

Innovation+ Technology Transfer

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*CORDIS
DRIVE - STAR - RACE
SPRINT
RESULTS OF COMMUNITY R&D
THIRD FRAMEWORK PROGRAMME UPDATE
ONGOING DEVELOPMENTS
PUBLICATIONS – CONFERENCES*



DG XIII-D

Directorate for Dissemination
and Exploitation of RTD Results,
Technology Transfer and Innovation



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**THE COMMUNITY
RESEARCH & DEVELOPMENT
INFORMATION SERVICE
(CORDIS) COMES OF AGE**

Over the past few years we have kept readers of *Innovation and Technology Transfer* up to date with news of CORDIS – the Community Research and Development Information Service. Conceived with the double aim of encouraging wider participation in Community research programmes and of promoting the exploitation of the results of the programmes, the service opened to the public in November 1990. Since then CORDIS has continued to evolve and grow. This year several major milestones will be achieved.

The number of registered users of the portfolio of on-line databases which are the core of CORDIS already exceeds 5000. This target was reached in May this year. More than 20% of users are in industry, with small and medium-sized businesses strongly represented. Intermediaries who offer information on European research, to the business community for example, also figure prominently among the registered users (nearly 15%), as do users in research (19%) and education (17%).

So that CORDIS becomes even more attractive, a new interface is being developed to make the consultation of the databases through a PC and modem easier and more inviting. Work is also under way on a new database to be added to CORDIS in the near future. This database will give details of local and "European-level" contact points which can provide information on particular aspects of Community research.

Other developments are intended to extend CORDIS beyond the circle of users of on-line databases. The CORDIS databases will shortly be published in a CD-ROM version which will be regularly updated. Demonstrations of a test CORDIS CD-ROM have been very well received. We expect that it will prove popular as an easy-to use alternative to the on-line databases. Searches on the CD-ROM will be quicker, can be more elaborate, and will not involve telecommunications charges. On the other hand, in spite of the regular updatings the information held on the CD-ROM version cannot be as up-to-date as that in the on-line databases. Often it will make sense to do most of a search using the CD-ROM, calling up the on-line version very briefly at the end in order to obtain information on the most recent developments.

The information held in the CORDIS databases is increasingly being used to produce "spin-off" publications. Last year a fortnightly bulletin derived from the RTD-News database of CORDIS was launched, to provide the latest news on Community research to journalists and specialised information services. Information collected from the RTD-Publications database is being used to generate catalogues of publications resulting from Community research, as well as the monthly periodical *Euro Abstracts*.

This year will see publication of the first directories to be produced from information held in CORDIS. The first of these will be a directory of companies, many of them small and medium-sized, and private-sector research organisations interested in forming cross-border partnerships for research and technological development.

CORDIS is an information service which is continuously evolving in order to meet the needs of its present and potential future users. To help in this task, a network of CORDIS correspondents, representing typical users in Member States and the EFTA countries, provides a link between the Commission's CORDIS team and CORDIS users. The CORDIS correspondents provide valuable feedback on the existing CORDIS service and on the way it should evolve in the future.

MARIO BELLARDINELLI
Head of Unit

Dissemination of Scientific and Technical Knowledge

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The Final Phase of STAR

The STAR Programme (Special Telecommunications Action for Regional Development) is a structural funds programme designed to use advanced telecommunications services to assist the economic development of the less favoured regions of the Community. The programme entered its final phase when financial commitments were made in October 1991 and the implementation phase concluded at the end of June this year, with some Member States having completed their participation well before the deadline.

The five-year operational phase (1987-91) provided ECU 767.1 million for seven Member States and improved network infrastructure and ease of access to main networks, data networks and mobile communications networks. It also helped to provide 'advanced' telecommunications services (ATS) and in particular access to data bases (especially those using videotex); office automation services, electronic mail services, mobile communications services and teleworking services.

Now that STAR has finished, new initiatives will be followed to maintain the work already begun. TELEMATIQUE is designed to amplify the scope of activities begun under STAR by encouraging SMEs to use and supply advanced services. The TELEMATIQUE operational phase is now under way. An evaluation of STAR is being conducted which, together with the assessment of TELEMATIQUE's progress, will help to decide the future course of action. A number of studies have been conducted to evaluate regional variations in the level of telecommunications services in the Community and to define service levels and the investment required to achieve these targets which are considered as the minimum Community standard for telecommunications services.

The Maastricht Treaty has given new emphasis to trans-European networks and the necessity of linking core and peripheral regions. Work has already commenced on telematic networks between administrations, Europe ISDN and broad band networks. Further information available from:

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DRIVE II: Transport Telematics Programme

DRIVE II, the transport telematics programme, is one of the areas covered by the specific RTD programme in the field of Telematics Systems of General Interest under the Third Framework Programme (1990-1994). DRIVE II builds on the exploratory research conducted under DRIVE I of the Second Framework Programme. This takes the R&D process a step further

by focusing on the technical achievements of DRIVE through integrated pilot experiments.

DRIVE II involves 57 projects, with a Community contribution of ECU 124 million, and involves over 500 partners from industry (IT&T and automobile), administration (local, regional and national), service providers in addition to research establishments. The projects cover road transport for the main part but also involve the interfaces between road and rail and road and sea transport. The main characteristic of this initiative is the commitment of infrastructure owners to providing test-beds for real-life experiments of integrated telecommunications and transportation services. Thirty one cities and eleven cross European transportation corridors are involved.

Technical days were held in Brussels on 8-10 March 1993 to enable over 600 project participants to present the outcome of their first year's work. The first day was devoted to presentations on the different application areas of the programme while the other two days concentrated on project presentations in three parallel streams.

Following the Council decision to strengthen the Third Framework Programme, including the specific programme for Telematics Systems of General Interest, DRIVE II has received an additional allocation of ECU 15 million. New calls and accompanying measures and concerted actions are being launched.

As part of the planning for the Fourth Framework Programme, the Commission is preparing a working document for consultation on the follow-up programme for telematics RTD. The document reflects the need to extend RTD work on telematic services to all modes of transport, with emphasis on activities to assist the interconnection of networks and the inter-operability of equipment, as well as the need for integrated telematic services for urban, regional and trans-European transport.

The annual report 'Transport Telematics 1993' gives a detailed description of the programme together with a brief description of each project and is available from:

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The RACE II Workplan

The RACE programme (Research and development in advanced telecommunication technologies for Europe) is the R&D part of European telecommunication policy. Its aim is to promote precompetitive R&D enabling Europe to set up an integrated broadband communications (IBC) network by 1995-2000. The IBC network is to take over from ISDN (integrated services digital network) which does not have a broad



New antifungal proteins for crop protection (Louvain, Belgium)

bandwidth and is therefore unsuitable for the transmission of large flows of data. Broadband communications enable large quantities of data to be transmitted at high speed.

The programme provides for cost-shared R&D projects, accompanying measures such as seminars, internal co-ordination through the creation of integrated groups, advanced technology training programmes, promotion of exploitation of results and joint initiatives. As a general rule, contracts relating to shared-cost research projects are concluded following a selection procedure based on calls for proposals published in the Official Journal of the European Communities.

The development of communications technologies since the 1991 Council decision which implemented RACE has necessitated the updating of the workplan, resulting in a new call for proposals (Official Journal C 149 of 29.5.93), with a closing date of 3 September, for extension of some existing R&D work and to address new tasks on the basis of the updated work programme.

The following documents are available:

- Call for proposals (RACE II): General Information (Ref.: DG XIII/B – RA 933260GI) and New Task Descriptions (DG XIII/B – RA 933236), 10 May 1993;
- RACE WORKPLAN '91 (Ref.: RA 3027-2, December 1990);
- Introduction to IBC interoperability (Mossotto Report on IBC Island Interconnection, February 1991);
- Perspectives on Advanced Communications for Europe RACE '92, Impact Assessment and Forecasts;
- RACE 1993 – The Annual Technical Report of the Programme (February 1993).

Documents and further information available from:

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Tacit knowledge: a SPRINT/EIMS policy exchange workshop

Tacit knowledge is an expression to describe the type of knowledge learned only by experience and which is difficult to transmit to others by any means other than demonstration. A simple definition of tacit knowledge is that "we know more than we can tell". Thus, this knowledge is diffused via personal communication, mobility and contact, being highly dependent on the ability to communicate what is involved.

A common observation among plant managers is that starting a new plant with identical equipment, organisation and even the same people does not automatically lead to the same productivity and quality levels as in the old plant. One reason behind this is that competence is mainly accumulated in people, and therefore tacit and intangible in form. Thus, there is a growing awareness that the performance of firms and nations depends on competencies that can only be transferred by experience and demonstration.

Despite its importance this subject has been neglected in the analysis of corporate strategy and public policy. In order to contribute to an increased awareness, the European Innovation Monitoring System of the SPRINT programme (DGXIII) organised a workshop on the promotion of acquisition and diffusion of tacit knowledge in Luxembourg on May 25-26, with the participation of about 50 experts from different Member States.

Such promotional schemes by and large have been developed not only at national level, but also by regional or sectoral actors, and are often implemented on a public/private partnership basis. They have to address both the interest of firms to acquire tacit knowledge and their interest to protect their tacit technical competence, often a relevant factor in their competitive advantage. These points were highlighted in the introductory statements by Prof. Soete from MERIT and R. Chabbal, former Director at OECD.

At the conference ample evidence was given of the efficiency of Japanese companies and society to create, utilise and diffuse this type of knowledge. This intangible knowledge approach is probably one of the key factors behind Japanese industrial success.

Knowledge transfer by demonstration continues to be important despite growing codification and electrification of innovation, such as the use of expert systems, CAD/CAM and CIM. This is partly due to the fact that the complexity of the system limits the codification of knowledge.

Since this knowledge can be acquired only by personal experience or personal interactions with experts, several public programmes have been launched at the regional, national and Community level in recent years. These programmes cover support of knowledge transfer by mobility, site demonstrations, user-supplier relationships and through technology clubs.

Most Member States have implemented programmes of this kind, quite often following the example of similar schemes in another Member State, e.g. many mobility schemes have been inspired by the Teaching Company Scheme in the United Kingdom, such as CIFRE and CORTECH in France,

TECHSTART in Ireland, and The German TOP-Scheme.

An important effect of these programmes has been to increase the ability particularly of small and medium sized firms to identify and absorb technical competence. Programme managers are aware, however, of the difficulties in implementing such schemes with a large number of firms: firms will only participate once they can operate in a climate of trust, and feel that they can engage in both giving and receiving relationships.

At the conference the question was raised to create a European network for scheme managers for exchange of experiences. In addition it was requested to facilitate secondments for scheme managers across different countries.

This policy forum was the second of a series of workshops in the field of innovation support for firms and technology transfer, launched by the Commission of the European Communities as a part of the SPRINT programme. The seminars bring together programme managers, policy and strategy developers and experts in innovation support and technology transfer in order to exchange experiences and to inform on best practices.

The next workshops are scheduled as follows:

- * *November 15-16* Research and Technology Organisations - Strategies for the future
- * *December 6-7* The clustering of the innovative SMEs

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The Commission Assesses the Need for Science Parks Networks

The increasing number of Science and Technology Parks or similar initiatives in the Community raises issues of necessary communication and coordination between them, a trend which coincides with a spontaneous emergence of networks - local, regional, and national, formal and informal - around Science and Technology Parks.

These networks can include universities, research centres, public agencies, enterprises, etc. These organisations actively participate in technology transfer and diffusion, exchange of good practice, exchange of technical, financial and administrative information. Networks can be based on telematics, or depend on traditional means of communication. It is important that this movement develops as efficiently as possible and in a way that will allow for communication between the various networks across European national boundaries. It is of equal importance that the least favoured European regions are not left outside this networking process.

In this context, the Commission services responsible for Innovation and Technology Transfer, Telecommunications and

Regional Policies are jointly looking into the needs for and feasibility of supporting Networks of Science Parks and the Diffusing of Advanced Telematic Tools (SPNET).

Following a Call for Tenders, a consortium of experts and international consultants led by Segal Quince Wicksteed Ltd (UK) has been appointed to carry out a feasibility study on the networking of Science Parks. The study has three main objectives:

- 1) To verify the validity and need for new networks or for strengthening existing networks of European Science Parks,
- 2) To evaluate if the use by Science Parks and by their tenant companies of telematic applications, could support the transfer of technology, exchange of experience and co-operation between Science Parks, firms, and research centres locally or internationally.
- 3) To assess the potential role of the Science Parks as demonstration centres for local SMEs, specially in the least favoured and/or peripheral European regions. Science and Technology Parks located in these regions are usually vested with a role of technology dissemination to local business. They can, for example, play host to technology transfer centres, research valorisation units, etc. The use of some parks as demonstration centres for advanced telematic tools could be an efficient way of technology dissemination and encouraging the use of such tools in the regions around the parks.

Results, including the need for and conditions of possible Commission actions on the promotion of networks between Science and Technology Parks, are expected to be available at the end of this year.

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Technology Transfer Days 1993-95

SPRINT is organising eighteen Technology Transfer Days over the next two years to promote transnational technology transfer to selected firms by introducing companies to technology brokerage and liaison services located in different Member States. The emphasis is on selectivity. Brokers are previously briefed on the needs and resources of the selected firms who then arrive with potential partners in mind. These meetings, with a total Community contribution of ECU 600.000, will lead to technical co-operation between European SMEs.

Technology Transfer Days are designed to support technology transfer networks. Since 1986, SPRINT has supported about 300 transnational innovation networks of organisations (such as Chambers of Commerce and Industry, Research and Technology Institutes, Technology Brokers, Regional Technological Advisory Centres) providing technology transfer services to European SMEs. Along with other initiatives, these networks are considered to be significant in improving the industrial innovation capabilities of companies.

In 1990 SPRINT launched its first Call for Proposals which resulted in 23 Technology Transfer Days during 1991 and 1992. Following this successful programme, a new call for proposals to organise these events was launched at the end of 1992.

Following this call, 17 organisations were selected, including national agencies like EOLAS (IRL), DTI (DK) and ANVAR (F), and regional development bodies like IMPIVA (E), KTTIC (UK) and ARIST Alsace (F) to organise a series of Technology Transfer Days over the next two years throughout the Community. The European Association for the Transfer of Technologies, Innovation and Industrial Information (TII) is also organising five of these events across Europe in conjunction with some of its member organisations. SPRINT will coordinate these meetings to ensure a comprehensive and coherent overall programme, as well as good geographic coverage.

The following table indicates the full list of the events:

ORGANISER	LOCATION	DATE
EOLAS	DUBLIN (IRL)	NOV 93
SOGES	LECCE (I)	JAN 94
LEDU/T.I.I.	BELFAST (UK)	MAR 94
ARIST ALSACE	STRASBOURG (F)	APR 94
INFOGROUP SA	ATHENS (GR)	MAY 94
KTTIC	CANTERBURY (UK)	JUN 94
U. LIAISON OFFICE/T.I.I.	DRESDEN (D)	SEP 94
ANVAR	LYON (F)	SEP 94
DTI/DTO	COPENHAGEN (DK)	OCT 94
SOCRAN BIC/T.I.I.	LIEGE (B)	OCT 94
EMDEME	VISEU (P)	JAN 95
T.V.A.	BERLIN (D)	FEB 95
I.C.N./T.I.I.	TO BE DECIDED (NL)	MAR 95
ANVAR	BORDEAUX (F)	MAR 95
TECHNOLOGY EXCHANGE	BEDFORD (UK)	MAY 95
IMPIVA	VALENCIA (E)	JUN 95
ARD N. PAS DE CALAIS	LILLE (F)	SEP 95
ZABALA/T.I.I.	PAMPLONA (E)	DEC 95

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Going to Seed

Modern chemistry has high hopes of exploiting interesting molecules from the vegetable kingdom. The Sonca (Seed Oil for New Chemical Applications) project (under the EC's Eclair programme) concentrates on seed oils and their fatty acids.

Colza (rape) and sunflowers are the two plant species which produce the largest quantities of oil in the north and south of Europe, respectively. They are used essentially for foodstuffs but changes in agriculture (over-production) and chemistry (research into organic molecules from non-crude oil sources) have led to the Community supporting research aimed at opening up new outlets for these products.

Due to the presence of a number of fatty acids, such as oleic and erucic acid, colza and sunflower oil interest large sectors of both basic and specialised chemistry.

Eighteen universities, research centres and enterprises in five different countries are working together to explore new industrial applications for these products, under the wide-ranging Sonca project. This umbrella project spans a number of areas such as the selection and creation of new plant varieties, with certain qualities, such as high oil yield, high contents of single fatty acids in the oil, as well as resistance to disease and parasites.

Tests in the field are also covered as well as the definition of cultivation techniques, improving oil extraction methods and evaluating the physico-chemical and biochemical properties of the different oils.

In addition to research work on the two major species under consideration, the laboratories involved in the project are also studying and testing several less traditional varieties, such as coriander, spurge and laurel, which contain specific fatty acids, all with particular industrial applications.

The fatty acids contained in colza and sunflowers can be used for the production of basic chemical substances like fatty alcohols and sulphonates (found in detergents). These plants react differently in different environments and one of the challenges of the Sonca project is to master these diversities so as to provide industry with the means of adapting to them.

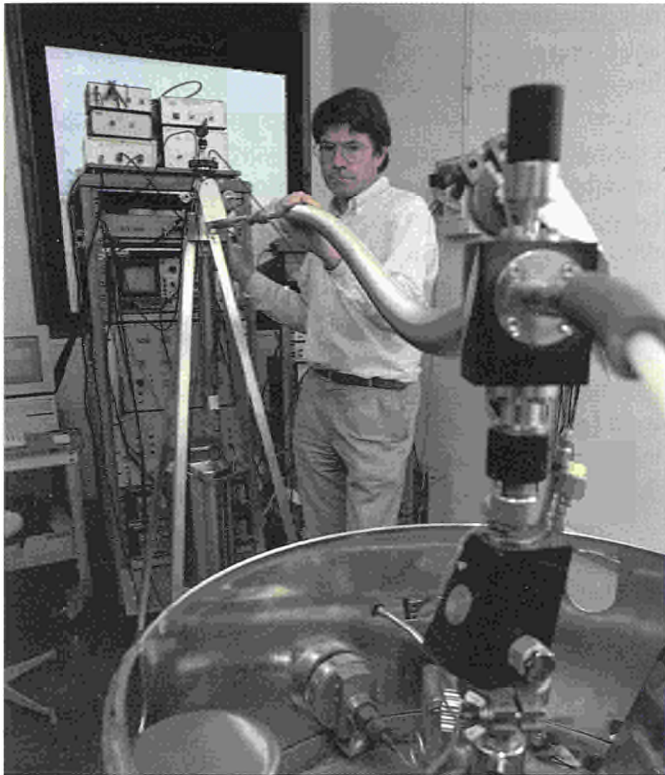
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Superconductivity material testing (Orsay, France)

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New Solutions to an Old Problem: Biodegradable Plastics

The general public in Europe today is taking more interest in the environment, and is increasingly concerned about current levels of pollution. As a result, there is growing demand for so-called "environmentally-friendly" plastics, which are biodegradable or photo degradable and of course non-toxic. Commonly-used materials like the polyolefins in plastic bags are biodegradable, photo degradable (if modified) or both. In the case of medical applications, it is also important to have suture material that can degrade properly and biocompatibility demands an accurate definition before it can be used.

Biodegradable plastics in particular are often considered the most useful because they are stable in use and degrade on disposal in a microbially-active environment, whereas photo degradable plastics are not stable in use if exposed to light and may not degrade if buried.

However, a Franco-British study headed by the University of Clermont-Ferrand is investigating the complete decomposition of plastics. Scientists are examining commercial polyethy-

lene products in the advanced abiotic (that is when degradation is caused by light, heat, oxygen or water) phase, to determine ways of increasing the "bioassimilation" of residues of polyethylenes in the ground. Experiments have shown that the breakdown of these plastics can be "programmed" in time.

Using commercial (or laboratory) polyethylene products, whose phototransformation can be increased by modifying their structures or by introducing additives, the study has shown that residues left after abiotic degradation can be bioassimilated. This is proven by the growth of certain microorganisms and some erosion of the polyethylene particles, in culture conditions where the polymer was the sole source of carbon. Research is now continuing into the extent of bioassimilation.

Where industry is concerned, European Community research is underway into a new biodegradable polymer which is produced from biomass, through fermentation. This is an ecological solution (a plastic that is not only biodegradable, but also of biological origin) and requires extensive research in order to reach the technical and economic performances level of polymer petrochemistry. Because of the complex relationship between biodegradability and other forms of degradation in the environment, industrialists understand the importance of offering "ecologically-friendly" products.

British and French scientists have studied the relation between the oxidation of polymers due to heat and light and biodegradation, by defining rigorous scientific parameters for these two means of degradation. Another collaboration, between Italian and British scientists, has concentrated on the polymers used in medicine to define new compounds (particularly polyamides, copolymers of glycine) and has defined the formulae, structures and parameters of their degradation. They can be used in suture applications like an implant.

Elsewhere, following the definition and production by ICI/Zeneca of a new biodegradable and biocompatible thermoplastic known as Biopol, collaboration between organisations in Germany and Britain has led to the development of oriented containers in Biopol. This new polymer is produced by bacteria (a process which has led to the granting of a patent) and the polymer is then melt processed to produce an oriented article. Biopol is currently used in a number of applications, including razors, bottles, cups and trays.

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Test facility for investigating the performance of wheels and traction aids in wet paddy fields

Increasing Vigilance at the Wheel

Every driver is familiar with the frightening symptoms of drowsiness when driving, especially on long trips and on motorways. Sadly, every year there are over 200 deaths on European motorways in accidents involving only one vehicle; that is, accidents caused by the monotony of driving and driver fatigue.

Researchers are looking into the problem of driver vigilance and its effect on road safety and are trying to determine whether noise or vibrations (or a combination of the two) can prevent drivers from dozing off. While comfort at the wheel is increasingly seen as an important factor in ensuring driver safety, the combined effects of noise and vibration on the driver's vigilance and reaction time have still to be determined. Two French laboratories, INRETS in Bron and the Institut de Recherches Orthopédiques in Garches, are conducting research on this subject under the Environment programme's "Projects on Synergetic Noise-Vibration Effects". Among research conducted, subjects (3 women and 6 men) were asked to drive over 15 000 km in order to test the joint effects of noise and vibrations on driver vigilance.

On-board recording systems were used to record parameters such as body posture, eye blinking, heart rates and brainwaves (EEG). For instance it was found that a typical tell-tale sign of decreasing driver vigilance was a forward inclination of the head. Following analysis, the researchers discovered that noise had a significant effect on vigilance, which decreases after two hours of driving when the noise level is over 80 deci-

bel. Vibrations, on their own or in association with the same noise level over the same period of time, have no effect. Therefore, research so far confirms the importance of driver organisations' recommendations that drivers stop every two hours, especially during stretches where driving is very monotonous (straight lines, constant speed, etc). Mechanical parameters (vehicle speed and steering wheel movements) and their relation to drowsiness are also being examined, in the laboratory and at the wheel, using video recordings of eye movements. The idea is to achieve precise correlations between the central nervous system, behaviour, subjective quality and dynamic car parameters. A prototype system is under development that would alert drivers to the possibility of drowsiness by generating noise alarm signals, with the prospect of an equivalent 'hard' system if this proves successful.

Despite difficulties linked to national ethical limitations on the use of volunteers for driving tests in the field, research is also looking at areas like the effect on driver vigilance of different noise frequency compositions and of longer driving periods. Other studies on vigilance will continue under the DRIVE programme (DETER Consortium) which will ensure European-level co-operation between the Netherlands, the UK, France and Norway. At the same time, vehicle and engine manufacturers are examining systems designed to reduce the most disturbing noise frequencies. Locating such frequencies accurately will allow inexpensive systems to be developed which could be adapted to fit all models of vehicles and not just those at the top of the range.

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CAD Textiles

Under a BRITE project, software known as Modil has been developed to aid the manufacture of clothing. Modil is able to cut the material while still respecting the style of the designer, thanks to a 3D/2D projection.

For designers, the challenge is to be able to see a piece of clothing in three dimensions, before making it. The pieces of clothing are cut in two dimensions, according to a "pattern" produced from a sketch by the stylist, which is itself drawn in three dimensions. A crucial stage (and one which is still manual) involves recreating the beauty of the volume imagined by the stylist, by "dressing" a dummy. Industrialists want two

things: firstly to retain the importance of the "artistic creation"; and secondly to have a machine capable of translating the artist's design into pieces, with the possibility of manipulating the volume, size, colours and so on.

BRITE project 1308 contributed to the development of software (Modil) that allows transition from 2D to 3D or vice-versa, with immediate corrections on screen. Working from the artist's original sketch drawn by an independent stylist, the dress designer (from the clothing company) can reproduce the model on a virtual dummy, in computer images. The software then "projects" the model in 2D and provides instructions about the cut, while taking into account linings and outer stitching. Once the designer is confident that the 3D version on screen is faithful to the copied designer's style, he can "grade" (produce the design of the patches, in any size), introduce the type of material or even cultural elements – given the tendency for regional fashion differences within a clothing style.

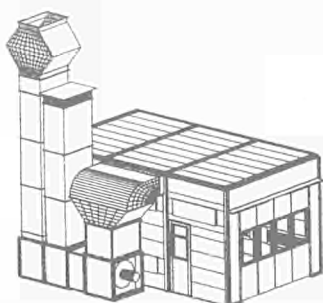
Since cloths come in wide strips, it is necessary to reduce wastage to a minimum when cutting them. Until now, dress-makers (an art that draws more on tradition than on training) were best able to figure out these complicated puzzles, often managing to fill up to 90% of the space. Yet for a 60-patch piece of clothing, there are 60! (factorial 60) combinations. The best software can achieve 82%, and the dressmaker is then able to increase this to 86% or 87%, with impressive reductions in time spent on this task. The challenge is to optimise the semi-automatic cutting while using the computer's data storage abilities. The advantages are clear: by using virtual images, the cost of producing prototypes is greatly reduced. And by reducing the time to design and manufacture garments, it is easier for manufacturers to keep up with fashions.

Further information available from:

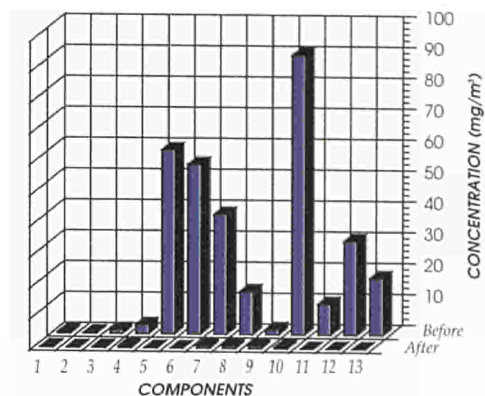
Mrs De Smet
CSC-Europe
Avenue Lloyd George 7
B-1050 Brussels

Solvent Filter for Spray Booths

Spray booths can present serious health and environmental problems when solvents are released during and after the painting process involving organic substances such as toluene, xylene, butylglycol, ethylbenzene, ethylacetate, butylacetate,



Example of filter installation



Solvent extraction from the air in a spray booth (list of components at the bottom of this column)

methanol, ethanol and isopropanol. These substances are highly toxic and in some cases even carcinogenic and almost all of them have unpleasant olfactory effects.

An R&D project which focused on modifying zeolites, funded by the VALUE programme of the Commission of the European Communities and carried out at Antwerp University Institute (UIA) by Prof. E Vansand in conjunction with a filter plant developed by W.V. Filters, Ingelmunster, Belgium, has produced an Envirom® filter for paint solvents.

The Envirom® solvent filter uses porous zeolitic substances. The specific solvent-absorption property of these zeolitic substances is due to their optimum porosity and affinity properties.

Tests carried out by independent laboratories and by potential users have shown that spray booths equipped with the Envirom® filter easily meet all current and forthcoming health and environmental requirements.

Information on Envirom® filters can be obtained from:

ENVIROM® CONSTRUCTION NV
Rue de l'Abattoir 53-59
B-7700 Mouscron
Belgium

COMPONENTS CONCENTRATION BEFORE AND AFTER FILTERING

No in graphic	Solvent type	Before (mg/m ³)	After (mg/m ³)
1	Acetone	0.52	0.31
2	Toluene	0.34	0.17
3	Ethylbenzene	1.22	0.31
4	Xylene	2.90	0.61
5	Heptane	59.59	0.10
6	Octane	54.95	0.10
7	Nonane	38.78	0.84
8	Decane	13.89	0.98
9	Undecane	1.68	0.98
10	Unidentified hydrocarbons	90.58	0.62
11	" "	10.00	0.01
12	" "	30.36	0.03
13	" "	18.47	0.03

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ESPRIT 3	There are currently no calls under this programme. The evaluation procedure for the second call, published on 12 March 1993, is expected to be completed by the end of July. There was a call for proposals for the European System and Software Initiative (ESSI) which closed on 7 June 1993 (OJ No C 114 of 24.4.1993).
RACE 2	A call was published in Official Journal No C 149 of 29.6.1993 with a closing date of 3 September 1993. An MS-DOS software disk is available to aid preparation of RACE proposals, and also provides a useful procedure for replying to calls for other RTD programmes.
DRIVE 2, DELTA 2, AIM 2, ENS, ORA, LIBRARIES, LRE	Calls in the area of learning technologies (DELTA 2) and Advanced Informatics in Medicine (AIM) have recently closed (OJ No C 121 of 1.5.1993). No further calls are anticipated in these areas during 1993. — A current call under the DRIVE 2 programme for Dedicated Road Infrastructure for Vehicle Safety in Europe (OJ No. C 166 of 17.6.1993) had a closing date of 29 July 1993. The call invited proposals for projects in which developments and results already emerging from ongoing research activities in transport telematics could be tested and validated. There are no further calls expected. — The LIBRARIES programme published a call for proposals (OJ No C 173 of 24.6.1993) which had a closing date in mid August. — In the field of Linguistic Research and Engineering (LRE), it was expected that a third call would be issued at the beginning of 1994. However, a second call published in OJ No C 259 of 8.10.1992 (closing date 11.1.1993) was so successful that it is now very unlikely that any further calls will be made. — (Opportunities for Rural Areas) There are no open calls planned for this year. A call is possible under ENS (European Nervous Systems) but no decision has yet been reached. If it is made, the call could be timetabled for Autumn 1993.
BRITE/EURAM 2	There will be no further main call this year.
CRAFT	Applications may be made at any time for feasibility awards for SMEs. Applications for training schemes may also be made continuously with selection taking place in June and November. CRAFT Step 1 proposals are evaluated on a continuous basis. Step 2 proposals were evaluated in June 1993, with further evaluations taking place in September 1993 and January 1994.
Measurement & Testing	No further calls are planned under the present phase of the programme.
Environment	A new call for tenders was published in Official Journal No C 139 of 18.5.1993 which had a deadline in mid July.
MAST 2	(Marine Science and Technology) A call for expressions of interest in biological research projects under MAST 2 (1990-1994) was published in Official Journal No S 114 of 15.6.1993 with a closing date of 2.9.1993. The general aim of the call is to strengthen and broaden biological research in the Mediterranean with particular emphasis on good coordination to the Mediterranean Targeted Project (1993-1996). A call for tenders for the management of ocean data and information was also published in the same Official Journal (closing date 8.9.1993).
BIOTECH	(Biotechnology) A second call is now under way, issued in Official Journal No C 114 of 24.4.1993 with a deadline of 31.8.1993. Subsequently, a third call has also been published in Official Journal No S 118 of 19.6.1993, closing date 15.12.1993. The third call was issued following the Council Decision providing a further budgetary appropriation for the Third Framework Programme.
AIR	(Agriculture and agro-industrial research) A call is planned for publication in September.
BIOMED	(Biomedicine and Health Research) No further calls are expected in the near future. Applications may be made at any time for junior and senior training grants (6-18 months) and for short training periods (6-12 months). Selections for these grants are made twice a year.
STD 3	(Life Sciences and Technologies for Developing Countries) A third call is now current, published in June 1993 (Official Journal No S 114 of 15.6.1993), with a deadline of 30.11.1993.
JOULE 2	(Non-Nuclear Energies) A second call closed on 25 June (published in OJ No C 119 of 29.4.1993). This was the final call for 1993.
Human Capital and Mobility	No further main calls are expected following that made in Official Journal OJ No C 139 of 2.6.1992 (which covered four Areas). A current call concerning large scale facilities has been published in OJ No S 122 of 26.6.1993. This call concerns only installations already preselected by the Commission in the main call. It is probable that a new call will be published in November, for organizations which have not already been selected by the Commission, and will have a closing date on or about 15 January 1994. The future deadlines for the receipt of joint proposals from selected organizations and research fellows are 1.9.1993 and 29.10.1993. Individual researchers should apply to the Commission together with their chosen centre or apply to one of the centres selected by the Commission. A selection round took place in July 1993 with a further round expected in October 1993. A current open call exists for scientific and technical networks. A further selection for the open call on "Euroconferences" may be scheduled for September 1993.
Controlled Thermo-nuclear Fusion	Open calls for proposals are not normally issued due to the aims and structure of this programme.
Nuclear Fission Safety	No calls are foreseen at present, either within the area of Reactor Safety or of Radiation Protection.
VALUE 2	An open call exists under the VALUE programme (the centralised action for dissemination and exploitation of the knowledge resulting from the specific programmes of RTD in the Community) concerning the funding of projects to promote the results of Community RTD, published in Official Journal No OJ C 230 of 8.9.1990. An open call is also current for awards to SMEs (OJ No S 131 of 9.7.1992).
SPRINT	It is unlikely that a further call for proposals will take place under the strategic programme for innovation and technology transfer (SPRINT 1, 1989-1993).
AVICENNE	(RTD cooperation with Maghreb and countries of the Mediterranean Basin) A call for proposals was published in OJ No S 111 of 10.6.1993 with a closing date of 15.9.1993.
THERMIE	(Programme for the promotion of energy technology in Europe) A current call was published in OJ No C 171 of 22.6.1993, closing on 4.10.1993.
TIDE	A call for proposals was published in OJ No C 111 of 21.4.1993 and closed on 18.8.1993.
TEDIS 2	(Trade Electronic Data Interchange Systems) A call concerning EDI closed on 30 June 1993 (published OJ No C 120 of 30.4.1993).
FORCE	A call for proposals is current under the action programme for the development of continuing vocational training (FORCE, 1991-1994). Two dates are set for the receipt of proposals; 9.9.1993 (Strand I applications) and 31.10.1993 (Strand II applications).
COMETT II	(Programme for cooperation between universities and industry for training in the field of technology, 1990-1994). A call for proposals will be published around mid-September, 1993, with a deadline expected on 18 December 1993.
NOTE	<i>Under a proposed new procedure, future calls may be published in the Official Journal at regular, possibly quarterly, intervals. This is part of a proposal by Commissioner Ruberti and should make it easier for those interested to respond to calls.</i>

Commission Guidelines on Space

In its recently published guidelines for increased Community support for the European space effort (COM(92) 360 FIN), the Commission outlined its plans.

The Guidelines recommend that the Community's contribution should concentrate on promoting the optimum development and exploitation of Earth observation applications (in particular through helping to set up a European operational system to study and monitor the environment) and encouraging increased and intensified use of satellite data in the framework of other Community policies;

- creating appropriate regulatory conditions to permit the development of new markets for satellite communication services;
- developing compatibility and synergy between Community R&D programmes and the programmes of the European Space Agency and the Member States, with particular attention to the sector's future technological needs;
- encouraging the consolidation and growth of a competitive space industry and promoting its interests at international level, within the framework of the Community's industrial and commercial policies;
- encouraging the expansion of balanced international co-operation, notably in the context of the new opportunities for co-operation with the CIS and the Central and Eastern European countries.

On 29 April the EC Council of Ministers approved the guidelines, finding that they offered a pertinent overview of the situation of space activities in Europe and that their broad objectives afforded a useful basis for determining future Community activities in this area. The Council recommended that the Commission should continue to develop its role as a user of space technology, in particular Earth observation, with a view to optimising the use of satellite data and the implementation of Community policies.

The Council agreed that the question of Community support for space-related RTD activities, should be considered when deciding on the Fourth Framework Programme and its specific programmes.

European Space Agency: New Council

At the 109th meeting of the European Space Agency Council (ESA), held at the Paris headquarters on 23 and 24 June, Mr Pieter Gael Winters from the Netherlands was elected Chairman for two years, taking over from Professor Francesco Carrassa from Italy. Mr Winters is a graduate in economic science of the University of Amsterdam and has held various posts in the Dutch Ministry of Economics Affairs, acting as Deputy Director General for Industry since 1992.

The term of office of Mr Jean-Marie Luton, Director General since 1990, was extended unanimously until September 1998. Mr Luton, a graduate of the Ecole Polytechnique, has acted as Director of Space Programmes at Aerospatiale and as Director General of the Centre National d'Etudes Spatiales.



Improvement of yield and food conversion in salmon and maricultured fish (Stirling, UK)

The Council also appointed Mr Gianfranco Emiliani from Italy as Director of Observation of the Earth and its Environment for four years, replacing Mr Philip Goldsmith from the U.K. Mr Emiliani has a degree in electrical and electronics engineering, having studied at the Livorno Naval Academy and at the University of Pisa, and has been Head of the Columbus Programme Department at ESA since 1986.

The Council also gave the go-ahead for the polar platform programme, the Envisat mission, the Metop preparatory programme and work on the DRS data relay satellite. This reflects the ESA Member States' concern to give Europe the most advanced means with which to draw up a genuine inventory of the Earth and its environment.

ERS-1 was launched in July 1991 and ERS-2 will take over in 1994, after which the Polar Orbit Earth Observation mission programme will commence in 1998, providing continuity, firstly with Envisat, an experimental ecological monitoring mission and secondly with Metop, a meteorological observation mission. The geostationary DRS satellite will guarantee European autonomy in transmitting data between satellites or platforms in low-Earth orbit, particularly Envisat and Metop and the ground stations.

Finally, the Council approved the agreement between ESA and France on the funding and operation of the Guiana Space Centre and authorised the Executive to take the necessary steps to approve Finland as a full member of ESA.

Satellite Communication Sector: EC Council Adopts Common Position

On 16 June, the Council of Telecommunications Ministers adopted a common position on the proposed Directive to approximate the laws of the Member States on satellite Earth station equipment; this Directive will amend Directive 91/263/EEC on Terminals.

The proposed Directive is designed to end the fragmentation of the Community market, which has held up the development of satellite communication. A dynamic market in the field of satellite communications equipment and services would have substantial benefits for the European space and

telecommunications industry and for the European economy generally.

Against this background, the Commission adopted a Green Paper on a Common Approach in the field of Satellite Communications in the EC in November 1990. This set out proposals for a coherent Community policy in the sector.

The proposed Directive responds to the major policy goals set out in the Green Paper. It proposes harmonisation and liberalisation for appropriate satellite Earth stations, lays down harmonised procedures for certification, testing, quality assurance and product surveillance of satellite Earth station equipment and provides for mutual recognition of conformity.

The common position reached by the Council is the first step in removing obstacles in the Community for satellite communications equipment and services and a second series of proposals can now be made to eliminate all remaining problems. Following the Council's conclusions, the proposed Directive has been sent to the European Parliament for its second reading.

European Chemicals Bureau

The Commission of the European Communities has established a European Chemicals Bureau as part of the JRC's Environment Institute, which will carry out a number of the scientific and technical tasks necessary for implementing Community legislation to control chemicals. The Bureau will assume an increasingly important role in the assessment, management and control of risks posed by existing and new chemical substances.

Five major work areas have so far been identified for the Bureau. These will cover the classification and labelling of dangerous substances (Directive 67/548 EEC as amended/modified), notification of new substances (6th and 7th amendments to Directive 67/548), testing methods (Annex V of Directive 67/548), existing chemicals (Council Regulation 793/93, OJ L 84 of 23.3.93), and export and import controls (Council Regulation 2455/92).

EUCLID, which is the European Chemical Inventory Database, has been established and operational for the first half of this year. This database will receive, process and store all the data submitted by industry in accordance with the existing Chemicals Regulation.

Based on the data in EUCLID, the Bureau will harmonise procedures for priority setting and risk assessment of existing chemicals and will take part in the application and validation of Quantitative Structure Activity Relationships (QSAR) to estimate the fate and properties of existing chemicals where there is a lack of experimental data.

Annex 1 of Directive 67/548 will be continuously adapted to technical progress in the light of new scientific information to keep users informed of the hazards of the many chemical substances marketed each year.

The Bureau will co-ordinate the development, updating and adaptation to technical progress of experimental testing methods which have to be applied to determine the properties of hazardous or dangerous chemicals. It will perform this work



Food tolerance procedures and relationship between mucosal integrity, allergy and adverse reactions (Surrey, UK)

in co-ordination with the OECD to establish testing methods which can be applied world-wide and which are recognised outside the Community.

The Bureau will provide essential support for notification procedures of new chemicals throughout the Community, including listing substances no longer considered as polymers (pursuant to the 7th Amendment to Directive 67/548). The complete transfer of technical and scientific responsibilities for the EC new chemicals notification system to the Bureau should be completed by 1994. From this date the Bureau will be in charge of information exchange between the Member States, third countries and UNEP/FAO as well as monitoring the export and import of potentially hazardous chemicals.

Other objectives will be developed later and meetings with national experts responsible for the implementation and management of EC chemicals legislation will be co-ordinated by the Bureau.

The scope of the Bureau, which became operational on 1 January, will be increased over a number of years and should reach full capacity by 1996, with about fifty staff, compared to its present staff of fifteen. It is expected that the Bureau will develop into a substantial centre of excellence, capable of undertaking an extensive range of scientific and technical activities and recognised as such internationally.

Scientific Advisers for Research and Education

On 4 March, Mr Antonio Ruberti, the Commissioner responsible for research and education, met Mr François Gros and Mr Carlo Rubbia, two of his scientific advisers on direct Community research policy.

Mr Gros is a university professor and is Director of the Pasteur Institute in Paris. He has held official positions with the French government as well as with the Commission of the European Communities. He has been involved particularly in molecular biology research and is very concerned about the social and ethical impact of advances in knowledge and technologies in the life sciences. He will advise Mr Ruberti on the

problems and prospects of life sciences and technologies.

Mr Rubbia is a physicist and a university professor who has served as Director-General of the CERN and has also chaired a panel of experts responsible for conducting a study of super-computer requirements in Europe for the Commission of the European Communities. Together with the Dutch physicist, Mr S Vandermeer, Mr Rubbia received the Nobel Prize for Physics in 1984 for discovering elementary sub-atomic particles. Mr Rubbia will be responsible for advising Mr Ruberti on matters concerning the "internationalisation" of research and the globalisation of major projects.

Another of Mr Ruberti's scientific advisers, Mr Ilya Prigogine, is a physicist and chemist by training and is a specialist in statistical physics and the study of dynamic systems, and more specifically complex and non-linear phenomena. He is Director of the E. Solvay International Chemistry and Physics Institutes of the Free University of Brussels and received the Nobel Prize for Chemistry in 1977 for his work on dissipative structures. He has also been involved in Commission of the European Communities initiatives on the mobility of research workers. His advice to Mr Ruberti will concentrate on strengthening relations between Community research activities and the scientific community.

Association for Scientific Cooperation with the ex-Soviet Union

On Tuesday, 29th June, the General Assembly of the Association held its inaugural session in Luxembourg, which, incidentally, was followed the next day by a meeting of the Commission's Research Council.

The Association is the result of an initiative taken by the Commission of the European Communities to break the relative isolation of scientists in the former Soviet Union by supporting scientific cooperation with their counterparts in the Community. It is hoped that this cooperation will foster social and economic progress in these countries as well as consolidate the democratic developments which have already been achieved.

The Association's General Assembly will look at ways to implement its objectives and will decide on the priorities for the budget. The provisional budget for 1993 will include a 25 million ECU contribution from the Community as well as other contributions from the founding members. The Assembly will also select the first joint research projects for co-financing and will decide on research topics to be considered and how proposals are to be submitted.

The Association's Secretariat will be assured by the Commission, while its Council of Scientists will be composed of scientists from the Community's twelve Member States as well as from the Independent States of the former Soviet Union. The Association may well expand to include the EFTA countries, some of which have already expressed an interest in participating.

Human Capital and Mobility

The Human Resources and Mobility Programme, which comes under the Third Framework programme, promotes the mobility of young researchers, principally at post-doctoral level, with the objective of creating a true European scientific and technical community. The programme enables participants to spend up to two years in a research establishment in another Member State.

As well as training, the programme includes activities involving the establishment of scientific and technical research co-operation networks and measures to promote access to large-scale scientific facilities as well as organising Euroconferences.

Information packages and application forms relating to fellowships and other activities under the programme are available from:

Human Capital and Mobility Programme
DG XII-G
Commission of the European Communities
Rue Montoyer 75
B-1040 Brussels
Tel: +32.2. 296 0254, Fax: +32.2. 296 63307

Further information is available as follows:

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Jean Ferron Tel: +32.2. 295 4250, Fax: +32.2. 295 6995

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Marco Malacarne Tel: +32. 2. 295 5277, Fax: +32. 2. 295 6995

EUROCONFERENCES

Jane Shiel Tel: +32. 2. 296 2984, Fax: +32. 2. 296 3307

Eurotech Capital Meeting

As part of the Eurotech Capital Community action, the sixth Eurotech Capital Meeting was held in Zaventem on 19 March and was organised by Euroventures Benelux which is a member of the Eurotech Capital network.

The Eurotech Capital network currently has 11 members: Euroventures Benelux (Benelux), Techno Venture Management (Germany), Rothschild Biotechnology Investment Ltd (U.K.), Instituto Nacional de Industria (Spain), Sofinnova (France), Inolion (France), Partech International (France), Sofipa (Italy), FIP (Italy), Eurosud (France/Italy) and Gilde Investment Fund (Netherlands). The members have undertaken to invest some ECU 170 million in transnational high technology projects.

The meeting was attended by European firms from the biotechnology sector and venture capitalists belonging to the Eurotech Capital network.

R&D programmes in the biotechnology sector, such as BEP, BAP, BRIDGE and BIOTECH, were presented, in addition to the VALUE programme for the exploitation of research findings and the Eurotech Capital Community action for investigating funding for high-technology firms.

Firms were able to meet officials responsible for the various Community programmes and members of the Eurotech Capital network.

The Community's Environment Policy

On 1 February, the EC Council passed a Resolution (Official Journal C 138 of 17.5.93) on a Community programme of policy and action in relation to the environment and sustainable development.

Over the past two decades four Community action programmes on the environment have resulted in some 200 pieces of legislation covering pollution of the atmosphere, water and soil, waste management, safeguards relating to chemicals and biotechnology, product standards, environmental impact assessments and protection of nature.

While a great deal has been achieved under these programmes and measures, a combination of factors now calls for a more far-reaching policy and a more effective strategy. Just as the challenge of the 1980s was the completion of the internal market, the reconciliation of environment and development is now one of the principal challenges facing the Community and the world in the 1990s.

The new programme will address such issues as acidification and air pollution, depletion of natural resources and biodiversity, depletion and pollution of water resources, deterioration of the urban environment and of coastal zones. Regarding these issues as symptoms of mismanagement and abuse, the programme's philosophy is that current patterns of human consumption and behaviour are at the root of environmental problems. With this distinction in mind, priority will be given to the following areas:

- sustainable management of natural resources;
- integrated pollution control and prevention of waste;
- reduction in the consumption of non-renewable energy;
- improved mobility management;
- improvement of environmental quality in urban areas;
- improvement of public health and safety.

The sectors of industry, energy, transport, agriculture and tourism have been selected for particular attention.

In order to increase the impact of the programme by involving all sectors of society, legislative measures will be complemented by market-based initiatives and financial support mechanisms. This new approach will require the involvement and co-operation of a range of economic and social partners rather than relying on legislative intervention which has been the case up to now in implementing Community environmental protection policies.

While the programme is targeted for the year 2000, it will be reviewed at the end of 1995 in the light of improvements in rel-

evant data. The results of current research and scheduled reviews of other Community policies in industry, energy, transport will also contribute to this process.

Institute for Remote Sensing Applications Call for Tender

The Institute of Remote Sensing Applications of the Joint Research Centre invites tenders for the rationalisation and upgrading of its computing facilities. This is in line with the requirements of its research staff (Official Journal C 144 of 25.5.1993).

The Institute wants to replace its current computer network with facilities which meet the demands of data transfer and sharing of resources. The contractor will be required to design, procure, install, configure and commission a computer network which meets these requirements. The contractor must also provide training in the operation and administration of the network for personnel nominated by the Institute as well as provide maintenance of the network for a period of three years after its commissioning.

Tenders must be submitted by 22 August 1993 to:

Mr R G Crandon
Joint Research Centre
Commission of the European Communities
TP 441
I-21020 Ispra
Tel: +39. 332. 78 98 28, Fax: +39. 332. 78 95 36

Open Network Provision for Voice Telephony

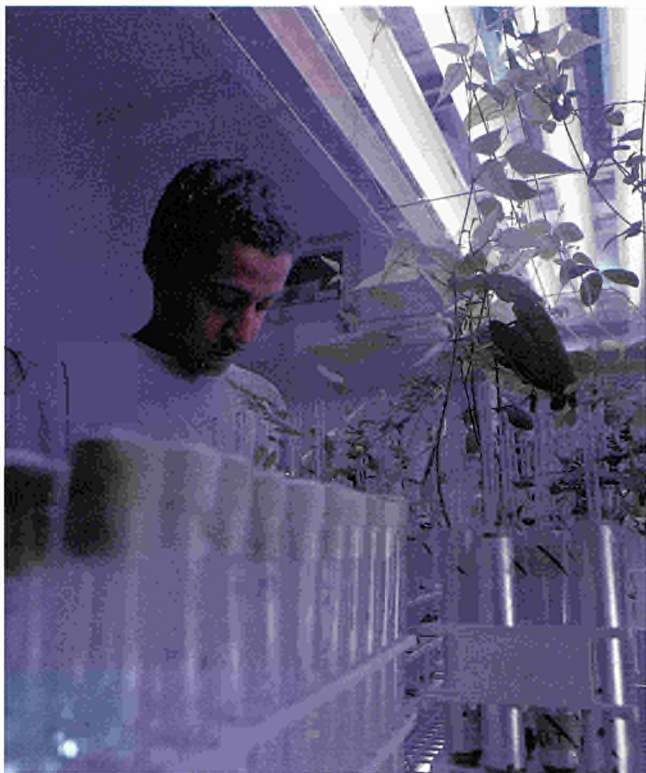
During its session of 10 May 1993, the Telecommunications Council noted its approval, by qualified majority (Spain abstained and Portugal voiced a negative opinion) on the proposed Directive on the application of Open Network Provision (ONP) to voice telephony (COM(92) 247 of 27.8.1992 and COM(93) 182 of 7.5.93). It is expected that the Directive will be formally adopted during the Council's next session after the definitive texts have been prepared.

Adoption of the Directive is viewed as a crucial step towards harmonisation in this sector since these services represent the largest activity, both in size and economic importance, of telecommunications operators.

The objectives are to:

- establish the rights of users of voice telephony services vis-à-vis telecommunications operators;
- improve access for all users, including service providers, to the public telephone network infrastructure;
- encourage Community-wide provision of voice telephony services.

The Council stressed that for certain important aspects of voice telephony (quality of service, billing, supply of comple-



Production of cassava cultivars with acyanogenic roots (Frederiksberg, Denmark)

mentary services), the proposed Directive designates the Commission to control the actions of the Member States to ensure that there is a Community-wide convergence. Therefore, the Directive provides a procedure allowing the Commission, assisted by a regulatory body, to take binding measures if this targeted convergence were to be deemed insufficient.

Research Council Conclusions

EC research ministers held an in-depth debate on the proposed Fourth Framework Programme of Community Activities in the Field of Research and Technological Development for 1994-98 at the Council meeting of 30 June.

The debate focused on the breakdown of financial resources between the four activities of the programme (RTD programmes, international cooperation, dissemination of results, training and mobility) and between the main lines of Activity 1. Significant progress was made towards a convergence of views, although further work remains to be done. It is hoped that agreement can be reached by the end of the year.

The Council also discussed the issue of the need for improved management of Community RTD programmes, in particular with the Fourth Framework Programme in mind, and concluded that:

- detailed criteria and mechanisms should be set up to ensure cost-effective implementation and improved management of the Framework Programme so as to ensure that its objectives are fully met;
- improved procedures should be introduced to guarantee that the evaluation of the Programme is conducted in a systematic, independent and timely manner;

- the initiatives of the Commission on improving management of EC research programmes should be further developed for the effective implementation of the Fourth Programme;
- procedures and tools for programme implementation should be simplified and harmonised to facilitate participation in programmes, particularly by SMEs, and to permit smooth, transparent and timely implementation of the Framework Programme;
- improvements in specific areas should be made, such as the shortening of delays between the receipt of proposals and the start of selected projects and the provision of information to non-successful proposers;
- the Commission proposed assessment of the possible benefits and disadvantages of decentralised management and other concrete measures in this field should be concluded as soon as possible;
- further clarification is needed of new types of activities proposed by the Commission, such as thematic networks of excellence, concertation networks and consortia for integrated projects;
- coordination between the Commission and programme committees should be improved to create a real partnership and improve efficiency;
- the Commission should take account of the above conclusions in its work to improve the management of Community RTD programmes and should keep the Council informed of its progress on a regular basis.

Results of the 1992 Call for Proposals under the Libraries Programme

A total of 97 proposals were received in response to the second call for proposals (October 1992) for the Libraries programme, within the framework of the specific programme for telematics systems in areas of general interest (1990-1994). The proposals represent 500 participants from 438 organisations in all Member States (except Luxembourg) and some EFTA countries.

Of the 19 proposals retained after technical evaluation representing 98 participants from 11 Member States, 15 have been selected for first priority negotiation as a result of strategic considerations.

There are two test-bed projects in the OSI standards areas, namely, the use of X.500 protocols and structures to support an enquiry and reference information system, and the development of a gateway between two search and retrieval standards (Z39.50 and ISO SR). The selected service-oriented projects will explore extending and improving access to information sources for users of mobile libraries, end-users accessing the academic networks, distance and independent learners in public and higher education libraries and public library users requiring Community or quick reference material. A number of projects will test access to information and delivery of documents for specific categories of users such as aerospace, research and industry, distance learners and those requiring chemical infor-

mation and in specific national contexts (Italy and Portugal).

The technologies benefiting from selected projects include:

- network interfaces for on-line access and ordering;
- electronic delivery methods including telefax;
- development of multi-media front-end tools;
- testing technologies new to libraries such as voice recognition and communications technologies.

Further information available from:

Mme Ariane Iljon

DG XIII-E/3

Commission of the European Communities

Jean Monnet Building (C5/66)

L-2920 Luxembourg

Tel: +352. 4301 332 923 or 332 126, Fax: +352. 4301 333 530

Contribution of Community Research to Economic Recovery in Europe

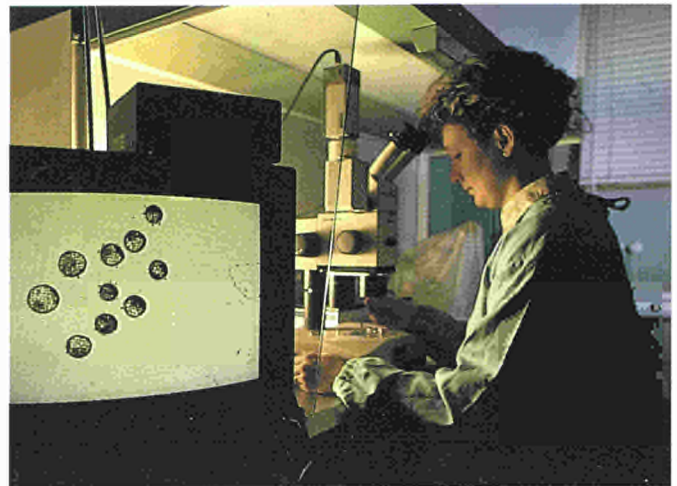
A wide range of actions and measures to promote economic recovery in Europe has been announced over the last few months, at both national and Community level, for implementation during 1993. RTD has, of course, a crucial role to play in shaping the overall competitiveness of the European economy. Significantly, the additional funds made available for the Third Framework Programme will include actions directly targeted at stimulating employment and increasing industrial efficiency.

Specifically, the additional ECU 900 million will make it possible to assist:

- 4000 doctoral or post-doctoral research grants (Human Capital and Mobility Programme, ECU 200 million);
- 200 grant holders (different specific programmes);
- the employment and retraining of 600 technicians (the Industrial and Materials Technology Programme (BRITE/EURAM II, also known as TIM), ECU 20 million);
- the direct employment of 3000 established researchers (different programmes, ECU 600 million).

The Industrial and Materials Technology Programme is planning to launch a series of targeted research projects to create close links between researchers and users in order to speed up the adoption of generic technologies. Forty-one projects have been selected in the areas of clean technologies and flexible production for a total cost of ECU 147 million.

The area of non-food uses of agricultural products will be the principal beneficiary of the additional ECU 43.6 million granted to the agro-industry research programme. In the use of biomass for energy production, it is estimated that 25 to 35,000 jobs could be created on a million hectares. This represents 7% of the land in the Community which is currently not in use. Regarding aeronautical technology, studies by the relevant Commission services show that research funded under the Industrial and Materials Technology Programme in areas such as composite materials and the reduction of engine emissions could improve the competitiveness of the European air-



Development & refinement of biotechnology procedures for the in-vitro storage and transfer of bovine embryos (Vale de Santarum, Portugal)

craft industry and consequently its market share.

The recent evaluation by the University of Strasbourg of a wide range of research projects with industry involvement concludes that the share of the additional funds granted to these projects will generate, in terms of direct economic effects, around ECU 2,500 million and, in terms of indirect economic effects, around ECU 800 million over a period of 5 years.

ECCM-6 and Associated Conferences on New Materials

The Sixth European Conference on Composite Materials, ECCM-6 is being organised by the European Association for Composite Materials (EACM) and sponsored by the Commission of the European Communities. It will take place in Bordeaux on 20-24 September 1993.

This year's series of major technological and scientific workshops and colloquia in the field of new materials is built on the success of those which took place in Bordeaux 1985, 1989 and 1992; London 1987; and Stuttgart 1990. It is expected to attract active participation from scientists of many countries.

The 1993 events include:

- BRITE/EURAM workshop focusing on polymers and composites (20-22 September 1993);
- CRAFT workshop, featuring some 15 project ideas (21 September 1993);
- HT-CMC international conference on ceramic matrix composites (20-24 September 1993);
- a ECCM-6 debate on all aspects of composite materials (21-24 September);
- SMART materials, featuring structural monitoring and structural control (21-22 September 1993);
- Recycling concepts and procedures colloquium, dealing with thermoplastic and thermoset matrices (22-23 September);
- the Euro-Japanese colloquium on ceramic fibres (23-24 September).

Further information on the BRITE/EURAM or CRAFT workshops is available from:

BRITE/EURAM Helpline
Commission of the European Communities
 200 rue de la Loi
 B-1049 Brussels
 Tel: +32. 2. 295 23 45, Fax: +32. 2. 295 80 46

ECCM-6 registration forms and programme plus details of EACM membership are available from:

European Association for Composite Materials (EACM)
 2 Place de la Bourse
 F-33076 Bordeaux Cedex
 Tel: +33. 56 01 50 20
 Fax: +33. 56 01 50 05

COMETT II Call for Application Package

The COMETT II programme for education and training for technology (1990-1994) is managed by the Task Force on Human Resources, Education, Training and Youth of the Commission of the European Communities.

A COMETT information package is available for University-Enterprise Training Partnerships (UETPs) wishing to apply for support under COMETT calls for applications. It contains details and explanations of the procedures established by the Commission for the 1993 and 1994 calls for applications as well as all the forms to be used for submitting proposals, and therefore permits applications for the 1994 call to be formulated well in advance.

The dates for the 1994 call described in the publication are:

- September 1993, launch of the call;
- 18 December 1993, deadline for submissions;
- March 1994, publication of decisions;
- May 1994, start of contracts.

Further information, including a list of COMETT Information Centres in EC and EFTA countries, is available from:

COMETT Technical Assistance Office
Commission of the European Communities
 14 rue Montoyer
 B-1040 Brussels
 Tel: +32. 2. 296 63 22, Fax: +32. 2. 295 57 19

IMPACT II and the Success of the National Focal Points Initiative

Four years ago, the less favoured regions' participation in the first phase of IMPACT (Information Market Policy Actions), the Community programme for the establishment of an internal information services market, was minimal and the Commission conducted a study to identify the means of reme-

dyng this situation. One means was to establish a local promotion point in each of these regions to increase information and market awareness and to promote the implementation of the relevant EC programmes and activities.

A network of National Awareness Partners (NAPS) throughout the Community was established with an additional network of National Focal Points for the less favoured regions. Both networks aim to promote the use of electronic information services at local level, acting as contact points with the appropriate Commission authorities and supporting the dissemination of relevant information through adequate distribution and through exhibitions, conferences, seminars, workshops. The NFPs also have responsibility for collecting and transferring data concerning the local information market to the Information Market Observatory and for distributing Observatory reports locally. They also assist in the preparation of DG XIII's special reports on the local information market and, in collaboration with DG XIII and various specialised companies, provide appropriate support to related training activities.

The NFPs inform relevant organisations about IMPACT 2 calls and, for this purpose organise information days and secure on-time provision of all relevant material as well as offering advice on preparation of proposals. The most important role they play in relation to calls is in bringing together potential partners and, to promote this, a Partnership Database has been established and is regularly updated locally with analytic profiles of all interested organisations which are internationally exchanged whenever a suitable opportunity arises.

The current situation under IMPACT 2 (1991-95), as compared to IMPACT 1, reflects the increased number of smaller projects permitted and the definition of a central theme 'Info Euro Access' which places increased emphasis on the demand side of the market.

The decentralised approach vis-à-vis the NFPs, with DG XIII acting as coordinator of the activities carried out by the NFPs and NAPS, has proved to be highly successful in providing improved access of information for the final user, through their local presence, as well as increased interest for final products i.e. strengthening of the demand for specific information services. The success of this approach is reflected in the high increase in participation of the less favoured regions and of SMEs. As evidence of this, in the last call for proposals concerning the Geographical Information Systems, 117 out of the 190 proposals submitted originated from Italy, Greece, Spain, Portugal and Ireland and involved 129 organisations from Italy, 82 from Greece, 78 from Spain, 33 from Portugal and 22 from Ireland, namely 344 organisations out of a 603 total.

What now needs to be determined is whether the NFP system has increased the degree of actual involvement of the organisations from the less favoured regions and the extent to which they have succeeded in transferring know-how. If these factors are positive, the NFPs may set a pattern for the future, since the need for a similar structure appears to exist in other Community programmes where the participation of SMEs, in particular from less favoured regions, is weak. NFPs can also provide a crucial role in diffusing the results of RTD programmes to as many organisations as possible.

The NFPs success in relation to IMPACT 2 depended on adequate funding, selection of the appropriate organisation and properly managed decentralisation. Should similar structures be adopted for other programmes, efforts will be needed to ensure that these issues are properly addressed.

Additional funding could be raised from those enterprises which will benefit from the establishment of a focal point in their region.

Selection of a given organisation to act as an NFP should depend on involvement with the respective market (either as producer or active information provider), comprehensive knowledge of the peculiarities of the local environment and the wider European context, the presence of competent and highly motivated manpower, well-established connections and a flexible organisational structure with the minimum amount of bureaucracy and maximum ability to respond quickly to incoming requests.

In relation to decentralisation, while the tool-set for the diffusion of information is already well-equipped, the method of application of these tools needs further enhancement, in particular further effort is required in terms of the degree of individualisation through the implementation of an effective marketing policy.

Therefore, for an expansion of the NFP initiative to other areas of activity, the existence of a multiplicity of abilities or an ability to develop them is crucial in choosing the relevant organisation to act as NFP, given the wide variety of issues to be addressed.

Further information from:

IMPACT Central Office
Commission of the European Communities
DG XIII/E, Jean Monnet Building
L-2920 Luxembourg
Tel: +352. 3498 1222, Fax: +352. 4301 32847

Freephone:

Belgium	078118437
Denmark	80010737
France	05906937
Germany	0130823337
Netherlands	060223137
United Kingdom	0800899256

Environmental Damage

The Commission's recent Green Paper aims to stimulate discussion about remedying non-accidental environmental damage (COM(93) 47) in the hope that the Community will be given the means to tackle this issue, in particular through the harmonisation of national legislation.

The principle of civil liability, as a legal and financial tool to make those responsible for causing damage pay compensation for the costs of remedying the damage, is useful in two ways. It serves to identify the persons responsible and obliges them to compensate victims and plays a preventive role in discouraging people from causing further damage. There are two approaches to civil liability, fault-based liability, necessitating



Production and use of galacturonic acid as feedstock (Grenoble, France)

proof of a negligent or wrongful act, and strict liability, where there is no obligation to establish fault.

The Commission's paper draws attention to the problems of implementing the principle of civil liability, with or without fault. In particular, it is not always easy to prove the offence or the causal link between the offence and the damage suffered. It also has to be established what activities constitute a serious threat to the environment and should therefore be subject to a system of strict liability. It can be difficult to prove who is responsible for the damage, the issue of what constitutes adequate compensation and whether risks are insurable still have to be determined.

Moreover, the paper discusses the situation when the principles of civil liability cannot be applied, calling for discussion about the degree to which different systems of joint compensation and collective indemnification mechanisms can be used in such cases.

Comments on the Green Paper should be sent before 1 October to:

DG XI (Environment, Nuclear Safety & Civil Protection)
Commission of the European Communities
200 rue de la Loi
B-1049 Brussels

Copies of the Green Paper are available from:

Office for Official Publications of the EC
2 Rue Mercier
L-2985 Luxembourg
Tel: +352. 49 92 81, Fax: +352. 48 85 73

The BCR Programme on Applied Metrology and Chemical Analysis: Projects and Results 1988-1992

Commission of the European Communities
 DG XII, Community Bureau of Reference
 EUR 14800
 xvi + 312 pp
 ECU 28.50

This publication summarises the results of research projects carried out under the Community's Measurement and Testing Programme (BCR) between 1988 and 1992.

The purpose of these projects is to improve the accuracy of existing methods of measurement and testing and to help introduce conformity in the manner in which they are implemented as well as to contribute to the development of new methods. A number of projects have led to the development of certified reference materials which can be used by laboratories to verify if their own results are correct. Projects in the field of metrology have also helped to improve the harmonisation of the calibrations provided by official laboratories to industry throughout the Community.

The publication covers 145 projects related to chemical analysis, mainly concerned with the environment, food, agriculture and medical care, 106 projects related to applied metrology (mechanical metrology, temperature, optical metrology, electrical metrology, acoustics and ultrasonics, flow measurements, physical properties, standardised tests) and 20 projects related to the testing of various chemical products (metals and industrial products, surface analysis).

Available from:

Office for Official Publications of the EC
 2 Rue Mercier
 L-2985 Luxembourg
 Tel: +352. 499 281, Fax: +352. 488 573

Further information on BCR is available from:

Dr. J. J. Belliardo Tel: +32. 2. 295 31 15
 Mrs. R. Vercruyse Tel: +32. 2. 295 80 72
 Fax: +32. 2. 295 80 72



European Inventory of Chemical Substances

The European Commission has published the third edition of ELINCS (European List of Notified Chemical Substances, OJ C 130 of 10.5.93). This list supplements EINECS (the European Inventory of Existing Chemical Substances published in Official Journal C 146 A of 15.6.90).

It also replaces the previous list (published in OJ C 139 of

29.5.1991) and consists of all the chemical substances notified up to 30 June 1992 in accordance with Article 6 of Directive 67/548/EEC on the classification, packaging and labelling of dangerous substances, as amended for the sixth time by Directive 79/831/EEC (OJ L 259 of 15.10.1979).

European Community Atlas of Avoidable Deaths

Oxford University Press

The European Commission working group on health services and avoidable deaths recently published Volume 2 of the second edition of the European Community Atlas of Avoidable Deaths (Volume 1 of the second edition was published in 1991).

This publication describes mortality in 1980-1984 for a further eight medical conditions where death is partly avoidable, given appropriate and timely medical intervention.

The first edition of the Atlas was published in 1988 and described "avoidable mortality" from seventeen conditions in ten countries during the years 1974-1978. In addition to complementing this existing information, the second edition also compares the differences between the two periods.

With the growing interest in evaluating and monitoring the performance of health services, a lot of effort has centred on rationalising the enormous volume of data collected in order to reproduce a manageable series of measures that reflect the various aspects of a health care system. Progress in the development of indicators of the quality and outcome of health care services has, however, lagged behind. This atlas represents an important step towards establishing such indicators which are applicable nationally and internationally which should help to monitor health service performance.

The Atlas, which examines a selection of unnecessary and untimely deaths, is the third publication of the European Community's concerted action project on health services and avoidable deaths.

Radiation Atlas: Natural Sources of Ionising Radiation in Europe

B. M. R. Green, J. S. Hughes, P. R. Lomas
 National Radiological Protection Board, U.K.
 EUR 14470
 259 pp
 ECU 25.50

This publication, prepared for DG XI of the Commission of the European Communities (Environment, Nuclear Safety and Civil Protection), is an atlas of the levels of natural radiation in Europe which maps the levels of radiation of natural origin



Development of biological silage additives (Athens, Greece)

throughout the Community (with the exception of the new German *länder*), Scandinavia and Austria. It contains maps for cosmic rays, gamma rays outdoors and indoors, and radon indoors – the principal causes of human exposure – for the countries covered.

The basic properties and origin of different types of radiation and their contribution to the overall exposure of the population are explained in simple terms.

A glossary, a list of administrative regions used in the maps and detailed references to the data for each country are also included.

The text and references of the atlas are published in the nine official Community languages.

Available from:

Office for Official Publications of the EC
2 Rue Mercier
L-2985 Luxembourg
Tel: +352. 49 92 81, Fax: +352. 48 85 73

NET: Predesign Report

Fusion Engineering and Design
Volume 21, February 1993
ISSN 0920-3796
356 pp

In the European strategy to develop a fusion reactor, the Next European Torus (NET) aims to demonstrate the scientific

and technological feasibility of fusion power based on the tokamak principle.

The predesign of NET has now been completed and the feasibility issues of the main components have been addressed, providing a solid basis to launch a detailed engineering design phase.

Fusion Engineering and Design is an international journal devoted to the thermal, mechanical, materials, structural and design aspects of fusion energy. The February 1993 issue describes the predesign of NET and the related R&D carried out by the NET team, by European fusion laboratories and industry.

Further information available from:

Elsevier Science Publishers B.V.
Academic Publishers Division
Fusion Engineering and Design
P.O. Box 1991
1000 BZ, Amsterdam

INFO

Synopses of BRITE/EURAM Projects 1990-91

Commission of the European Communities
DG XIII
EUR 14042
cii + 537 pp
ECU 42.50

BRITE/EURAM II is a four-year (1991-94) Community RTD programme, designed to help European manufacturing industry to become more competitive. The programme, which has a budget of ECU 670 million, promotes multi-sectoral and multi-disciplinary collaboration in basic technical research in addition to the implementation of new technologies by end users. The programme funds shared-cost grants for innovative, collaborative and pre-competitive research projects involving partners from at least two EC Member States.

There are four main technical areas which are covered: advanced materials technologies, design methodology and assurance for products and processes, application of manufacturing technologies and technologies for manufacturing processes.

This new publication which covers the 1990-91 period, is a revised update of "BRITE/EURAM Synopses of Current Projects 1989-90" and includes all the projects selected after the two rounds of BRITE/EURAM in 1989 and 1990. Information and progress on all the 374 selected projects have been updated. Total number of projects outlined is over 500.

Each page contains the basic information about the relevant research project which consists of a summary of objectives and achievements, the contact addresses of the main contractor and a list of the other major participants, contractors, subcontractors and sponsors in addition to the duration and starting

date. This version also contains an index of participants and a keywords index to make the book more useful and to encourage contacts between potential partners.

Available from:

Office for Official Publications of the EC
2 Rue Mercier
L-2985 Luxembourg
Tel: +352. 49 92 81, Fax: +352. 48 85 73

Complementary information can be obtained from:

Commission of the European Communities
DG XII-C, BRITE-EURAM Programme
75 Rue Montoyer
B-1040 Brussels

Fax: +32. 2. 295 80 46

Helpline Tel: +32. 2. 295 23 45 or 296 51 51

Fax: +32. 2. 295 80 46 or 296 59 87

INFO

Annual Report of the Institute for Prospective Technological Studies

EUR 15002

The Institute for Prospective Technological Studies (IPTS) is an integral part of the Joint Research Centre (JRC). Its main tasks are monitoring new developments in science and technology using the European Science and Technology Observatory (ESTO), and carrying out strategic analyses of new areas of science and technology for a range of clients as well as for the European Commission.

Training of young scientists in techniques of prospective analysis is an important subsidiary task which is carried out through the award of fellowships, enabling young European scientists to spend one or more years studying in the Institute.

1992 was a year of consolidation rather than rapid development with the number of both permanent staff and research fellows remaining constant. Further expansion awaits approval of dedicated research funding.

Studies undertaken during 1992 include: energy (systems and technologies for the long-term future), environment (industrial opportunities and constraints), transport (space markets, high-speed trains), industrial competitiveness (evaluation of EC strategies).

This publication, as well as other publications relating to the JRC, is available from:

Public Relations and Publications
Joint Research Centre
Commission of the European Communities
I-21020 Ispra (VA)
Tel: +39. 332. 789 180, Fax: +39. 332. 785 818



Brugel Programme for showing protein structure Bionuclease in solvent (ULB, Belgium)

Measurements and Testing Newsletter

A Newsletter on Measurements and Testing has been launched and the first issue gives a summary of the recent achievements (1992) obtained in the framework of the BCR-programme as well as an outline of the Measurements and Testing programme (1992-1994) as defined within the Third Framework Programme. The following is an extract from the Newsletter.

Sound, accurate and reliable measurements are essential to the functioning of modern society. Without them industries, particularly high technology ones, cannot operate, trade is impaired by disputes, health care becomes empirical and legislation, ranging from environmental and worker protection to the operation of the Common Agricultural Policy and the Single Market, cannot be successfully implemented. For these reasons developed countries spend up to 6 % of their GNP on measurements and measurement related operations.

European standards and Community directives are continuously being established to harmonise measurements and technical specifications. But harmonisation itself cannot solve all the problems. Indeed, the measurements and analyses required to implement these provisions are sometimes so difficult that, even when applying the same method, laboratories can produce very different results. This is why measures to evaluate and guarantee the quality of laboratory performance have been established involving quality assurance rules and guidelines (e.g. Good Laboratory Practice, ISO 9000 and EN 45000 standard series), accreditation systems and the production of certified reference materials (CRMs).

The Commission set up the Community Bureau of Reference (BCR) about twenty years ago to encourage and to support technical collaboration between the laboratories of EC Member States.

This collaborative effort on measurements was substantially increased within the Second Framework Programme (Applied Metrology and Chemical Analysis, 1987-1992). This initiative was essential for the proper functioning of the internal market, given the need to harmonise an enormous range of technical

standards and measurements throughout the Community which enables companies to compete on equal terms in each Member State. In this context, the establishment of laboratory networks was a successful initiative in helping to guarantee the accuracy of results wherever measurements or analyses were performed.

The Community's Measurements and Testing Programme (BCR) addresses these issues by contributing to the harmonisation and improvement of methods of measurement and analysis. This helps to facilitate the circulation of agricultural and industrial products in the Community and, at the same time, improves the means of monitoring environment, health and food quality and consumer protection generally. The Programme also aims to improve the competitive position of European industry by promoting industrial innovation and pre-normative research and by providing other technical support for the development and application of a wide variety of Community policies. It also contributes to the further development of the measurement infrastructure of Europe (co-ordination of national activities, promotion of good measurement practices throughout Europe, etc.).

The Newsletter may be obtained from:

Dr Ph. Quevauviller, Editor
Miss C Lezy, Editorial Assistant
 Commission of the European Communities
 DG XII-C/5, Measurements and Testing Programme
 Rue de la Loi, 200
 B-1049 BRUSSELS, Belgium
 Fax: +32. 2. 295 80 72

Further information on BCR is available from:

Dr J J Belliardo Tel: +32. 2. 295 31 15
Mrs R Vercruyssen Tel: +32. 2. 295 80 72
 Fax: +32. 2. 295 80 72

INFO

STEP and REWARD: Projects Synopses

Commission of the European Communities
 DG XII
 EUR 14849
 369 pp

The STEP Programme (Science and Technology for Environmental Protection) covers nine broad research areas:

- environment and human health;
- assessment of risks associated with chemicals;
- atmospheric processes and air quality;
- water quality;
- soil and ground water protection;
- ecosystem research;
- protection and conservation of the European cultural heritage;



Research on design and application of industrial scale hydroabrasive jet-cutting heads (Germany)

- technologies for environmental protection;
- major technological hazards and fire safety.

Following a call for proposals at the end of 1989, 139 projects were selected for funding under STEP, with a total financial commitment of ECU 69.1 million.

The REWARD programme (Recycling of Waste) covers three broad research areas:

- sampling, analysis and classification of wastes;
- recycling technologies;
- fuel and energy production from waste.

Following a call for proposals at the end of 1989, 10 projects were selected for funding under REWARD, with a total financial commitment of ECU 3.7 million.

This catalogue lists the 149 projects in the two programmes. The projects, listed by research area, involve 804 scientific institutes in the Community and EFTA.

For each project covered, the catalogue gives the objectives and a brief description, details of the scientific co-ordinator, the responsible Commission scientific officer and a list of the partners and institutes involved. The project dates and the financial contribution of the Commission are also provided in each case.

Available from:

Office for Official Publications of the EC
 2 Rue Mercier
 L-2985 Luxembourg
 Tel: +352. 49 92 81, Fax: +352. 48 85 73

Flying Ahead in '93

Aerodays '93, the second Community Aeronautics RTD Conference organised by the Commission, will be held on 4-5 October 1993 in Castel dell'Ovo, Naples, Italy.

The aim of the Conference is to exchange information on the research undertaken at European level between the partners in the projects and with authorities and operators interested in aeronautics related RTD projects.

Strategic issues relating to aeronautical research and technological development in the Community will be addressed. Keynote speeches and panel discussions with experts from European aeronautical industries, national authorities and the research community will form an integral part of the conference.

Parallel technical sessions, with the presentation of some 60 papers, will describe the results achieved to date on current and completed projects supported at the European level. A workshop will also be held on training issues associated with research management in European collaborative projects.

An exhibition will be held during the conference and demonstration stands will enable participants to gain an overview of European aeronautical RTD which should help initiate contacts for future collaboration.

Further information from:

MCM Congressi
Rione Sirignano 5
I-80121 Naples
Tel: +39. 81. 761 42 43 or 761 12 77, Fax: +39. 81. 664 372

INFO

Marine Sciences and Technologies Conference

A three-day MAST Days and EUROMAR Market was held in Brussels on 15-17 March.

The current MAST programme for 1990-94 has a budget of ECU 104 million and promotes the application of advanced know-how and technologies such as remote-sensing satellites, data-processing systems and off-shore intervention technologies which monitor the management and protection of seas in Europe. The previous MAST programme concentrated on improving knowledge of the seas in immediate proximity to the Community (the Mediterranean, the North Sea, the Irish Sea and the eastern Atlantic) and on developing technologies to protect and manage them. The current programme has extended its scope to include the North Atlantic as far as the boundary with the Arctic.

EUROMAR is an "umbrella" project forming part of European co-operation within the multilateral EUREKA venture and brings together 19 specific projects which are principally devoted to the development of instrumentation systems and marine technologies.

The MAST Days and EUROMAR Market was attended by

some 500 research workers, industrialists, public officials and politicians. The event was designed to familiarise participants with the progress of projects relating to oceanography, coastal engineering, marine instrumentation and other marine issues, conducted in the context of the MAST and EUROMAR programmes, and to enable an exchange of views on the needs and future outlook of research into marine sciences and technologies in Europe.

The projects conducted under MAST and EUROMAR were also presented in an exhibition held during the main event.

Further information and brochures on MAST are available from:

Commission of the European Communities
DG XII
Mr Jean Boissonas, Programme Manager
Tel: +32. 2. 295 67 87, 296 23 78, 295 25 49
Fax: +32. 2. 296 30 24

INFO

European Energy Charter Conference

The European Energy Charter, signed in the Hague on 17 December 1991, introduced long-term co-operation in Europe in the energy sector, based on the principle of equal rights and obligations. The main objective of the Charter is to secure energy supplies in Europe as well as protecting the environment by promoting investment in energy efficiency and the transfer of efficient technologies. Fifty countries have signed the Charter, including the EC Member States, the Community itself, the other Western European countries, most of the Eastern European countries and the CIS republics, three Mediterranean countries and the four major OECD non-European countries.

Since its signature, the participating countries have been negotiating the Charter's Basic Agreement and Protocols which will establish the legal basis crucial for East-West co-operation on energy, which will cover issues such as investment protection, non-discrimination, transit and open trading conditions, environmental needs, taxation, access to capital, technology, intellectual property, dispute procedures as well as institutional structure.

A series of protocols on specific co-operation activities for each energy sector are also being negotiated. A nuclear protocol concentrating on safety issues and an energy efficiency protocol geared to protect the environment are two such measures.

In December a timetable was drawn up to speed negotiations so that they can be concluded this summer. Once approved, the new Agreement will have to be ratified by the national parliaments. It will be applied on a provisional basis pending ratification by at least 30 countries after which it will enter into force.

Biotechnology and its Implications in the Agricultural and Agroindustrial Sectors

In co-operation with the Commission of the European Communities, a conference on Community progress in biotechnology and its implications in the agricultural and agroindustrial sectors was held on 2 June 1993 in Amiens, France.

Participants included the Chambre Regionale d'Agriculture de Picardie, the Biopole Vegetal, the Centre de Valorisation des Glucides et des Produits Naturels, and the Laboratoire d'Androgenèse et Biotechnologie de l'Université de Picardie.

The inauguration included a presentation by Mr Bellardinelli of DG XIII-D/2 (Dissemination of Scientific and Technical Knowledge Unit) on the VALUE programme for the dissemination and utilisation of knowledge resulting from the specific programmes of Community research and technological devel-

opment (1992/1994).

Distinguished speakers from universities and research institutes covered a wide variety of subjects including computer-controlled biotechnology, genetic transformation and regeneration of in-vitro cultured plants, the production and utilisation of value added fibres, biogas from potatoes, beet virus control and waste water from sugar refining.

Further information on Commission involvement in RTD events is available from:

RTD Help Desk
Commission of the European Communities
DG XIII-D/2
Jean Monnet Building
L-2920 Luxembourg
Tel: +352. 4301 33161, Fax: +352. 4301 32084



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