

# Summary Report 1997 to ESF

The EUROPROBE programme was launched in January 1992 for seven years and now involves many hundreds of geoscientists from thirty-one European countries. It is supported by Member Organisations from Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom. The 1997 co-ordination budget amounted to 1,405 kFF with an actual call for contributions of 1,310 kFF.

In early 1997, the EUROPROBE Scientific Steering Committee (ESSC) applied to the ESF Life and Environment Sciences Committee (LESC) for continued support after 1998. EUROPROBE at present is in an expansive mode with some projects in full swing (e.g., with wide ranging post-doc programmes) and others gaining momentum. EUROPROBE research will continue well into the next century and the importance of the ESF workshops for integrating the interdisciplinary science cannot be overestimated. The LESG has recommended continuation of the ESF EUROPROBE programme to the end of 2001.

EUROPROBE is a Lithosphere Dynamics programme, concerned with the origin and evolution of continents. It was conceived and has grown within the International Lithosphere Programme and, since 1992, has been supported by the ESF. This major venture of European geoscientists is focused on, but not confined to Europe. It is dedicated to carrying out a new generation of major projects that will improve our understanding of the tectonic evolution of the Earth's crust and mantle, and the dynamic processes that controlled this evolution through time.

Ambitious projects to investigate the whole lithosphere require close collaboration of geologists, geophysicists and geochemists and multinational co-operation. The interplay of modelling and theory in partnership with field studies is central to EUROPROBE. The application of state-of-the-art technology is vital. To meet this challenge, EUROPROBE receives support from the ESF for a workshop programme to define, develop and implement a wide range of major interdisciplinary projects; these reach in space across Europe from the Ural Mountains to the Iberian Peninsula and in time from the Archaean to the Present.

EUROPROBE is driven by a combination of two priorities - scientific excellence and East-Central-West European collaboration. This recipe has been anchored in partnerships, first and foremost between individual scientists, but also between geoscience institutions. The EUROPROBE programme has been promoted by a growing spirit of co-operation in Europe; without this, it would have been impossible to overcome the barriers of language and tradition that have hindered communication in past decades. For geoscientists, direct access to the tectonic phenomena is essential; the political

changes of the last decade in Europe have greatly expanded the range of possible targets.

Although EUROPROBE research focuses on fundamental geodynamic processes and appeals to our fascination for planet Earth and its origin and place in the universe, the programme has considerable practical application. The tools we develop and use are the same as those required for seismic hazard mitigation, natural resource exploration, toxic waste disposal and many other practical things essential for management of a sustainable environment. Several of the EUROPROBE projects have direct relevance to societal needs, ranging from earthquake prediction in the Vrancea Zone in Romania to mineral exploration in the Urals and Kola Peninsula and hydrocarbons in the Donets and Pechora Basins.

EUROPROBE's ESF programme has now been running for nearly six years. Forty-three workshops in nineteen countries have generated a wide range of collaborative research. During 1997, EUROPROBE has scheduled seven workshops and symposia at two international meetings for communicating the results of the interdisciplinary research (see Table on p. 15)

1995 witnessed the first of EUROPROBE's major co-ordinated ventures, the URALIDES project's seismic transect through the southern Urals (URSEIS), with Russian, German, American and Spanish partners. During the winter 1996/7, TOR, a teleseismic tomography project across the TESZ, gave a new view on the deep suture between young western Europe and the old East-European Platform. One of the largest European refraction seismic projects ever was carried out in Poland in May aiming at a better understanding of the influence of this suture on the formation of hydrocarbon bearing sedimentary basins. Both projects are now in the phase of data treatment. First results will be presented at the 1998 EGS conference in Nice (France). Several of EUROPROBE's projects have support from INTAS and three projects obtained major support through the EU-TMR programme. Many PhD and post-doc projects are involving the younger generation, laying the foundation for East-West collaboration in the years to come.

A presentation of EUROPROBE research has recently been published (Gee and Zeyen (1996): EUROPROBE 1996: Lithosphere Dynamics – Origin and Evolution of Continents), providing a comprehensive overview of on-going activities. This book has been distributed to the Participating scientists and institutions and is also available on the newly established EUROPROBE website ([www.geofys.uu.se/eprobe/brochure.htm](http://www.geofys.uu.se/eprobe/brochure.htm))

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