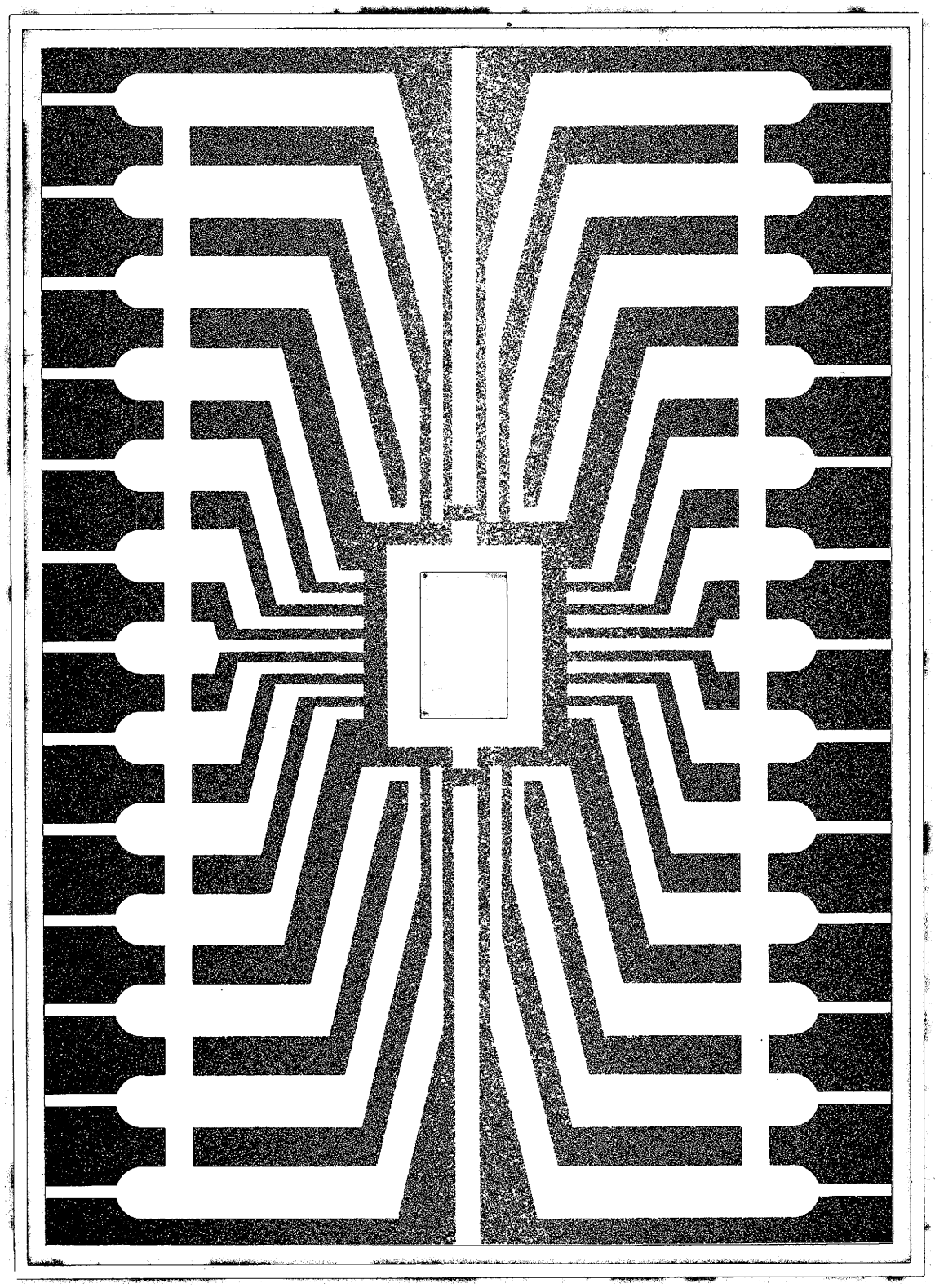
EUROTEC



TECNOLOGY IN EUROPE

COMMISSION OF THE EUROPEAN COMMUNITIES
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CHERNOBYL

At the World Energy Conference in Cannes on 6 October, the European Energy Commissioner, Mr Mosar, said that the Chernobyl accident was a salutary shock which had issued another defiant challenge to the nuclear industry and to the public authorities responsible for radiological protection.

In his answer to a Member of the European Parliament, who had asked whether it would not be advisable to suspend the EEC's nuclear programme and phase out the existing power stations, Mr Mosar said that the Soviet power station in Chernobyl was of a type which had no equivalent in the EEC and that accordingly any over-hasty decision on the operation of the power stations located in the Community would be totally unwarranted; this was all the more true as nuclear energy currently accounted for a third of the Community's electricity production.

This is an economic reality which Mr Mosar mentioned in Cannes too, adding that around thirty nuclear power stations which are in the process of being built in the EEC will in all probability be connected to the power-supply system by 1995. The European Commissioner did, however, refer to the possibility of postponing certain decisions concerning the building of new power stations.

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INFORMATION TECHNOLOGIES : TOWARDS ESPRIT II

ESPRIT II (last instalment) will bear a strong family resemblance to ESPRIT I. Also dedicated to precompetitive research, it is arousing the same enthusiasm among industrialists. The decision now lies with the EEC's Council of Ministers and the go-ahead is expected to be given at the end of 1986 or beginning of 1987.

The ESPRIT Technical Week (29 September-3 October), the third of its kind, brought together in Brussels around a thousand participants - enterpreneurs, academics and national and Community officials. "Euro-optimism" is the prevailing mood in the industrialists' camp, which has sponsored the European initiative right from the start, although there are some worries about the liquidity position in the future. Will ESPRIT be a victim of its own success ?

Proof of the European programme's resounding success is that, two and a half years after the launching of the first five-year phase, the budget allocated by the Twelve - 1 500 million ECU, coming from Community funds and the contractors in equal amounts - has nearly run out.

Out of over a thousand joint projects submitted in response to the calls for proposals, the independent experts in Brussels selected 219 - 25% being concerned with microelectronics, 23% with advanced information processing, 20% with office systems, 19% with software technology and 13% with computer integrated manufacture.

On 1 October, Karl-Heinz Narjes, Vice-President of the Commission, stressed that the Community must now continue under its own impetus and that "time presses". Europe's share of world electronic output is falling. It went down from 32% in 1979 to 26% in 1983. And the deficit is growing bigger in each sub-sector: eight out of ten personal computers sold in Europe are "Made in USA", not to mention the fact that nine out of ten videos are manufactured in South East Asia.

If Franco de Benedetti, Managing Director of Olivetti, is to be believed, the situation is serious but not desperate. Optimism reigns too at Nixdorf. Its Chairman and Managing Director, Mr Luft, drew attention in Brussels to the Community's assets: good training of the up-and-coming generations, rejuvenated Stock Exchanges - risk capital is far less difficult to obtain than ten years ago - and increased cooperation between universities and industry.

In order to right the helm the industrialists and the Commission are advocating a global industrial strategy - clear objectives and rigorous management - and increased financial resources. The Member States should, for example, treble the outlay on the second phase of ESPRIT.

ESPRIT has shown that Europe does possess the vital quantitative and qualititative resources and that all that is lacking is the ability to coordinate the activities carried on in the various Member States. It should be noted that the Olivetti firm, a staunch supporter of cooperation, is already involved in 24 of the two hundred or so projects launched under ESPRIT.

Mr de Benedetti believes that in the years to come the information technologies market will be dominated by IBM and by extensive networks of alliances. There will be little or no room for other competitors. If Europe does not change its attitude it will be left out in the cold. In other words, whimsical, temporary alliances are to be avoided: IBM's success is founded on continuity.

Until such time as Europe suddenly comes to its senses - assuming that this does actually happen - the go-it-alone policy will continue to cause tremendous damage. The profusion of videotex systems, for instance, is a disturbing reminder of the PAL/SECAM quarrel, where everyone lost out. As regards the lack of funds, Mr de Benedetti blames the common agricultural policy, which swallows up around 70% of the Community's budget. In his view, the CAP is prospering at the expense of other initiatives and is impeding the creation of a market of 325 million consumers.

Information technologies, which form an integral part of an overall industrial strategy, will only be able to develop in a favourable environment. Industrial circles need both a large market on the continent's scale - in Mr de Benedetti's view the 1992 deadline is much too far ahead - and a suitable statutory context.

This view is shared by the Commission: Mr Carpentier, Head of the Directorate-General for Telecommunications, Information Industries and Innovation, has stated that the intelligence industry battle calls in particular for a standardization policy with plenty of muscle, an essential prerequisite for the success of the European electronics and data processing industries and user industries.

It now remains to obtain the assent of the political leaders of the Twelve - who are not generally given to jeopardizing the position of their national champions. Mr Pattie, the British Industry and Information Technology Minister, who is the current President of the Research Council, has rejected any disaster scenario: there is no question of stopping ESPRIT's momentum. However, the outcome of the battle is not a foregone conclusion since the launching of ESPRIT II is dependent on the adoption of the outline technological research and development programme (1987-91), which is still far from having gained unanimous support.

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CBR PROJECTS : THE COMMON MEASURE

The fact that the Twelve manage to reach agreement on a standard is not necessarily enough to guarantee the free movement of goods in the EEC or the uniform implementation of a Directive in all the Member States. Indeed, the proper application of harmonized standards is often hindered by differences - of as much as 100% or more - between laboratory results. This is the reason why the Community set up a Community Bureau of References, the role of which is to lessen the differences between the (non-nuclear) measurements made in laboratories in the Member States.

The CBR is the subject of a recent report by the European Commission focusing on the execution of the "Applied Metrology and Reference Materials" programme (1983-87). The programme's objective is to bring about greater harmony between the results of measurements and analyses in the EEC (measurements of physical sizes, of physical properties of materials, chemical analyses).

In the physical measurements field the CBR establishes a link between the national metrology departments by means of intercomparison; the technical work continues until the divergence problems have been resolved; it results in practice in mutual recognition. These intercomparisons can lead to the establishment of transfer standards or reference materials, which are subsequently used by laboratories to check their measurement methods or to gauge their instruments.

Reference materials and samples of this kind have been developed in the fields of analyses relating to pollution, agri-foodstuffs and medical diagnosis. The programme also covers technological and industrial measurements. The latter have substantial commercial repercussions; over the past two years industry has increasingly called on the CBR's services to iron out difficulties impeding the free movement of products (e.g. double glazing units, electronic components) in the EEC.

In 1984 over 700 laboratories were involved in projects under way, lasting an average of 4-5 years. The amounts of the contracts range between 2 000 ECU and 15 000 ECU, the budget allocated to the whole programme being 25 million ECU for five years.

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INSIS : ELECTRONIC INFORMATION

Electronic mail, videotex, videoconference: a scaled-down model of the information society is in the process of coming into being to provide link-ups between Brussels, Strasbourg and Luxembourg. As early as 1990, INSIS (Inter-institutional Information System) will give us a foretaste of tomorrow's world.

Vital to the proper functioning of the Europe of the Twelve, the circulation of information at present entails constant moving about for national and Community officials and comings and goings between Strasbourg, Brussels and Luxembourg for MEPs, not to mention the overwhelming day-to-day flood of written documents - 200 000 pages exchanged every day between the Council of Ministers and the Offices of the Member States' Permanent Representatives, 320 000 pages between the Commission and the Council and 11.5 million pages a month circulated during each plenary sitting of the European Parliament.

It would be hard to find a better guinea pig than the Community's administrative set-up to experiment with information technologies and the new services. Banking on cooperation at Community level, INSIS will enable testing to be carried out on a sample system of compatible equipment, which will subsequently be reproduced on a European scale. The experimentation phase is currently mobilizing 25 officials and technicians in Brussels and Luxembourg.

The first step towards a homogeneous electronic infrastructure is to determine users' requirements and the priorities. The Council of Ministers entrusted this task, at the end of 1982, to the INSIS users Consultative Committee, the members of which are representatives of the Member States and of the EEC institutions. This was how the three parts of the INSIS programme came into being: INSEM (electronic mail), OVIDE (videotex organization for MEPs) and VIDEOCONFERENCE.

INSEM's objective is to reduce the "paper mountain" by introducing the electronic transmission of written documents. The inter-institutional electronic mail system will come into service before the end of the year to handle parliamentary questions. And the system should be fully operational at the end of 1988.

It will ultimately lead to a big saving in time (expedited procedure) and in money (reduction in printing, duplicating and distribution costs). Mr Mario Bellardinelli, who heads the European INSIS programme management team, has pointed out that in the long run INSEM will enable the computerization levels of the European countries to be harmonized and above all a common policy on standards to be put into practice. The introduction of the new technologies is primarily a matter of "consensus". There is a marked desire for cooperation between administrative bodies and industries. At all events, there is no question of using strong-arm tactics to deal with any reluctance on the part of users.

For its part, OVIDE (videotex organization for MEPs) aims to meet the information requirements of MEPs swiftly and efficiently, by facilitating access to all the information stored in central databases (preferably in everyone's working language).

The first step has been to install videotex terminals in Strasbourg, Brussels and Luxembourg (the three places where MEPs work). OVIDE can cope with the three national protocols in use in the European countries - PRESTEL, TELETEL and BILDSCHIRMTEXT - thanks to three videotex interfaces. Once the standards problem has been resolved OVIDE will be extended to MEPs' constituencies and will become the first trans-Community public videotex service.

As for the VIDEOCONFERENCE system, it has been operating since the beginning of this year in the two studios set up in Brussels and Luxembourg. This experimental equipment is being used to the tune of 50%. The electronic systems, which combine telecommunications infrastructures and technical installations, enable meetings to be held without any travel being necessary. And the participants can confer with one another as if they were in the same room.

The facilities also benefit the Member States. Every Monday the United Kingdom's Permanent Representative's Office in Brussels uses the private line supplied by RTT (Belgian Postal and Telecommunications Authority) to communicate with various Ministries in London.

At the end of the year this pilot videoconference service should be capable of linking up several points in the Community and of offering simultaneous interpreting services. This will be a considerable step forward for all the users - governments, MEPs and national and Community political figures.

The cost of the experimental INSIS programme has been 6 million ECU per annum over the past three years. By facilitating exchanges and speeding up the adoption of compatible standards in the Community, this initiative is expected to lead to far-reaching changes in the day-to-day lives of the citizens of the Twelve.

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SPRINT : 12 TEAM RELAY RACE FOR INNOVATION

SPRINT is the name of a programme which the European Commission recently submitted to the governments of the Twelve for speedy adoption. SPRINT as in "Strategic Programme for Innovation and Technology Transfer". The SPRINT programme is in fact intended to take over from the "Plan for the transnational development of the supporting infrastructure for innovation and technology transfer", which expires in December.

Adopted by EEC Ministers in 1983, this three-year plan, with a budget of 10 million ECU, has enabled the European Commission to carry out pilot projects aimed at setting up a European supporting infrastructure for innovation and technology transfer (networks of public and private organizations, international instruments such as ICONE, a comparative index of national, European and international standards). It has also organized exchanges of information and experiences in these fields.

The basic idea behind such a plan is that an infrastructure to promote innovation may be conducive to the achievement of several European policy objectives: completion of the common market, synergetic effects increasing the EEC's international competitiveness, help for small and medium-sized businesses, conversion of R&D efforts into new products and processes.

Technology transfer, whether vertical (from research to industry) or horizontal (for instance, collaboration between research centres and negotiation of licences between firms), is a natural ingredient of innovation. The priorities to date have therefore been to support the establishment of liaison mechanisms between consultancy services, particularly to small and medium-sized businesses, in the technology and management fields, and to disseminate, on an EEC-wide basis, information about the results of public research, the opportunities for cooperation between firms, etc.

The annual progress reports for the years 1984 and 1985 indicate that this development plan meets a manifest need felt by business circles, particularly small and medium-sized firms. This can be seen from the fact that the European Commission received 600 replies to its calls for proposals. The interest in these initiatives of the professional circles concerned has thus been clearly established. However, the Commission considers that, for the plan to produce the anticipated positive effects, it must be soundly based on a long-term conception and be given funding commensurate with the task.

This is the aim of the new proposal, relating to an initial phase (SPRINT definition phase), which is designed to ensure smooth transition to a five-year programme (1989-94). A budget of 11 million ECU is proposed to enable the projects already undertaken to be completed, to integrate Spain and Portugal into the programme and to evaluate the results obtained with a view to drawing up future proposals.

Lastly, the "priority measures" planned at the outset are to be widened in line with the needs established during the first 30 months of the setting up of the plan. The innovations include the organization of training for specialist advisers on technology transfer and the management and financing of innovation, and the organization of links between the local authorities, which have an important role to play in promoting innovation.

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ENERGY R&D : STOCK-TAKING

Low oil prices and the reorganization of the EEC's R&D programmes for the next four years were the dual background against which an Information Day on the Community's R&D programme in the non-nuclear energy field was held in Brussels on 30 September. The European Commission's "DG 12" (Directorate-General for Science, Research and Development) presented to the decision-makers and the media the results of previous R&D programmes and the trends in the contract research under way in the vast "non-nuclear" field.

The first and second contract research programmes in the field, covering the periods 1975-79 and 1979-83 respectively, were followed, as is only logical, by a third programme, which has now reached the half-way stage (1985-88). This concerns the development of renewable sources of energy (solar, biomass, wind), optimum prospecting and working (coal, peat and brown coal/lignite) and the most efficient use of all sources of primary energy (energy conservation). It also includes a subprogramme dealing with strategic studies and the development of strategic models.

The first and second programmes led, with some 165 million ECU available, to around 1500 cost-sharing research contracts concluded with universities, national laboratories and private industry in all the Member States. The results of the completed projects are now all available in the form of publications; they have resulted in the filing of 250 patent applications and have given a considerable fillip to many industries.

Among the significant results which have been crowned with success mention should be made of the development of the first tower solar power station in the world (Eurelios, Sicily, 1981), the building of 15 photovoltaic power stations of a rated thermal output of 30-300 kW, numerous technologies for utilizing biomass and geothermal energy, the development of high performance electric batteries, the creation of industrial processes, the setting up of passive solar

energy testing stations and the computerized formulation of energy supply and demand models. Substantial work has also been carried out in the field of hydrogen technologies. In several sectors (solar, wind, biomass, geothermal energy) the concrete data collected together has been represented in maps and atlases, enabling the potential, for use by the EEC, of the different sources of energy to be evaluated.

The third programme is under way; it has been allocated a budget of 175 million ECU for four years and 500 proposals have been selected. New subprogrammes have been incorporated:

- prospecting for and utilization of oil and natural gas: as 60% of world energy is produced from oil and in view of the fact that this state of affairs is likely to continue for a long time yet, all the production stages must be optimized;
- the utilization of solid fuels, in particular to improve combustion efficiency and above all to avoid environmental repercussions;
- the production and utilization of new energy vectors (synthetic fuels): as oil will not last for ever alternative fuels need to be developed from indigenous coal and biomass resources.

On the other hand, the subprogramme relating to hydrogen production has proved its worth and has been discontinued.

Community R&D work is thus forging ahead, taking account of the latest trends in the energy field. But what impact is it having ? According to a survey carried out among the 2nd R&D programme's industrial contractors, 49% have found new commercial outlets, 69% have identified improvements for the development of their future product lines and 85% have succeeded in entering into useful collaboration with other companies.

In the context of falling oil prices, there any many who question the usefulness of "non-nuclear" R&D work. On the occasion of the information day the Vice-President of the European Commission, Mr Narjes, stressed that R&D should remain flexible but at the same time have long-term objectives, in order to hold its own through momentary occurrences and short-lived fashions.

The EEC Member States, for their part, seem determined to steer a steady course, looking beyond the period of low oil prices. According to a survey carried out within the non-nuclear R&D Management Committee, all the countries are planning, in 1987, to spend either exactly the same or 10% more than in 1985-86 in the RUE (rational use of energy) and new sources of energy fields, with the notable exception of France and also of Spain, which launched a major programme in the field in 1985.

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EUROPEAN PARLIAMENT NEWS ITEMS

The European Parliament's Committee on Energy considers that it would be of the greatest value for the EEC to initiate an oceanology policy. It recommends the setting up of a Community marine research institute and is also calling on the European Commission to propose projects as part of the 2nd outline R&D programme.

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During its examination of the draft 1987 budget, the Committee on Energy, Research and Technology adopted an amendment aimed at removing "Financial support for technological development in the oil and natural gas sector" (budget heading 7000).

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The nuclear industry has achieved a unique safety record: this was the conclusion reached by the members of Parliament's Committee on Energy, Research and Technology during a debate on fast-breeder reactors. The rapporteur, Mrs Bloch von Blottnitz, considered that fast-breeder reactors promised guaranteed long-term energy supplies but that the risks and problems associated with this technology outweighed its advantages. The parliamentary Committee intends to organize hearings of experts on the subject.

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Which technologies for Europe ? This was the theme of a public hearing which was held at the European Parliament on 25 September. It gave several experts an opportunity to express a negative view of the proposed outline R&D programme for 1987-91. Mr de Montgolfier of UNICE said that European industries were opposed to any extension of the activities of the Joint Research Centre and wished to be better represented in examination of its work. Dr Ledeboer of Philips took the view that top priority should be given to the setting up of an integrated broadband telecommunications network, as provided for by the RACE proposals. Professor Smith of the University of Edinburgh argued in favour of 100% financing of certain projects in the new technologies field (e.g. in optoelectronics), as happens in the United States and Japan, in order to enable smaller countries and small and medium-sized businesses to become involved.

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BIO-TECHNICA '86

At the opening of BIO-TECHNICA '86, which was held in Hanover from 23 to 25 September, Mr Karl-Heinz Narjes, Vice-President of the European Commission, said that "enzymes and bacteria will be the semi-skilled workers of the third millenium" and "no one Member State on its own can be competitive in the complex galaxy of modern technology".

BIO-TECHNICA, with a congress, several seminars and some 200 exhibitors, has become the "leading international biotechnology fair" in the space of two years. Present as an exhibitor, the European Community organized a seminar day on 23 September, at which the results of and prospects for Community action were presented.

The biomolecular engineering research programme, with a modest budget of only 15 million ECU, has produced convincing scientific results. It has enabled multinational projects to be successfully carried out in fields such as the genetic engineering of plants and microorganisms which are useful for agriculture, genetic engineering applied to breeding, the agri-foodstuffs industry, etc.

As for the "Biotechnology Research Programme" launched in 1985, it has a budget of 55 million ECU and should enable cooperation to be strengthened. What now remains to be done is to increase the financial resources available, so as to be able to cope with international competition on equal terms.

Mr Narjes considers that if the Community wishes to be ready to meet the challenges of European agriculture in the year 2000 and beyond, now is the time to invest in science and development and not in the management of yet more surpluses.

The more quickly association and collaboration between science, agriculture and industry going beyond national frontiers are achieved, the sooner the Community will be able to seize the opportunities for an innovation process in European industry and for the solution of structural problems in agriculture opened up by biotechnology.

Europe is well armed among its international competitors for the current agri-industrial revolution: it has plenty of fertile agricultural land, strong agriculture and first-rate biologists and it also has efficient and innovative industrial sectors at its disposal. These assets need to be used.

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SPUR : EXPLOITING THE RESULTS OF RESEARCH

What is the point of research ? This was the question on which the symposium held in Luxembourg from 23 to 25 September centred. In his opening address Mr Karl-Heinz Narjes, Vice-President of the Commission, announced the launching of the SPUR programme (Strategic European Programme for Utilization of the Results of Community Research).

In the coming five years - 1987-91 - public expenditure on research and development will exceed 200 000 million ECU. This money will have been wasted if the knowledge acquired as a result of the R&D carried out by universities and research institutes is not widely disseminated and translated into new products and processes.

Hence, at the Luxembourg European symposium the 450 or so participants, coming from political and administrative circles and from the research sector in all the Member States, examined the complex problems posed by the utilization of the R&D carried out by universities and research institutes: means to be deployed to disseminate the results, legal problems of the granting of licences as a commercial exploitation instrument, particular characteristics of certain technological sectors, etc.

In the absence of any overall approach by the Twelve several Community initiatives aim to make national and Community investments profitable. The ultimate goal is to increase the competitiveness of European economies and improve the labour market situation.

As Mr Narjes pointed out, the Community is making a special effort to create a context conducive to wide dissemination of the results of research by bringing about a single market - which, as early as 1992, should generate appreciable economies of scale for industries and for small and medium-sized businesses - and by resolving linguistic problems through SYSTRAN and EUROTRA, the two Community machine translation systems - in 1990 the Community should have a prototype multilingual translation system of advanced design.

As regards the dissemination proper of the results of research, this is the business of the SPUR programme, which is to be submitted to the Ministers for approval as part of the 1987-91 outline programme at the beginning of 1987. SPUR seeks to create a European infrastructure for the dissemination and commercial exploitation of public R&D activities. Its objective is to set up a general framework - by improving national structures - which will enable the European economies to make full use of the Community dimension to adjust with all speed to the new production and marketing conditions.

There will be three main aspects to the Strategic Programme for Utilization of the Results of Community Research (SPUR): promoting the dissemination of the results of the Community's research, development and demonstration activities, exploiting commercially the knowledge gained by Community research and supporting commercial exploitation of the results of the research efforts subsidized by European funds.

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SEMINARS

MEETINGS

SYMPOSIA

"THE FUTURE OF AGRICULTURE IN EUROPE

The Club de Bruxelles is organizing a two-day conference at the Palais des Congrès, Brussels on 5 and 6 November. The second day will be given over to "Biotechnology and European agriculture". The topics discussed will include the issues at stake in the bio-revolution - the Community's strong points and its weaknesses - the industrial use of agricultural surpluses and the new agri-industrial environment.

Among the guest speakers will be numerous personalities from the agricultural world (including Mr Frans Andriessens, Vice-President of the Commission with responsibility for agriculture, and the Presidents of COPA and FNSEA), from professional circles, industry and research (among others, Mr Paolo Fasella, Director-General, Science-Research-Development), etc.

Further information is available from Club de Bruxelles, 12 rue du Collège Saint Michel, B-1150 Brussels. Tel.: (32 2) 771 98 90 or 736 11 93

EUROPE AND THE FUTURE OF FINANCIAL SERVICES

This symposium is to be held at the Palais des Congrès in Brussels from 5 to 7 November, in the framework of the Directorate-General for Science, Research and Development's FAST programme, in conjunction with the Directorate-General for Financial Institutions and Company Law and with the support of Caisse des dépôts et consignations, France.

On the programme are the new technologies and the changes in European financial services, the reactions of the parties involved (financial institutions, public authorities, trade unions, consumers, etc.) and the consequences as regards financial integration and the development of research and technology policy.

Further information is available from the secretariat of European Congress Consultants & Organizers (ECCO), 17a rue Vilain XIII, B-1050 Brussels. Tel.: (32 2) 647 87 80.

PEOPLE AND TECHNOLOGY

INVESTING IN TRAINING FOR EUROPE'S FUTURE

A conference, sponsored by the Commission of the European Communities and the Manpower Services Commission, on education and training in the new technologies, to be held at the Queen Elizabeth II Conference Centre, Westminster, London on 25 and 26 November.

Under the chairmanship of Lord Cockfield, Vice-President of the Commission of the European Communities with responsibility for the internal market, numerous high-level participants from the Member States - representatives of the public services and leading figures from the educational and training worlds and from the labour market - will examine the strategy to be adopted.

BIOMASS APPLICATIONS FOR ENERGY AND INDUSTRY

After the meetings in Brighton, United Kingdom, in Berlin, Federal Republic of Germany and in Venice, Italy, the fourth European conference on biomass is to be held in Orléans, France from 11 to 15 May 1987. The communications will be expected to deal with energy-generating crops (production and harvesting of forestry, agricultural, aquatic and natural biomass), their conversion into fuels (e.g. utilization of agricultural surpluses to produce ethanol), R&D activities (thermochemical conversion technologies), etc.

Further information is available from Mr G. Grassi, Commission of the European Communities, DG XII/SDM 3/18, 200 rue de la Loi, B-1049 Brussels. Tel.: (32 2) 235 68 01.

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