

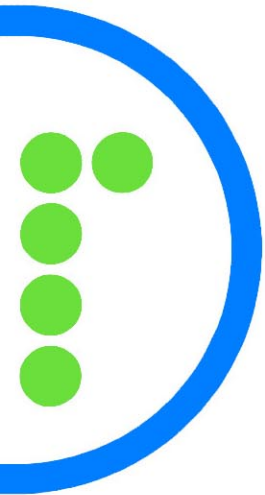
# PLANNING, NETWORKS AND SERVICES



*Facade of the  
Madrid-Colón building*

# TARGET YEAR 1990

10



In order to draw up a future strategy without forgetting present activities, **Telefónica** has considered a target year of 1990, defined by corporate objectives and lines of action, to create a flexible Company, capable of quickly responding to the demand for telecommunications services from a modern society.

The fast rate of technological change, social and economic trends with demand more orientated to business areas, E.E.C. membership, proposed modifications to legislation, etc. are some of the variables leading to an increasingly dynamic situation.

**En línea con Europa.**

**Telefónica**

*With this poster, **Telefónica** joined in the Institutional Billboard Advertising Campaign programmed to celebrate Spain's membership of the E.E.C.*

In this respect the intention is to employ proper management facilities, taking the action necessary to appraise risks and exploit opportunities so as to ensure an acceptable profitability.

Consequently, it was necessary to define an overall corporate objective that, to ensure the required agility and flexibility, firmly place it in the market while continuing the financial restructuring policy already initiated and paying special attention to two basic aspects: improving the operating margin and the ratio of gross sales to total assets, while increasing the self-financing rate.

With this global approach, various objectives are developed for sectors of the different Organization Units, intercoordinated on the basis of a fundamental market-network-technology-industry action sequence, guided by parameters of flexibility, profitability, agility and service, and backed up by the suitability of financial and human resources.

The aim is to seek a dynamic market position, even anticipating demand for new services, thus contributing to the economic recovery and modernization of the country.

To achieve these goals the Company is necessarily promoting the incorporation of advanced technology in order to modernise infrastructures and adapt them to the future ranges of service demanded by users, while optimising existing ones. The foundation of this modernization will be the creation of major communications highways that will serve as a support for all kinds of information and will facilitate transmission to different points of the country. This modernization includes more intelligent terminals, suitable for any type of information, without forgetting expansion of the telephone service to rural areas, thanks to agreements with the relevant Authorities.

This set of objectives will be complemented with technical improvement in materials and procedures involved in the installation and maintenance of equipment, particularly the human resources, coordinating the progress of **Telefónica** with the training and greater integration of staff in corporate objectives.

The challenge of new technologies and new concepts of society, together with Spain's membership of the European Economic Community, ob-

liges the Company to have its own technology, that is competitive in other markets.

**Telefónica's** response to this challenge has been made obvious with the creation of the new Research and Development Centre, participation in projects such as RACE, ESPRIT, etc. and the signing of agreements with AT&T, Fujitsu, SysScan, Corning Glass and Pacific Telesis, to mention the major technological partners.

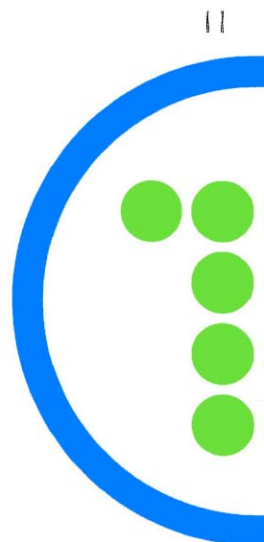
International projection is reinforced with the application for acceptance of the laboratories in the European homologation system and with the presence of **Telefónica** and its Group in the international market.

With respect to industrial policy, in its day, **Telefónica**, as a service company, sponsored an industrial sector that supported the availability of these services, thus boosting technological progress and making up for low private investment.

On completing this essential stage, future objectives are based on promoting an open participation policy and on managing procurement capacity in as diversified a way as possible.

This approach seeks to promote private investment in telecommunications technologies while catalysing the search for foreign markets for products developed with domestic technology, so as to strengthen market and product diversification in the industrial companies.

From the planning point of view, 1985 has been marked by the application of a new process, based on analysis of foreseeable variations to legal frameworks, technologies and demands for domestic and international services, that has meant incorporating strategic concepts to **Telefónica's** activities, in order to convert it into a flexible company capable of facing up to market challenges.



# MAIN PARAMETERS

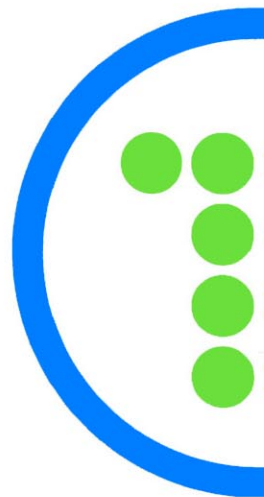
## I. TELEPHONE SERVICE

SERVICE PARAMETERS	31-12-84	31-12-85	31-12-90
No. of telephones/100 inhabitants	35.8	36.6	42.8
Lines in service (thousands)	8,881	9,340	11,529
— Automatic	8,814	9,290	11,529
— Manual	67	50	—
Applications pending (thousands)	266.9	253	120
Public Service Telephones (PST)	13,000	13,770	15,459
Telephone density, lines/100 inhab.	23.0	23.8	28.9
Degree of automation (%)	99.2	99.5	100
No. of homes with telephone (%)	49.8	52.2	64.6
New local zones to be formed			538*
Trunk calls (millions/year)	2,565.8	2,820	3,597
No. of trunk lines (thousands)	217.1	228.8	283.5
European automatic service connected subscribers (%)	99.6	99.7	100
Intercontinental service automation (%)	80	84	90
Public telephones (coin operated public and regular telephones)	51,466	63,923	128,026

\*Correspond to accumulated data for 1986-90



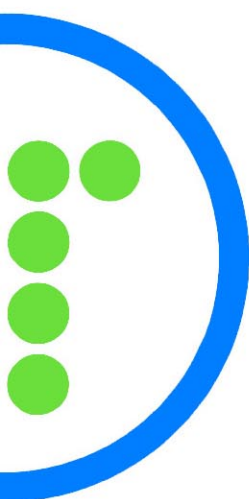
<b>INSTALLATIONS</b>	<b>31-12-84</b>	<b>31-12-85</b>	<b>31-12-90</b>
Local lines installed (thousands)	9,989.9	10,313	12,400
— Automatic (% of those installed)	9,912.0 (99.2)	10,263 (99.5)	12,400 (100)
— Electronic (% of automatic)	127.0 (1.3)	185 (1.8)	1,935 (15.6)
— Conventional and semi-electronic (% of automatic)	9,785.0 (98.7)	10,078 (98.2)	10,465 (84.4)
— Manual (% of those installed)	77.9 (0.8)	50 (0.5)	—



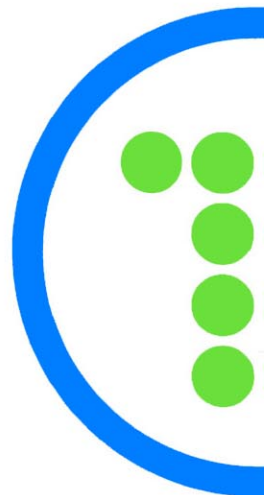
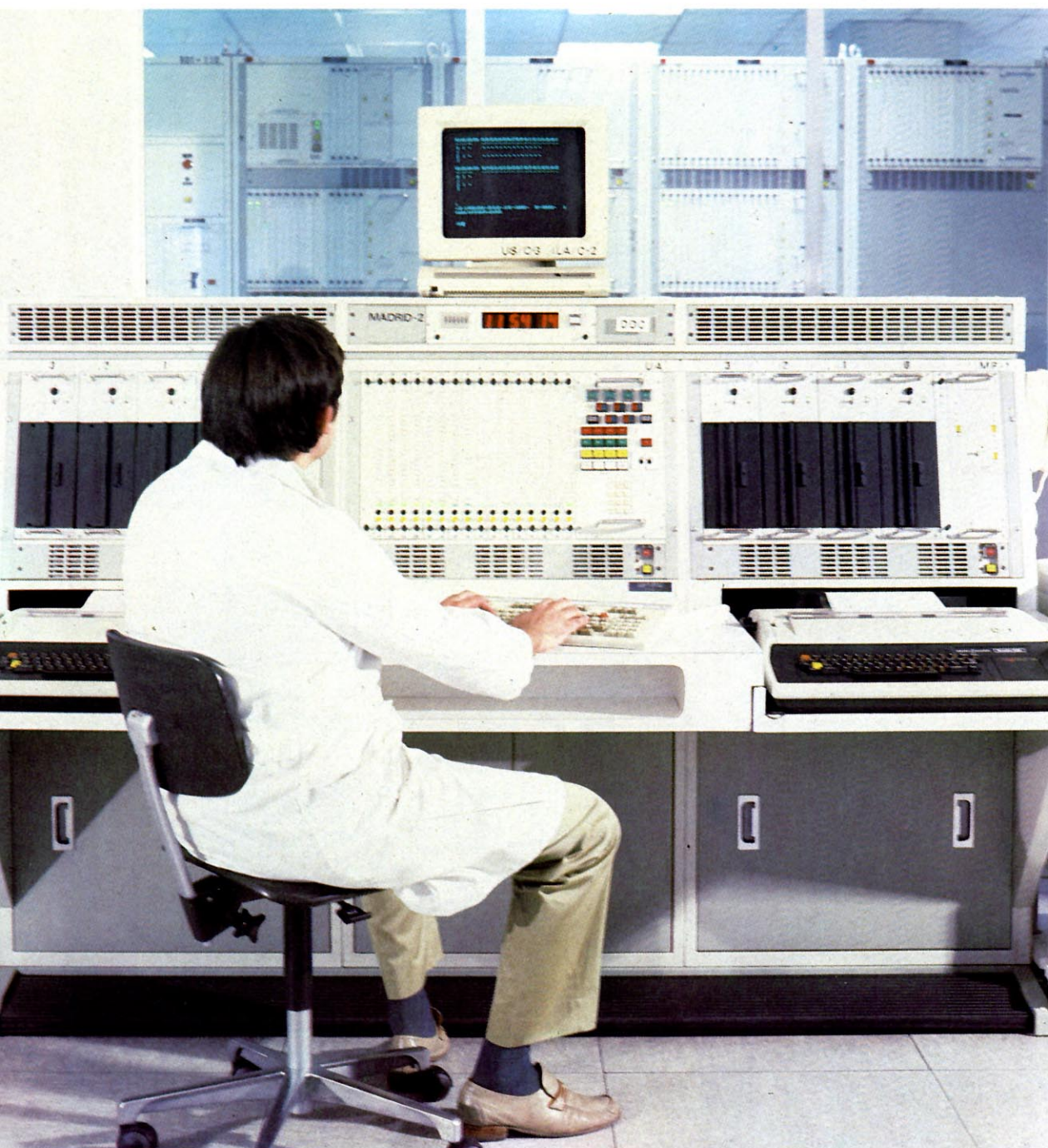
<b>BASIC INFRASTRUCTURE</b>	<b>31-12-84</b>	<b>31-12-85</b>	<b>31-12-90</b>
Coaxial cable (Km.)	9,933	10,112	10,394
Optical fibre (Km.)	—	93	8,677

## 2. TELEMATICS AND OTHER SERVICES

<b>TELEMATICS</b>	<b>31-12-84</b>	<b>31-12-85</b>	<b>31-12-90</b>
TELETEX terminals (in service)	—	225	13,629
VIDEOTEX terminals (in service)	121	244	18,060
DATAPHONE terminals (in service)	809	4,584	73,877
TELEFAX terminals (in service)	1,532	2,184	12,223
<b>DATA TRANSMISSION CONNECTIONS:</b>			
— Switched telephone network	7,955	9,811	17,361
— Telegraphy and telex	42,753	46,211	60,000
— Dedicated D/T circuits	25,125	27,484	46,000
Iberpac network connections	21,316	25,070	58,701
Telealarm connections	14,351	28,356	44,930
<b>OTHER SERVICES</b>	<b>31-12-84</b>	<b>31-12-85</b>	<b>31-12-90</b>
No. of Automatic Mobile Telephones (including Vehicle Automatic Telephones)	1,291	1,898	32,000
RADIO PAGING SYSTEM subscribers	—	—	34,380
MESSAGE PAGING SYSTEM subscribers	11,437	12,088	22,200
<b>AUDIO CONFERENCING:</b>			
— High quality rooms	—	—	315
— Standard rooms	—	—	7,785
Multiconferencing (rooms)	—	—	1,329
Video conferencing (rooms)	—	—	27
Detailed billing (thousands with access)	135	146	2,142
IBERCOM (Business Communications Services) (lines)	—	—	270,000



*Tesys-5 system console employing high technology developed by Telefonica, installed in the X-25 and RSAN Network*



# NETWORK MODERNIZATION

16



*Model of one of the new building projects for the R & D Centre to be built in Madrid*

*Integrated Circuit Design*





**T**he telephone equipment modernization process continued in 1985 with the incorporation of new digital switching and transmission systems and the installation of optical fibre cables, in order to satisfy the demand for new telecommunications services and to guarantee quality levels.

The modernization of management systems continued in order to respond better to users' requirements, decentralising activities relating to the definition of internal and external plant works, programming and supervision of execution, together with network assignment and services quality control to zones and provinces.

Under the heading of management improvement, the creation of 25 provincial maintenance centres for external plant should be mentioned; these centres include the organization of fault reporters and centralization of cable protection or pressurization system alarms. The provision of information technology facilities in design project offices is also worthy of mention, such as the installation of a **Computer Aided Design Graphics System** in Valencia, for the generation and up-dating of external plant records, while providing processed basic information for project execution.

## TECHNOLOGICAL INNOVATION

**I**n order to incorporate the most advanced research techniques and methods in **Telefónica, Pacific Telesis International** was commissioned at the end of last year with the design project for the Research & Development Centre. Execution of this project not only implies construction of a sophisticated building but also involves conceptual and detailed definition of working methods that will allow scheduled objectives to be achieved in this field.

Noteworthy developments include activities dedicated to subscriber terminals and equipment to assist operations, together with those relating to the **TESYS** system.

**Applied Research** activities are worthy of special consideration as, to a certain extent, they comprise the technological source for achieving the objectives that are later applied to state-of-the-art technical solutions.

Under this heading, word processing research should be emphasized, that is starting to result in experimental developments such as the fixed and variable message informer, various codecs, applications to voice recognition techniques and the interactive message recording station. On the other hand, image processing has led to development of a specific station that allows coding technique simulation.

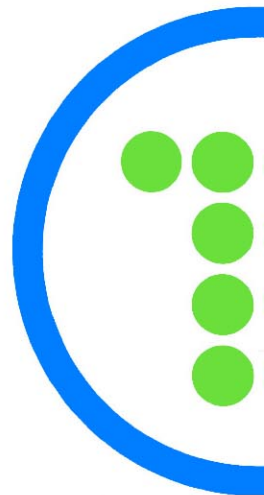
Furthermore, under this heading, the first work on artificial intelligence has been carried out, that will lead to the design of an Expert System.

The work carried out on millimetre wave technology, both by mechanical and photolithographic procedures, has been a fundamental element and support of all of the **R & D** activities.

Progressive adaptation to existing requirements, especially after the **E.E.C.** membership, and in order to place **Telefónica** in a privileged position with regard to standardization and qualifications, has led the Company to commence procedures for acceptance of the **Technological Planning Laboratories** for performance of tests and trials. Recently, the Ministry of Industry and Energy granted **Telefónica** the qualification of the calibration laboratories in electrical and frequency-time areas, and negotiations are in progress for official recognition of the Radio laboratory, as a recognised centre for radioelectrical measurements.

Within the area of **Switching**, the majority of the technical qualification tests finished, without real traffic, of the medium and high capacity local exchange **Sistema 1240**.

The **CDS 96/16 concentrator** was technically qualified, a unit that allows significant savings in subscriber networks. In regard to packet switching,



the future **TESYS System** generation was specified, having achieved availability of several products of elements of this family.

International support activities were of special importance, culminating in the commissioning of a network contracted with **CNCP, of Canada**, and the agreement reached on the **ARPAC Network** in Argentina.

A special effort was dedicated to video communications-related activities, having prepared various technical proposals on cable television, video conferencing and the digital coding of video signals.

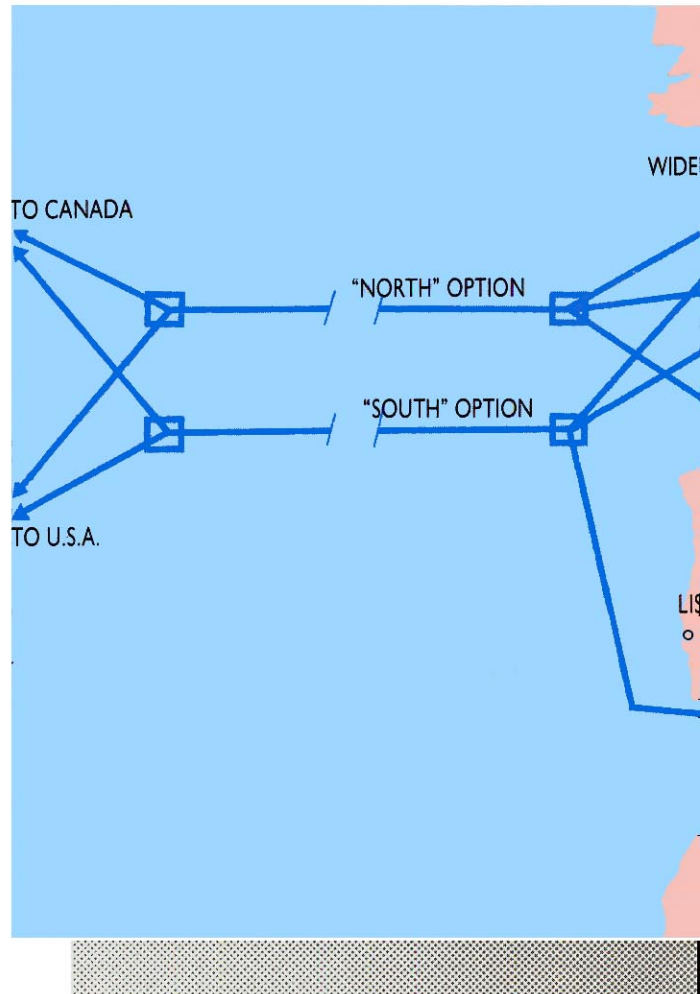
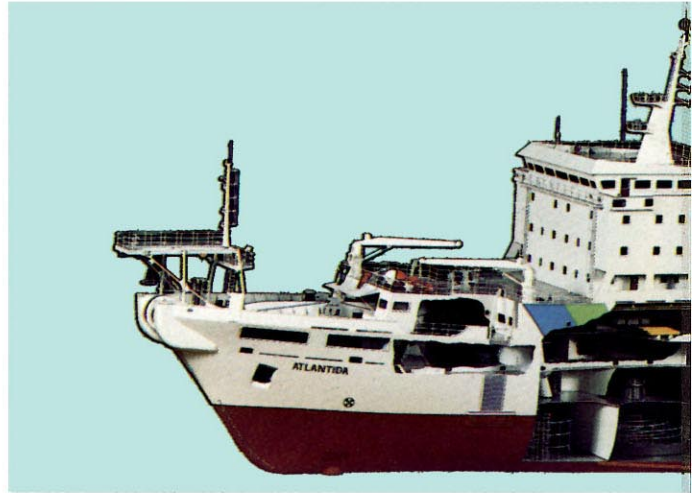
Laboratory experience commenced with the **Integrated Services Digital Network (ISDN)** with **ISDN Models of the AXE and 1240 Systems**. With respect to the **IBERCOM Network**, tests were completed that will allow the service to be opened shortly.

For the **Mobile Services**, the radio paging system was selected and defined, with active participation in the drawing up of an agreement between the Ministry of Industry and Energy and the Ministry of Transport and Communications, relating to the homologation procedure for terminals (on a free competition basis) of the **Automatic Mobile Telephony** service.

With regard to terminal equipment, the development of practically all multi-line equipment was completed and a new technique finalised to allow the **Teide Hands-free** development to be made available shortly.

The effort made in testing X-25 protocol terminals is noteworthy, that has involved connection of 30 different data terminal models to the **IBERPAC Network**.

Lastly, in relation with the European Economic Community, participation in several projects should be mentioned, including: the Inter-governmental Video Communications Project (**IVP**), the Research and Development on Advanced Communications Technologies (**RACE**) and the second generation of Cellular Mobile Telephones, together with two specific projects within the **ESPRIT** programme-fixed and moving image transmission coding and multi-point interactive audiovisual conference.



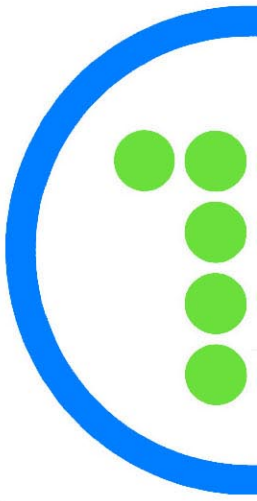
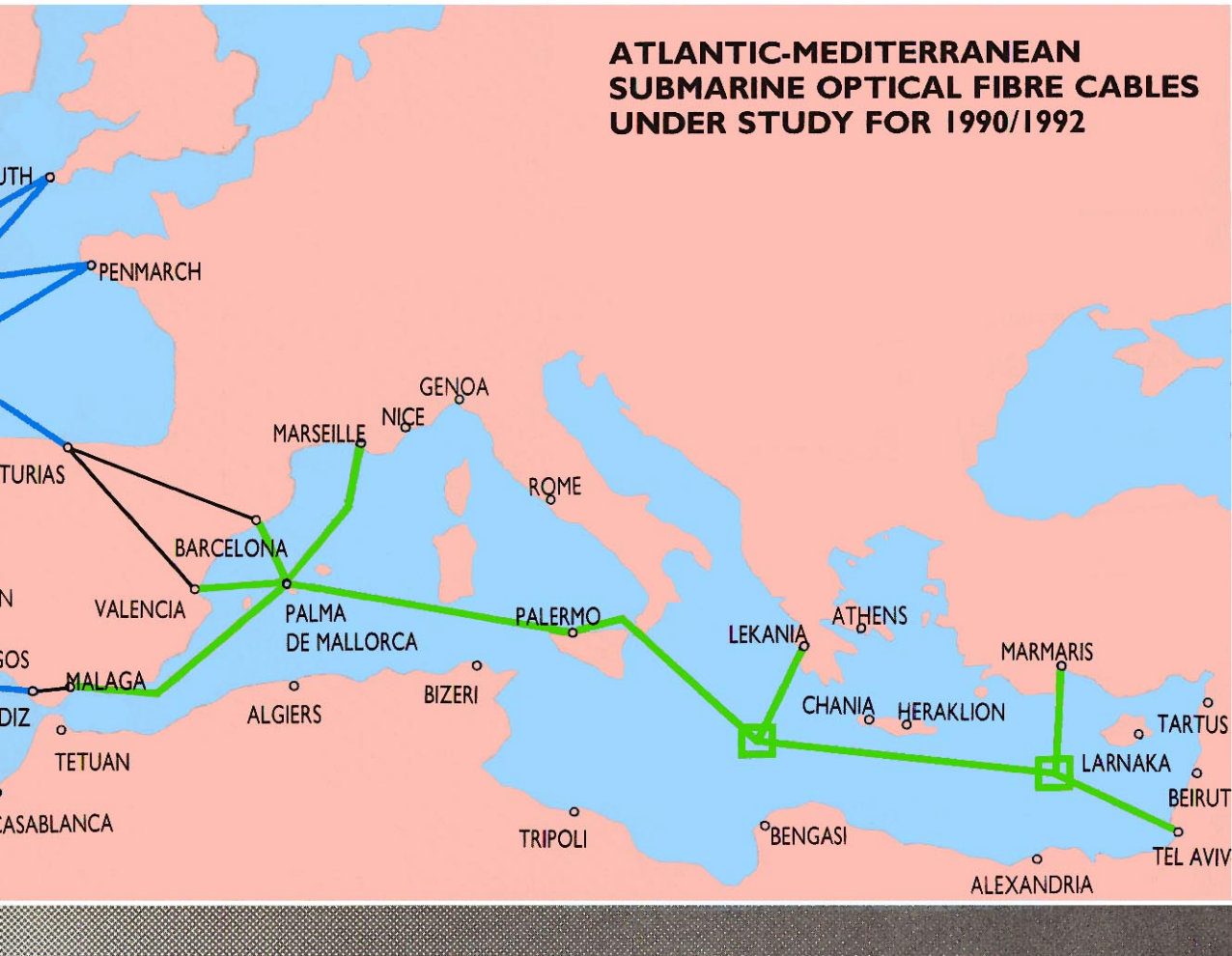


## SPANISH CABLE SHIP

The contract was signed in 1985 for building the Spanish cable ship between Telecomunicaciones Marinas, S. A. (TEMASA), affiliate of **Telefónica** with a 100% interest and Astilleros de Santander (ASTANDER), an affiliate of Astilleros Españoles.

This vessel when commissioned in 1987 will have the latest technology of its kind in the world. It has been designed by Spanish engineers for repairing and laying any type of submarine cable. Furthermore, it is designed for carrying out oceanographic studies with remote-controlled submersibles.

In June 1985, **Telefónica** managed to include this vessel in the Atlantic Cable Management Agreement-ACMA formed by 17 telecommunications administrations and entities owning submarine cables in the Atlantic. On entering into service, it will be incorporated into the International Consortium of the ACMA, remaining on standby at its base port in Spain, leaving port, when required, to repair any faults that arise in Atlantic cables, whether belonging to **Telefónica** or any other Administration. In addition, it will be able to tender internationally for any type of submarine cable work.



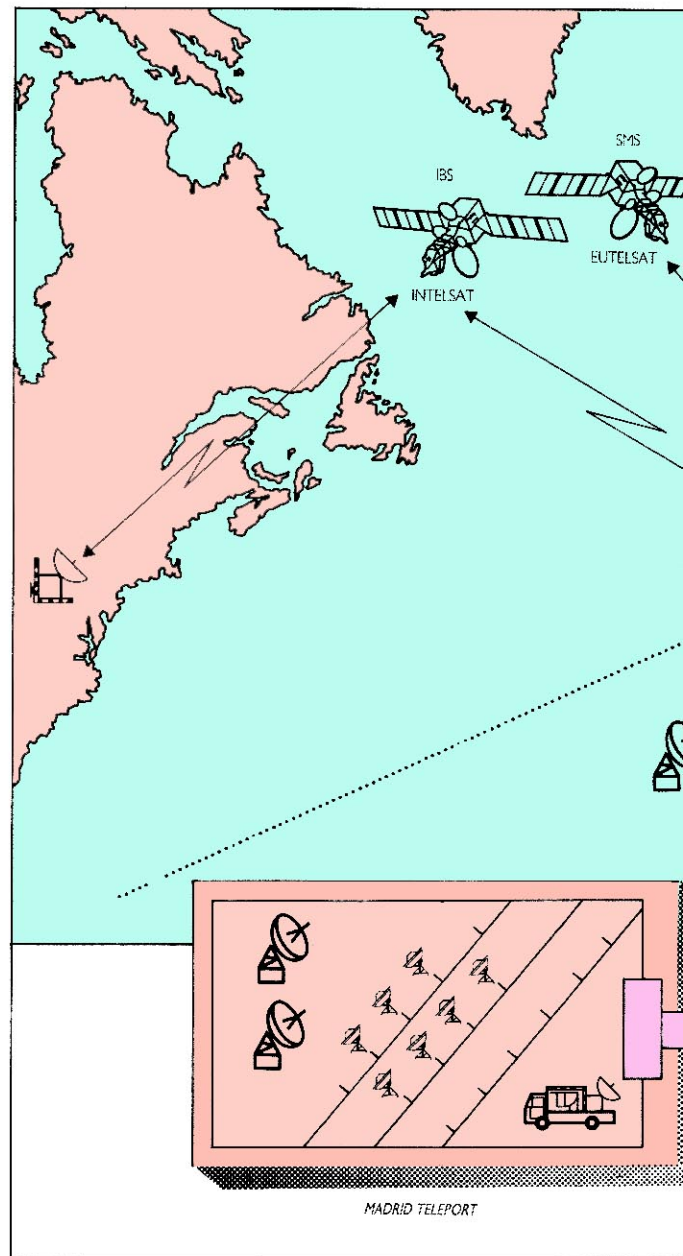
## NETWORK PLANNING AND INSTALLATIONS PROGRAMME

A great effort of definition was made last year for the planning of specific solutions for the network structures in order to adapt **Telefónica** networks in the coming years to a powerful digital infrastructure, on which the future **Integrated Services Digital Network** will be based.

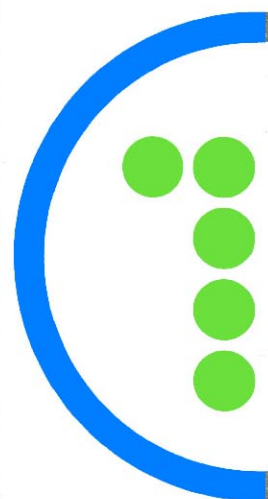
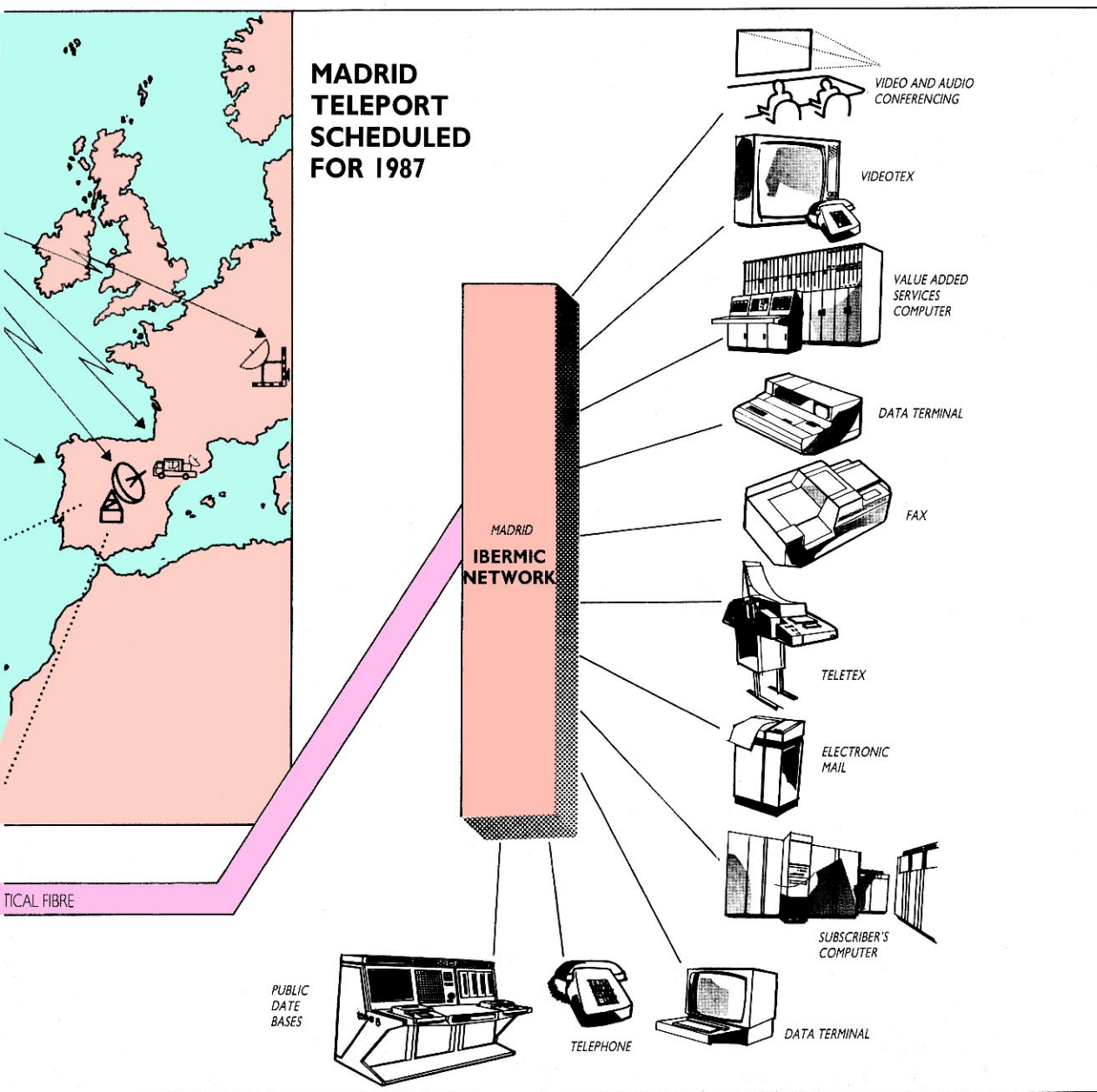
Consequently, development and modernization of the whole trunk transit structure of the telephone network up to complete digitalization was profiled; action to be taken on the international network, under the responsibility of **Telefónica**, was analysed, together with the digital infrastructure facilities to be installed throughout the country's large metropolitan areas, via the corresponding "digital rings". The intention is to facilitate digital connection over the relatively short term wherever the demand exists for new services. In this context, work has started on defining the evolution to which all access networks including rural areas must be subjected to achieve total digitalization.

In the **telematics** field, work continued on structural development of the **IBERPAC Network** and its associated services, that will allow a substantial capacity and flexibility increase for this network in order to handle the rise in demand for these services, with higher quality, while major efforts are being dedicated to the X-25 network.

In the business communications area, terminal structures were defined for potential multiple users of the **IBERCOM Network** which will include **Telefónica** itself, together with the interconnection structure of the **IBERMIC Network**, that will allow a preliminary offer of high transmission speed point-to-point digital carrier services to be made available.



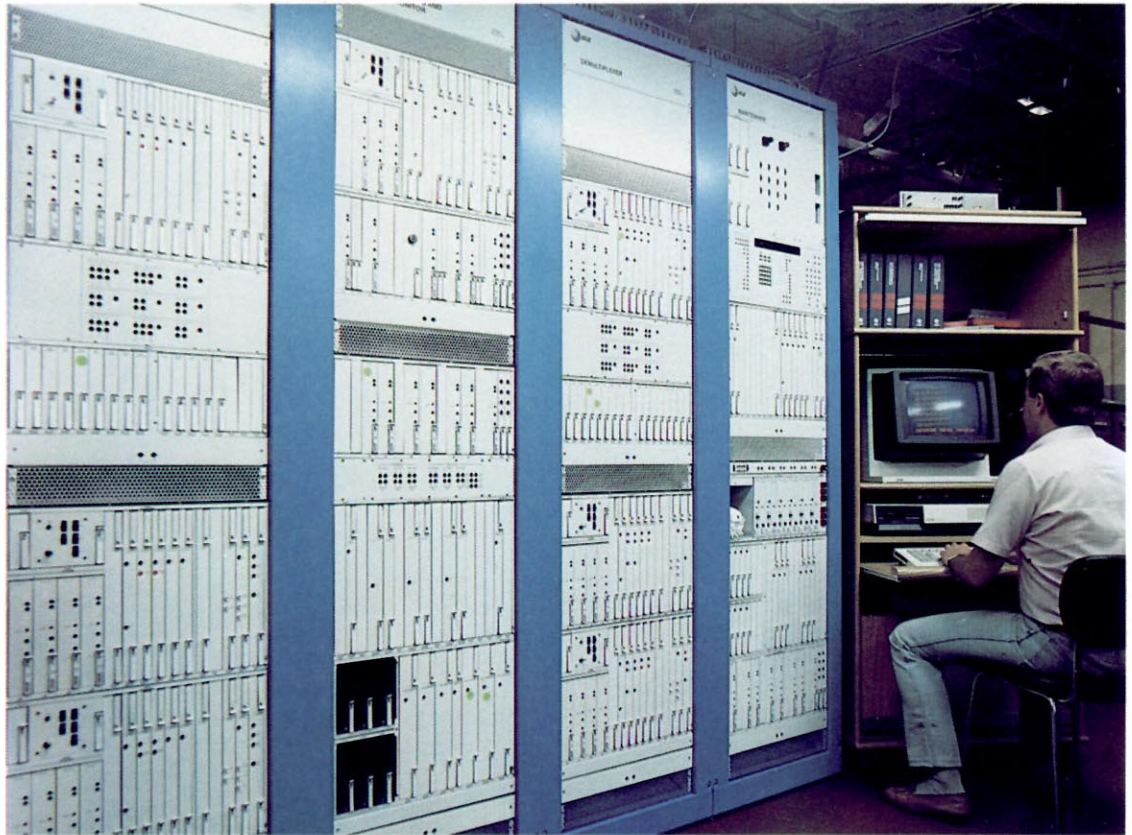
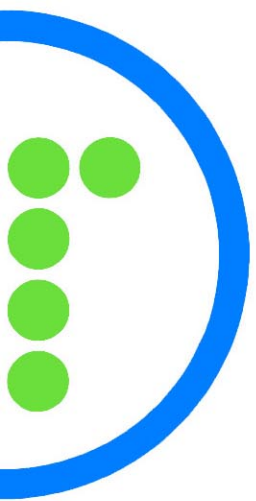
The use of solutions via satellite is also scheduled in the same area, fundamentally directed to the international provision of this type of service that, transcending the initial limited deployment of scattered installations to handle initial requirements, will give rise to the creation of "Teleports", the first of which is scheduled for the Madrid area in 1987 and the second, in the Barcelona area, in 1988. These will comprise fields of earth stations on which, via the **IBERMIC Network**, interconnection will be concentrated via satellite for



the provision of IBS and SMS services, from IN-TELSAT and EUTELSAT, respectively.

Together with the Automatic Mobile Telephony Expansion Plan that contemplates its gradual increase in scope to cover areas of the country with the heaviest demand, the **Radio Paging Service** was structurally defined for the simple numerical and alphanumeric warning modes, together with the **Automatic Message Paging, Message Broadcasting, Automatic Reverse Charge and Ibertex Services.**

As part of installation coordination and planning, 18 instrumental plans were drawn up that bring together the achievement of a specific objective of service, modernization and technological renewal of plant or management coordination. Continuation of this work in 1985 involved up-dating works planned and programmed for the 1986/7 two-year period, that was completed with the study and preparation of the 1987-90 Installations Plan, involving a firm boost to the networks and services modernization and expansion process.



*Terminal equipment of the OPTICAN optical fibre submarine cable, laid between the islands of Gran Canaria and Tenerife*



*Automatic mobile telephone (T.M.A.).*



*Short wave radio transmitter station.*

## PLANT DEVELOPMENT

**P**lant modernization continued throughout last year with the incorporation of switching equipment based on new technologies, that will allow the demand for new services to be handled. A total of 400,244 automatic lines were installed, of which 59,500 and 57,344 were semielectronic and electronic systems, respectively, accounting for 29.1% of all lines installed.

At the year end, the total advanced technology lines installed amounted to 972,120, representing 9.5% of automatic lines overall.

Simultaneously, 37,000 rotary switch system lines and 12,410 other conventional system lines were taken out of service.

Continuing the policy of caring for rural areas, 141,500 lines were installed, representing 35.4% of the total number installed. It should be mentioned that at the end of the year there were 50,325 annual lines, so that the degree of automation is 99.5%, with 19 provinces completely automated.

With respect to trunk switching, 53,914 links were installed, with the influence of electronic technology being more marked, as 30,498 electronic and 376 semielectronic links were installed, accounting for 57.3% of the total. At the year end, a total of 935,908 links were installed, of which 7.6% employed advanced technology.

The trunk network increased by 1,152 channel groups, of which 24 employed digital technology; 922 transmission systems were installed together with 66 new radio channels, with 176 transceivers.

Under this heading new installations were executed of special importance, given their service and technological significance; an 18 MHz (3,600 channel) system was installed in the Madrid-Seville coaxial route, a direct 140 Mb/s (1,920 channel) system on coaxial cable in the Armuña de Tajuña E.S.-Madrid route, was installed, together with the first 140 Mb/s system on optical fibre cable in the Barcelona/Can Serra-Barcelona/Corts route, with 1,800 channel radio links for Almería-Málaga and

Avila-Madrid. Furthermore, the installation of the First Front End Processor for **IBERCOM** and the **Madrid Terminal Network** for its first user, Iberia, L.A.E. is worthy of attention.

In the telematics field, 10,252 terminal connection gates have been installed for the **IBERPAC Network**. In RSAN, there was an increase of 255 **TESYS-1** and 14 **TESYS-5** units installed. Hardware and software improvements to these high technology units, belonging to **Telefónica** and, above all, the installation of the **TESYS-5**, have considerably influenced network quality improvement, apart from increasing switching speed.

In X-25, the expansion of installed equipment has involved 132 **TESYS-1** and 6 **TESYS-5**.

With respect to **Automatic Mobile Telephone Systems**, a total of 20 radio channels and 607 mobile units have been accepted. With respect to the **Maritime Mobile service**, installation of a management system in the National Radio Maritime Communications Centre should be noted, that allows radio telephony traffic to be routed in the shore-to-ship and ship-to-shore directions.

In order to handle service demand and improve quality, 1985 saw the installation of 1,849,700 Km. of subscriber network pairs, 178.7 Km. of coaxial cable, 93 Km. of optical fibre cable and 2,166.8 Km. of trunk pair cable, expanding the infrastructure for carrying these networks by 3,295 Km. of conduit and 2,919 Km. of pole lines.

Of the **coaxial cables** installed, those of Calahorra-Tudela and Gibraleón E.R.-Cristina Island should be emphasized, with a potential capacity of 3,840 circuits each, and the Huelva-Gibraleón E.R., with a capacity of 43,200 circuits. With regard to optical fibre cables, those installed in the Madrid links—36.9 Km. of 16 fibre cable— and Barcelona links—19.5 Km. of 16 fibre and 4.8 Km. of 8 fibre cable— should be mentioned, together with that installed between Cádiz-San Fernando-Puerto Real—29.5 Km. of 8 fibre and 3.3 Km. of 6 fibre cable. All of these cables have a capacity of 1,920 circuits per fibre pair.

The installation of the **optical fibre submarine cable** is worthy of special attention, which will join up the Islands of Gran Canaria and Tenerife,





known as **OPTICAN**, the first of its kind with repeaters installed in the world. This cable will be 125 Km. long and on entering into service will have a final capacity of 7,860 circuits.

Furthermore, a **satellite communications earth station** entered into partial operation for T.V. signals near Armuña de Tajuña, located 23 Km. from Guadalajara, functioning within the framework of activities of International Organization with a European scope, **EUTELSAT**. It is fitted with an 18 m. diameter antenna and incorporates the latest and most sophisticated equipment using the most advanced digital technology. Official inauguration is scheduled for the first half of 1986.

Within the local subscriber networks, the task continued of gradually changing the present networks into "series networks". The new subscriber network structure is presently used in the majority of telephone administrations, as it is best able to handle new services.

In order to expand the automatic telephone service into rural areas with a scattered population, not provided with a telephone infrastructure, four new multi-access systems were installed, having expanded two radio channels of this system.

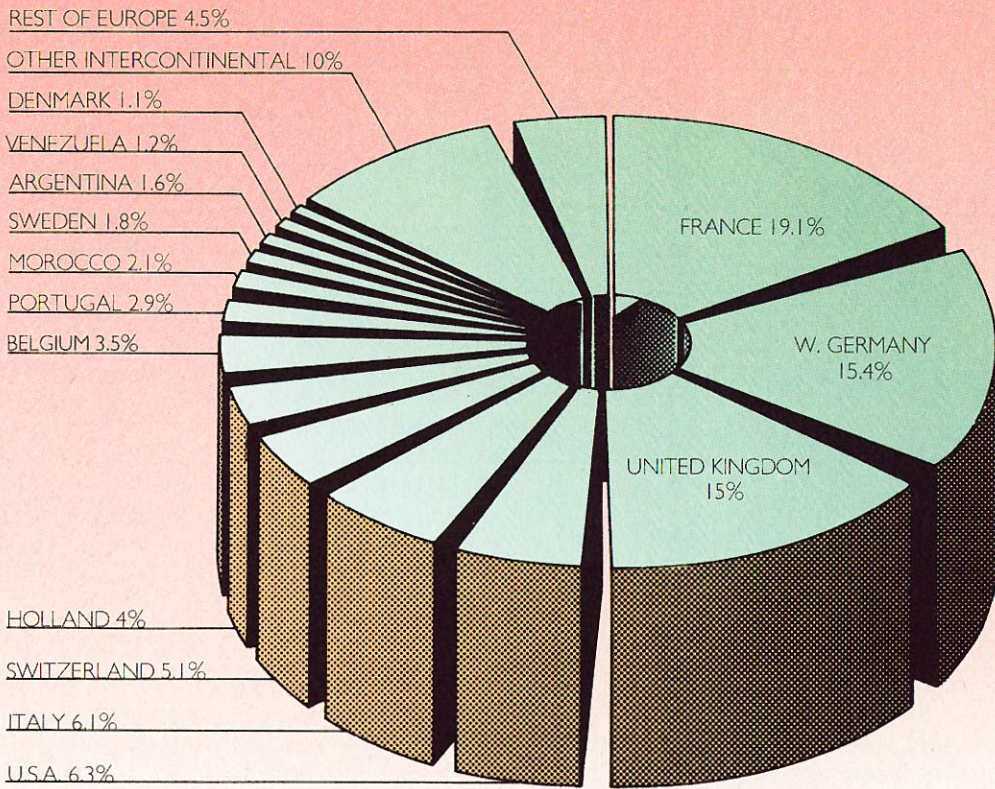


*Laying of the OPTICAN optical fibre submarine cable between Tenerife and Gran Canaria.*

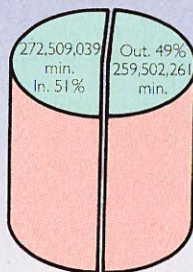




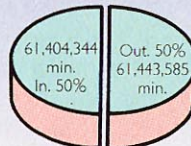
### INTERNATIONAL SERVICE DISTRIBUTION: TOTAL OUTGOINGS



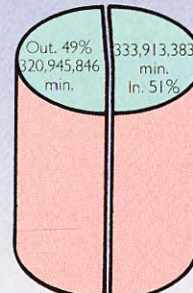
### INTERNATIONAL SERVICE VOLUME AND DISTRIBUTION



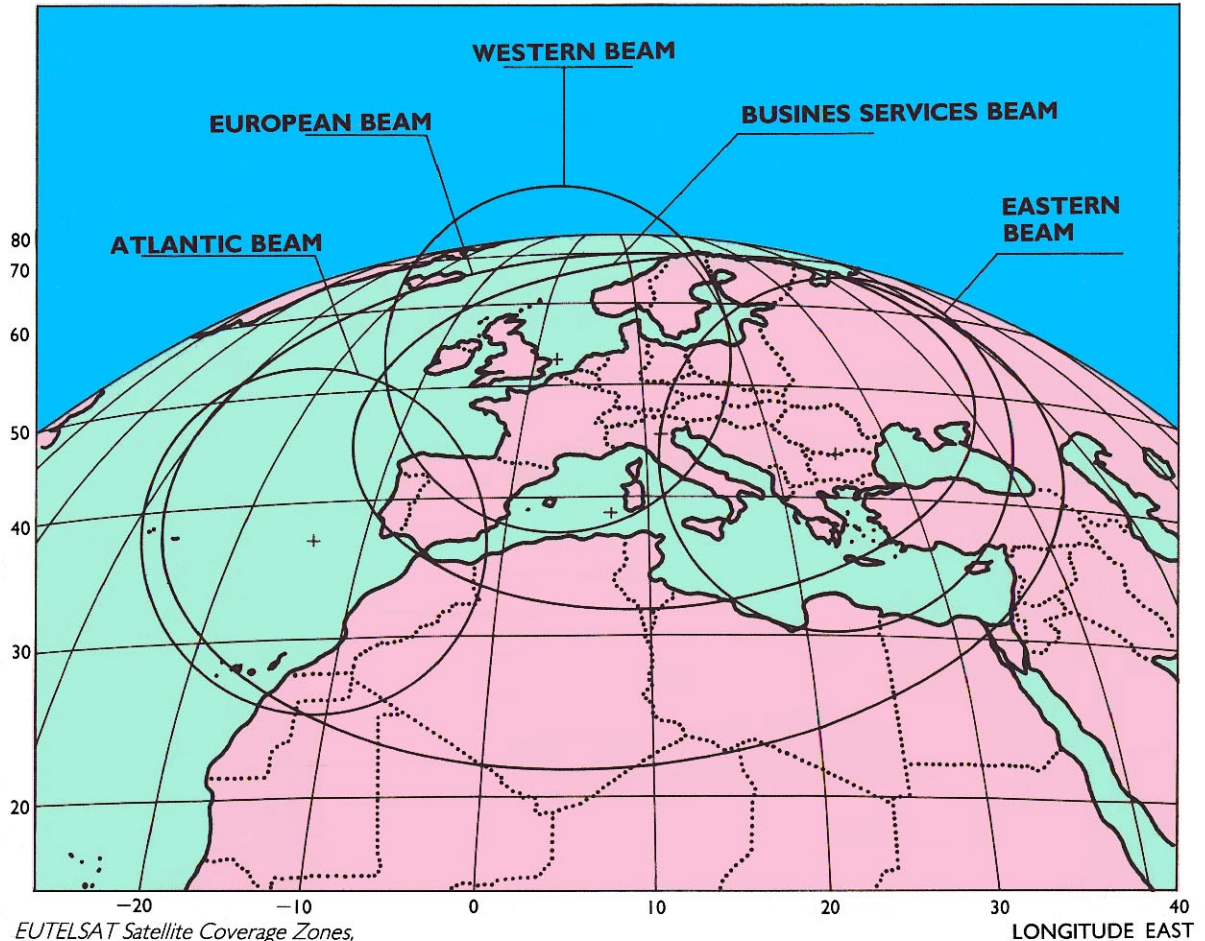
EUROPEAN



INTERCONTINENTAL



TOTAL



*EUTELSAT Satellite Coverage Zones, with which the Guadalajara earth station is connected.*

## NETWORK MANAGEMENT

In this area, the activity was oriented to improving information on the state and behaviour of telematic and telephone networks and the adoption of measures to obtain optimum performance, which has led to the quality of the automatic service to subscribers improving by 4.5%, measured as a percentage of plant faults on that 1984.

With respect to the **telematic network**, special attention was given to applying teletraffic criteria and obtaining network utilization data and degree of availability for the user.

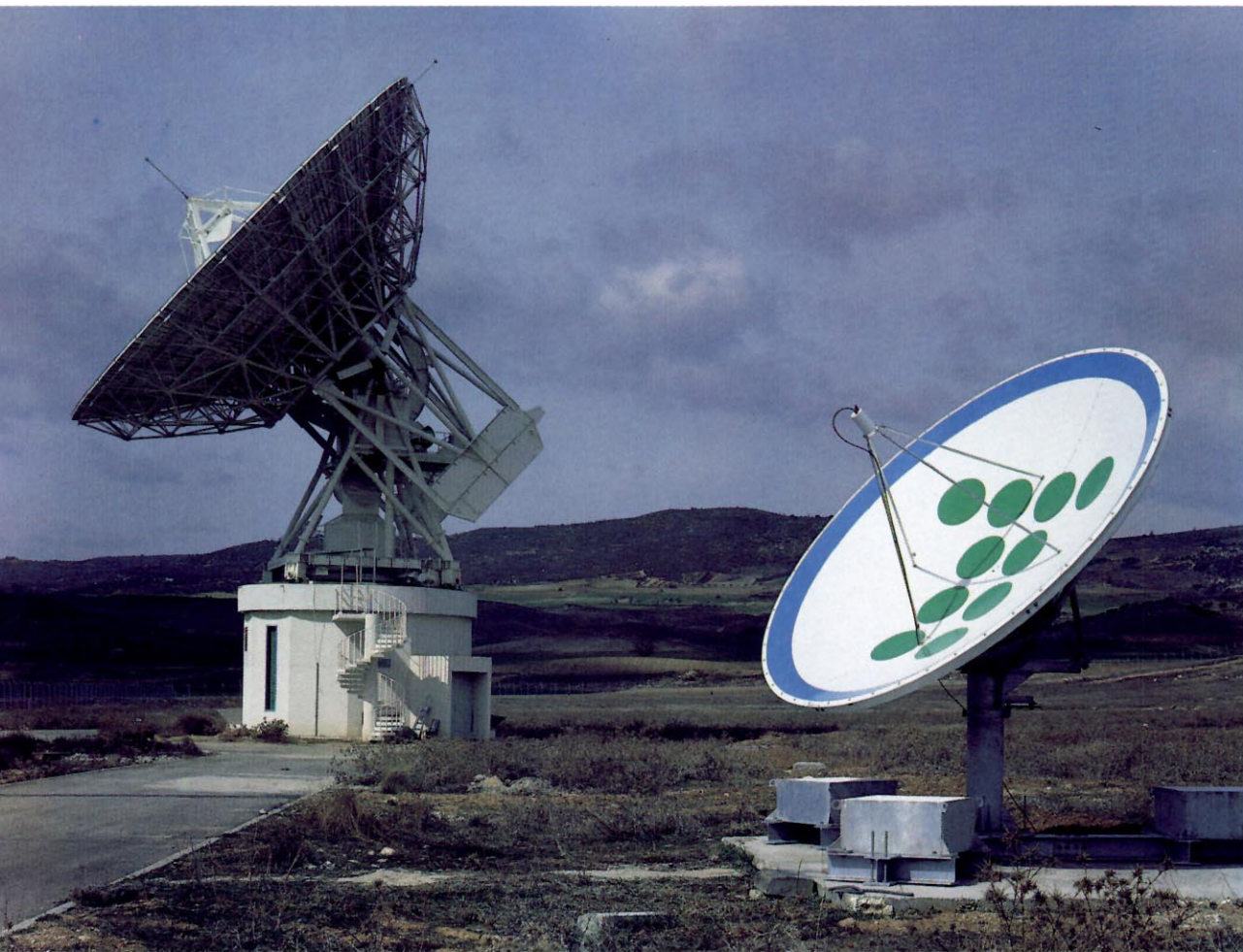
Simultaneously, measures were taken to comply with the network expansion programme, scheduled at 7,682, 11,689 and 404 automatic local, trunk and international network circuits, that totalled 447,262, 228,869 and 9,575 circuits, respectively. Of the latter, it should also be mentioned that 50%

were carried by submarine cable and 11% via satellite.

Work also commenced on defining the characteristics of the different management network centres for national and international telephony, data and TV, starting work on the international network at an information and coordination level.

With regard to **TV transmission** for the Peninsular-Canary Islands and International, 7,616 and 728 hours were carried, respectively, with a total of 2,739 programmes.

With respect to **international services** provided by **Telefónica**, these continue to expand, having incorporated four new countries into the direct telephone connection network and seven more, either by direct connection or via transit through other countries, to the data transmission network. Throughout the year, 21 local areas from provincial capitals and 31 primary areas were incorporated into the intercontinental type international automatic service, allowing an overall degree of automation of 97.6% for this service.

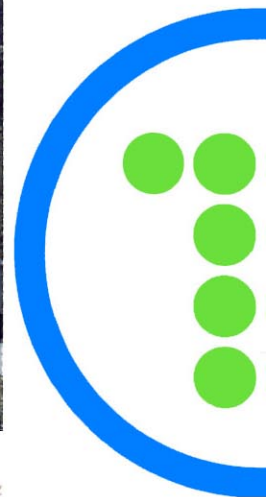


*Guadalajara telecommunications station*

Finally, with respect to the transmission network, **Telefónica** actively participated in negotiations for constructing an optical fibre submarine cable in the 1990/92 period, that will connect up the future Mediterranean and Atlantic submarine systems via Spain, together with definition of the wide band transnational infrastructure of the European Economic Community (**TBB Project**).



*IBERCOM network terminal module*



# COMMERCIAL ACTIVITIES AND DEMAND



*Detail of rural telephony equipment.*

The telephone service demand recorded in 1985 totalled 756,164 line requests that, as in the previous two years, has kept within the highest levels achieved by **Telefónica** over the last decade.

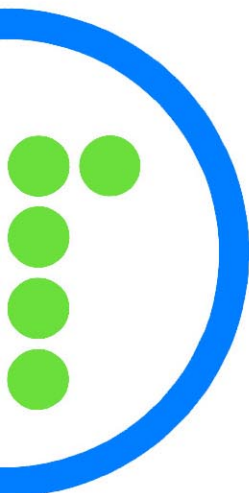
Nevertheless, despite this strong demand, there were 252,762 applications pending at the end of the year; this figure is again lower than that of previous years, confirming the effort being made to shorten the time taken to cover this demand.

At the year end Spain had a total of **9,340,458 telephone lines** in service and **14,258,928 telephones**, which represents a density of 36.6 telephones per 100 inhabitants.

When Royal Decree 2,248/84 of November 28 entered into force on January 1, 1985, concerning **Telephone Service Expansion into Rural Areas**, a major boost was undoubtedly given to the coverage of demand for telephones in rural areas. In application of this Royal Decree, conversations were initiated during the year with the different territorial authorities so that, by means of the corresponding collaboration agreements with **Telefónica**, action is taken to anticipate and intensify expansion of rural telephony in their respective areas. Already in the first year, as a result of these conversations, **8 Agreements were signed** with Provincial Authorities of the Castille and León Regional Government.

For its part, **Telefónica** installed 597 new **public service telephones** in towns lacking a telephone service in accordance with its annual plans on this subject for 1985, and also created 134 new local zones in the same number of towns, whose inhabitants will be able to enjoy a telephone in their homes with the application of the local tariffs in force.

With regard to **Public Use Telephones**, and as part of the new **Telefónica** policy, orientated to marketing public telephones serviced by their owners, a total of 21,666 telephones were contracted in the year, of which 12,970 were the so-called **Coin-Operated Regular Telephones (T.R.M.)**, where acceptance, due to their function-





*In accordance with the new corporate image design, all telephone box signs are being renewed and are incorporating the regional languages.*

ality, has meant that demand has outstripped all forecasts.

In the same field, **Telefónica** continues to promote the opening of telephone box facilities in the offices of large entities and organizations, to be serviced and managed by their owners in order to facilitate the telephone service to their clients and users. At the end of the year, there were already 95 telephone box facilities installed employing this method.

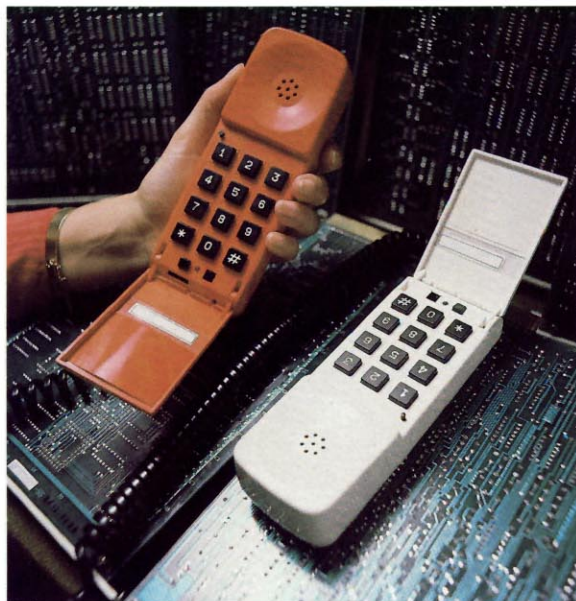
The telephone service continued to grow in 1985, with a total of **2,820 million** trunk calls and **87.2 million** international outgoing calls, meaning a growth of 9% and 12.5%, respectively, over the previous year's figures.

On the other hand, via the **Maritime Service** coastal stations, 680,888 radio calls were made, 320,940 radio telegrams and 2,710 radio telexes were sent, 2,786 radio medical services, 88,574 navigation aid reports and 136 rescue services were carried out.

As part of the **on-land mobile services**, the Message Paging Service increased the number of users, with a total of 12,088 subscribers and 1,056,878 messages sent at the end of the year.



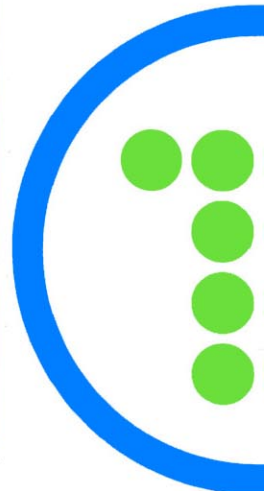
*Teide 5/10/3 telephone set*



*Benjamín telephone, marketed during 1985*



*Dataphone demonstration in the Madrid-Colón Centre.*





## TELEMATICS SERVICES

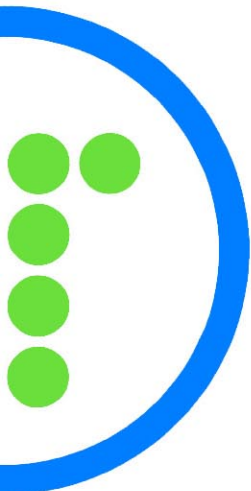
The **Telematics Services** have been the **Telefónica** activity with the most spectacular growth rate, in trying to satisfy the demand for a fully expanding market requiring the latest communications systems that new technology can now provide. Consequently, in 1985, there were **48,074 circuit applications**, representing a 43.7% increase over 1984, with a net plant increase of 31,272 circuits installed, as opposed to the 17,753 of the previous year. Broken down into different systems, the figures for the year are as follows:

## NEW SUBSCRIBERS TO TELEMATICS SERVICES

Point-to-point data transmission .....	5,703
Switched Telephone Network	
Data Transmission.....	2,611
Coded Alarm Service.....	14,314
Dataphones .....	3,953
Telegraphy.....	486
Telefax.....	828
Private Videotex.....	151
Iberpac Network.....	5,240

In this table the considerable increase in the number of Dataphone and Coded Alarm Services should be noted, rising by 809 and 3,235 compared to 1984, respectively.

TELEPHONE DENSITY				
Year	No. of telephones	% year-on-year increase	Telephones per 100 inhabitants	Av. waiting time for a telephone. Months
1972	5,712,549	11.4	16.5	24
1973	6,331,474	10.8	18.1	25
1974	7,042,968	11.2	20.0	19
1975	7,835,970	11.3	22.0	16
1976	8,604,768	9.8	23.9	13
1977	9,527,781	10.7	26.2	14
1978	10,311,423	8.2	28.0	14
1979	11,107,624	7.7	29.4	13
1980	11,844,623	6.6	31.0	12
1981	12,384,656	4.6	32.9	11
1982	12,820,190	3.5	34.0	10
1983	13,345,332	4.1	34.9	9
1984	13,825,459	3.7	35.8	7
1985	14,258,928	3.1	36.6	7





*Different views  
of the Madrid-Colón  
Telecommunications  
Room.*

The new telephone directories have been designed with the new corporate image.



## USER AFFAIRS

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Company activities continued in 1985 to improve the relationships with subscribers and users. In this respect, the entry into service of the **first 6 Mobile User and Information Offices** is worthy of emphasis, to bring **Telefónica** closer to rural areas, for which the results obtained over this short period confirm the excellent acceptance of this entity in these zones. Furthermore, deployment and development work continued for the new **Subscriber Offices** that integrate the different services most directly related with the users' requirements, to achieve greater efficiency and speed in these affairs.

Continuing with the aim of improving subscriber affairs by introducing information technology to management, introduction of the **MIGA Project** (Integrated Automation of Subscriber Management) continued, which now covers 28 provinces, and the preliminary phases of another similar project have been finalised, the **Computerised Circuit Management (G.M.C.)**, for nation-wide introduction in 1986.

Similarly, information technology continues to be provided to **billing management**, with a total of 66 Offices being completely computerised. On the other hand, with the incorporation of 18 new bank institutions to the billing system employing magnetic tape without direct bills, 93% of all direct debit bills were settled in this way by the end of the year.

Under the heading of information, a total of **17,746,000 copies of 90 Telephone Directories** were published in 1985, together with 95 Supplements with information on new subscribers and modifications occurring after the Directory closing data. It should be mentioned that this year's editions of the Telephone Directories corresponding to the provinces in Catalonia, Galicia, Valencia and the Basque country have the "information pages" inserted in Spanish and in their respective languages.

On the other hand, the **003 Information Service** handled over 80 million calls last year, of which 77% were carried out by computerised procedures. In this field, the commissioning in this service of a modern **direct access** system is worthy of special attention, as part of the **Telefónica** plan to introduce new technologies for the improvement of services.

A **Demonstration Centre** was inaugurated in Madrid, in which both Equipment and Services marketed by **Telefónica** are installed, with the most advanced communications technology, being highly useful for commercial management improvement as potential users can, at this Centre, check characteristics, real operating conditions, performance, etc. of the products that best comply with their requirements.

## NEW EQUIPMENT AND SERVICES

**T**en new products were commercially launched in 1985, between services and equipment. Of the services, **Teletex** and **Telefax** were put into service, representing a substantial advance in **Telefónica's** strategy, in line with offering Spanish Companies the same automated office innovations and facilities available in the most advanced countries.

With respect to **telephone equipment**, sets made available to users range from the **BENJAMIN** telephone set, basically aimed at the home sector, to the **TEIDE 10 and 24**, that cover the telephone requirements of a wide range of businesses employing the most sophisticated technology in the TEIDE line. Telematics equipment was also launched, including the **Automatic Interface Switching Unit**, **Audible Response Modem** and **Single Channel Equipment**, that had been designed with the latest technology.





Mobile User and Information Office. The photo was taken in the Plaza Mayor of Chinchón (Madrid).

### SERVICIOS TELEFONICOS

