



## **Telephone service**

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During 1992 there were 1,205,387 telephone line applications, representing a fall of 2.6% over the previous year. It is significant that 136,912 of these applications were for Ibercom integrated business communication lines, 14.3% more than in 1991.

Average usage per line grew by 4.1% in 1992 over the previous year.

At year-end, the basic telephone network had 13,792,156 local lines in service, representing a rise of 4.0% over 1991, and a telephone density of 35.3 lines per 100 inhabitants. In addition, there were 481,530 Ibercom lines in service at the end of 1992, 28.4% up on the previous year.

During 1992 the waiting list fell dramatically to 120,414 applications for new lines at the year-end, representing under half the figure for



Consumers have made the Forma telephone their first market choice

the year before. Of these, over a third were in the process of being installed at the end of the year.

### Service quality

1992 saw a major enhancement of service quality. Global network inefficiency stood at 0.79%, implying a 99.21% call efficiency rate. In addition, the repair call rate per line stood at 0.44% in 1992, meaning that each telephone generated a repair call every 2.2 years, as opposed to every 1.4 years in 1988. Likewise, the number of repairs carried out in under 24 hours rose to 80%.



AENA (Domestic Airports and Air Navigation) have a customized communications system

In the Transit Network strategic measures have continued in the plant, aimed at supervising network performance in real time, thereby optimizing traffic flow control to ensure better use of network capacity through the Traffic Management Centre. In addition, specific plant was created to strengthen network Structural Security for the 1992 events, both with fixed plant and portable equipment.

The quality of both the incoming and outgoing international service improved considerably, reaching similar levels to neighbouring countries. International call efficiency rate was 96.8% in 1992, as opposed to 94% the previous year.

In 1992 implantation commenced of the Total Quality Plan in 6 Provincial Areas. This initiative, which is part of the Business Plan for Total Quality, will be adjusted in each case to suit the particular needs of the province. The main objective is to introduce Quality Management in order to reach the necessary service levels to fully satisfy our clients expectations.

### **Network development and modernization**

During 1992, Telefónica installed a total of 619,371 local lines, practically all of which were digital. Of this total, around 274,000 corresponded to digital



Advanced communications guarantee air navigation safety

replacements of dismantled plant. Digital switching in local exchanges rose to 36.4% at year-end.

At the end of 1992 there were 2,705,500 trunk lines in transit exchanges, 2.3% up on 1991. Digitization also rose from 75.2% to 78.6% in the same period, signifying a considerable contribution to service quality enhancement.

Throughout the year 4 new domestic digital transit exchanges came into operation, which, together with the extensions carried out in another 30, allowed us to increase capacity to the equivalent of



Spain's high-speed train (AVE) is equipped with mobile communications systems

162,506 new trunk lines and produced a 9.5% rise in the traffic capacity of the Transit Network over 1991. We also managed to regularize the traffic flow routes, in accordance with the new network structures.

During 1992 we continued the process of connecting all the transit network exchanges through fibre optic Digital Transmission Systems and consolidated the availability of the major routes. During the year, we laid over 900 Kms of fibre optical land cable.

Telefónica drew up specific plans to ensure adequate network infrastructure in Seville and Barcelona, in order to meet the coverage demand of the EXPO and the Olympic Games. At the same time, network Structural Security was strengthened via the installation of fixed switching and transmission equipment, especially in the Madrid, Barcelona and Seville nodes, so as to guarantee a 100% service retrieval capacity in case of network breakdown.

The process of development and modernization of the network continued with the incorporation of new technology software packages into the switching exchanges of the three present systems.





AVE passengers can use the public telephone during their journey.

Technical specifications were also defined in relation to the telephone network for the adjustment of the Numeration Plan and specifications were finalized for the future introduction of dynamic port techniques into the transport network with two hierarchic levels.

The development and gradual incorporation of the Operation and Maintenance Structure (EOC) continued. With respect to network management, the Automatic Flow Management System was commissioned, which controls and protects the digital transmission network at 140 Mbit/s.

Of particular significance to regular users was the qualification of the control function of the Network Connection Point with telediagnosis (PCR-T), from the Subscriber Lines Remote Tester (PDLA), which allows remote measuring of the elements in the client's home.

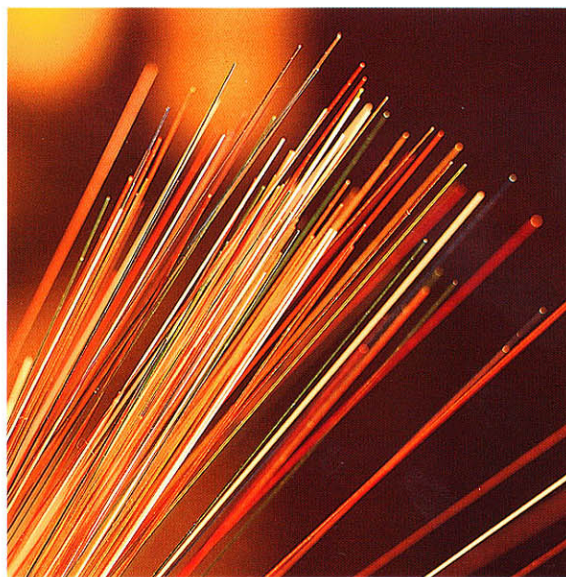
The requirements have also been specified for the operation of the Common Channel n° 7 signalling network and work has commenced towards obtaining the future Customer Integrated Management System. In the area of transmission, the first 2.5 Gbit/s Synchronous

Digital Hierarchy was qualified and the planning completed of an experiment named "Synchronous Islands"

Two experimental systems taking fibre optics right to the home were carried out, with two different suppliers, in Tres Cantos (Madrid) and San Cugat del Vallés (Barcelona). In Tres Cantos the second phase of the experiment has been completed, initiated in 1991, incorporating both a greater number of subscribers and an owner interface with the switching centre.

As regards radiocommunications, new systems of small capacity radio links were introduced designed to meet customer needs and work continued on preparations for the incorporation of the new Synchronous Digital Hierarchy.

The International Network was also modernized and extended. In 1992 there was an increase of 9,000 lines in the Valencia-Campanar International Digital Exchange. Land transmission with Portugal in the Badajoz-Elvas connection was improved thanks to the installation of fibre optics. 565 Mbit/s systems were installed in various routes and digital operators came into service in Madrid and Barcelona.



The telephone network has over 22,000 kilometres of fibre optical cable in service



"Cellular access" guarantees the universality of the telephone service. In the photo, the Silleda Valley (Pontevedra)

### ***Underwater cable***

During 1992 two underwater cables came into operation: One of these is the TAT-9 between North America and Europe, with moorings in the United States and Canada on the American side and in Great Britain, France and Spain on the European side. The other cable is the PENCAN 5, linking the Iberian Peninsula to the Canary Islands. This cable has a 30,720, 64 Kbit/s basic circuit capacity and measures 1,592 Kms. The operating of these two new cables confirm Telefónica's leading position in the area of underwater cables.

### ***Service expansion in the rural community***

Apart from Telefónica's interest and efforts to expand the service to the smallest localities, we should also highlight the dedication and collaboration of a large number of Local Authorities who have given priority to service expansion, within the procedures laid down in the Royal Decree 2248/84 of November 28. As a result, 1,104 new local zones were created, 416 public telephones installed, 219 of which are in localities of fewer than 50 inhabitants. At the same time, we also met the demand for telephones in areas outside local zones by putting 16,505 lines into service.



As a result of this activity 162,048 citizens became new local subscribers and throughout 1992, the telephone service was brought to a total of 202,291 people who before had no access to it. With regards to Spain's total population, 96.7% possess or could possess a telephone service in their home while 98.6% have access to some type of telephone service.

In 1992 a system was designed to enable us to do away with the concept of "outside local zones". This system will allow us to answer requests for telephone service from any part of the country,



By 1996 the whole of Spain will be a local zone

under the same conditions, as far as price and installation time, as applications from residents in local zones. This novel solution was made possible due to the combination of technical advances, institutional support and the determination and drive of Telefónica towards the complete extension of the telephone in Spain. Consequently, the objective stated for 1996 in the "1992-1996 Basic Service Expansion in the Rural Community Operational Plan" is that the whole of Spain be considered, as far as connection fees, a single local zone.

Technical progress of particular significance included the



incorporation of cellular technology into the service expansion in the rural community. This original solution enabled us to attend to a total of 7,107 new subscribers during 1992.

### **Public telephony**

By the end of 1992 the number of public telephone booths had reached 42,898. In line with our modernization policy, 41.7% of booths had a Modular Telephone, which accept both coins and cards, issued by either Telefónica or other entities.



Cellular access rural telephone antenna in Galicia

The celebration in Spain of the Olympic Games and the EXPO called for a major drive to meet the demand for public telephone services. In Barcelona and the other Olympic centres a total of 1,750 new terminals were installed, representing a 42% increase over the previously existing public telephone plant. In the EXPO held in Seville 700 Modular Telephones were installed on the Cartuja site, along with four integrated communication centres and a audioconferencing room.

Also developed for the 1992 events was the Commentator's Telephone, specially designed for the media attending these great events.

### **Supplementary Telephone Services**

Call Waiting, Conference Calls, Call Rerouting, Pre-programmed dialling and Abbreviated dialling services increased their number of net contracts in 1992 to 320,000, representing a 350% increase over the previous year's number. A decisive factor in this spectacular growth was the promotion campaign during the second half of the year on market sectors formed by new subscriptions and the massive number changes.

Other supplementary services, such as the Remote Call Charge Meter, Line Hunting and Detailed Information services maintained a steady growth over previous years, to reach an accumulated number of net contracts slightly over 500,000 services.

### **Intelligent Network Services**

In 1992 a wide range of new services and facilities appeared on the market. These services are marketed under the name IRIS Services and, derived from the introduction of the Intelligent Network, constitute a significant milestone in Telefónica's commercial range of advanced services, initiated in 1988 with the Line 900 Automatic Reverse Charge service.



Home banking is possible thanks to new advanced communications services. Banco Directo-Argentina

The following is a list of areas covered classified into marketed service groups:

- Flexible Charging services, which include, apart from Line 900, Shared Call services (Line 901 and 902)
- Additional Charging services (Line 903)
- Personal Services. Personal Telephony (Line 904) and the Credit Call service (083 Access) belong to this group
- Mass Calls and Televoting services. This is mainly covered by the different modalities of the Survey Line (Line 905)

On the international front, special mention should be made of the extension, in 1992, of the Direct Spain Service to 15 more countries (to reach a total of 41). 500,000 calls were attended to, representing a 100% rise in traffic over the previous year. The 900 service was extended from 15 to 28 countries, with 300% more users.

Throughout 1992 specification work has progressed. Specifications were completed for the n° 7 signalling (PARI) between the Intelligent Network Agency and the Intelligent Network Centre, thereby completing the international recommendations available.



The SER radio station broadcasts quality music via satellite



Customers are the main beneficiaries of the Caixa savings bank High Speed Data Network

### **Operation and Information Services**

The gradual implantation of the Espatel System has enabled us both to improve and facilitate client access to the 002 (Technical Assistance) and 003 (Information) Services and to increase the performance of the resources employed in the provision of these services. In 1992 almost 170 million calls were attended to, 8% more than in 1991. The 009 Trunk Service via the Operator also recorded a significant growth rate.

### **Terminals**

In 1992 the FORMA telephone was launched on the market and was very well received by customers, with renting preferred to purchasing. Development also began of a telephone with answering machine incorporated to add to the FORMA range, with synthesized voice storage.

Despite the liberalization of the terminals market, Telefónica kept an excellent grip on the market, which clearly demonstrates our clients' faith in the equipment marketed by the Company.