

## Serving the business community

The Iberpac packet switching network continued to make new inroads during the year, with applications for connection 70% up on 1987 at around 15,000. At year-end, there were over 56,800 direct access terminals to the Iberpac network, representing a rise of 30% over 1987 when network connections totalled 45,626 (34% more than the year before). At the same time, we extended international access from the Iberpac network to 47 public packet switching data networks. Iberpac also carries a variety of new services, such as Ibertex, which reached a network capacity of 29,300 terminals, and the X-28 service, which had a network capacity of 8,780 terminals by the end of the year.

**ELECTRONIC FUNDS TRANSFER.** During 1988, the Dataphone Electronic Transfer of Funds service witnessed an outstanding boost in sales exceeding all expectations. By the end of 1988 there were over 60,000 terminals connected to the Dataphone service, facilitating the nationwide use of credit cards.

**IBERCOM SERVICE.** 1988 was also a year of spectacular growth for our Ibercom service, with 68,993 lines installed by the end of the year, that is 200% more than the previous year. The warm welcome enjoyed by Ibercom and the future growth potential of the service are reflected in the kind of user and the nature of the service. In 1988 Ibercom had 115 clients, including the major corporations in Spain from all sectors of business and finance. The Ibercom service has been especially well-received by central, regional and local Administration Authorities.

In return for our clients' trust in Ibercom, Telefónica is striving to enhance its infrastructure to guarantee sufficient service capacity. Hence, in 1988, there was a 600% increase in the number of Ibercom front-end centres compared to 1987 and by the end of 1988, 21 provinces had this type of centre installed.

**IBERMIC, HIGH-SPEED RENTED CIRCUITS.** During 1988, the first Ibermic network centres were installed in the main metropolitan areas, coinciding with a especially high rise in demand for high-speed circuits, particularly those of 64 Kbit/s circuits and other higher speeds.

In the next few years, rapid development is planned of Ibermic high-speed data transmission facilities. Optical fibre access loops and metropolitan radioelectric access centres will be created, which will be complemented by the commissioning of the Alcobendas (Madrid), Castellbisbal (Barcelona) and Pineda (Seville) Teleports.

**NEW SATELLITE COMMUNICATIONS.** Along with the formation of a Teleport network designed to meet the demand for domestic and international business services, in 1988 we also increased the number of Satellite Communications Centres (SCC), and completed the definition of two new SCC in La Granada (Barcelona) and El Toril (Seville).

Of particular significance during the year, was the transmission of radio signals on behalf of radio broadcasting stations —via the SMS EUTELSAT service —from the Satellite Communications Centre earth station at Armuña de Tajuña and the broadcasting of television programmes to Europe, via EUTELSAT, and to Latin America, via INTELSAT.

**MOBILE TELEPHONY: A COMMERCIAL SUCCESS.** Our Automatic Mobile Telephony service (TMA) enjoyed a 170% growth in demand over the previous year. The service was extended to 38 provinces with a network capacity of 32,000 users on 450 MHz. During the year a new analog mobile system was designed under the name of TMA-900-A, to be installed during 1989 in order to complement the existing TMA 450 product and offer users a wider range of mobile options. At the start of the next decade, a new cellular mobile system covering the whole European continent will be introduced, also on the 900 MHz waveband. This will enable a vehicle to keep in touch via the telephone while travelling throughout the continent.

There were continuing developments during 1988 in Telefónica's Radiomessage and



Maritime Satellite Services and we expect to see further progress in this area over the coming years. Scheduled for 1989 is the launching of the Radiopaging Service, in its various wavelengths, throughout a total of 33 provinces.

**INTEGRATED SERVICES.** In 1988 Telefónica began preparations for the piloting of the new Integrated Services Digital Network (ISDN), with the first experimental lines to go into operation in Madrid during 1989. There are plans to extend the ISDN lines to the Barcelona-Madrid-Seville axis and the launching of these services on to the market is scheduled for 1991.

**OPTICAL COMMUNICATIONS.** In 1988 the TAT-8 transatlantic, underwater, optical cable linking North America to Europe was commissioned, with a 2 x 280 Mbit/s capacity. Telefónica is a co-owner of this project which represents the first underwater digital line between the two continents. Also of interest in this field was the strengthening of the communications infrastructure between the Spanish Peninsula and the Ba-

learic and Canary Islands, with the installation of underwater cables to guarantee the enhanced connection of both archipelagos with the Spanish mainland.

1988 also signified the start of an expansion phase in the optical fibre land network. This advanced communications medium is to be extended throughout the national, provincial and metropolitan networks.

**INTELLIGENT NETWORK SERVICES.** Last financial year we began marketing the Automatic Reverse Charge 900 service. This has received a warm welcome from our business and large corporation clients with users totalling 439 by the end of the year.

In view of the healthy prospects in the 900 service demand, in 1988 we took steps to strengthen the network infrastructure by incorporating a new Automatic Reverse Charge Centre in Barcelona to complement the existing service in Madrid.



Over the next few years the steady digitization of the network, which will convert the telephone exchanges into genuine communications computers, will enable us to offer clients new Intelligent Network Services. The most notable of these will be multiaddress credit calling, personal telephony and advanced automatic reverse charge calling.

**TELEFAX.** There was an unprecedented rise in the demand for Telefax service, with users totalling 53,574 by December 1988, that is 200% more than at the same time the previous year. We expect these growth trends to continue, as they are doing in the majority of neighbouring countries.

**SUPPLEMENTARY TELEPHONE SERVICES (STS).** Along with basic telephone services, Telefónica now offers a whole range of supplementary facilities from its digital switching exchanges. At 1988 year-end the following Supplementary Telephone Services were on offer:

Call waiting \* Conference calls \* Pre-programmed dialling \* Call rerouting \* Abbreviated dialling \* Detailed information services.

**NEW TERMINALS.** Throughout the past year, Telefónica developed a package of supplementary and complementary telephone equipment which was available for purchase as from January. The new commercial environment has led to an expansion in the range of both models and services. In 1988 16 new products were marketed, among them the display phones, automatic dialling equipment and automatic answering machines. We plan to simplify the supply of main telephones in 1989 and establish just one model of TEIDE telephone apparatus, whose features will enhance the basic service.

**THE OLYMPIC GAMES AND EXPO '92.** The vital significance to the telecommunications sector of the 1992 events, encouraged Telefónica to collaborate closely during 1988 with the Barcelona Olympic Games Organising Committee and the Seville World Expo State Company. Telefónica was appointed Official Telecommunications

Supplier and Collaborating Partner to the Barcelona '92 Olympic Games and Official Telecommunications Supplier and Technological Partner to EXPO '92.

Both events demand the careful planning of telecommunications requirements and Telefónica has designed specific programmes to guarantee adequate network infrastructures in Barcelona and Seville. During 1988 works commenced on La Cartuja site in Seville and on the Montjuic Olympic site in Barcelona.