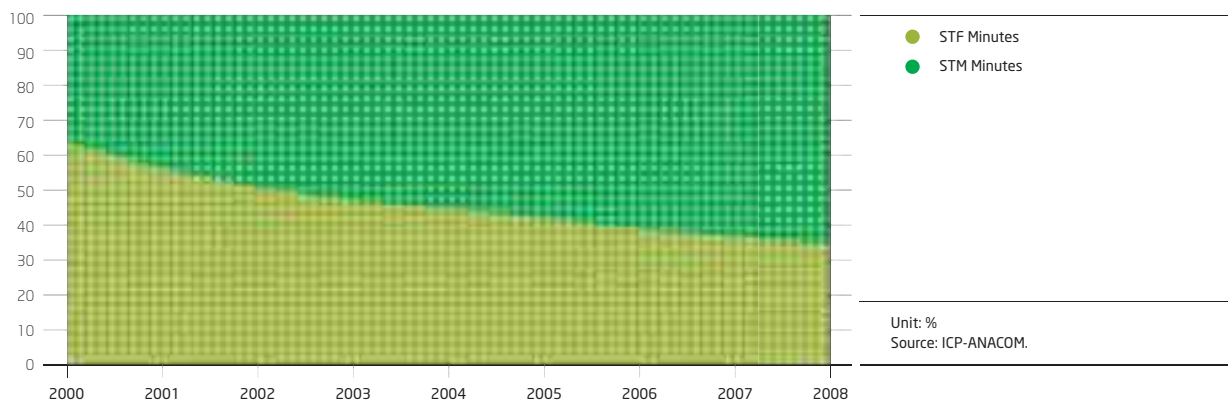
Traffic originating in the fixed network (calls)
Graph 3.18



This trend towards a reduction in the traffic is linked to the phenomenon known as fixed-to-mobile replacement, as previously mentioned. This factor leads to intensification of

voice traffic in the mobile networks, to the detriment of the fixed network. Mobile traffic now represents around 65 per cent of total voice traffic, 29 per cent more than in 2000.

Distribution of voice traffic originating in the fixed and mobile networks
Graph 3.19



Concerning the number of international calls originating in the fixed network, a decrease of around 17 per cent was recorded in 2008, reflecting the decline in the importance of the fixed network for consumers when making this type of calls.

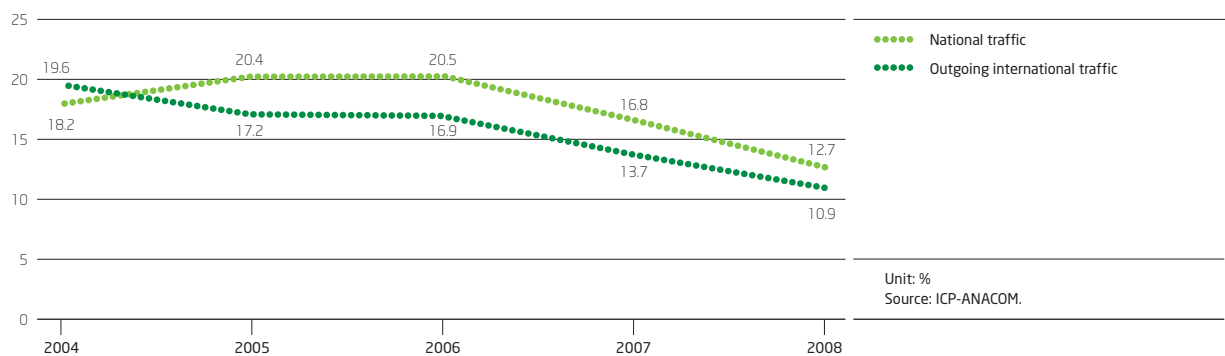
Indirect access traffic

A reduction in the indirect access traffic was recorded in 2008 (-22.9 per cent in calls and -27.1 per cent in minutes).

The generalized fall in indirect access traffic is in line with the reduction in the number of customers of these offers, the search for new business models by some of the main alternative operators and the incumbent operator's emphasis on optional tariffs.

Indirect access traffic counts for around 13 per cent of total national traffic.

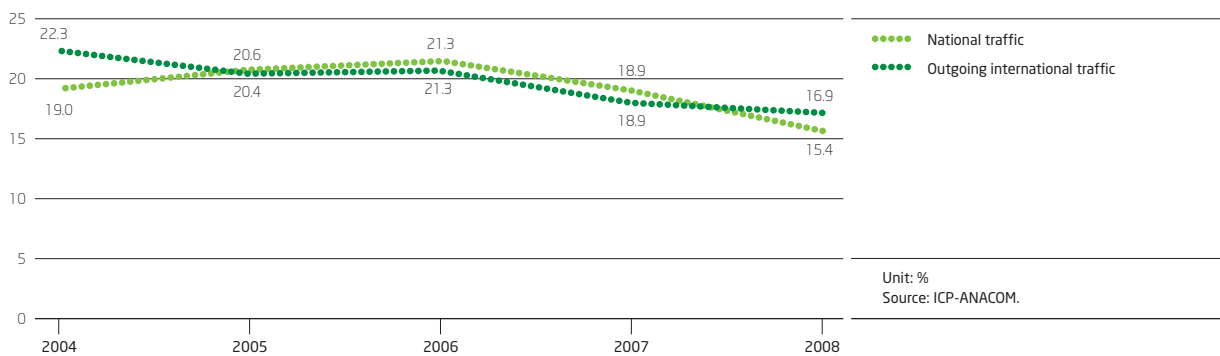
Evolution of the percentage of traffic carried by indirect access modes (minutes)
Graph 3.20



Regarding outgoing international traffic, in 2008 this traffic represented around 10.9 per cent of the total minutes of conversation and 16.9 per cent of the total calls.

The evolution of indirect access international traffic is similar to the evolution of the number of customers of this type of access and is affected by the factors described in the section on indirect access customers.

Evolution of the percentage of traffic carried by indirect access modes (calls)
Graph 3.21



Traffic: average duration of calls

Voice calls originating and ending in the fixed network have a duration of around 3 minutes and are approximately 1 minute and 15 seconds longer than fixed-to-mobile calls. These differences may possibly be explained by the differences in the prices of the calls in question.

On the other hand, in 2008 international calls reached a duration of around 5 minutes and 10 seconds. The increasing duration of international calls may possibly also

be explained by tariff issues. In fact, a reduction in the price of these calls has been seen in recent years as well as the launch of optional offers and promotions aimed specifically at the immigrant communities, for example.

The average duration of internet access calls reached around 10 minutes, in 2008, this figure being less than that recorded in 2007 and 2006; as intensive users of this service migrate to broadband solutions, it is natural that the average duration of calls of this nature will fall.

Average duration of calls
Table 3.26

	2004	2005	2006	2007	2008
Voice traffic	2.66	2.68	2.76	2.85	2.96
National traffic (voice)	2.60	2.60	2.68	2.77	2.86
Fixed-to-fixed national traffic	2.83	2.81	2.91	3.03	3.14
Fixed-to-mobile national traffic	1.79	1.85	1.88	1.90	1.92
Outgoing international traffic	4.21	4.42	4.43	4.37	5.18
Internet access traffic	20.44	20.08	17.14	13.64	9.91
Nomadic VoIP traffic	-	-	n.d.	4.72	4.89
Total traffic (voice+internet+ nomadic VoIP)	3.46	3.18	3.04	2.98	3.05

Unit: minutes
Source: ICP-ANACOM.

Average traffic per client

The average traffic per direct access customer has decreased considerably since the early years of liberalization of the sector. In particular, in the last 5 years, voice traffic has fallen around 12 per cent. All the categories of traffic have experienced a reduction similar to this figure, with the exception of international traffic which

grew 7 per cent in that period (the factors explaining the evolution of traffic were mentioned above).

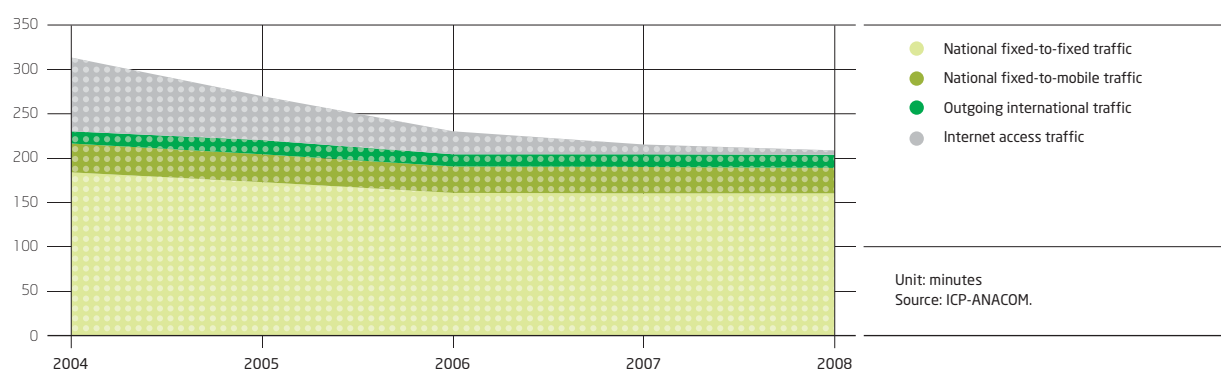
In 2008, the decrease in voice traffic was lower than the average of the previous years. Only fixed-to-mobile traffic experienced a reduction similar to the average of the period considered.

Monthly traffic per direct access client
Table 3.27

	2007	2008	2007/2008 var. (%)	2004/2008 average annual var. (%)	2004/2008 var. (%)
Voice traffic	207	206	-0,5%	-3,0%	-11,6%
National traffic (voice)	192	191	-0,5%	-3,4%	-12,8%
Fixed-to-fixed national traffic	162	162	0,0%	-3,4%	-12,9%
Fixed-to-mobile national traffic	30	29	-3,3%	-3,2%	-12,1%
Outgoing international traffic	15	15	0,0%	1,7%	7,1%
Internet access traffic	11	5	-54,5%	-50,6%	-94,0%
Total traffic (voice+internet)	217	211	-2,8%	-9,7%	-33,4%

Unit: minutes, %
Source: ICP-ANACOM.

Evolution of the monthly traffic per customer
Graph 3.22



Revenue

The heavy decrease in traffic, the fall in prices and the reduction in the number of customers are the factors responsible for the downward trend in FTS revenue.

In 2008, the total revenue fell 10 per cent, with revenue from traffic falling 9.1 per cent and revenue from installation and the monthly subscription fee falling 10.8 per cent.

FTS revenue
Table 3.28

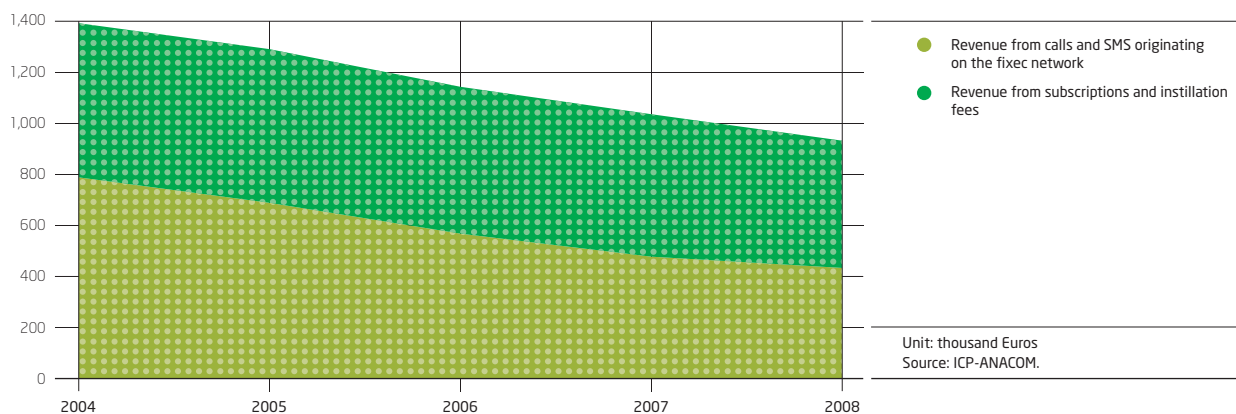
	2007	2008	2007/2008 var. (%)	2004/2008 average annual var. (%)	2004/2008 var. (%)
Revenue from monthly subscriptions and installation fees	558,816	498,667	-10.8%	-4.7%	-17.6%
Revenue from calls and SMS originating in the fixed network ³⁷	478,701	435,358	-9.1%	-13.9%	-44.9%
Total revenue³⁸	1.037.517	934.025	-10.0%	-9.6%	-33.1%

Unit: thousand Euros, %
Source: ICP-ANACOM.

³⁷ Does not include revenue from virtual call cards.

³⁸ Includes revenue from local, regional and national traffic, fixed-to-mobile calls (originating in the fixed network), outgoing international traffic originating in the fixed network, public payphones and SMS originating in the fixed network.

Evolution of FTS revenue
Graph 3.23



During the period under analysis the total revenue from the fixed telephone service demonstrated a downward trend. In relation to 2004, there was a decrease of around 33 per cent in the total revenue, with the revenue from monthly subscriptions and installation fees falling around 18 per cent and the revenue from calls falling 45 per cent.

Consumer satisfaction

In general the FTS has high satisfaction levels. According to the most recent Electronic Communications Consumer Survey, around 86 per cent of users were satisfied with the overall quality of the service. The proportion of consumers that considered the service to be 'good' or 'very good' has continued to be at a level equal to or greater than 80 per cent since at least 2005.

Evaluation of the overall quality of the FTS
Table 3.29

	Dec. 2008 ³⁹
Very good	13.4
Good	72.7
Bad	13.2
Very bad	-0.8

Unit: %
Source: ICP-ANACOM, Electronic Communications Consumer Survey, December 2008.

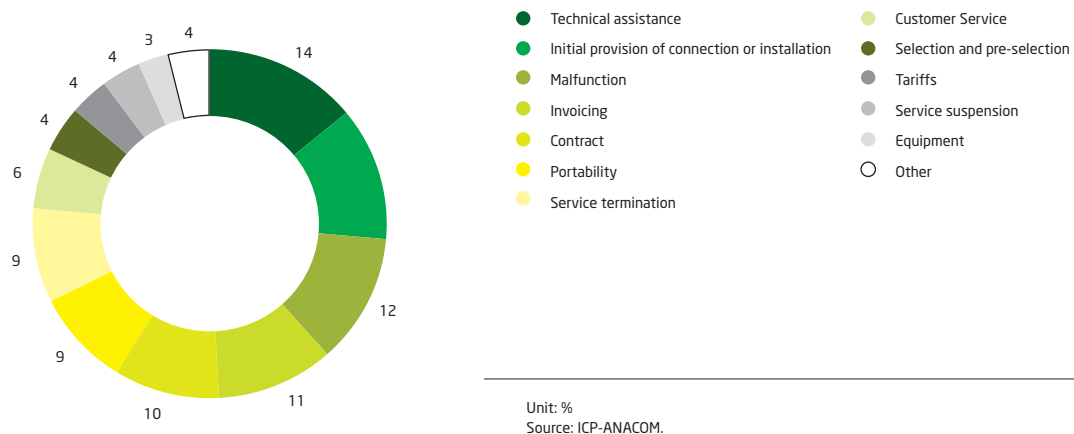
³⁹ In the Electronic Communications Consumer Survey 2008, the overall evaluation of the FTS was requested using a scale of 10 response categories, in which 1 corresponds to "very dissatisfied" and 10 to "very satisfied". In order to allow for comparison with the surveys conducted in previous years, categories 9 and 10 were considered to be "very good", categories 8, 7 and 6 "good", 5, 4 and 3 "bad" and 2 and 1 "very bad".

Another indicator of consumer satisfaction is the number of complaints.

During 2008 ICP-ANACOM received around 7,742 complaints, in writing, regarding the FTS and respective providers, and over 4,161 from ICP-ANACOM's public attendance services. 136 requests for information were also received in writing and 428 via ICP-ANACOM's public attendance services.

According to the following graph, which presents the complaints in writing by area, it can be seen that some of these complaints refer to issues related to technical assistance (14 per cent). These are followed by issues related to the supply of the initial connection or installation (12 per cent), malfunctions (12 per cent) and invoicing (11 per cent).

Distribution of requests in writing by area – 2008
Graph 3.24

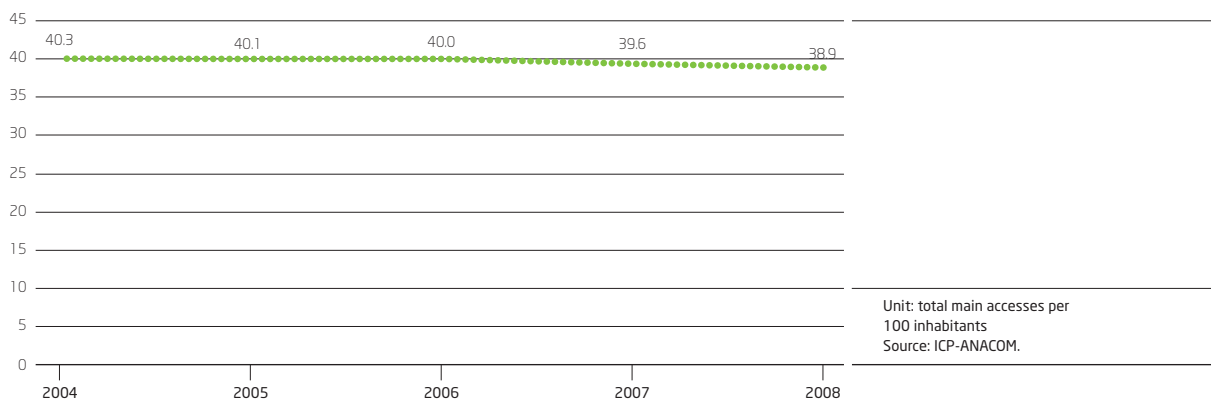


The item "Other" includes complaints related to local loop unbundling, geographic portability, infrastructures, privacy and personal data protection, telephone directories and information services, complaints book, numbers, municipal fess for passage rights and loop transfer.

FTS penetration

Although the service is available in a generalized manner throughout the country, between 2004 and 2008 there was a fall in the penetration rate which may be linked to some of the factors referred to in section 3.3.3

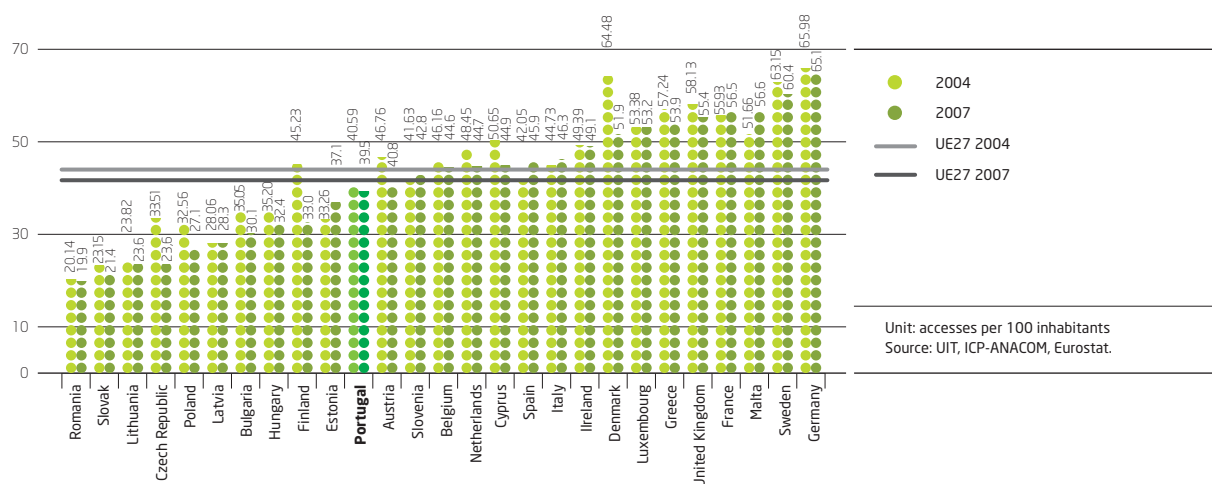
Evolution of telephone penetration
Graph 3.25



In 2007 telephone penetration in Portugal (39.6 accesses per 100 inhabitants) was lower than the European average (41.8 in 2007). It should be mentioned that within the EU a decline in the penetration of this service was also recorded:

-2.3 per cent between 2004 and 2007, this decrease being greater than that recorded in the same period in Portugal (1.1 per cent).

International comparison of access penetration rates
Graph 3.26

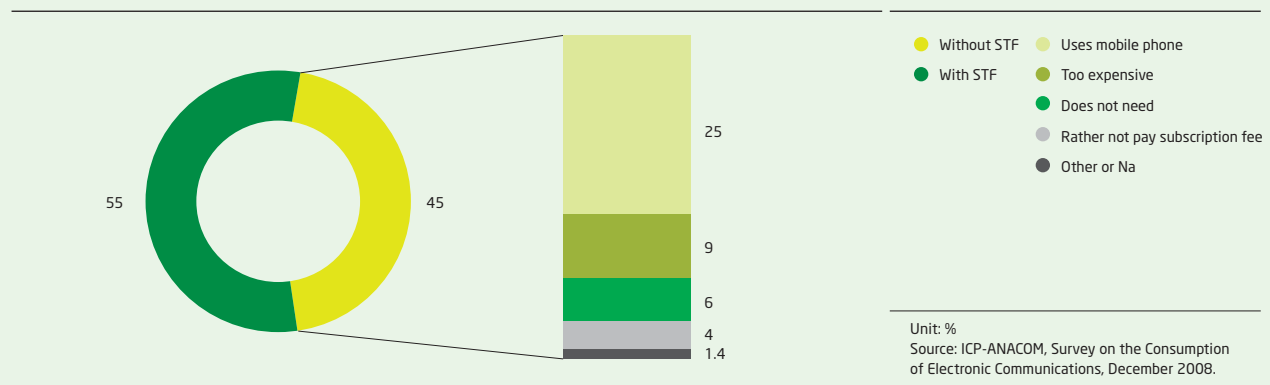


II – The mobile home

According to the Electronic Communications Services Consumer Survey promoted by ICP-ANACOM in December 2008⁴⁰, around 45 per cent of Portuguese households do not use the fixed telephone service. The main reason

indicated by these respondents for not adhering to the fixed telephone service is the fact that they use the mobile telephone service.

Main reason for the household not accessing the fixed telephone service (FTS)
Graph II.1



It is therefore estimated that around 1/4 of Portuguese households do not use the fixed telephone service in their homes because they use the mobile telephone service. These cases are designated here as 'mobile homes'.

According to the most recent data from the EC⁴¹, the percentage of Portuguese households that only use the mobile phone is much higher than the EU27 average.

Taking into account the importance of the mobile homes in Portugal, an attempt will be made below to characterize these homes in socio-economic and demographic terms. In fact, the incidence of mobile homes presents significant differences in terms of the region, family structure and social class of the household, as well as the individual characteristics of the respondent, such as age group, education level and employment status.

Households resident in the Autonomous Region of Madeira, composed of 3 individuals, where children live and which are of the lower-middle class (C2) demonstrate a greater propensity to be characterized as mobile homes. All these groups present an incidence of mobile homes significantly higher than the total average.

In contrast, there are the households resident in the Alentejo and the Autonomous Region of the Azores, composed of 2 individuals, where elderly persons live and which are of the lowest social class. In these cases, the incidence of mobile homes is significantly lower than the total average, which translates to a lower propensity for the use of the mobile phone as a justification for not having the fixed telephone service.

⁴⁰ The universe is composed of individuals of 15 years or more who reside in private housing units located in Mainland Portugal or in the Autonomous Regions (Azores and Madeira). The sample is representative at the level of NUTS I having been composed of 2040 interviews on the Mainland and 780 interviews in each of the Autonomous Regions. Households were selected by means of proportional stratified random sampling according to the crossing of the NUTS II Region variables and the size of the household. Within each household one individual was selected by means of sampling by quotas guaranteeing the marginal totals of the sex, age class, level of education and employment status variables, according to the General Population Census (2001) of the National Institute of Statistics (INE). The gathering of information was by CAPI - Computer Assisted Personal Interviewing which took place between 5 November and 29 December 2008. The results regarding the Mobile Telephone Service are based on the universe of the individuals and present a maximum margin of error of less than 2 p.p. (with a degree of reliability of 95 per cent). The results regarding the Fixed Telephone Service, internet Service and paid Television Service are based on the universe of the households and present a maximum margin of error of less than 3 p.p. (with a level of reliability of 95 per cent). The company TNS-Euroteste was responsible for the fieldwork and data handling.

⁴¹ European Commission, Eurobarometer 66.3 (E-Communications Household Survey, June 2008).

Percentage of mobile homes per region, family structure and social class
Table II.1

NUTS I Region	North	25.6	Social class	A\B	23.5
	Centre	23.9		C1	28.1
	Lisbon	24.4		C2	35.8
	Alentejo	17.9		D	19.3
	Algarve	30.4	Household size	1 individual	22.5
	Azores	13.2		2 individuals	21.4
	Madeira	46.6		3 individuals	29.3
Household with children	32.7	4 individuals		24.2	
Household with elderly persons	14.7	5 or + individuals		26.7	
Total				24.6	

Unit: %

Source: ICP-ANACOM, Survey on the Consumption of Electronic Communications, December 2008

Note 1: Social class is determined according to the level of education and profession of the highest paid individual in the household. Social class A is the highest and social class D is the lowest.

Note 2: The proportions highlighted in yellow are the result of a reduced number of sample observations (n<30), and therefore some caution should be taken when interpreting them.

Note 3: The proportions highlighted in green are statistically different from the rest according to the test of 2 samples for proportions. Light green highlights the higher proportions and dark green the lower proportions.

The phenomenon of the “mobile home” is also more common in the groups of younger individual respondents, who are students or employed and with an education level equal to or above the 6th or 9th grade and also higher

education. In the groups of older, retired individuals and with a lower level of education this phenomenon is not very marked.

Percentage of mobile homes by characteristics of individual respondent
Table II.2

Employment Status	Employed	29,8	Level of education	Higher education	30,9
	Student	34,3		Secondary education	25,6
	Unemployed	23,2		9th grade	31,8
	Retired	10,9		6th grade	35,8
	Other inactive	17,9		1.º ciclo EB	20,2
				Lower than 4th grade	8,9
Age class	15-24 years	37,8			
	25-44 years	29,0			
	45-64 years	19,5			
	65 or more years	10,3			
Total					24,6

Unit: %

Source: ICP-ANACOM, Survey on the Consumption of Electronic Communications, December 2008

Note: The proportions highlighted in green are statistically different from the rest according to the test of 2 samples for proportions. Light green highlights the higher proportions and dark green the lower proportions.