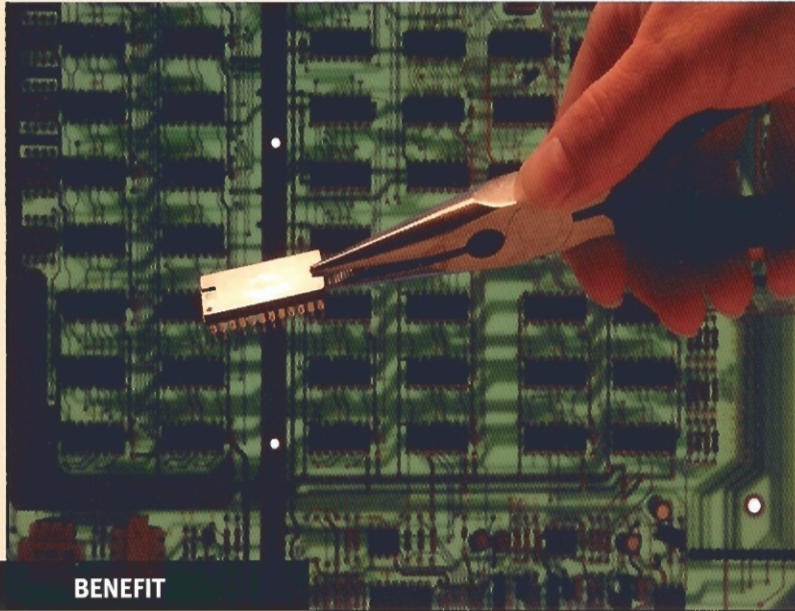




Microelectronics in East and West



BENEFIT

European competitiveness may ultimately depend on greater co-operation between the Eastern and Western halves of the continent. In the field of microelectronics and signal processing the BENEFIT project is overcoming the obstacles and establishing the trust needed for this co-operation. A series of scientific workshops has established links between scientists across Europe, while an Information Distribution Network has been established using the World Wide Web. The result is a strong foundation for collaborative research and technology transfer involving public and private organisations across Europe.

The BENEFIT project was born in October 1993 at a workshop on "Design Methodologies for Microelectronics and Signal Processing" in Gliwice (Poland). Funded by the EU, this was one of the first events aiming to link researchers in the IT field together from Eastern and Western Europe. At the time it was feared that financial support for science and technology in the former communist countries could actually collapse, forcing scientists to leave for the West, or South East Asia. This - and a perceived lack of East-West co-operation in this and other fields - would ultimately damage overall European competitiveness.

Thus the BENEFIT project was born. Supported by the EU's Copernicus Programme, the project aimed to overcome the obstacles to pan-European co-operation in the field and promote the transfer of research results into industry. The ultimate goal was - and still is - to increase the competitiveness of the European electronics industry as a whole, using the microelectronics industry as a starting point.

Workshops and Special Days

The BENEFIT project adopted a dual approach, organising workshops and conferences on both technological issues and co-operation, while at the same time developing the BENEFIT Information Distribution Network (IDN). The latter, using the World Wide Web and electronic mail, has proved crucial to the success of the whole project.

The success of the nine scientific and technical events held so far can be measured in their increasing popularity. BENEFIT workshops have proved particularly popular, being held in conjunction with Special Days on Pan-European Co-operation and Technology Transfer.

The Special Days were originally intended to introduce the Central and Eastern European (CEE) countries to the research and development programmes of the EU, but their role has broadened and extended to tackle the whole range of problems associated with East-West collaboration.

These and other events, such as Summer Schools on Wavelets and Signal Processing, in 1995 and 1996, have attracted a range of delegates from across Europe. The support of BENEFIT has been crucial to this success, attracting leading specialists to the events and helping with their organisation. For some CEE delegates, the availability of a BENEFIT grant has been essential in enabling them to attend at all.

Building on Science

It became clear early on that the greatest challenge would be to involve the industrial community, particularly from the West, in a way that ensured mutual benefit. In fact, the difficulty of doing so led the project to switch its focus from the industrial to the scientific and academic community. The links created here, however, are seen as a



good foundation for future commercial links. A very tangible example of a successful liaison between East and West is the Chip-Centrum, which has been established by the Institute of Computer Sciences at the Slovak Academy of Sciences (ICS SAS). A long-held aim of the ICS SAS had been to establish an advanced integrated circuit (IC) design centre in Slovakia to meet both research and commercial requirements, but it had been difficult to find industrial or governmental support for the project.

Following the first BENEFIT event, the 1995 workshop on Design Methodologies for Microelectronics, the ICS SAS established contact with Mentor Graphics Corp (USA), suppliers of IC software design tools. With a Slovak company, INFOTRANS, and support from other sources including the EU's COPERNICUS and ESPRIT programmes, the ICS built the ChipCentrum IC design centre. They see the centre's role as stimulating new activity in the field of advanced circuit design, and demonstrating the value of such a facility within Slovakia.

Meanwhile, the more recent BENEFIT special days have concentrated on the difficulties of establishing industrial links and, particularly, on methods of technology transfer. After detailed consideration of different methods, the 1996 Special Day focused on the use of Techno-parks. It is felt that in the Techno-park environment, commercial development projects benefit from the availability of research expertise while researchers can test the commercial viability of their ideas.

Information Distribution Network

The success of the scientific and technical events has been underpinned by BENEFIT's

second action, the establishment of the Information Distribution Network (IDN). This has proved crucial in maintaining communication and organising international events for members spread throughout Europe.

Not only is it low-cost, but e-mail is often more reliable than conventional post, especially in Russia. The IDN is used to issue calls for participation in EU programmes, to review papers, and distribute the BENEFIT News letter, half of whose 1000 subscribers are in CEE countries. The BENEFIT Web page is gaining in importance, with many delegates at events quoting it as their first source of information.

Dr Pleger, the BENEFIT project co-ordinator, hopes to expand the role of the IDN, both as a network of national contact points and as an information service. He feels that there is still insufficient knowledge in CEE countries of the support available under EU programmes such as ESPRIT. Dr Pleger also envisages the IDN playing an important role in the promotion of East-West collaboration, which remains, after all, the prime aim of BENEFIT. Provision of a data base of CEE company profiles would be valuable in combating the lack of western awareness of these companies and their range of expertise. The establishment of links across the scientific communities of the whole of Europe, and the laying of foundations for links with industry represents a considerable achievement. But there is also a human element to BENEFIT's success. The support for BENEFIT members and participants in CEE countries is, according to Dr Pleger, instrumental in enabling scientists and technologists to remain in their home institutions. ■

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References:

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