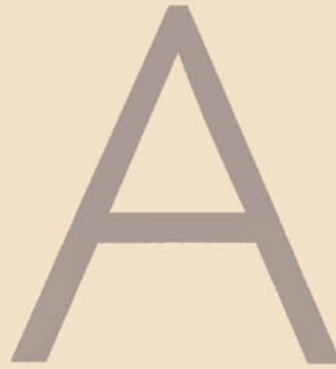


Research and development



At the end of 1988 our subsidiary company Telefónica Investigación y Desarrollo, S.A. (Telefónica I + D) had over 400 employees, 72% of which were degree holders. Telefónica has a 100% holding in Telefónica I+D, whose function is to carry out research activities. In 1988 the company dedicated special efforts towards developing computer programmes for telecommunications network planning and establishing efficient software engineering for its projects. Among these programmes is the Operations and Maintenance Structure (EOC), which is now at the technical rating phase and is especially significant because of its direct application to network management and maintenance.

Throughout the year, Telefónica I + D also carried on the development of existing projects, such as the Tesys-B packet switching system, whose specific application integrated circuits and operating system have now been tested. Equally significant were the results of the recently completed MIAC (ESPRIT) project, which successfully proved its possible application for the provision of multiconferencing services with audiovisual back-up, using the Ibercom and Ibermic facilities.

Lastly, during 1988 Telefónica I+D was involved in several European programmes, among them four ESPRIT and eight RACE projects, three CTS special projects and two European Space Agency (ESA) projects.