

DGXIII
Information Technologies
and Industries, and
Telecommunications.



ISSUE NUMBER 4/92
XIII Magazine n°8

XIII
MAGAZINE

News Review

The 1992 Esprit Conference and Exhibition

The 1992 Esprit Conference will be held in Brussels from Monday 23 to Friday 27 November. The conference is a key element of the annual Esprit operational cycle and of the programme's information dissemination process, offering participants an overall opportunity to share results and views. The accompanying Esprit exhibition is an international showcase for advanced industrial IT prototypes.

This year's conference, looking at the achievements of the Esprit programme and future of information technology, will be opened by EC Commission Vice-President Filippo Maria Pandolfi. Plenary sessions will then be held by the five Esprit divisions on the Monday, while Tuesday and Wednesday will be taken up by 46 workshop sessions in five parallel streams. At the centrepiece of the conference, the IT Forum on Thursday 26 November, prominent speakers from industry and major IT user sectors will address the theme of "Information technology and telecommunications at the service of competitiveness and society". The debate will be moderated by a TV journalist. On Friday, there will be 10 special seminars on such subjects as technology transfer, software reuse, software measurement, real-time vision systems and new business opportunities in home automation. The exhibition is open to the public throughout the Esprit Conference at the Palais des Congrès, Coudenberg 3, B-1000 Brussels.

Contact:
1992 Esprit Conference E.C.C.O.
27A Rue de l'Abbaye
B-1050 Brussels
Tel: +32 2 647 87 90
Fax: +32 2 640 66 97

INTERNAL MARKET

Research and technological development : fourth Community Framework Programme

Commission Vice-President Filippo Maria Pandolfi presented the Commission's proposal for the fourth EC Framework Programme of Community activities for research and technological development, for the years 1994 to 1998, on 30 September.

Covering all the Community's research and technological development (RTD) and demonstration activities, the proposal is a direct and logical continuation of a number of developments in the Community's science and technology policy since the mid-1980s. It is consistent with the guidelines laid down by the Commission in its paper on *Research after Maastricht: an assessment, a strategy*, adopted in April (see *XIII Magazine-News Review* no. 2/92). The new Framework Programme will therefore cover RTD and demonstration activities connected with the implementation of common policies (e.g. environment, agriculture, fisheries, energy and transport), with the objective to ensure that research policy and the other major common policies are more integrated and reinforce each other. It will also cover international scientific cooperation as well as preparatory, back-up and follow-up activities (e.g. technology watch, evaluation, feasibility studies and experimental projects) carried out up to now outside the Framework Programme.

With a view to concentration and selectivity, the Commission has identified within each of these activities a number of core thematic areas as research priorities. These will be also grouped in relation with the future specific programmes.

One of the new features of the Commission's proposal is the explicit consideration it gives to the principle of

subsidiarity. According to the reorientation of Community RTD activities defined by the *Research after Maastricht* paper, five activities have been identified to which this principle of subsidiarity is considered intrinsic. These are: "big science" (meaning international initiatives, often taking the form of "mega-projects"); technological priority projects (e.g. generic technologies which can have a bearing on a number of industrial sectors); activities designed to structure the single market, particularly in the sectors covered by the various common policies; pre-normative research in cases where the acquisition of scientific and technological data is necessary for the preparation of standards, norms and regulations; and activities to assist the European scientific community in developing Community-wide integrated

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systems of networks and mobility programmes. In practice, the areas defined for research activities under the new Framework Programme have been divided into two major fields: the first of these is science and technology for industrial innovation. This is to achieve the main aim of RTD policy, strengthening the scientific and technological bases of Community industry and encouraging it to become more competitive at international level. The core thematic areas related to this include basic IT research, image technologies and advanced manufacturing technologies. The second major field is science and technology for society: it includes matters relating to the quality of individual and social life. The core thematic areas linked to this include telematic systems in the field of health care, the struggle against social exclusion, major health problems, global change and nuclear safety activities.

Regarding the budget, the Commission has respected the amounts which appeared in the Community's financial perspectives set up for 1993-1997, pending the final decisions to be taken by the European Council. The Council of Ministers is expected to decide in December on the additional financial envelope requested by the Commission (ECU 1.6 bn) to complete the third Framework Programme

Commission urges greater flexibility on call charges

The Commission has published a paper on telecoms tariffs called *Towards cost orientation and the adjustment of pricing structures: telecommunications tariffs in the Community*. Prepared according to a requirement for monitoring of tariffs as part of implementing the policy of the 1987 Green Paper, it is an important input to the 1992 review of the telecommunications sector, calling for greater and swifter progress on cost-orientation and pricing flexibility. This is essential if the full benefits of an efficient telecommunications sector are to be passed on to users and other sectors. In particular, it calls for rapid reduction of the surcharge levied on intra-Community calls, more extensive use of price-cap formulae by regulators to promote cost-oriented tariffs, the extension of national off-peak tariff arrangements to intra-Community calls and more widespread introduction of special schemes for groups with particular needs, such as the aged or handicapped.

Open Network Provision (ONP) for voice telephony

The publication by the Commission of a proposal for a directive on the application of ONP to voice telephony represents the culmination of a period of extensive consultation and review, reflecting the particular interest in addressing this area. Voice telephony is the single most important telecommunications service in the Community for both users and providers, with the voice telephony service and related subscription revenues accounting for nearly 90% of total revenues to the Community's telecommunications organizations.

The proposal aims at achieving three basic goals through the application of

ONP principles defined in the ONP framework directive (90/387/EEC): to establish the rights of public telephone network users; to open up efficient access to public telephone network infrastructure to value-added service providers and other telecommunications operators (e.g. mobile); and to help meet market requirements for Europe-wide telephony services. The scheme should improve services for users of the EC's 150 million telephone lines. In particular, it should ensure that customers benefit quickly from cost-saving measures, including the introduction of new technology.

Mutual recognition proposal aims to open markets

The Commission has published a proposal for a directive on mutual recognition of national authorizations to operate telecommunications services, designed to streamline the introduction of Europe-wide services. Currently, a service provider wanting to operate services in more than one Member State must seek authorization in each, a time-consuming process which is restricting service provision and reinforcing national segmentation of the market.

The proposed directive defines a balan-

ced and efficient procedure for mutual recognition of licences or other national authorizations. Central features of this are the establishment of a new Community Telecommunications Committee (CTC) made up of representatives of national regulatory authorities, and the granting of a Single Community Telecommunications Licence as recognition that a national authorization can be used to operate the service covered by this authorization in all other Member States.

Wavebands for air travellers and road telematics

Two new proposals for frequency directives have been published, both concerned with the transport sector.

The first, a proposal for a directive on the frequency bands to be designated for the coordinated introduction of the Terrestrial Flight Telephone System (TFTS) in the Community, aims to ensure that common frequency bands are available for the introduction of a public telecommunications service to passengers on aircraft in flight over Europe. This is designed to give the parties involved confidence to commit the necessary substantial resources to development and implementation of TFTS. This proposal follows a frequency recommendation made by the European Radiocommunications Committee (ERC) established under the CEPT (Conference of European Post and Telecommunications authorities). The second, produced with the cooperation of DG VII (transport), is a proposal for a directive on the frequency bands to be designated for the coor-

dinated introduction of road transport telematic systems in the Community. Its aim is to ensure that common frequency bands are available for the introduction of such systems for applications such as automatic road toll collection, road pricing, route guidance, container identification and road traffic management. Based on the need to develop trans-European transport and communication networks, and on research and development under the Community's Drive programme, such applications will involve the presentation in road vehicles of a broad range of information. An essential requirement for the success of advanced transport telematics is that vehicles should be able to communicate with local infrastructure wherever they travel in Europe. Because radio transmission will be the general bearer medium, the same frequency bands must be allocated to this purpose throughout Europe. This directive, as for TFTS, follows a frequency recommendation of the ERC.

COMMISSION LAUNCHES REVIEW OF THE TELECOMMUNICATIONS SERVICES SECTOR

The following press release was issued by the Commission on 21 October:

At the initiative of Vice-Presidents Brittan and Pandolfi, the Commission adopted a report carrying out an overall assessment of the situation in the telecommunications services sector. To tackle the problems identified, the Commission has decided to launch a wide consultation of all interested parties on the basis of various options. This approach is fully consistent with the declaration of Birmingham, where the Commission commits itself "to consult more widely before proposing legislation; this could include consultation with all the Member States and a more systematic use of consultation documents".

This review was required by two directives. The Commission's 1990 directive on telecommunications services (90/388/EEC) provided for the opening up of services such as leased lines to competition, but granted a temporary exception allowing monopolies on voice telephony to continue, subject to a reconsideration by the Commission in 1992. The Council's 1990 directive on Open Network Provision (90/387/EEC) set out a framework for the harmonization of access to public telecommunications networks and, where applicable, services and provided for a 1992 review of progress in this direction.

On the basis of this assessment, the Commission has found that, despite progress made since it published a Green Paper on the sector in 1987, a number of bottlenecks remain, in particular that telephone users are obliged to pay excessively high tariffs for intra-Community services. These are impeding the development of the internal market, and have a detrimental impact on cohesion as well as limiting the growth potential of the sector.

The European Community is characterized by the existence of 12 technically diverging national networks. Community-wide services cannot therefore be guaranteed solely by the full implementation of the competition rules and the freedom to provide services. There is a need for harmonization measures to ensure interoperability. Therefore, the continuity of Community telecommunications policy and the stable framework provided by the Green Paper for Community and national reforms must be maintained. This concerns, in particular, the principle of balance between liberalization and harmonization which has underpinned Community telecommunications policy since 1989. In accordance with this approach the Commission has analysed the situation envisaging the four following possible options for dealing with the problems identified:

Option 1: Freezing the liberalization process (which was started by the Green Paper and Commission directive 90/388/EEC), effectively maintaining the status quo.

Option 2: Introducing extensive regulation of both tariffs and investments at Community level in order to remove the bottlenecks and in particular the surcharge on intra-Community tariffs.

Option 3: The liberalization of all voice telephony, i.e. international (inside and outside the Community) and national calls.

Option 4: An intermediate option of opening up voice telephony between Member States on competition.

Option 1 (maintaining status quo) would involve a steady falling back of the Community market with regard to the United States and the Japanese markets and therefore does not seem acceptable. Option 2 could resolve some of the problems identified in the review by means of e.g. price-capping, but risks foregoing the efficiency gains of other options and furthermore would involve introducing extensive regulation at national and/or Community level. Option 3 and option 4 both represent substantial opportunities for moving forward, although their implications must be carefully studied.

The Commission's policy on telecommunications has always been to introduce competition gradually. Implementation of option 3 would depart from this approach by introducing full liberalization. The Commission considers, at this stage, that such an option would give rise to practical problems unless questions such as tariff rebalancing, access charges, etc. have been resolved.

Therefore option 3 can only be contemplated if introduced in phases. However, option 4 provides one of the possible intermediate steps which moreover provides a solution to one of the most serious bottlenecks identified in the Review (the "frontier" effect). At this stage, the Commission therefore considers that option 4 seems better suited than others to the fundamental objectives of the Community in this policy area.

In launching this consultation, the Commission seeks comments on all the options set out in this review. In particular, comments will be sought on the actions envisaged, the appropriate timescale, the maintenance and the expansion of universal access, and any specific situations which need to be taken into account.

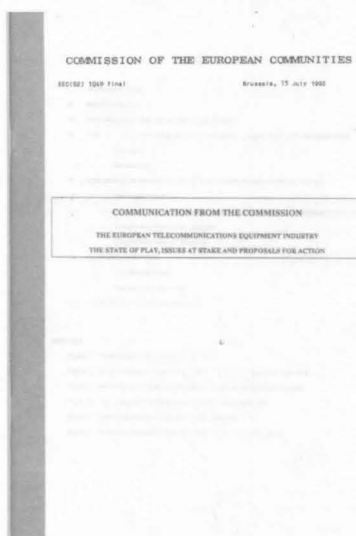
The European Telecommunications Equipment Industry

The state of play, issues at stake and proposals for action

An analysis of the European telecommunications equipment industry put forward by the Commission in July proposes several areas of action aimed at improving the competitiveness of this sector.

The paper is in line with the policy pursued by the Community since 1984, aiming to harmonize telecommunications policy in all the Member States, create the conditions for an equipment and services market at Community level, promote interaction between networks throughout the Community and encourage the development of the necessary technology, systems, standards and services to advance technological progress and cooperative research, (see article in XIII Magazine n°8).

This document is now available and can be obtained from:



Contact:

Jürgen Rosenbaum
CEC DG XIII-7
200, Rue de la Loi
B-1049 Brussels
Tel: +32 2 296 90 28
Fax: +32 2 296 90 37

Good prospects for specialized satellite services

A study recently carried out for DG XIII has evaluated the potential for Europe-wide specialized satellite services (SSS), which include IBS/SMS services, private multipoint VSAT networks, satellite news gathering and land mobile vehicle tracking services.

The study demonstrated that such specialized services can bring significant economic, strategic and indirect benefits to users. Satellite technology can be a highly cost-effective solution for users who need to connect with many geographically dispersed locations, undergo frequent network reconfiguration and/or communicate with mobile terminals. Significant strategic benefits include increased loyalty and effectiveness in organizations with multiple work sites through more direct, interactive, efficient and innovative means of communicating. A buoyant and fast growing SSS industry can create new employment in the communications sector, as has been the case in the cellular business.

A key result of the study is that specialized satellite services address demand which is incremental to that addressed

by the PTTs. To the extent that there will be some 'overlap' between SSS and traditional PTT offerings, this effect will be small. Most of the growth associated with SSS will thus be in new services - adding to, rather than substituting for, existing PTT offerings. The study clearly shows, for example, how SSS pose no threat to voice communications, the PTTs' core business.

Finally, the study by Booz, Allen & Hamilton confirmed the need for liberalizing Europe's SSS industry and for rapid policy action in this direction. The market is growing much more slowly than it could, and unless swift and incisive action is taken, Community industry - potential users of satellite communications and suppliers, both private and public - will be deprived of significant opportunities for growth and economic development.

Contact:

Hans Schoof
DG XIII-F1
200 Rue de la Loi
1049 Brussels
Tel: +32 2 296 86 10

The European Community and Space

In a recent paper the Commission has further informed the Council of its views on, and planned measures for, the European space telecommunications industry. This communication from the Commission to the Council, entitled *The European Community and space: the next steps*, was coordinated by DG XII, and addresses a wide area of issues related to space: earth observation, microgravity, space sciences, in-orbit infrastructure and manned space-flights, R&D, launchers and launch services, external relations and telecommunications.

With regard to the later, the paper outlines the perceived major weaknesses of the European industry and observes that "the underdevelopment of the European market and the weakness of European industry is the consequence of a regulatory regime that has restricted the potential growth of the satellite communications markets, together with a European internal market which is still fragmented". The communication briefly describes the Commission's proposals to remedy the situation (as laid down in the Green Paper on satellite communications) and the ensuing resolution of the Council, which encouraged the Commission to bring forward the necessary legal texts to implement the policy lines of the Green Paper.

The chapter on telecommunications concludes with a short summary of the main measures, now in preparation by the Commission. These include, firstly, the extension of the principles of competition to satellite terminals and services; secondly, the mutual recognition of type-approval to satellite terminals; thirdly, the mutual recognition of licences. In addition, the Commission is studying ways to improve access to the space segment and create a favourable framework allowing European industry to derive maximum benefit from the new opportunities resulting from the legislative measures.

Contact:

Tim Howell
DG XIII-F1
200 Rue de la Loi
1049 Brussels
Tel: +32 2 296 86 06

New research on global numbering launched

A draft resolution has been published by the Commission on promoting Europe-wide cooperation on the numbering of telecommunications services. This calls for the setting up of a European Numbering Office (ENO) within the CEPT framework which, it is envisaged, will carry out research and planning in relation to meeting the long-term needs of the European market for numbers and developing common European positions on global numbering issues. It also calls for the introduction of a European area code for telephony, for use in parallel with existing country codes. This would allow pan-European numbers (which could be dialled identically from anywhere in the CEPT area) to be made available for numbering pan-European services, which will be an important factor in their success.

Postage Stamp 92

When the Christmas post starts arriving, have a look at the stamps. Each of the 12 EC countries is issuing a special 1992 stamp to mark the advent of the single European market at the turn of the year.

The idea came from Britain, to mark the current UK Presidency of the EC Council of Ministers. And one of the first 1992 stamps to be unveiled, on 12 October, was the design by the UK's David Hockney. Showing a wobbly European star like a starfish on a blue swimming-pool background, it is the artist's first commission for the Royal Mail. He has also designed a novel pillar box, described as "Cubist".

The work of all the 12 artists chosen by the Member States is due to be displayed in an exhibition of the 1992 stamp series prepared by DG XIII, the Commission's department responsible for postal policy (see cover story in last issue of *XIII Magazine*). The exhibition is scheduled to open in Brussels on 12 November before moving on to London at the start of a tour of the Member States.

Before the tour has ended, the Community hopes to have an efficient European postal policy in place to speed the delivery of mail throughout the single market of 1993.

PROGRAMMES IN ACTION

ESPRIT NEWS

Esprit: new phase launched

With the approach of the annual Esprit Conference (23-27 November, see page 1), the third phase of the EC programme for research and development in information technology is now well under way. With the emphasis on industrial projects, this ECU 2.7 billion third phase of the programme will continue to promote cooperative R&D projects while focusing on well-defined strategic objectives and technology priorities that take full account of the fast-changing industrial scene.

A total of 212 new industrial projects have so far been selected for the new phase, together with 99 basic research projects and working groups and nine networks of excellence (groupings of research teams with common long term technological goals). More than 1650 companies and 720 universities and research institutes from all over the Community and EFTA submitted the

1259 project proposals received under the information technology section of the EC's 1990-1994 Framework Programme for research and technology development. A number of special actions have also been launched to promote higher awareness of particular technologies and their potential industrial applications in Greece, Ireland, southern Italy, Portugal, Spain and eastern Germany.

This third phase of the programme was formally approved by the Council of Ministers on 8 July 1991. It comprises four technological areas: microelectronics, information processing systems and software, advanced business and home systems with peripherals, computer-integrated manufacturing and engineering, plus basic research. The Commission has also launched an open microprocessor systems initiative (OMI) as part of the new phase.

Drawing on all other areas of the programme, OMI aims to extend the open systems concept to on-chip microprocessor systems and associated software.

The new phase will also see the start of several large-scale projects to pull together and focus technology advances in critical strategic areas. These include developing high-resolution liquid-crystal display technology (peripherals); developing IC design and manufacturing technologies for both standard ICs and ASICs (microelectronics); increasing the take-up of "best practice" software programming and engineering techniques, by disseminating information on advanced production methods and tools and providing training in their use (software); and taking advantage of the possibilities offered by advances in the field of parallel processing (high performance computing and networking).

SIMPR scores success in automatic indexing and information retrieval

RARE



The recently completed Esprit project SIMPR (2083) has delivered software that automatically indexes English-language documents using a novel natural language parser.

Conventional text retrieval software treats a document as though it is just a stream of unrelated characters. By comparison, SIMPR analyses the language in which a document is written and builds an index using key phrases identified by the software. SIMPR contains a knowledge base of indexing rules for English, although other languages can be implemented and the system has also been tested on Finnish and Dutch. Index phrases are transformed to overcome lexical differences; different indexing strategies can be used to tune indexing detail or to focus an index on particular kinds of information, such as maintenance procedures.

SIMPR can accept input marked up using SGML, so indexes can be specialized according to different document components such as headings or references.

SIMPR indexes are meaningful catalogues of precoordinated phrases that can be browsed through by information searchers. They can link directly to information stored in the same computer system, or can function as electronic directories to information held in external databases or printed documents or books.

Natural language indexing offers a cost-effective aid to the preparation of document and database indexes. It can be used as a stand-alone authoring or edi-

ting workstation, or can be built into DTP or word-processing systems to provide automatic indexing and search functions. It also forms a basis for continuing research into abstracting and classification systems, and into software to build semantic information models to support applications such as groupware or courseware systems, or to check document compliance with standards and style conventions.

This project was launched in January 1989 and ran for 42 months. Partners working on SIMPR are:

CRIS A/S (DK)
Nokia (SF)
Research Unit for Computational linguistics (SF)
Cap Gemini International Support B.V. (NL)
University College Dublin
Universidade Catholica Portuguesa
University of Strathclyde
Dublin City University
Universiteit van Amsterdam.

Contact:

Godfrey Smart
SIMPR
Peingown
Kilmuir
Isle of Skye IV51 9UB
United Kingdom

Tel: +44 47 052 243
Fax: +44 47 052 303

RARE statutes changed

As a consequence of the rapidly changing geographical situation in eastern Europe, RARE has changed eligibility for full national membership to include all countries in Europe. Non full national members joining the voting members of the association are Croatia, Hungary, Poland, Slovenia and Turkey.

Contact:

RARE Secretariat
Singel 466-468
NL-1017 AW Amsterdam

Tel: +31 20 639 11 31
Fax: +31 20 639 32 89

RARE



New publications

Proceedings of the 3rd Joint European Networking Conference, held in May 1992 in Innsbruck, Austria, have been published in a special issue of the Elsevier North-Holland Journal Computer Networks and ISDN Systems. Free copies are available from the RARE Secretariat.

Contact:

RARE Secretariat
Singel 466-468
NL-1017 AW Amsterdam

Tel: +31 20 639 11 31
Fax: +31 20 639 32 89

ISA-Demon open workshop

Monitoring and visualization of distributed systems

The ISA-Demon workshop will take place on 4 - 5 November at the University of Aveiro in Portugal. It is intended to provide a complete overview of Esprit project ISA-Demon (5199), which has developed tools for instrumentation, monitoring and visualization of architectures and applications concerned with the following concepts and techniques: multiple views or projections of systems or applications; distribution and transparency mechanisms; complex behaviour to be examined at different levels of detail; federated systems which include different domains of policy and control. ISA Demon will provide all functions and capabilities needed for an integrated tool deemed critical to the design

and development process, and also critical to the external presentation of projects. Pilot studies have demonstrated the value of the results and will form an essential part of the workshop. For further information and registration, please contact:

Ulrich Boes
DGXIII-A5
BU 31/2-38
200, rue de la Loi
B-1049 Brussels

Tel: +32 2 2968145
Fax: +32 2 2968387
e-mail: ubo@dg13.cec.be



Networking in a global context: 4th JENC

RARE (Réseaux Associés pour la Recherche Européenne) will hold its 4th Joint European Networking Conference in Trondheim, from 10-13 May 1993 at the Campus of the Norwegian Institute of Technology, part of the University of Trondheim. The theme of the conference, Networking in a Global Context, recognises the increasing need for network connectivity at a global level. Other topics to be addressed are lower layer technology, mail and messaging, network management, network applications, users, security, policy, funding and strategies. There will also be a presentation of status reports of national

initiatives and European projects. This year for the first time the conference programme will include tutorials in addition to demonstrations and a poster session.

RARE is launching a call for papers, posters, demonstrations and tutorials in preparation for this conference. The programme will include a combination of commissioned and other submitted papers.

During the conference, there will also be an opportunity for participants to present their project of activities in the form

of a demonstration either as part of their presentation or separately. Requests for demonstrations should be made through the RARE Secretariat, specifying technical requirements.

Contact

RARE Secretariat
Singel 466-468
NL-1017 AW Amsterdam

Tel: +31 20 639 11 31
Fax: +31 20 639 32 89

New working groups established

RARE has been reorganizing its structure. Technical work will from now on be carried out by working groups (long-term platforms for discussion and education) and task forces (ad hoc teams carrying out short-term projects). All activities will be managed by the RARE Technical Committee, comprised of 10 experienced networking specialists from the RARE community and chaired by the RARE Secretary-General. The following new working groups have been established:

Character Sets (WG-CHAR): Issues related to the development of services supporting a variety of character sets in

an international environment.

Multimedia (WG-IMM): The promotion of new services and the enhancement of existing services to make full use of emerging multimedia technologies.

Information Services & User Support (WG-ISUS): The development of networked information services and support for users who are not computer specialists.

Lower-Layer Technology (WG-LTT): Issues relating to the area of Lower-Layer Technology, i.e. layer 1 up to and including layer 4 of the OSI-RM.

Messaging Services (WG-MSG): The

promotion and development of mail and messaging services.

Network Applications Support (WG-NAP): The development of the infrastructural support needed by distributed applications (e.g. directory and time services).

Network Operations (WG-NOP): All issues relating to the problems of everyday network operations.

Security Technology (WG-SEC): The development and promotion of basic technology and procedures needed to enhance network security.

RARE welcomes interest from anyone who may wish to join one of the above-mentioned working groups.



Y-Net X.400 E-Mail service: new user interface

The Y-Net Management Unit has decided to provide Y-Net direct users with a new user interface, currently under development and due to be launched during the Esprit Conference in Brussels (23-27 November 1992).

The new Y-Net user interface, developed after consultation with users, harmonizes the different manufacturers' systems (Bull, Olivetti and Siemens Nixdorf) offered throughout the Member States into one package: Windows-based, the user interface is a powerful communication program which will enable even the most infrequent or inexperienced Y-Net users to connect automatically to their mailboxes any time during a 24 hour period. For ease of use, the screen is divided into "basket icons" through which the user navigates using the function keys or mouse.

There are eight pre-defined icons containing specific information and up to 16 baskets available for creating a filing system for messages. When in communica-

tion mode, the program allows multiple file transfer of text and binary such as Wordstar or Lotus as well as connection to other systems for receiving and archiving messages into different baskets. The programme can be personalized. It includes a text editor particularly useful for writing short messages. In the future it will also include the capacity to compress/decompress binary and ASCII files before/after transmission via Y-Net.

A separate improvement to the Y-Net service is the continuing development of a statistics tool to monitor use of the Y-Net service. During a preliminary special software will be installed in all Y-Net Service Points to produce a monthly statistical report, written in a common form and including also some graphics.

A new Service Point was opened recently in the Netherlands; it is operated by SURFNet.

Popularity of Y-Net continues to grow: there are now 900 Y-Net direct users taking advantage of the X.400 mailbox

service. The number of X.400 private domains connected to Y-Net is now around 60 and all the X.400 PRMD have passed some interoperability tests to prove the ability of interworking. This is an impressive example of the reality of the Open Systems architecture!

All the users are kept informed on events through the *Y-Net News*, the first issue of which was distributed during August.

Contact:

TELEO/YMU
Carlo Berrino
Y-Net Project Manager
Rue du Trone 12
B-1050 Brussels

Tel: +32 2 514 3132
Fax: +32 2 511 7320
e-mail: C=BE;A=RTT;
P=Y-NET;O=SP1;S=YMU

JESSI at Electronica 92

JESSI (Joint European Submicron Silicon) will give a major presentation on its current developments on 11 November at Electronica 92, the international Munich trade fair for components and assemblies in electronics, including the latest status of the programme. A complete review will be given, cooperation between project partners and public authorities will be addressed and highlights in certain projects areas will be presented.

Contact:

JESSI Office
Elektrastrasse 6a
D-8000 München 81
Fax: +49 89 92808212

Flexible and Distance Learning



A state-of-the-art report on the implementation of new technologies in distance learning has been commissioned and carried out by DGXIII through the Delta programme (Development of European learning through technological advance). It gives a comprehensive and detailed view of their current use worldwide, with particular emphasis on training and retraining of staff.

The report discusses promising trends and developments in flexible and distance learning, and describes the current use of advanced information and telecommunications technologies for training and education needs. Covering the broad range of learning models available, including on-the-job, just-in-time and vocational training, this overview of the field is unique.

The report is illustrated by case studies and includes numerous examples of flexible and distance learning initiatives.

Contact:

John Wiley & Sons Ltd
Baffins Lane
Chichester
West Sussex PO19 1UD
UK
Tel: +44 243 77 97 77
Fax: +44 243 77 58 78

RACE to CeBIT

The next CeBIT exhibition, in Hanover on 24-31 March 1993, will include a major display of Race activities and achievements.

To complement displays organized by Race participants on their own stands, the Commission will be taking a prominent stand entirely devoted to the activities of this EC R&D programme in advanced communications technology.

The objective is to take visitors into the future of European telecommunications, to exhibit working demonstrations and applications of integrated broadband communications (IBC) and to highlight the benefits of these in terms that any person visiting CeBIT can easily understand.

For Race exhibitors, there is an opportunity to use the CeBIT facilities to demonstrate real advanced communications links from their stands to the Race stand - perhaps right to the site of the various companies' demonstration or application pilot projects, be it in Stuttgart, Berlin or Paris. The 250 sq.m. Race stand will show where all the programme's participants may be found at the exhibition. It will link these displays together and give a complete picture of major Race results. Space is likely to be at a premium on the Race stand. The stand will focus on audiovisual presentations, where visitors can experience all the Race demonstrations linked from other stands or see the recorded material of other projects.

World-wide coverage for RACE

The Electronics & Communication Engineering Journal forms part of the IEE's (Institution of Electrical Engineers) professional publishing structure and is aimed at the practising professional engineer involved in electronics and communications. It aims to keep its readers up-to-date by providing coverage of new work in a serious technical, but not over-formal or academic, manner at a level which will be informative to other workers in the area and also interesting and readable to engineers active in other fields of electronics and communications. Currently it has a circulation of about 7000 copies per month throughout the world.

Extra pages in the ECEJ have been allocated for a section containing papers from the EC's Race programme. The first of these special sections was published in the August 1992 issue, with invited papers describing Race demonstrators. Normal papers are now invited from any other area of work in Race I or Race II. The ECEJ has relatively short deadlines

The Race community at CeBIT 1993 could record a first for Europe by itself operating a working "Integrated Broadband Communications environment", a microcosm of what will follow in future years.

The Conference

On 29-31 March, there will be a Race Conference in the centre of the CeBIT fair. This will be a major event, strongly promoting the objectives and the major achievements of the programme to an audience drawn world-wide from all the key participants in IT and telecoms.

Keynote presentations, plenary sessions, working groups and panel discussions are all foreseen. The conference language will be English. Speakers will be invited from the Race community to present the key programme results, seen as significant from either a technical or socio-economic point of view.

Contact:

Nick Heenan
CEC-DGXIII-F2
Tel. +32.2.296.34.53
Fax +32.2.295.06.54
or
Jürgen Rosenbaum
CEC-DGXIII-F7
200, rue de la Loi
1049 Brussels
Tel. +32.2.296.90.28
Fax +32.2.296.90.37

and world-wide circulation. All articles are included in the INSPEC database. The aim is to maintain a high standards in the journal so that it will be recognised as an international focus for Race papers; all papers will be independently refereed. A special advisory panel has been set up to advise the IEE on producing this Race-related material; it comprises the following people who have a wide range of experience in Race projects: Dick Brandt (PTT Research), Laurie Cuthbert (QMW), Günter Heydt (Heinrich Hertz Institute), Josie Scarr (PTT Research), Hans de Boer (PTT Research)

Contact:

Engineering Journal
Michael Faraday House
Six Hills Way
Stevenage
Herts SG1 2AY
United Kingdom
Tel: +44 438 313311
Fax: +44 438 313465

EG-LIB taxonomy approved



During the 17th Technical Assembly of EWOS (European Workshop on Open Systems) in Brussels, on 12 - 13 May, EG-LIB, responsible for developing communication profiles for libraries, received the unanimous approval of the EWOS members on its new taxonomy. EG-LIB is the EWOS Expert Group on Libraries, one of the first application oriented workgroups at EWOS. The taxonomy is the list of profiles to be developed; it mainly concerns the two protocol standards for libraries, Interlibrary Loan (ILL - IS 10160 and 10161) and Search & Retrieve (SR - IS

10162 and 10163). The development of these profiles will be carried out jointly by the EWOS EG-LIB and by IFOBS, the International Forum on Open Bibliographic Services. This cooperation will ensure a harmonized set of options for North America and Europe. The target dates for drafts of the first profiles on ILL are February and September 1993.

In parallel, the Expert Group has drafted a letter of introduction to its activities to ensure a proper and continued participation of library and communica-

tion experts to the group. This has been sent to a large mailing list and has been made widely available to recent workshops. The Libraries unit in DG XIII has also co-financed an OSI training course in Lisbon, organized by the Danish Standard Association, to generate the expertise and foster the use of the standards in the libraries field, especially in the southern countries.

Contact:

Fabrice Debart
CEC DGXIII
L-2920 Luxembourg
Tel: +352 4301 3251
Fax: +352 4301 3530

Scientific and technical information: IRDAC recommendations



Action to develop the market for scientific and technical information (STI), one of the activities of DG XIII in Luxembourg under previous programmes, is continuing under the Impact programme. When the main phase, Impact 2, began at the end of December 1991, Community efforts in this area were reassessed through a round table discussion in the framework of the Commission's Industrial R&D Advisory Committee, IRDAC.

Held on 13 March in Brussels under the chairmanship of Mr Farge, vice-president of Péchiney and IRDAC chairman, the discussion was attended by about 40 invited representatives of European industry, as well as two invited speakers from the USA and Japan. The conclusions of this meeting have taken the form of recommendations from IRDAC to the Commission. In summary, the recommendations lend support to Community involvement but stress that the Commission must focus its efforts and resist engaging in

activities subject to market forces. On this basis there was support for continuing present efforts.

Closer interaction is recommended between the main actor groups involved in STI users in industry and academia, information providers and hosts, and government and Community institutions. Although Europe is not felt to be in a situation of STI dependency in relation to the USA and Japan, the need for achieving a mutual interdependency is considered important. It is suggested that the Commission initiate closer cooperation with appropriate bodies in the USA and Japan to improve access rights and to set up joint development projects in specific areas. Finally, a number of more specific recommendations have been made, such as improving the perception of information as a strategic resource, especially in SMEs; a proposal for studying the information flows in industry more closely in view of establishing user needs, with particular attention to SMEs; a request for the Commission to improve internal integration and coor-

dination of the information aspects of its various R&D programmes to ensure better dissemination of research results; actions to improve user awareness, to improve database quality and reliability and actions to improve communications infrastructure and lower the costs.

A free copy of the recommendations may be obtained from the IRDAC Secretariat or from the contact address below.

Contact:

Martin Littlejohn
CEC DG XIII/E2
L-2920 Luxembourg
Tel: +352 4301 2187
Fax: +352 4301 3190

IRDAC Secretariat
200, rue de la Loi
B-1049 Brussels
Tel: +32 2 2353966/2351057
Fax: +32.2.2354361

Interactive Multimedia Information Services

A call for proposals was launched in June 1991 under the Impact programme for shared-cost projects to produce interactive multimedia information services aimed at a wide consumer and professional market focused on four themes: European art, general knowledge of Europe, human health issues and aids for maintenance of technical equipment. A total of 317 proposals were received, involving 1,158 participant organizations in all 12 Community countries and representing an estimated total cost of more than ECU 187 million compared with the ECU 6.5 million available. Of

the proposals received, 163 were in the area of general knowledge, 55 in the area of European arts, 70 in human health issues and 29 in the area of technical maintenance. The largest number of submissions came from Italy (72) followed by France (52), United Kingdom (48), Greece (29), etc.

The applications were assessed by 23 evaluators drawn from all Member States who shortlisted more than 50 proposals. Contract negotiations are expected to start shortly. It is envisaged that the definition phases for all finally selected projects will start on 1 January and

finish on 30 June 1993. After the evaluation of the results of the definition phase, a 1-year implementation phase is envisaged. Cost-shared financing of the implementation phase is foreseen up to a maximum of ECU 250,000 per project.

Contact:

Gunter Steven
CEC DG XIII/E
L-2920 Luxembourg
Tel: +352 4301 2873

Impact launches new training campaign

Part of the EC's Impact 2 (Information market policy actions) programme addresses the objective of "improving information literacy". In this context, the Commission has recognised the need for further actions to increase the awareness and use of electronic information services for professional purposes. Specific problems exist related to training in the "less-favoured" regions, where the infrastructure for this type of training is less developed. The first of a series of kick-off projects will create a network of skilled trainers in these regions. These will later train intermediaries, who will then be prepared to serve the end-users who have been made aware of electronic information services via the national awareness partner campaigns of the Impact programme. The training activities should result in increased consultation of electronic information services. The first phase began with a call for tenders for the training of trainers in

I'M-Guide expands distribution network

Plans are under way to distribute the printed version of the I'M-Guide throughout Member States via the Impact programme's National Awareness Partners (NAPs) network. This is the comprehensive directory of the European accessible online at ECHO and also now available in printed form.

Continuously updated with information collected by partners throughout Europe, I'M-Guide currently contains data on more than 5000 products including more than 2400 online databases and about 2000 CD-ROMs and CD-I products. It lists more than 2200 companies participating in the information market and almost 1000 information brokers.

It includes data concerning east Europe as well as some of the EFTA countries. The database represents a valuable source of information with which to monitor the developments of the European information market. In addition to obtaining the full coordinates related to a specific product or service, enabling the user to make contact with the appropriate source, abstracts are provided describing the content of databases, CD-ROMs, etc.



the less-favoured regions, published in the Official Journal of 11 July, for which a decision is expected this month. This foresees the development and execution of 10 modular training courses: two each in Greece, Ireland, Italy, Portugal and Spain. In selecting participants, the Commission is inviting the cooperation of Member States through the Impact Programme Committee (IPC) and the National Focal Points (NFPs) for the Impact programme, to draw up a list of potential participants. Implementation of the initial phase will start in January 1993, with 2-3 week courses conducted in the participants' own language.

Contact:

D. Deberghes
CEC DG XIII/E
L-2920 Luxembourg

Tel: +352 4301 4725



The printed version contains a subset of the data available in the database on the date of publication. As the database is updated twice a month, it is useful to check the database regularly for latest changes, as the printed version will not include all new or amended records.

Readers are reminded that most of the information in the database is available in all nine official languages of the European Community, the exception being abstracts where translation may delay the delivery of the continuously updated data.

I'M-Guide is accessed online by using the public password "ECHO" and choosing main menu option 2 for IMGUIDE.

Contact:

ECHO Help Desk
PO Box 2373
L-1023 Luxembourg

Tel: +352 3498 1200
Fax: +352 3498 1234

Innovation in the Nineties

The Palais des Congrès in Brussels was the venue for the Sprint Conference organized by DG XIII on the theme of Innovation in the Nineties on 22-23 June. A small accompanying exhibition provided an opportunity for several units of DG XIII to increase awareness of their activities among the international delegates present.

A combined stand with the slogan "Open Information for Europe" offered information on three DG XIII programmes: Impact 2, Libraries, and Language and Technology. Documents distributed to attendees representing industry, academia, administrations and the Commission itself were supplemented by four active project demonstrations: Japinfo Carte Info, 500 Years After and MIM.

Within the framework of the Language and Technology programme, Japinfo contains 50,000 abstracts of unpublished ("grey") Japanese articles in 25 subject fields translated into English via post-edited machine translation. The Carte Info project, piloted by Carte Expert under Impact 1, offers a telematic information service accessed via a videotex terminal or microcomputer. The service presents 150 basic business information needs (e.g. client credit rating, a potential partner's shareholders, financial results of a competitor, exchange rates). 500 Years After, another Impact 1 project, has produced a collection of CD-I discs providing interactive access to a wide range of multimedia information in four languages on subjects such as geography, environment, anthropology, art, culture and science, relating to Latin America and Europe and with reference to their historical context.

The MIM (Multilingual Interrogation Mock-up) project, implemented on ECHO (European Commission Host Organization), enable users to search the People's Europe database in the language of their choice (from English, French and Italian) and to receive full-text data in the other languages of the database. Further benefits for the user would be available if the application had the additional capacity to translate the retrieved data into the native language, or language of choice, of the interrogator.

Contact:

Axel Szauer
CEC DG XIII/B
L-2920 Luxembourg

Tel: +352 4301 3526

STANDARDIZATION

Euromethod project phase 3

An EC initiative which should help significantly to reduce the costs of information systems development was launched this summer.

The Euromethod project - to develop a common understanding of methodologies for planning, developing and maintaining information systems - has now entered its third phase. Phase 1 involved joint discussions between the Commission and EC Member States, and in phase 2 a feasibility study was completed. The objective of phase 3 is to produce a framework and guidance materials covering the entire systems development lifestyle.

Many benefits are expected to result from the existence of Euromethod. Customers buying information systems should be able to use it to define their requirements in a way which is universally understood - particularly in international open tender situations. Systems developers will be able to be increasingly confident that they are developing systems which meet their customers' needs. Throughout Europe, the public sector currently spends around a billion Ecus every year on procuring information systems. Once Euromethod is complete, public sector

customers will be able to use it to ensure that they are getting the best value for money in their procurements.

The Euromethod project is funded by the Commission on behalf of the Member States and is valued at just under ECU 3 million. The project is being carried out by the Eurogroup consortium, consisting of 10 partners from eight different Member States, and can call on a pool of expertise from within the specialist consultancy and academic communities. Sema Group (France) is coordinating the project and other consortium members are: British Telecom (UK); CGI (F); Datacentralen (DK); EMSC, formed by Bull (F), Olivetti (I) and SNI (D); Eritel (E); Finsiel (I); INA (P); Softlab (D) and Volmac (NL).

Over the next 18 months the Paris-based project team, drawn from the members of the consortium and led by Sema group's Marcel Franckson, will be producing the project deliverables. Before release they will be subjected to an extensive quality assurance, both from within the consortium and from a board representing the Commission and Member States. The board will also be responsible for ensuring that the inte-

rests of parties outside the consortium are represented and taken into account for further Euromethod developments. Summing up the ideas behind Euromethod, DG XIII's Robert Lobell explained that "with the aid of the Euromethod framework and guidance materials, customers for information systems should be able to have their particular requirements satisfied at the best price. Suppliers in the international market place should be able to understand fully the needs of their customers and ensure that they are met by the information systems they deliver."

Contact:

Leo Vollebregt M.Sc
Volmac
Marketing Director Euromethod
Tel: +31 30 526 361
Fax: +31 30 543 143
or
Robert Lobell
CEC-DGXIII-C5 "APITS"
Tel: +32 2 29 68984
Fax: +32 2 29 68998

IT&T Testing and Certification: Europe-wide system to be established

In May work began on a project to create a harmonized system within the EC and EFTA countries for voluntary conformance testing and certification in information technology and telecommunications (IT&T). This work arose out of the need to ensure a level playing field in procurement of IT&T products across Europe, and to ensure that the requirements placed on manufacturers and testing laboratories were not arbitrarily different in different countries.

The work also covers convergence between the evolving voluntary testing and certification systems and implementation of the terminals directive (91/263/EEC) for regulatory testing for placing networks on the market. This will further rationalize the requirements on manufacturers and testing laboratories who wish to operate in both the voluntary and regulated sector. Another topic to be addressed is the harmonization of European systems with corresponding systems in other regions of the world.

The main objective of the work is to implement mutual recognition schemes for testing laboratory and certification body accreditation for testing services and for certification bodies. As a result, test reports from any participating testing laboratory should be acceptable for certification purposes, and certificates issued by any participating certification body should be acceptable for procurement purposes in any Member State.

The work involves a number of different European organizations. The European Committee for IT&T Testing and Certification (ECITC) is responsible for coordinating the work and the European Organization for Testing and Certification (EOTC) is involved in all policy matters. Laboratory accreditation involves the national accreditation bodies, coordinated through the Western European Laboratory Accreditation (WELAC). ECITC Agreement Groups are involved in all aspects of testing and certification, while CEN, CENELEC, ETSI and

EWOS are involved where standardization is required. Accreditation of certification bodies involves the organization European Accreditation of Certification (EAC). Regulatory aspects of the work involve the European Committee for Telecom Regulatory Affairs (ECTRA) and the Association of Designated Laboratories and Notified Bodies (ADLNB).

The first phase of the work, which is mainly concerned with planning, will run until the end of 1992 and the second (implementation) phase is expected to last from early 1993 to mid-1994.

Contact:

Jose Pato or Anne Deberdt
CEC DGXIII E4
Rue de la Loi, 200
B-1049 Brussels

Tel: +32 2 296 82 93
+32 2 296 89 96

Conformance Testing Services fact sheets.

The Commission has issued a set of detailed technical fact sheets on its CTS (Conformance Testing Services) programmes. A video on CTS entitled "Beyond standards - Conformance testing services" is also available.



Considerable efforts have been made by the Community since 1983 to develop one of the key ingredients required to promote the objectives of economic integration in IT and telecommunications: a standardization policy aiming at opening the markets to the free circulation of electronic equipment and the implementation of trans-European telecommunications services. Testing and certification represent an essential component of such a policy. The Commission launched the CTS programme in 1985 to provide tools and facilities to meet the growing market requirements for testing services, as a means of paving the way to an open market for truly interoperable IT and telecommunications systems. The last phase of this programme was launched in May. It covers both IT and telecommunications subjects and is aimed at providing testing services for those standards which have most recently come to maturity.

Contact:

Yves Domzalski
CEC DG XIII/7
200 Rue de la Loi
1049 Brussels

Tel:+32.2 296 9015
Fax:+32.2 296 9037

Certificat

The very first information system on certification within Europe, *Certificat*, has been devised in order to satisfy, in a clear and exhaustive manner, the information needs of companies in all countries regarding the mandatory or voluntary certificates in force in Europe.

* What are the certified products within the framework of the AENOR mark in Spain?

* What are the certified products in Germany, Denmark and Switzerland in the field of electrical household equipment?

* What are the contact points in France for the certification of construction products? Are there any European directives in this field?

Certificat has been developed thanks to the active backing of the Commission, EFTA and of the European Committee for Standardization (CEN). It is the result of the collaboration between the standards institutes and associations of certification bodies of the European countries (EC and EFTA).

Certificat groups together all the data concerning the bodies (names, addresses, activities), the certification systems (products, personnel, quality), product certification (description of the procedure, mandatory or voluntary nature), the bibliography of the reference texts, presentation of the certification body in each country and certification news.

Contact:

AFNOR
Tour Europe - Cedex 7
F-92049 Paris La Défense

Creating the standards that Europe needs

Following the success of the joint CEN/CENELEC/ETSI Forum on the European standardization system held on 3-4 December 1991, the three European standards bodies are hosting a new forum entitled "Standards for Europe - 1993 and onwards" to be held on 9-10 November 1992 in Brussels.

This forum - open to users, trade and industry organizations, consumer groups, manufacturers and other with an interest in the European standardization process - explains the role of standards in a world-wide context as well as giving general information on the work of the three European standards bodies.

This forum is organized through the initiative of the Joint Presidents Group (JPG), CENELEC, the European Committee for Electrotechnical Standardization which deals with standardization in the field of electrotechnology, ETSI, the European Telecommunications Standard Institute, and CEN, the European Committee for Standardization, the multi-sector body responsible for standardization in all other areas. It offers an informative outlook through speakers' presentations and aims to consolidate the open dialogue between regulators and users that characterized last year's conference.

It is an opportunity for market players outside the membership of the three European standards bodies to contribute actively and influence the standardization process through an open exchange of views. This conference is considered by all three bodies as an important link between the market's requirements for harmonized products services and the European standardization process.

The three main themes of the conference will be: research and development and standardization; global standards: the relationship between European standards and global markets; conformance assessment: testing, certifications, marking.

Contact:

Christopher Corbett
ETSI, JPG Secretariat
06921 Sophia Antipolis Cedex,
France
Tel:+ 33 92 94 42 00
Fax:+ 33 93 65 47 16

ETSI Reference Documents Catalogue

European Telecommunications Standards, ETSI Technical Reports, GSM Specifications - July 1992

Markets and market needs are constantly evolving: this catalogue gives an overview of the technical specifications as they exist and are available today. It contains all types of ETSI referenced documents: European Telecommunications Standards (ETSS), ETSI Technical Reports (ETRs) and GSM Recommendations. All specifications presented in the catalogue have been approved by the relevant

technical committee. Some have completed the ETSI standards approval procedure and been officially published as bona fide ETSS, others are still in draft form but are already available to the public.

Contact:

Christopher Corbett
ETSI
06921 Sophia Antipolis Cedex
France
Tel: +33 92 94 42 00
Fax: +33 93 65 47 16

EUROPEAN DIMENSION

New Commission guide on training for technology

A guide to training for the introduction of new product and process technology has been published by the Commission. It lists in detail all such technology training supported by the EC through the Comett programme for cooperation between Community industry and universities, including technological institutes.

All Comett projects are transnational in nature and involve training in technology (particularly advanced technology), covering subjects ranging from cosmetics to construction and the environment to telecommunications. They are developed through university-industry cooperation. During the first phase of the programme some 2,000 training products were supported and more than 1,200 training courses held, involving more than 30,000 people throughout the 12 Member States.

Results of the Comett projects are usually produced in several languages and

include training materials, studies, databases and newsletters. Comett training courses may be short and intensive or long and modular, and training materials take many forms - publications, software packages for computer-based training, audio or video cassettes, simulation programmes, interactive video and CD ROM. It is estimated that 100,000 people and 7,000 organizations, including universities and enterprises, benefited from this programme under Comett I.

Comett projects also extend beyond training to include the production of a number of studies. Programmes such as Comett make a valuable contribution by providing trainees with a choice of training so they can choose that best suited to their needs and circumstances. The Catalogue of Outputs includes traditional methods of training and also offers materials for distance training.

Commission approves joint venture in the telecommunications equipment industry

Ericsson and Ascom Holding AG (Ascom) are to form a joint venture, Ascom Ericsson Transmission AG, which will be engaged in the field of public line transmission, mainly in Switzerland.

Ericsson is a Swedish group which operates in the telecommunications sector and related fields. Ascom is a Swiss electronics and telecommunications group, the ultimate parent company of which is the Hasler Foundation.

The joint venture has been examined under the Community's merger regulation and the Commission has concluded that the operation is not incompatible with the common market, since it affects competition in the Community only in the long term and not significantly.

INTERNATIONAL PERSPECTIVE

EIB loan for Bulgarian telecommunications

The European Investment Bank (EIB) is advancing ECU 70 million for the modernization and expansion of the Bulgarian telecommunications network.

The 17-year loan to the Bulgarian Post and Telecommunications company will help upgrade the national telecommunications system to provide the level of service required by an evolving market economy and the increasing role of international trade. The work being supported will improve the quality of the existing service and connect high-usage subscribers, mainly business, to a new digital

overlay network. It includes the introduction of digital telephone and telex exchanges, as well as optical fibre and microwave radio transmission systems.

This is part of a three-year priority investment programme drawn up by the EIB with the support of the Phare programme in cooperation with the European Bank for Reconstruction and Development (EBRD) and the World Bank, which also provide financing. This is the EIB's second loan in Bulgaria, following ECU 40 million provided earlier this year for the completion of the 210

MV lignite-fired generator at Maritsa East II power station in the south-east of the country. It brings to ECU 750 million the total EIB financing in the five central and eastern European countries.

The European Investment Bank's board of governors has authorized lending of up to a combined ECU 1.7 billion in Bulgaria, CSFR, Hungary, Poland and Romania as part of the Community's programme to help these countries in their move towards market-oriented economies. EIB lending in the region complements the European Community's assistance programme, Phare which is managed by the EC and provides grants.

EC telecoms - cooperation with Russia

A delegation from DG XIII, led by Director-General Michel Carpentier, visited Moscow in July to discuss an EC assistance programme in the field of telecommunications for which some ECU 5 million has already been earmarked for 1992. In discussion with the Russian Minister of Communications, Mr V. Bulgak, who had visited Brussels in May, the team aimed to identify concrete steps for implementation of the programme. The following programme components were identified: regulatory and

sector structure development, network development and training. The latter would include help with setting up a training centre on new information and telecommunication technologies within the Moscow Technical University of Telecommunications and Informatics. In addition, a joint working group on standardization will look at ways of ensuring the convergence of standards for telecommunications systems, transmission and switching equipment. In separate meetings with the Ministry of Science and

the Russian Academy of Sciences, the delegation discussed joint activities in the IT field, in particular related to high performance computing. Some of these could already start this year. Following the trip, officials from both sides are examining the possibility of signing a Memorandum on Cooperation to reinforce links between the Commission and the Russian communication ministry. Another Commission delegation has held talks with representatives of the Ukraine, which can expect to receive ECU 1-2 million for a similar programme to improve telecommunications.

PUBLICATIONS

Correct hardware design methodologies

P. Prinetto & P. Camurati - 1992
Elsevier Science Publishers B.V. -
ISBN : 0444893679

The increasing interest in formal verification of hardware is evident in academic and industrial research efforts, multinational research projects and conferences. These proceedings contain the papers presented at the advanced research workshop on correct hardware design methodologies organized by Esprit basic research action 3216 and the Politecnico di Torino in Turin on 12-14 June 1991. The emphasis of this workshop was on the practical impact of formal VLSI design and verification.

Contact:

Elsevier Science Publishers B.V.
Sara Burgerhartstraat 25
P.O.Box 211, 1000 AE Amsterdam
(NL)

Scanning Microscopy

Symposium Proceedings

R Kassing, University of Kassel, FRG (Ed.) 1992. X, 207 pp. (Esprit Basic Research Series. Ed.: Commission of the European Communities) ISBN 3-540-55696-6

The field of scanning microscopy was given a strong boost with the award of a Nobel Prize in 1986 to Binnig and Rohrer for their invention of the scanning tunnelling microscope. Microscopic techniques are used not only for research work in material and life science but also for routine applications in almost all vital sectors of everyday life. The demand for better understanding of materials and of all aspects of human life initiated an ongoing development of improved microscopic techniques. In particular, expanding the capability to access nature's foundations at the atomic level is now recognized as having

Human-computer interaction information available on CD-ROM

The Human-Computer Interaction (HCI) Service in Loughborough has published a leading source of information on research and development in HCI, containing hard copies of items in its collection with full bibliographic details and abstracts in an on-line/CD-ROM database with free-text searching capabilities.

HILITES contains more than 30,000 items, growing by over 300 items per month: books, journals and conference proceedings and research reports from industrial and academic research groups around the world. It offers access to an on-line database containing references with abstracts of items in the HILITES collection. The HILITES collection is now available as a CD-ROM, containing 25,000 items covering HCI from the mid-80s to late 1991 (updates available annually). It offers access to an on-line database containing references with abstracts of items in the HILITES collection. In addition, users have access to fortnightly accessions lists giving details of recent acquisitions and special services such as assisted personalised searches,

information interpretation and the supply of copies etc.

Esprit consortia contractors benefit from a 20% discount on the normal price of the CD-ROM during an introductory period. The price for commercial contractors is £460 (ECU 695), normally £575 (ECU 875), and for academic contractors £385 (ECU 590), normally £485 (ECU 745).

Contact:

Peter Reid/Kathy Philips
The HCI Service
PO Box 31
Loughborough LE11 1QU

Tel: +44 509 264083
Fax: +44 509 234651
e-mail: P.Reid@lut.ac.uk, K.E.
Philips@lut.ac.uk

Europe in the Round

Europe in the Round is a large information system on study and work, plus background information, on the EC and the Member States.

It comprises three main strands: study and research, including details of relevant EC programmes; background information, including maps, gazetteer of places, history, currency, education, population, employment, industry and trade; and work, with special reference to mutual recognition of qualifications and aspects of mobility across national boundaries.

Europe in the Round is available for Apple Macintosh computers, using HyperCard 2.1 (high-density floppy disc or CD-ROM) and IBM-compatibles running Windows 3.0 using Toolbook (only on CD-ROM).

Contact:

Sales Department
Vocational Technologies Ltd
32 Castle Street
UK-Guildford GU1 3UW

Tel: +44 483 579472
Fax: +44 483 574277

major potential impact in information technology.

This collection of invited papers is based on the IMO Symposium Fall '90, Wetzlar, FRG, October 1 - 2, 1990, which brought together leading scientists in scanning microscopy from research institutes and industry. The papers on the techniques of scanning microscopy and on current applications, including results of recent Esprit basic research actions, provide a complete overview of the state of the art and perspectives for future developments in the field.

Contact:

Springer-Verlag
Heidelberger Platz 3
W-1000 Berlin 33
Germany

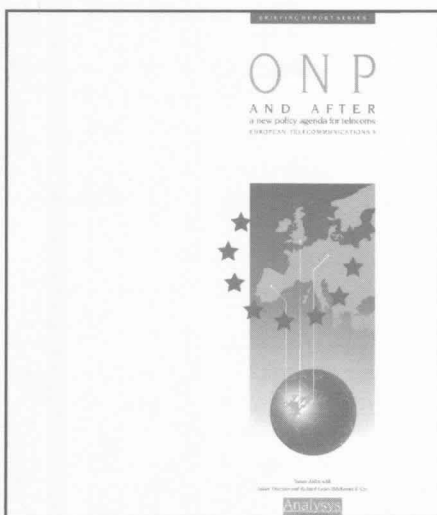
ONP and After: a new policy agenda for telecoms

Susan Ablett with Julian Thurston and Richard Eccles. 1992. 113 pages. ISBN 1 871953 07 3.

In the run-up to the deadline for the single European market, the EC's telecoms policy-makers have stepped up the face of change. In particular, they have launched a major review of the key legislation - the framework directive on Open Network Provision (ONP) and the services directive. The third in Analysis Publications' reports on European telecoms regulation makes the case for a serious commitment to increased liberalization and competition in these reviews. The report argues that a competitive single European market for telecoms will ensure the rapid take-off of advanced communications networks and services, enabling Europe to compete more effectively in world markets.

The report provides a country-by-country survey of progress on implementation of key EC telecoms legislation in the Member States. It also examines

the legal measures available to organizations wishing to enforce their rights against Member States. Lawyer Julian Thurston and EC lawyer Richard Eccles of McKenna & Co argues that undertakings which are disadvantaged by the failure of Member States to implement directives properly and on time may be able to take court action to remedy that Member State's failure to act.



Contact:

Nick Gray
Analysis Publications
8-9 Jesus Lane
Cambridge

Tel: +44 223 460600
Fax: +44 223 460866

A Natural Language and Graphics Interface

Results and perspectives from the ACORD Project

G.G. Bès, Université Blaise Pascal Clermont II, Clermont-Ferrand, France; T. Guillotin, IBM France, Paris, France (Eds.)

1992. VII, 188 pp. (Research reports Esprit. Ed.: Commission of the European Communities. Project 393, ACORD. Vol. 1) ISBN 3-540-55675-3

This book presents important results from Esprit project 393 on the construction and interrogation of knowledge bases using natural language text and graphics (ACORD). The

project involved more than 50 people over five years, and included industrial and academic partners from three countries.

The main result of the project is a highly sophisticated human-machine interface allowing the construction and interrogation of a common knowledge base in English, French and German, using both natural language and graphics. Chapter 1 presents an overview of the project. Chapters 2-4 develop specific issues concerning the grammar models used (functional grammars and unification categorical grammars). Chapter 5 discusses anaphora resolu-

tion and chapter 6 text generation. Chapter 7 explains the integration of text and graphics and chapter 8 discusses the knowledge base module.

The contributions are theoretically oriented and strongly concerned with generalization and the background of potential further developments.

Contact:

Springer-Verlag
Heidelberger Platz 3
W-1000 Berlin 33
Germany

Geographic Database Management Systems

Workshop Proceedings

G. Gambosi, University of L'Aquila, Rome, Italy; M. Scholl, Le Chesnay, France; H.-W. Six, Fernuniversität hagen, FRG (Eds.)

1992. IX, 320 pp. 154 figs. 10 tabs. (Esprit Basic Research Series. Ed.: Commission of the European Communities) ISBN 3-540-55617-6

Geographic information systems are becoming increasingly important in a wide variety of applications, such as those related to land use monitoring, environmental assessment, resource

management appears as an application domain in various projects.

The Esprit basic research working group 3191 "Basic GOODS" (Geographic Object-Oriented Database System) has been created to address research topics directly related to geographic information systems. This proceedings volume comprises two invited papers and 13 contributed papers presented at the International Workshop on Database Management Systems for Geographical Applications, in Capri 16-17 May 1991, which was organized in the framework of the Basic GOODS

Working Group. The papers cover most fundamental aspects of geographic database management, ranging from data structures, and physical organization of data, to data models, user interaction issues, and query resolution.

Contact:

Springer-Verlag
Heidelberger Platz 3
W-1000 Berlin 33
Germany

Los programas de I&D de la Comunidad europea

Acronimos de I&D en Europa

Two brochures on European research programmes have been published by the Spanish interministerial commission for science and technology.

The first, *Los programas de I&D de la Comunidad europea*, presents the different specific research programmes implemented by the Community, giving general information on the objectives, a summary of each programme and, as annexes, detailed sheets on each programme.

The second, *Acronimos de R&D en Europa*, lists all R&D acronyms with references to the Commission services in charge of the related programme.



Contact :

Alvaro G. Meseguer
Office for Technology Transfer
European programmes manager
Secret. general del Plan Nacional de I&D
Comision interministerial de ciencia y tecnologia
Rosario Pino 14-16
28020 Madrid



Mobile radio - European PMR/PAMR Markets: 1992

EMCI 1992

According to a study published by EMCI (Economic and Management Consultants International Inc), *European PMR/PAMR Markets*, the European market for PAMR is set to take off over the next few years. Public Access Mobile Radio service, also known as trunked mobile radio, or Specialized Mobile Radio (SMR) in the US, has been introduced to the European market in the past few years. The service is designed for organizations for whom mobile communications is a vital part of their business. This includes organizations such as delivery companies, fleets, field service organizations and others. In particular, PAMR is designed to provide dispatch communications where a dispatcher communicates with multiple mobile units.

In the release of *European PMR/PAMR Markets*, EMCI projects that there will be over 600,000 PAMR subscribers in France, Germany and the UK by 1996. This growth will present opportunities both for equipment manufacturers and services providers.

Based on interviews with equipment manufacturers and service operators, EMCI has compiled a comprehensive overview of PAMR markets in the major European countries: France, Germany and the UK. In France and Germany, EMCI examines the impact on demand of recent competitive regional licensing while in the UK EMCI explores the reasons behind the slow take-up of PAMR and future prospects as the industry consolidates. In addition, *European PMR/PAMR Markets : 1992* includes:

- Subscriber growth, end-user terminal sales and service revenues by country, 1992-1996.
- Analysis of PMR and PAMR demand segments.
- A comparison of the US and European market experiences.
- PMR and PAMR regulation and licensing.
- Overview of PAMR system equipment manufacturer products.

Contact:

EMCI
Lysanne Sizoo
6 Chapel House Business Centre
152-156 High Street
Yiewsley, West Drayton
Middlesex UB7 7BD
UK

Tel: +44 895 431329
Fax: +44 895 430259

AGENDA

3rd European Congress on Technology Assessment

Copenhagen, 4-7 November 1992

The 3rd European Congress on Technology Assessment is being organized by the Danish Board of Technology, sponsored by the EC's Monitor Programme/FAST with support from BASF (D), ENEA (I), Intergovernmental Commission (E), NOTA (NL), POST (UK), SERV (B), STOA (L), TAB (D) and University College (B).

The congress offers the opportunity to discuss how technology assessment can assist decision-making when new technologies are introduced, particularly by creating dialogue between industry, politicians, trade unions, researchers and interest groups.

Plenary session debates will include: the role of technology assessment in the democratic process; technology management and technology assessment; consensus conference - the participation of laymen in technology assessment; the need for technology assessment in large infrastructure systems and new horizons for technology assessment in eastern Europe.

Contact:

Danish Board of Technology
Copenhagen

Tel: +45 3161 2195
Fax: +45 3161 2068

Programme FAST
Mme A. De Greef
DG XII H

Tel: +32 2 235 97 55
Fax: +32 2 236 42 99

First International Symposium on Interworking

To be held in Bern, Switzerland on 18-20 November, this symposium provides a platform for the exchange of views on heterogeneous network evolution, concept, services, standards, equipment and user requirements at an international level. A keynote speech will address the political impact of the Maastricht Treaty on telecommunications. It will emphasize the importance of interconnection and interoperability for the provision of trans-European networks. These networks form a prerequisite to provide future economic and social cohesion in the European Community.

Initiated and sponsored by the EC's Race programme (Combine project), the symposium is supported by the Swiss PTT, KTAS, Ascom, Siemens-Albis, Alcatel-STR, the Hasler Foundation and IEEE (CH) ITG.

Contact:

Interworking '92 Secretariat
Postfach
CH-8340 Hinwil, Switzerland
Tel: +41 1 938 1556
Fax: +41 1 938 1557

Xtra World Congress on Open Systems

The X/Open Company Ltd is organizing its next World Congress on Open Systems in Dusseldorf (Germany) from 24-26 November. The congress is targeted at IT users implementing or considering an open system strategy.

The congress will include a full presentation of the results of X/Open's World Survey on Open Systems which, for the first time, looks specifically at information technology suppliers' responses to user demands for standards-based development. The congress will be opened by Dr Herbert Schnoor of the Innenministerium of NordRhein Westfalen and the keynote speaker will be Professor Kit Grindley of the London School of Economics.

X/Open, founded in 1984, is a worldwide, independent, open systems organization dedicated to developing an open multi-vendor Common Applications Environment (CAE) based on de facto and international standards. Specification of the CAE is achieved through close cooperation between users, vendors and standards organizations worldwide.

Contact:

Michael Spring
X/Open Company Ltd
Apex Plaza
Forbury Road
Reading
Berks
RG1 1AX
Tel: +44 734 508311

or

Blenheim Online
Blenheim House
630 Chiswick High Road
London W4
Tel: +44 81 742 2828

European Postal Policy

Postal policy in Europe will be the subject of a high-level conference organized on 29 October in Brussels, at the Palais des Congrès, by Forum Europe with the support of DG XIII and in partnership with the Association of European Express Carriers and the European Mail & Express Users Association. The conference comes in the mainstream of discussion and consensus-building following the publi-

cation earlier this year of the Commission's Green paper on the development of the single market in postal services. Full details can be obtained from:

Forum Europe
88, rue des Patriotes
B-1040 Brussels
Tel: (32.2) 736 14 30
Fax: (32.2) 736 32 16

2nd CEPT Radio Conference

Organized by the European Radiocommunications Office (ERO), the second CEPT Radio Conference will be held on 23-25 November in Copenhagen on the theme: "The Spectrum demand exceeds the supply - Harmonized Frequency Management in Europe -"

The CEPT Radio Conference will concentrate on the following issues:

- the evolution of (land) mobile systems;
- radio regulations from a pan-European perspective;
- developments in digitized sound and television broadcasting;
- fixed satellite and VSAT issues.

The changing role of the ITU will be discussed in a European context and the work programme of the ERC and the ERO will be presented. There will be ample opportunity for comment and discussion throughout the conference.

During the second day, a seminar is scheduled during which the first phase of the Detailed Spectrum Investigation (DSI) will be considered. The DSI is a joint activity from the ERC-ERO and ECTEL. The first phase is covering the frequency bands between 3.4 - 105 GHz. The DSI will identify the current usage of these frequency bands and well as any trend for changes and options for harmonization in the (near) future.

Contact:

2nd CEPT Radio Conference
c/o Dis, Henlev Ringvej 2C
DK-2730 Herlev
Denmark

Tel: +45 44 92 44 92
Fax: +45 44 92 50 50

ECIO 93

European Conference on Integrated Optics
Neuchâtel, Switzerland
19-21 April 1993

The 6th European Conference on Integrated Optics will take place in Neuchâtel, Switzerland in April 1993. For the first time the scientific programme will include an examination of the topic which conditions the very existence of integrated optics as a practicable technical discipline: the whole question of access to and from the 10 monolith. This question will be addressed from the point of view of the necessary hybridization technologies as well as from that of flat grating antennae.

In conjunction with this conference, there will be an exhibition devoted to optoelectronics and photonics. This domain is at the turning point towards industrial applications: electro-optic modulators and passive circuits for optical communications and for sensors.

To underline European efforts in the field of integrated optics, the European projects represented will be given the possibility of offering a brief report on their achievements during the first plenary session.

The conference will examine topics including design, modelling, technology and applications of optoelectronic integrated circuits on semiconductor materials; new integrated optics materials; new waveguide technologies; functional waveguide elements and circuits and modelling of wave propagation in integrated optics waveguides.

Asia Telecom 93

Singapore, 17-22 May 1993

In 1993 Singapore will again host the Asia Telecom Conference and Exhibition, organised under the auspices of the International Telecommunications Union (ITU). The 1993 edition follows a successful first operation in 1989.

The EC Commission is planning active involvement in the event; senior staff will address the Forum Conference, which will cover subjects such as "Strategies for expanding telecommunications infrastructures", "Technological challenge: interfacing regional needs", "Effective transition through regulation", "Telecommunications: the platform for economic growth and development".

Equally important for the EC will be the organization of a coordinated presence of European companies under the EC banner - companies already present or eager to enter the dynamic market of Singapore and the neighbouring regions.

As part of their trade promotion activities, the Commission (and more specifically the Directorate-General for External Relations) will assist and co-sponsor company participation.

Enquiries about the conditions for participation should be addressed to:

Mrs Danielle Dilley
CEC DG1
Tel. +32.2.299.00.50
Fax +32.2.299.10.28

Contact:

ECIO'93 Secretariat
Swiss Center for Electronics and
Microtechnology, CSEM
P.O. Box 41
CH-2007 NEUCHATEL

Tel: +41 38 205 111
Fax: +41 38 205 580

Open Systems: The Computer New Age

The concept of open systems is one of the most talked about ideas in the computing industry. During the next few years the majority of companies will be implementing open systems; the remaining uncertainties concern the timing of the migration and the particular migration path which will be followed. This will be determined by the goals of the organization in moving to open systems. These goals must be expressed in terms of business reasons for making the change. Although many benefits have been promised from adopting open systems, for most user organizations there are only three valid reasons for migrating to open systems: saving money, achieving portability and achieving interoperability.

This conference, organized by Unix Forum on 28-30 October in Ghent (Belgium), will discuss the above business reasons in detail, identifying their implications in terms of feasible migration options, standards selection and migration routes.

Contact:

Open Systems, The Computer New Age
Flanders Expo Ghent
Open Systems Unix Forum
Avenue Van Volxem, 281
1190 Bruxelles
Tel: +32 2 345 39 24
Fax: +32 2 344 24 51

Open systems in a single market

OpenForum '92 Conference in Utrecht

The OpenForum '92 Conference will take place in Utrecht (NL) in the week of 23-27 November. This initiative is sponsored jointly by the two biggest open systems' users associations world-wide - European and UniForum - and includes several presentations and panels organized by the Commission.

OpenForum combines a three-day strategy and business conference and a three-day technical conference with two days of tutorial seminars. A demonstration area hosted by leading open systems companies, as well as an international EUnet communication network room, is open to delegates.

Opening keynote speeches will be given by Dr J. Majo Cruzate (advisor to the Director-General, DG XIII) and Dr Arno Penzias (Vice-President, research, Bell Labs and Nobel Prize winner for physics in 1978).

The Commission will participate in a plenary session on "Government and Public Policy in the European Open Systems Arena" and two technical panels on EPHOS (European Procurement Handbook for Open Systems) and Esprit.

Contact:

OpenForum Conference Secretariat
c/o Congress Bureau Royal Dutch
Fairs
P.O. Box 8500
NL-3503 RM Utrecht
The Netherlands

Tel: +31 30 955 466
Fax: +31 30 955 539

Document Image Management Systems and Multimedia 1993

This biennial trade fair for image and data processing and the integration of text, image, sound and data will be held in Kortrijk (Belgium) from 16-18 February 1993. Some 68 exhibitors are expected to participate to the exhibition programme which covers: electronic imaging systems, micrographic systems and supplies, computer assisted retrieval, document management software, engineering systems, computer output microfilms, image-capable workstations, optical character recognition, PC based imaging, optical digital systems, image transmission, scanners, system integration, technology interfacing, multi media platforms, storage media, authoring software, A/V equipment, A/V studios, multi-media applications development.

Contact:

International Centre for Fairs and Congresses
CV De Hallen-Kortrijk
Door Miksesteenweg 216
B-8500 Kortrijk

Tel: +32.56.204000
Fax: +32.56.217930

The Vienna IT Conference 1993

The Austrian EDP Users Association (ADV-Arbeitsgemeinschaft für Datenverarbeitung) will organize its annual ADV-Congress in Vienna from 20-23 April 1993. For the first time, this 10th congress will be held as an accompanying event to IFABO, the national EDP Fair of Austria. The conference proceedings will be published as a two-part paperback and remain an important source of expert information with the participants.

Contact:

ADV Arbeitsgemeinschaft für
Datenverarbeitung
Trattnerhof 2
A-1010 Vienna

Tel: +43 1 5330913
Fax: +43 1 5330913/77
Telex: 7511178=ADV A

Data protection: Commission sends modified proposals to Council

The Commission adopted a modified version of the draft EC personal data protection directive in October.

As regards the general directive, every effort has been made to take into account as many of the proposed European Parliament amendments as possible, as well as comments submitted by industry, data protection authorities, consumer associations, charities and government delegates in the Council working group. Thus the same data protection obligations are applied to both the public and the private sectors. Notification to the supervisory authorities has been made the exception, the rule being simplified procedures or full exemption.

Controversial provisions concerning informing individuals, prior consent and export to third countries have been made more flexible. Codes of conduct have been dealt with in more detail. Strong derogation possibilities have been given to the press and media.

Definitions have been made more detailed and precise. Inclusion in directories has been limited to what is strictly necessary to identify a particular subscriber, while electronic profiles set up by telecom organizations have been made subject to the subscribers' consent.

Particular privacy considerations have been added with respect to itemized call statements and calls to third countries. Provisions concerning teleshopping and videotex services have been dropped, while those concerning unsolicited calls have been made more precise with regard to the obligations imposed on Member States rather than telecoms organizations. Member States are asked to bring the data protection directive into force by 1 July 1994.

XIII Magazine and *XIII News Review* are published by the Directorate-General for Information Technologies and Industries and Telecommunications (DG XIII) of the Commission of the European Communities.

The opinions expressed in these publications do not necessarily reflect those of the Commission.
All correspondence should be addressed to:

Mr Jean Siotis
CEC DG XIII
BU24 -01/03
Rue de la Loi, 200
B - 1049 Bruxelles