COUNCIL OF THE EUROPEAN COMMUNITIES
GENERAL SECRETARIAT

PRESS RELEASE

10221/88 (Presse 210)

1290th meeting of the Council

- Research -

Brussels, 15 December 1988

President: Anastassios PEPONIS

Minister for Industry, Energy
and Technology
of the Hellenic Republic

The Governments of the Member States and the Commission of the European Communities were represented as follows:

Belgium:	
Mr H. SCHILTZ	Minister for the Budget and for Science Policy
Denmark:	
Mr Jakob Esper LARSEN	Ambassador, Permanent Representative
Germany:	
Mr Heinz RIESENHUBER	Federal Minister for Research and Technology
Greece:	
Mr Anastassios PEPONIS	Minister for Industry, Energy and Technology
Spain:	
Mr Javier SOLANA MADARIAGA	Minister for Education and Science
Mr Juan Manuel ROJO ALAMINOS	State Secretary for the Universities and Research
France:	
Mr Hubert CURIEN	Minister for Research and Technology
Ireland:	
Mr Sean McCARTHY	Minister of State at the Department of Industry and Commerce, with responsibility for Science and Technology

Italy:

Mr Antonio RUBERTI	Minister for Scientific Research and Universities

Luxembourg:

Mr Fernand BODEN	Minister for Education

Netherlands:

Mr P.C. NIEMAN	Ambassador, Permanent Representative

Portugal:

Mr José SUCENA PAIVA	State Secretary for Science and Technology

United Kingdom:

Mr Tony NEWTON	Minister of Trade and Industry

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Commission:

Mr Karl-Heinz NARJES	Vice-President

INDUSTRIAL MANUFACTURING TECHNOLOGIES AND ADVANCED MATERIALS APPLICATIONS - BRITE/EURAM PROGRAMME (1989-1992)

On the basis of an amended proposal from the Commission - stemming from the position adopted by the European Parliament - which was submitted at the meeting, the Council reached a common position on the BRITA/EURAM programme which would be forwarded to the European Parliament under the co-operation procedure.

This pre-competitive research programme will hinge on the following five areas:

- Advanced materials technologies
- Design methodology and assurance for products and processes
- Application of manufacturing technologies
- Technologies for manufacturing processes
- Specific activities relating to aeronautics.

The programme will last for a period of four years commencing 1 January 1989 with funding of 499,5 MECU - including expenditure on staff which will be restricted to 4,5% of the Community contribution. That sum represents an increase of 60 MECU over the initial proposal.

464,5 MECU of the total amount will be used for financing the first four areas of research which initially had been all that had been proposed under BRITE/EURAM.

35 MECU will be used for funding research into aeronautics. As a result of discussions at this meeting, the Council agreed to the Commission's proposal that a fifth section on research specifically into aeronautics, to last for no more than two years, be added to the other four areas of research initially stipulated.

The Commission will be responsible for implementing the programme; it will be assisted by a Committee comprising representatives of the Member States which will have an advisory role for the first four areas of research. For aeronautics research, the Commission may take the measures proposed once it has a favourable opinion from the Committee: failing that, it will have to submit a proposal to the Council.

During the third year of implementation, the Commission will review the programme in order to propose any amendments to or extension thereof; for aeronautics, the review will be conducted in the second year.

Programme projects are open to organizations or firms in third countries with which Framework Agreements for scientific and technical co-operation have been concluded.

The main points of the programme are as follows:

PROGRAMME SUMMARY AND OBJECTIVES

1. ADVANCED MATERIALS TECHNOLOGIES

The work in this area will focus on the development of improved or new materials and material processing for a wide range of possible applications except those directly related to IT covered in ESPRIT (1).

Including in particular:

1.1. Metallic Materials and Metallic Matrix Composites

Objectives:

- Extended working life of components
- Higher operating temperatures for increased thermal efficiency
- Better and more effective material processing techniques

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(1) Developments of materials already covered by ESPRIT are, for instance, dealing with magnetic, magneto-optical, optical thin films for sensors, recording media and heads, optical layers and specific materials for opto-electronics, ceramics and polymers for IC packaging and specific substrates, superconducting thin films for low current applications and devices.

1.2. Materials for Magnetic, Optical, Electrical and Superconducting Applications

Objectives:

- Improved materials and materials processing for optical, magnetic, electrical and superconducting applications

1.3. High Temperature Non-metallic Materials

Objectives:

- Design methodologies for products based on ceramics, glasses and amorphous materials

- Improved monolithic and ceramic composites and metal/ceramic interfaces for industrial applications

- Better processing techniques and quality control strategies

1.4. Polymers and Organic Matrix Composites

Objectives:

- Development of polymers for specific applications

- More cost effective process techniques for parts made from polymer and polymer matrix composites

- Design rules for the specification and manufacture of engineering polymers and composites

- New polymers with improved recycling attributes

- Improved product assurance techniques

1.5. Materials for Specialised Applications

Objectives:

- Improved materials and their processing for specialised applications

2. DESIGN METHODOLOGY AND ASSURANCE FOR PRODUCTS AND PROCESSES

The development of techniques to improve product quality and the reliability and maintainability of structures and manufacturing systems by clarification of the design aims for both product and process, and by refinement of the criteria against which the attributes are measured. The exploitation of materials for application in sensors, and the reduction in the whole life costs of sensors are also included in this section. This will complement work in Community IT programmes, where on-line control is treated, including monitoring and diagnostics, predictive maintenance and quality assurance.

Including in particular:

2.1. Quality and Reliability and Maintainability in Industry

Objectives:

- Improved performance measurement for manufacturing operations in a wide variety of industries

- Improved and more predictable physical and environmental behaviour of products

- Improved quality control strategies

- Design rules for reliability and maintainability of components, structures and systems including machinery operating under varying conditions

2.2. Process and Product Assurance

Objectives:

- Reduction of whole life costs of sensor systems for process control;

- Exploitation of materials properties for applications in sensors;

- Use of advanced measurement techniques for more cost effective examination of topology;

- Improved energy control for industrial applications;

- Improved non-destructive testing methods for product assurance;

3. APPLICATION OF MANUFACTURING TECHNOLOGIES

Here the task is to identify and address the needs of manufacturing industry and particularly the less advanced sectors, many of which have a major part made up of SME's. It is to be expected that modelling of physical processes will be a valuable instrument for progress. Also addressed is the challenge to the industries based on the use of flexible materials. The work will mainly focus on product and process development, transferring and adapting technology already used in other sectors. This should complement work in ESPRIT where IT systems for advanced manufacturing and CIM are being developed.

Including in particular:

3.1. Advancing Manufacturing Practices

Objectives

- Identifying means for improving manufacturing practices in specific sectors,

- Transfer and adaptation of technology already used in other sectors.

3.2. Manufacturing processes for flexible materials

Objectives:

- Increased process flexibility
- Reduced waste of material
- Improved process and product quality

4. TECHNOLOGIES FOR MANUFACTURING PROCESSES

Improved techniques for shaping, joining and assembly, surface treatment, chemical processes and particle technology are fundamental needs for industry. Advancement of these processes is essential for securing manufacturing competitiveness.

Including in particular:

4.1. Surface techniques

Objectives:

- Cost-effective surface treatments for industrial applications;

- Techniques for quality assurance and control of the treatment process.

4.2. Shaping, Assembly and Joining

Objectives:

- Improved methodologies for shaping processes and assembly;

- Improved joining techniques to improve reliability and reduce defect levels;

- Methods for testing welded and bonded joints to improve reliability of results and service predictability;

- Design methodology for joining;

- Better understanding of beam/workpiece interactions for industrial power beam processes.

4.3. Chemical processes

Objectives:

- Improved predictability and yield in chemical processes;

- Membrane materials with improved characteristics;

- Improved performance of membrane processes;

- New systems for separation in hostile environments.

4.4. Particle and powder processes

Objectives:

- Improved techniques for particle production to optimise produce shape, structure and stability;

- Cost-effective techniques for particle categorisation and process performance;

- Better approaches to handling and separation;

- Cost-effective routes for small lots of high quality powder.

5. SPECIFIC ACTIVITIES RELATING TO AERONAUTICS

This section covers precompetitive research in technological areas which are of primary relevance to aeronautics (in particular aeroplanes and helicopters) and are not yet covered in other programme areas.

5.1. Aerodynamics

Objectives:

- analysis and optimisation of configurations for supersonic aircraft, including an estimation of aerothermodynamic heat loads;
- investigation of laminar flow technology;
- development of numerical methods;
- integration of computerised design technologies.

5.2. Acoustics

Objectives:

- noise source identification, prediction and reduction;
- basic investigation of acoustic fatigue and related damage tolerance on advanced composites;

- investigation of different construction methods;

- development and application of simulation models for response calculations under selected acoustic loads.

5.3. Airborne systems and equipment

Objectives:

- integration and operation of modern systems and equipment and corresponding new architectures;

- investigations concerning the use of onboard intelligent knowledge base systems (IKBS);

- investigations into the concept of the "All Electric Aircraft".

5.4. Propulsion Systems

Objectives:

- integration of advanced propeller and propeller-rotor systems;

- provision of mathematical models for different design evaluation;

- specification and design of wind tunnel models and their components

- specific aspects of air-breathing engine combustion.

INDICATIVE INTERNAL ALLOCATION OF FUNDS

	%
I. SECTORS R&D	
1. Advanced materials technologies	28
2. Design methodology and assurance for products and processes	19
3. Application of manufacturing technologies	19
4. Technologies for manufacturing processes	20
5. Specific activities relating to Aeronautics	7
II. STAFF AND ADMINISTRATIVE COSTS	
Staff costs	4.5
Administrative costs	2.5
	100.0

Between 7 % and 10 % of the budget shall be available for fundamental research in the above areas where industrial progress is impeded by gaps in basic scientific knowledge.

Up to 0.45% of the available budget may be devoted to the the feasibility awards.

15.XII.88

JOULE PROGRAMME - NON-NUCLEAR ENERGIES AND RATIONAL USE OF ENERGY (1989-1992)

The Council adopted a common position on a specific research and technological development programme in the field of energy - non-nuclear energies and rational use of energy (1989-1992) - JOULE; this common position will be forwarded to the European Parliament under the co-operation procedure.

This programme will run for a period of three years and three months from 1 January 1989. The funds estimated necessary to implement the programme amount to 122 MECU, including expenditure on a staff of 34.

The Commission will be responsible for implementing the programme. It will be assisted by an advisory committee comprising representatives of the Member States.

During the second year of implementation, the Commission will review the programme in order to propose any amendments to or extension thereof.

Programme projects are open to organizations or firms from third countries with which Framework Agreements for scientific and technological co-operation have been concluded.

The main features of this programme are as follows:

Programme objectives

The objective of developing energy technologies is directly linked to the Community's energy strategy, the aim of which is to increase security of supply in the long term and to reduce energy imports to a reasonable cost, bearing in mind the environment. As far as the technologies involved are concerned, this objective requires the contribution of solid fossil fuels and new and renewable sources of energy to be increased in the medium and long term and energy efficiency and the rational use of energy to be greatly improved.

This primary objective must be accompanied by a research effort to reduce significantly nuisance and pollution caused by the production and use of energy.

The development of advanced energy technologies should stimulate and improve industrial competitiveness, including that of small and medium-sized enterprises in the Community, and, as a consequence, help to enhance the economic and social cohesion of the Community.

These objectives can be achieved through progress in the development and availability of techniques, processes and products allowing the rational use of energy, in the non-polluting use of solid fuels and hydrocarbons, in the efficient and economic use of renewable energy sources and in the development of models for energy and the environment.

PROGRAMME CONTENTS AND INDICATIVE INTERNAL ALLOCATION OF FUNDS

	Funds estimated as necessary for the execution of the subprogramme (in MECU)
1. MODELS FOR ENERGY AND ENVIRONMENT	6
2. RATIONAL USE OF ENERGY	35
2.1. Conservation in end-use sectors	
2.1.1. Buildings	
(a) Energy conservation	
(b) Solar energy applications	
2.1.2. Combustion technology	
2.1.3. Industry	
2.2. Energy conservation and storage	
2.2.1. Fuel cells	
(a) For large-scale power applications	
(b) For small-scale applications	
2.2.2. High-temperature superconductors	
2.2.3. Storage	
3. ENERGY FROM FOSSIL SOURCES	34
3.1. Hydrocarbons	
3.1.1. Techniques for exploration and reconnaissance	
3.1.2. Research on drilling problems	
3.1.3. Production techniques	
3.1.4. Supporting studies for offshore production	
3.1.5. Natural gas development and conversion	
3.1.6. Hydrocarbon conversion	
3.2. Solid fuels Combined cycle techniques	
3.2.1. Pressurized fluidised bed combustion combined cycle	
3.2.2. Afterburner combined cycle	
3.2.3. Circulating atmospheric fluidised bed combustion combined cycle	
3.2.4. Coal gasification combined cycle	
3.2.5. Generic R&D	

4. RENEWABLE ENERGIES		**47**
4.1. Solar-derived energy sources		
4.1.1. Wind energy		
4.1.2. Solar photovoltaic		
4.1.3. Hydraulic energy		
4.1.4. Biomass		
4.2. Geothermal energy and deep geology		
4.2.1. Geothermal energy		
4.2.2. Deep geology		
	TOTAL	**122** (1)

(1) of which 13,727 MECU are foreseen for staff and administrative costs, including the cost of co-ordination activities and staff engaged in "intra muros" research for subprogramme 1.

15.XII.88

FIRST REPORT ON THE STATE OF SCIENCE AND TECHNOLOGY IN EUROPE

The Council heard a statement by Mr NARJES, Vice-President, introducing a first report on the state of science and technology in Europe. The report is in response to a request from the European Parliament for an analysis of the state of affairs in Europe in the various major sectors of science and technology, to serve as a basis for defining future European policy in this area.

The Commission's aim is to provoke discussion with a view in particular to a possible review of the framework programme on research.

The Council held a preliminary exchange of views on the report which it agreed to continue at a future date.

15.XII.88

MISCELLANEOUS DECISIONS

EEC/Czechoslovakia Agreement

The Council approved the results of the negotiations with Czechoslovakia and decided to proceed with the signing of the Agreement between the EEC and the Czechoslovak Socialist Republic on trade in industrial products.

This signing will take place at the next meeting of the General Affairs Council on Monday 19 December.

STABEX transfer to French Polynesia

The Council adopted a decision on the transfer to be made to French Polynesia under the STABEX system for the 1987 year of application to compensate losses in export earnings on copra oil. The payment will amount to 800 000 ECU.

Bruxelles, le 14 décembre 1988

NOTE BIO(88) 405 AUX BUREAUX NATIONAUX
CC. AUX MEMBRES DU SERVICE DU PORTE-PAROLE

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Préparation Conseil Recherche (C. LIEBANA).

Le Conseil des ministres de la recherche de la Communauté, qui se réunit le 15 décembre, adoptera très probablement deux positions communes concernant autant de programmes spécifiques du programme-cadre de recherche et développement de la Communauté : il s'agit du programme JOULE, concernant la recherche et de développement technique dans le domaine de l'énergie non nucléaire et l'utilisation rationnelle de l'énergie (1989-1992), et le programme BRITE/EURAM, concernant la recherche et le développement technique dans les domaines des technologies pour les industries manufacturières et les application pour des matériaux avancés (1989-1992). Dans ce dernier point, le débat concernera l'inclusion dans ce programme de la recherche aéronautique.

Les ministres auront aussi un échange de vues sur le premier rapport de la Commission concernant l'état de la science et de la technologie en Europe.

Pendant le déjeuner, les ministres auront une discussion informelle sur la bio-éthique et la sécurité concernant l'ingénierie genetique et les embryons ainsi que sur les futures orientations de la recherche biologique.

Amitiés

C.-D. EHLERMANN

P.O.

Bruxelles, le 16 décembre 1988

NOTE BIO(88)405 (suite 1 et fin) AUX BUREAUX NATIONAUX
CC. AUX MEMBRES DU SERVICE DU PORTE-PAROLE

Conseil Recherche du 15.12.1988.

Le Conseil Recherche s'est terminé peu après 18h avec deux résultats importants, à noter :

1. Adoption -en tant que position commune du Conseil- du programme JOULE (recherche sur l'énergie non-nucléaire et utilisation rationnelle d'énergie). Un programme important avec enveloppe de 122 MECU qui s'intègrent dans les objectifs généraux de la Communauté visant à réduire l'indépendance des importations et diversifier les sources d'ici 1995 (pour détail, voir fiche distribuée en marge du Conseil).

2.Le programme BRITE/EURAM a également été adopté en position commune, avec une enveloppe globale de près de 500 MECU. IL s'agit d'un programme de recherche et de développement technologique dans les industries manufacturières, d'une part, et dans les applications de nouveaux matériaux d'autre part. C'est par la liaison des deux programmes qu'on arrive ainsi au programme particulier le plus important, après ESPRIT et RACE, en faveur d'un nombre de secteurs industriels qui constituent toujours le pilier essentiel de l'économie européenne (30 % du GNP, 75 % des employés industriels). Contrairement aux attentes, il n'y avait pas de voix contre, mais seulement deux pays (UK et DK) qui ont souligné qu'en cas de vote, ils devraient s'abstenir.

La seule controverse au sujet de ce programme consistait dans la question si, oui ou non, la recherche aéronautique y devrait être incorporée. A rappeler que la Commission avait proposé en juillet dernier un programme pilote pour ce secteur important de 60 MECU qui n'était pas prévu dans le Programme Cadre. La proposition s'est heurtée surtout à l'opposition anglaise.

Le compromis proposé par la Commission, qui a finalement été adopté, consiste en une dotation d'ensemble de 464,5 MECU pour le programme BRITE/EURAM, et 35 MECU en faveur de la recherche aéronautique (pour détail, voir fiche BRITE/EURAM).

3. Enfin, le Vice-Président M. Narjes a officiellement introduit le rapport sur "l'Etat de la Science et Technologie en Europe" en expliquant les objectifs et les conclusions essentielles. Il était vivement remercié, à la veille de son départ, par la Présidence grecque, pour ce rapport ainsi que pour tout ce qu'il a accompli en faveur de la politique de recherche et de la politique communautaire en général.

Amitiés

C. D. Ehlermann

C.-D. EHLERMANN