



NEWSLETTER

53

new technologies and innovation policy

LIBRARY

CONTENTS

Editorial	1	Comett (Universities and Enterprises)	5
The Innovation Plan	2	Community Publication	5
Technology Fairs	2	Silicon Conference	6
Commission Communication on Hydrocarbons	3	Publications on Energy	6
Research Proposals on Radioactive Waste	4	Conference Calendar	7

EDITORIAL:

MODERNISATION OF TRADITIONAL INDUSTRIES

Words like "technologies" and "innovation" which figure so prominently in the sub-title of this publication conjure up in some people's minds an image of new industries making high-technology products. Our regular readers will know better. Traditional industries continue to provide a large proportion of employment in the Community. This makes their preservation essential. Increasing pressure of international competition means that the preservation of traditional industries is as dependent on innovation as is the creation of new ones.

This was recognised as long ago as 1982 when a decision was taken at the World Economic Summit to set up a working group on the modernisation of traditional industries, to be known as the Technology Growth and Employment Group. Over the three years of the mandate of that group it studied a number of sectors and had some considerable successes. At the expiry of its mandate some of the organisations represented suggested that the Community Innovation Plan would be the appropriate place for the work to be continued.

The Commission has much evidence that the technological expertise needed for modernisation of traditional industries is at present unevenly distributed. In ceramics, for example, where technological progress is taking place rapidly, different Community countries have specialised in different areas. We believe that learning the best available techniques from each other is the

best way to meet the challenge from the world outside of Europe.

Accordingly, the Commission has now prepared an action plan. It did this in close collaboration with representatives of the industries concerned and the Consultative Committee for Innovation and Technology Transfer — the means by which delegates from Member States' governments provide the Commission with advice (see article page 2). Partly as a result of that advice, the plan will concentrate on fieldwork rather than on conferences; participants will learn new techniques by direct contact with the places where they are in use rather than by hearing the users talk about them.

The improvement of manufacturing methods is not the sole objective. The plan will also discover and disseminate new ideas about products and prospects for developing markets. The intention is not merely to keep the industries alive but to make them more creative by opening up fresh opportunities in the growing markets.

The action will start this autumn. Because there is much to learn about the organisation of transnational cooperation the action is initially an experiment and limited to one year, during which period the results will be evaluated to allow a decision to be made on how (indeed whether) to proceed further.

The experimental phase of the plan will be confined to three sectors: textiles, ceramics and leather process-

This Newsletter is issued by Directorate XIII—A, New Technologies and Innovation Policy, in Directorate-General "Telecommunications, Information Industries and Innovation" of the Commission of the European Communities. For more information about its contents please write, including the address label with all your correspondence, to:

*Commission of the European Communities
Directorate XIII—A
2920 Luxembourg
call (352) 4301 extension 2918*

ing and shoemaking. There will be working groups for each sector, on which each Member State is invited to be represented by two experts. These experts might be civil servants if Member States wish but they could be manufacturers or representatives of industry and research associations. There will also be a general coordinating group.

In line with the innovation plan, the main focus will be on aiding small and medium sized enterprises involved. The job of the working groups will be to examine the opportunities for modernisation and organisation of exchange of information and experience between countries.

Activities planned include:

- visits by experts to other countries in the Community,

- visits by SME managers,
- information seminars for experts and managers,
- a European inventory of audio-visual media with information on opportunities for modernisation.

These activities mentioned will attempt to supply information not only to industrialists and researchers but also to representatives of the industries which supply their equipment or consume their products.

The first sectoral group meetings will be held in September and October this year. Our objective is to involve as many SMEs as possible or at least to keep them informed of progress.

Further information may be obtained from the Commission's Directorate General XIII/A in Luxembourg (telephone: (352) 4301 4450 or 4371).

PROGRESS IN THE IMPLEMENTATION OF THE INNOVATION PLAN

Newsletter 52 recorded the 9th meeting of the Consultative Committee on Innovation and Technology Transfer (CIT) which advises the Commission on the implementation of the plan for the transnational development of the supporting infrastructure for innovation and technology transfer (the "innovation plan"). The 10th meeting took place in July; the 11th will take place in September.

This is the third and final year of the original mandate of the plan. It was promulgated by the Council on 25 November 1983 with a budget of 10 million Ecu. At the same time the CIT was set up to advise the Commission on its implementation. A short-lived plan with a small budget was necessarily experimental. The official view of the success of the experiment will be expressed later this year by a Council Decision to extend or revise the plan, or not. In the meantime some successes can be recorded. Technology transfer agents have benefited from community assistance in setting up transnational projects. Organisers of private sector conferences have benefitted from community assistance in the task of making them European. A European Technological Awareness scheme is operational. The European Association for the Transfer of Technology, Innovation and Industrial Information (TII) has greatly increased its membership and worked out a business plan to allow self-sufficiency by the target date of end 1987.

At the 10th meeting four of the items on the agenda were:

- the new business plan for TII,
- the transnational European network of innovation and technology transfer bodies,

- Europeanisation of conferences and,
- the project for the "Rejuvenation of Mature Industries" (RMI)

The new business plan for TII is, in the nature of things, a lengthy and complex document impossible to summarise here. It is enough to say that it is a plan based on a reasonable projection of the future of the organisation. The need for the organisation to stand on its own feet after an initial period of subsidisation is unchanged.

The transnational European network of advisory organisations has expanded. Fifty new agreements have been concluded bringing the total number of organisations involved to 170. For the first time, in view of the expansion of the Community, a number of Spanish and Portuguese organisations have been included.

It was also agreed that the plan for the Europeanisation of conferences should continue. Twenty-three new projects will be supported by the Commission.

The project for the Rejuvenation of Mature Industries (the subject of the editorial above) was discussed and the experimental project decided on.

In addition to these four agenda items singled out above, the agenda included discussion of the project to stimulate good design in Europe, the first meeting of the CIT sub-group on Innovation and Patents, possible ways of improving the advisory infrastructure for innovation and technology transfer in the less developed Member States and the promotion of technology fairs. In the last context the CIT expressed satisfaction with the first phase of the work of compiling a year book concerning technology fairs in the Member States.

TECHNOLOGY FAIRS

In accordance with the Plan for the transnational development of the supporting infrastructure for innovation and technology transfer (Council Decision 83/624/EEC of 25 November 1983, OJ L353 of 15. 12. 1983), the Commission considers that "technology fairs" are a suitable means of promoting innovation and the transfer of

technologies and, particularly, that they can contribute towards:

- a) the exploitation of new technologies or market research within the Community and elsewhere;

- b) the creation of an effective common market for licences in the field of technology;
- c) the exploitation of the technology markets.

Following the recommendations of the seminar "A European strategy for technology fairs" held in Luxembourg on 29 and 30 April 1985, the Commission has launched two actions in the sector of technology fairs which have received a favourable opinion by the Consultative Committee for Innovation and Technology Transfer (CIT).

Definition of technology fairs

Technology fairs are manifestations having the nature of an exchange forum (for licences, business opportunities, know-how, etc.) and which address themselves to a public of professional TT agents. They should therefore promote the creation of new products, processes and services rather than be a market place for selling and buying existing products.

1. Organisation of group visits for heads of firms from one Member State to technology fairs in other Member States

By this action, announced in the OJ C33 of 13 February 1986, the Commission seeks to enhance the interactive element in the participation of businessmen from one part of the Community in technology fairs in another Member State.

The proposed mechanism involves the setting up of a "bridge" between two regions of the Community by organizing well-planned visits for a group of senior businessmen to a technology fair in another Member State with a view to helping them to benefit from, and themselves offer, business opportunities.

The Commission has granted up to half of the expenses incurred for the organisation and the running costs of the visits with a limit of 10 000 ECU per visit to TT agents or organisms which have put forward proposals following the announcement in the Official Journal of the European Communities.

For more information, please contact:

Mr M. DUHAMEL
 Technical Director TII Association
 BP 1704 (GISL)
 L-1017 LUXEMBOURG

Tel.: (352) 438096

2. Directory of technology fairs in the Community

The publication of a specific directory on technology fairs is felt as a necessity by organisers and potential visitors of technology fairs. In fact, research into what the market can offer in terms of catalogues of fairs revealed the existence of all kinds of publications such as: booklets, newsletters published at regular or irregular intervals, lists in trade journals, "grey" compilations, etc. The content of these is very miscellaneous, covering conferences, fairs, exhibitions, congresses, etc., and in many cases is incomplete or restricted to a single country or sector.

Compared with the existing catalogues, a directory of technology fairs would have the extra value of being specific and complete, allowing potential visitors to have advance notice of interesting manifestations and organizers to liaise in order to avoid overlapping of dates.

The work which the Commission thinks necessary to set up and publish such a directory would consist of:

- a) a survey in the Community among all the organisers of fairs so as to detect those which have the right nature (see definition of technology fair given above);
- b) the publication of the directory;
- c) its yearly updating.

A database version of the directory could also be envisaged.

The Commission will fund the cost of the survey up to a maximum of 50 000 ECU.

The costs of publication and the yearly updating should be met by the publisher who could recover them and even make a profit from advertising fees.

The Commission of the European Communities therefore invites all interested persons or organisms (particularly suited seem directory publishers, survey organisations, etc.) to write to:

Mr R. RAPPARINI
 Commission of the European Communities
 DG XIII/A/2
 L-2920 Luxembourg

Tel.: (352) 4301 2780

in order to receive the documentation necessary to submit proposals.

COMMISSION COMMUNICATION ON THE GRANTING OF FINANCIAL SUPPORT TO TECHNOLOGICAL DEVELOPMENT PROJECTS IN THE HYDROCARBONS SECTOR

The official journal C183 dated 22. 1. 1986 carries an invitation to submit projects. A regulation on a programme of support for technological development in the hydrocarbons sector provides that the Community may grant financial support, repayable should the results be used commercially for the implementation of Community projects relating to exploration, production, storage or transport in the hydrocarbons sector which:

- (a) develop innovatory techniques, processes or products or exploit a new application of techniques, processes or products for which the research stage is completed;

- (b) offer prospects of industrial, economic and commercial viability;

- (c) present difficulties with regard to finance because of the considerable technical and economic risks involved, to the extent that they would very probably not be carried out without Community financial support.

The Commission of the European Communities invites interested parties to submit, not later than 28 November 1986, applications for support for Community projects

jects to be considered under the above-mentioned Regulation during the financial year 1987.

Priority will be given to projects designed to reduce costs, improve safety and increase the efficiency of operations in the following areas:

- techniques of studying reservoirs to improve exploration, production and application of enhanced recovery methods,
- integrated methods for exploring complex geological zones,
- data acquisition during drilling and study of down-hole phenomena,
- integrated systems for drilling operations,
- methods and equipment for establishing and monitoring reservoir developments during production and for improving recovery,
- methods providing better control of the circulation of reservoir fluids and injected fluids,
- better production operations: well equipment; effluent transport; treatment equipment; foundations and structures; submarine operations,
- reliability of materials and equipment,
- integrity control and maintenance and management planning systems,
- systems for bringing marginal fields into production,
- automatic production systems.

These priorities do not rule out support for projects that make a significant contribution to achieving these goals but fall within other technical areas covered by the Regulation.

In addition preference will be given to:

- (a) projects involving the association of at least two independent undertakings established in different Member States, provided that it is established that each undertaking can make an effective and significant contribution to carrying out the project;

- (b) projects submitted by small and medium-sized undertakings, either individually or under the conditions set out in (a).

Applications for support must include a detailed description of the project in question, a summary of technical progress in the relevant field, a description of the proposed technological development and its innovative nature, a description of each stage of the project and an indication of the cost in national currency, the timetable for the implementation of the project and a cost plan, based on PERT (Programme Evaluation Review Technique) or an equivalent system, the organization of the project, technical and economic risks involved in the project and its estimated profitability, any data for assessing the industrial, economic and commercial viability of the project, any indications of how important the project is to the security of the Community's supplies of hydrocarbons, an assessment of any effects on the safety of life and on the environment, a plan for disseminating the results of the project, the research and development budget for the past three years and the technical capabilities of the applicant(s) responsible for the project, an indication of any form of cooperation envisaged with other firms in the Community or elsewhere; their names, business names and registered offices and the role of each of them in the project, as well as other technical and financial details.

The contractor will retain ownership of any knowledge, patentable or not, arising from the implementation of the project. He must undertake to inform individuals and firms in the Community that results are available and to do so either directly or with the collaboration of the Community, by all appropriate means and by publication in particular and as far as possible to use the results of the project, patentable or not, or cause them to be used to a significant extent to benefit the Community.

Further details (some of which are essential if applications are to be valid) are to be found in the Official Journal C183. In case of difficulty please telephone Luxembourg 4301 extension 4371.

CALL FOR RESEARCH PROPOSALS ON THE MANAGEMENT AND STORAGE OF RADIOACTIVE WASTE

The official journal C 194 invites proposals for research on either on a shared-cost basis or for payment of marginal expenditure, relating to projects directed towards:

- characterising schemes for the overall management of some categories of waste,
- improving waste processing and conditioning techniques,
- evaluating and characterizing certain types of conditioned waste and qualifying engineered barriers,
- developing know-how and techniques relating to the disposal of waste in continental geological formation and at shallow depth.

The context is the five-year (1985 to 1989) shared-cost research and development programme on the management and storage of radioactive waste. Following the first call for research proposals issued in 1985, the Commission would like to receive a second series.

The *minimum* Community contribution envisaged at present for the above-mentioned research subjects is about 8 million ECU; the applicants must take due account of this sum when preparing their proposals. Financing up to 100% may be requested in the case of the studies relating to the characterization of schemes for the overall management of some waste categories. The studies and research projects can start in 1987 and must be completed not later than 31 December 1989.

The criteria applied in the selection of proposals will include chiefly the value to the Community of the proposed research and the competence of the proposer. The Commission will also give priority to joint proposals from bodies in different Member States; it reserves for itself the right to harmonize proposals on similar research projects.

The Commission alone will decide on the action to be taken concerning the proposals. They will be regarded as confidential in order to protect where necessary the

industrial property rights and the commercial interests of proposers.

The proposals must be presented on the 'Proposal form for participation in the programme' and be posted to the Commission not later than *31 October 1986* (post-mark accepted as date of dispatch). This form and detailed information on the research areas included in the programme and on the financing arrangements may be obtained from:

Mr A. CRICCHIO,
Commission of the European Communities,
Directorate-General for Science, Research and Development,
200, Rue de la Loi,
B-1049 Brussels.

Tel. (02) 235 69 95.
Telex 21877 COMEU.

COOPERATION BETWEEN UNIVERSITIES AND ENTERPRISES REGARDING TRAINING IN THE FIELD OF TECHNOLOGY (COMETT)

The Official Journal L 222, 8 August 1986, announced that the Council, reflecting its belief that the exploitation of technological developments throughout industry will depend on the versatility, skills and enterprise of the workforce, that there is an urgent need to develop, at Community level, appropriate Community policies as a complement to an overall Community strategy for industrial research and development and innovation policies and that cooperation between university and enterprise in the field of training must be developed both within Member States, particularly at local and regional level, and be assisted by Community measures involving, as far as possible, existing bodies in the Member States, has inaugurated a programme called COMETT.

It is designed to strengthen and to stimulate intra-Community cooperation between universities and enterprises regarding training, including ongoing training, in the field of technology.

It will consist of two phases: a preparatory phase (1986) and an operational phase (1987 to 1989).

Its objectives are:

- (a) to give a European dimension to cooperation between universities and enterprises in training relating to innovation and the development and application of new technologies;
- (b) to foster the joint development of training programmes and the exchange of experience, and also the optimum use of training resources at Community level;
- (c) to improve the supply of training at local, regional and national level with the assistance of the authori-

ties concerned, thus contributing to the balanced economic development of the Community;

- (d) to develop the level of training in response to technological change and social changes by identifying the resulting priorities in existing training arrangements which call for supplementary action both within Member States and at Community level, and by promoting equal opportunities for men and women.

The funds estimated as necessary for the implementation of the programme amount to 45 million ECU.

Measures which will be taken include

- (a) Setting up and developing a European network of university-enterprise training partnerships (UETPs) to organize training schemes in companies; exchanges of staff, of trainees and of training officers between Member States; and joint transnational cooperation projects in the field of training, technical assistance, monitoring and evaluation Community-wide,
- (b) Incentives to promote the transnational exchange of trainees, including new graduates, and university staff and the staff of companies through grants and fellowships,
- (c) Support for work on devising, developing and testing joint projects for ongoing training initiated jointly by different undertakings in connection with the universities concerned in fields related to new technologies and
- (d) Support for multilateral initiatives with regard to multi-media training systems using new information and communication technologies such as television.

Community Publication

Innovation and technology transfer L'innovation et le transfert de technologie

Edited by: A. Dorat, J.M. Gibb, F. Wallart

Luxembourg: Office for Official Publications of the European Communities

Office des publications officielles des Communautés européennes, 2 rue Mercier, L-2985 Luxembourg

467 pp., 15 tab., 45 fig.

Price (excluding VAT) in Luxembourg: BFR 1 600

The aim of the symposium was to promote an awareness to the processes of innovation in the context of

certain technological fields by means of the presentation of actual case studies. Subjects for discussion were drawn from case studies in the following areas:

- (i) scientific instrumentation and biomedical engineering;
- (ii) robotics in the textile industry;
- (iii) agro-food and biotechnology.

On the basis of these different case studies a comparative assessment of differing experiences throughout Europe was able to be made.

The present volume contains the full original language texts of the papers presented during the symposium as well as the summaries of these papers together with the reports of the 11 working groups in German, English and French.

A EUROPEAN-WIDE CONFERENCE ON THE INFRASTRUCTURE NEEDS TO GIVE IC DESIGNERS EFFICIENT ACCESS TO IMPLEMENTATION ROUTES ON SILICON

23-24 September 1986, Kaiserslautern University, Kaiserslautern, F.R.G and OMD
(Ges. für Mathematik und Datenverarbeitung), Schloß Birlinghoven, F.R.G.

The program is currently planned as follows

Tuesday, September 23

9.00 Opening Session

G.C. Grate (Commission of the European Communities), invited speaker: Opening Address
Prof. Dr. K. Landfried, Vice President of the University: Introduction and Welcome Address

10.30 Session 1 "Experiences"

G. Adshead (ICL, Manchester, UK), invited paper
R. Arps (IBM, San José, USA), invited paper: Automating the ASIC Vendor Interface—a User's View
F.M. da Costa (Telecom R&D Ctr, Campinas, Brazil): Access to Silicon: The Brazilian Telecom Experience
R. Duchatelet (ELMOS GmbH, Dortmund, F.R.G.): Experiences from the Custom IC Market

10.30 Session 2 "Foundry Services"

B. Höfflinger (Institute for Microelectronics, Stuttgart, F.R.G.): From a Foundry Service to an Innovation Network
J. Robertson, A. Gundlach, R. Holwill, A.J. Walton (Univ. of Edinburgh, UK): Silicon Process Compilation
E. Doering (Lasarray, Thundorf, Switzerland): Lasarray Method — a Way out of the Microelectronics Crisis?
M. Windel (MIETEC, Oudenaarde, Belgium): The MIETEC ASIC Approach
H. Daume (AMI, Unterpemstätten, Austria): 12 years of Experience on Providing Silicon Foundry Services (2)

15.45 Session 3 "Fast Turn Around"

S. Capocelli et al. (SGS microelectronics, Agrate, Italy): invited paper: The Role of SGS in the Italian Silicon Market
F. Riedelberger (ES² — European Silicon Structures, Munich, F.R.G.), invited paper: A New Approach to Minimize the Turn-Around Time in Design and Fabrication of Full-Custom ICs
M. Horbowy (Thompson CSF, Grenoble, France), invited paper: The MPF Mask-programmable Filter — a Flexible and Economic Concept for Filter Implementation
M. Glesner (TH Darmstadt, FRG): Fast Turn-around Chip Design in an University-type Environment

17.45 Session 4 "Brokerage"

S. Eccles (MCE, Ashchurch, UK), invited paper: Experience as a Broker — Using Multiple Sourcing
N.N. (IMEC, Leuven, Belgium): invited paper

G. Gorla (SGS microelectronics, Agrate, Italy): Case History of a non-traditional Design Center: Multi Hardware Design for Alternative Sourcing in ITALTEL
J.C. Laurent, M.Y. Depeyrot (Dolphin Integration, Meylan (Grenoble), France): A Standard Wafer Acceptance and Test Hand (SWATH)

Wednesday, September 24

9.00 Session 5 "Multi Project Chips"

D. Cohen (USC, ISI, Marina del Rey, U.S.A.) invited paper: MOSIS — User Interface for Silicon Foundry
A. Kaesser (GMD, Bonn, F.R.G.), invited paper: Project E.I.S. — A German Effort for the Design of ICs
O. Olesen (TH Lyngby, Denmark): New Proposals for European Infrastructure for Fast Turn Around Chips
H. Delori, A. Guyot, J.-F. Paillotin (Laboratoire TIM3, Grenoble, France): The French MPC
H. Daume (AMI, Unterpemstätten, Austria): MPC offered today from an Industrial Silicon Foundry — a Manufacturer's Experience

11.30 Session 6 "Teaching and Training"

P.L. Jones, J.M. Bullingham, E.L. Dagless, A.P. Dorey, M.J. Morant, S.L. Hurst, T.I. Pritchard (Polytechnic, Queensgate, UK): The UK Universities ASIC Design Education Programme
K.J. Steptoe, O.J. Daries (University College, London, UK): An Approach to the Introduction of VLSI in University Courses
A. Butterfield, D.P. McCarthy (Trinity College, Dublin, Ireland): From KARL to CIF-KARL as a Laboratory Instrument

13.30 Session 7 "Low Cost Design"

S. Huss (AEG, Ulm, FRG), invited paper: A multiple-Analysis Instrument for the Design of Analogue Circuits
A. Bonnot, M. Israel, J.L. Kors (IIE-CNAM, Evry, France): An Educational and Training PC Based Environment for VLSI and CAD Tools Design
D. Collins, M.A. Rahman (NIHE, Limerick, Ireland): A Low-Cost ASIC Design Aid
C. Davison, R.C. Page (Teradyne, Esher, UK): The Role of Logic Simulation and Test Programs in specifying the Performance of Application-specific Integrated Circuits.

15.30 "Closing Session"

RECENT COMMUNITY PUBLICATIONS ON ENERGY

- The use of gas scrubbers for heat extraction from straw furnaces
by NIELSEN-H-K, EUR 9823 EN
- Technology of thin layer silicon solar cells and applications to power systems
by THANAILAKIS-A, ANTONOPOULOS-J-G, GIRGINOUDI-D, ABARIAN-P, VACHTSEVANOS-G, KALAITZAKIS-K, GRIBAS-E, EUR 9841 EN
- High concentration photovoltaic 100 W module making use of spectral splitting algaas coupled cells by FANETTI-E, FLORES-C, GUARINI-C, PALETTA-E, EUR 9843 EN
- Development of a selective solar absorber by control of surface microtopography
by BANNARD-J, EUR 9847 EN
- Pompe à chaleur industrielle à cycle brayton haute température
by FLAUX-J-P, EUR 9849 FR
- Design of waste heat boilers for the recovery of energy from arc furnace waste gases
by DIXON-J, BRAMFOOT-S, EUR 9850 EN
- Insulated shutters
by BYBERG-M-R, ENGELUND-POULSEN-K, RASMUSSEN-N-H, SOLFELDT-H-S, EUR 9851 EN
- Earth as storage medium and heat source for heat pumps
by FORDSMAND-M, EUR 9852 EN
- La gestion énergétique des bâtiments communaux
by BEUCKELAERS-J, EUR 9468 FR
- Production of solar cells on the basis of low cost silicon by application of ion implantation and light induced transient heating
by NYLANDSTED-LARSEN-A, DRUD-NIELSEN-L, EUR 9867 EN
- Chevetogne outdoor swimming pool solar heating system. Demonstration project
by VAN-GYSEL-M, EUR 9911 FR/EN
- Systematische Konstruktion und Entwicklung einer kostengünstigen, verlustarmen und regelbaren Lösungspumpe für Absorptionswärmepumpen
by SCHRADER-K-H, EUR 9916 DE

- Research programme on the efficiency of reverberatory furnaces
by SUBRAMANIAN-BUNTING-J-G, GILL-D-J, HANNAH-A, MISTRY-C-D, EUR 9918 EN
- Feasibility study for small solar cell operated units in Greece
by SORAS-K, MAKIOS-V, EUR 9957 EN
- Sixth EC photovoltaic solar energy conference
by PALZ-W, EUR 10025 EN
- EURDYN-1D — A computer code for the one-dimensional non-linear dynamic analysis of structural systems
by CASADEI-F, HALLEUX-J-P, EUR 10015 EN
- Biotechnologie zur Energieerzeugung. Verbesserungsmöglichkeiten der Produktivität von Energiepflanzen
by COOMBS-J, HALL-D-O, CHARTIER-P, EUR 8575 DE
- Solar energy
by BEGHI-G, EUR 9026 EN
- Hydrogen production, energy storage and transport
by BEGHI-G, EUR 9027 EN
- Parabolic through solar collector plant on polar mounting for industrial thermal energy production (Modena-Italy) — Demonstration project
by BISAGNI-M, EUR 9277 EN
- Development of a modular electrochemical storage system for road electric vehicles
by BRUSAGLINO-G, MONTALENTI-P, EUR 9329 EN-IT
- Short reference years — test reference years
by LUND-H, EUR 9402 EN
- Reduced meteorological data for the computation of the energy produced by solar collectors
by KOCH-H-R, EUR 9484 EN
- Comparing study about the research project concerning the improvement of the electrolytic hydrogen production
by HELMET-L, MEZGOLITS-H, PRASSER-J, SCHALLA, STOCKMANS-W, EUR 9500 EN
- Energy and development
by CEC, EUR 9524 EN
- On the mechanism of photosynthetic electron flow in *Chlamydomonas reinhardtii* as relevant for the photoevolution of hydrogen and oxygen
by GODDE-D, NEUMANN-E, TREBST-A, EUR 9530 EN
- Moessbauer studies of synthetic analogs simulating building blocks of nitrogenase reaction centers
by SIMOPOULOS-A, KOSTIKAS-A, PAPAETHY-MIOU-V, EUR 9686 EN
- Camborne school of mines geothermal energy "Hot-dry Rock" project. Vol 1 — Overcoming stress measurements at S. Crofty Mine. Vol. 2 — General report on well drilling and casing. Vol. 3 — Hydrofracture stress measurement tests in hole RH-12. Vol. 4 — Hydraulic results. Vol. 5 — Microseismic results. Vol. 6 — Low flow rate hydraulic tests (RT-2019-RT-2014)
by BATCHELOR-A-S, EUR 9703 EN
- Heat pumps with absorber-type heat exchangers — demonstration project
by JACOBS-U, EUR 9727 EN/DE
- Holographic thin film systems for multijunction solar cells
by BLOSS-W-H, GRIESINGER-M, LAUB-G, REINHARDT-E-R, EUR 9840 EN
- Study of new building materials with high thermal diffusivity devoted to heat storage
by SOLAINI-G, TONELLI-A-M, EUR 9859 EN
- European modelling group for SHS and DHW. Final report of the Italian participation
by BIONDO-A, INGUANTI-G, EUR 9882 EN
- Short term paraffin wax storage for air collector space heating systems
by DUTRE-W-L, BUTTIENS-A, VANHEELEN-J, MAUDGAL-V, VAN-DONGEN-F, CROMPHOUT-P, HEIRMAN-P, EUR 9883 EN
- Mode of deterioration and ultimate failure of nickel containing electrolyser electrodes and diaphragms
by GILES-R-D, EUR 9904 EN
- Final report on the development of a thermal store and a solar blind for use in conservatories and glazed roof spaces
by STÉWART-D, KENT-P-J-C, GUTHRIE-K-I, EUR 9912 EN

Conference Calendar

1. 1986 ESPRIT CONFERENCE
Brussels 29 September — 11 October 1986
ECCO
rue Vilain XIV
1050 Bruxelles
2. EUROPTRONICS
Liège, Mons, Bruxelles et Louvain-la-Neuve,
September/October 1986
Alain VANDENBORRE
PROMOPTICA
Parc industriel de recherches du Sart-Tilman
B-4900 ANGLEUR
Tél. (041) 676668
Télex 41320 IAL SP
3. COMPUTER AIDED TRADE
Paris, October 1986
Alfredo SARICH
S.R.L.A. Euromatic
96, rue des Deux Eglises
B-1040 BRUXELLES
Tél. (02) 230 6110
Télex 61975 STALAW B
4. L'INTRODUZIONE DELL'AGRONICA NEL SISTEMA AGRICOLO
Milan, October 1986
Valentino CARBOGNIN
Istituto di Ricerche «Il Poliedro»
Via Francesco Redi, 18
I-20129 MILANO
Tel. (02) 204 2368
5. EXTRUSION TECHNOLOGY IN THE FOOD INDUSTRY
Dublin, October 1986
Renée BROWNE
IIRS — Institute for Industrial Research and Standards
Ballymun Road
IRL-DUBLIN 9
Tel. (01) 370101
Telex 25449
6. REGOLAMENTAZIONE E PROTEZIONE DEL SOFTWARE
Roma, 13 October 1986
Giorgio ZARLATTI
GE.SI. OPTIMATIONS S. r. l.
Via M. Cristina 8
I-00196 ROMA
Tel. (06) 3612807

7. PRODUKTIVITÄT UND DIE ZUKUNFT DER ARBEIT IN EINER ZEIT
RASCHER, VOM MARKT GEFORDERTER INNOVATIONEN
München, 14.-16. Oktober 1986
Peter SCHUH
R.K.W.
Düsseldorfer Straße 40
Postfach 5867
D-6236 ESCHBORN
Tel. (06169) 495272
Telex 0418362
8. KMU (Association of medium sized enterprises):
European Conference on innovation and technology in medium
sized enterprises
Munich, 23-24 October 1986
Frido FLADE
Elisabethstr. 34
8 Munich 40,
Tel.: 089-271301
9. 7TH EUROPEAN PHOTOVOLTAIC SOLAR ENERGY CONFERENCE
University Sevilla SPAIN, 27-31 October 1986
Information can be obtained by Nr. 6 Grassi
Commission of the European Communities
DG XII, Rue de la Loi 200
B-1049 Brussels
Tel. 322/235 68 01
10. EUROPEAN SYMPOSIUM ON THE UTILIZATION OF THE RESULTS
OF PUBLIC RESEARCH AND DEVELOPMENT
LUXEMBOURG, 23-25 SEPTEMBER 1986
D. NICOLAY
Commission of the European Communities
DG XIII A/2 — JMO B4/086
L-2910 Luxembourg
Tel. 4301-2946
Telex 3423/3446 comeur lu
11. ELECTRONIC PUBLISHING:
THE NEW WAY TO COMMUNICATE
Luxembourg, 5 to 7 November 1986
P. POPPER
I.E.G.I.
13, rue de Bragance
L-1255 LUXEMBURG
Tel. + 352 44 58 11
12. Internationales Marketing und Kooperation für technologiebasierte
Unternehmen
Berlin, 27. und 28. November 1986
J. ALLESCH
Technologie-Vermittlungs-Agentur Berlin (TVA) e. V.
Hardenbergstraße 15
D-1000 BERLIN 12
Tel.: (030) 313 40 91
Teletex: 302 108 = tvab
13. ESA "Frontières et Conquete Spatiale"
Paris, 13-16 January 1987
Jean SCHNEIDER
Observatoire de Paris
92190 MEUDON
France
14. ENVIRONMENTAL PROTECTION OF THE NORTH SEA
London, 24-27 March 1987
Eric PORTER
WRC Environment
Menten Road
Medmenham, PO Box 16
Marlow
Bucks UK
15. MODELLE FÜR GEMEINSAME MARKETINGSTRATEGIEN VON
JUNGEN TECHNOLOGIEUNTERNEHMEN
26-28 November 1986, Berlin
Jürgen ALLESCH
Technische Universität Berlin
Fasanenstraße
D-1000 BERLIN 12
Tel. (030) 314-1
Telex 184262 TUBLN-D
16. AUTOMATISERING VAN DE MONTAGE
11-12 November 1986, Utrecht
H. KOK
Vereniging voor Produktietechniek VVV
Bredewater 20
NL-2715 CA ZOETERMEER
Tel. (079) 531272
17. ECOLE EUROPEENNE DE RHEOLOGIE
15 janvier - 6 février 1987, La Bresse
C. WOLFF
Equipe de Mécanique et de Rhéologie
Ecole Nationale Supérieure des Industries
Textiles
11, rue Alfred Werner
F-68093 MULHOUSE Cédex
Tél. (089) 424622
Télex 881913 CERMAT
18. TELEARBEIT — GEGENWART UND ZUKUNFT EINER NEUEN
ARBEITSORGANISATION
Februar 1987, Bonn
Werner B. KORTE
EMPIRICA
Kaiserstraße 29-31
D-5300 Bonn 1
Tel. (0228) 210070/79
Telex 5212689
19. INNOVATION FOR ENERGY EFFICIENCY —
THE ROLE OF THE REGIONS
March 1987, Newcastle upon Tyne
D.A. REAY
International Research & Development Co.
Ltd.
Fossway
UK-NEWCASTLE UPON TYNE NE6 2 YD
Tel. (091) 2650451
Telex 537086
20. FLUX DE DONNEES ET DROIT COMMUNAUTAIRE
1st Quarter 1987, Bruxelles
Alain GALASKI
Conference Office Brussels S.p.r.l.
19, rue de l'Orme
B-1040 BRUXELLES
Tél. (02) 7360305/35
Télex 61473 ECCO B
21. UTILIZATION OF GASEOUS FUELS IN INDUSTRY
AND COMMERCE
April 1987, Dublin
Renée BROWNE
IIRS — Institute for Industrial Research and Standards
Ballymun Road
IRL-DUBLIN 9
Tel. (01) 370101
Telex 25449
22. MICATEC '87
mai 1987, Paris ou Strasbourg
J.M. BOISSENOT
CETIM — Centre technique des industries
mécaniques
52, Avenue Félix Lowat
F-60300 SENLIS
Tél. 44583266
Télex 140006 CETIM SENLIS
23. 16th INTERNATIONAL AEROSOL CONGRESS
14-18 September 1987, Amsterdam
M.F.A. VAN DIESSEN
Postbus 90154
NL-5000 LG TILBURG
Tel. (013) 654481
Telex 52384 VASPA NL
See also following article