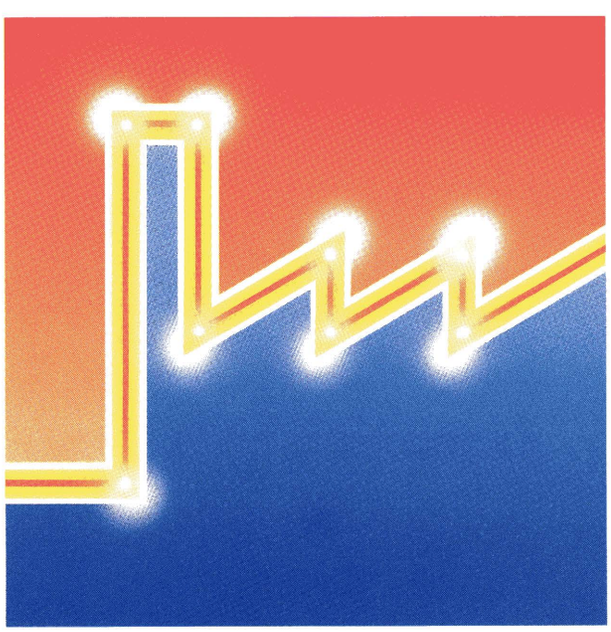
Commission of the European Communities
Directorate-General XII for
Science, Research and Development

INDUSTRIAL AND MATERIALS TECHNOLOGIES

(BRITE-EURAM II)

1991 - 1994



Information package

Commission of the European Communities, Directorate-General XII for Science, Research and Development

INDUSTRIAL AND MATERIALS TECHNOLOGIES (BRITE-EURAM II)

FEASIBILITY AWARDS FOR SMEs

GUIDE FOR APPLICANTS

Information Package
Edition 1991

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EASIBILITY AWARDS FOR SMEs

FEASIBILITY AWARDS FOR SMEs

Summary table

FEASIBILITY AWARDS

(1% of total budget for research)

- Aimed at individual SMEs in EC
- Activity in manufacturing, processing, mining, etc...

Duration	-	9 months
EC Funding	-	up to 75% of costs with maximum 30,000 ECU
Partners	-	none
Calls	-	open Call

1 INTRODUCTION

RATIONALE AND OBJECTIVES

Small and medium sized enterprises (SMEs) have an important role to play as technologically driven developers and manufacturers of advanced materials, components and equipment. This role is critical in the customer/supplier network. In responding to their customers needs, SMEs are particularly well fitted to introduce innovative and effective solutions to technical problems.

Their potential as agents for improving the technology base of Europe's manufacturing industry is recognised through encouraging SME participation in Community RTD Programmes. However, the investment in human and financial resources needed to prepare for and participate in a major transfrontier programme of collaborative RTD is often an impediment for SMEs. In recognition of these difficulties, the Feasibility Awards scheme has been introduced within BRITE-EURAM and is now continuing within the Industrial and Materials Technologies Programme (Brite-EuRam II).

The aim of the scheme is to help SMEs, in particular in the manufacturing, processing and mining sectors, to participate directly in industrial research activities with other European industrial partners.

The Feasibility Awards scheme will have a total budget of approximately 5 MECU.

IMPLEMENTATION

The scheme will provide financial support to be used by an individual SME:

- proving its research capability
- proving the feasibility of a concept, process or material for a Brite-EuRam project
- exploring/confirming the potential for further RTD work in a larger European research project
- demonstrating to potential partners the capacity of the SME to contribute to a new project
- expanding the results into a proposal for a Brite-EuRam industrial research project.

WHO CAN PARTICIPATE?

The applicant must be an SME located within the European Community. An SME is defined as a company which:

- has less than 500 employees
- has a net annual turnover of less than 38 MECU
- is not more than one third owned by a parent company or any other organisation larger than an SME, although larger shareholdings held by investors such as banks or venture capital firms are permitted.

The scheme is only open to SMEs:

- whose principal activity is not RTD, software nor services
- active in the field of the Programme (manufacturing, processing, construction, mining, etc).

WHAT ARE THE CRITERIA FOR PROPOSALS ?

The following criteria will be applied :

- eligibility of the applicant (see Section 2 above)
- conformity with the Programme objectives (see Workprogramme)
- potential economic impact and industrial relevance
- scientific/technical quality of the work proposed and how it is described
- level of technical and industrial innovation in the work proposed
- potential for further development within a European industrial research project
- contribution to improvement of working conditions, the environment and economic and social cohesion in the Community.

4 HOW TO PREPARE A PROPOSAL

Please follow the instructions given on the enclosed forms. Only fully completed applications using these forms can be accepted.

5 HOW AND WHEN TO SUBMIT A PROPOSAL

SUBMISSION

- You should submit one original of each proposal plus 7 copies.
- You may submit your proposal in any official language of the EC. However, it is advisable to supply at least a summary in English. This will accelerate the assessment of proposals.

TIMETABLE

The Feasibility Awards scheme is implemented through a Call for proposals which will remain open for at least 2 years from its publication in the Official Journal subject to funds remaining available.

DELIVERY

You should address and send the proposal to:

Commission of the European Communities
Directorate-General for Science, Research and Development
Direction C
Brite-EuRam Programme
Room 2/28
Rue Montoyer 75
B-1040 Brussels

The proposal should be double-wrapped, and you must clearly mark on the inner package

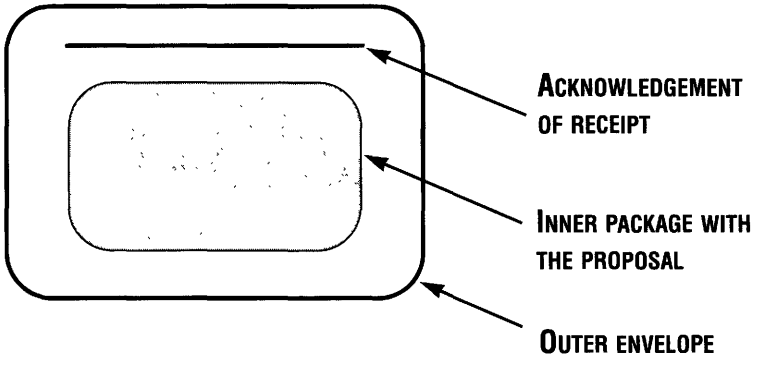
"Confidential: Proposal for the programme on Industrial and Materials Technologies – Feasibility Awards."

ACKNOWLEDGEMENT OF RECEIPT

You should include – in the outer envelope in which the proposal is delivered – the official "Acknowledgement of Receipt". On this you must put your organisation's name and address and the title of the proposed project. This will ensure that the acknowledgement is returned to you correctly addressed.

Before it is returned the Commission's reception staff will record the date of receipt and a unique reference number, for use in all subsequent correspondence relating to the proposal.

If you do not receive an "Acknowledgement of Receipt" within five weeks of the date of dispatch of the proposal, you should assume that the application was not received and should contact the Brite-EuRam office at the Commission immediately. You are strongly advised to retain proof of dispatch if the proposal is mailed.



Note: *Do not send proposals by fax (not even to announce proposals that are in the mail). Faxes will not be acknowledged.*

6 EVALUATION AND SELECTION OF PROPOSALS

The Commission will ensure a confidential, fair and equitable evaluation of proposals. This evaluation w have due regard to the criteria set out in Chapter 3 and will be carried out under the responsibility ar coordination of the Commission, assisted by independent experts chosen by the Commission.

In addition, please pay attention to the following points:

- The evaluations will take place approximately every 6 months, depending on the number of proposa received
- Only the information given on the application form will be used
- Final selection will take account of the Brite-EuRam II programme Feasibility Awards budget.

7 CONTRACTUAL CONDITIONS

SEE CHAPTER 7 OF THE *GENERAL INFORMATION* DOCUMENT WHICH GIVES INFORMATION ON EC RTD CONTRACTS.

However, for Feasibility Awards, the contractual procedures are simplified:

DURATION

The work should be completed within 9 months. At the end of this period a final report will be submitted.

AMOUNT OF THE AWARDS

The Commission will fund up to 75% of the costs of the proposed research (with a maximum of 30,00 ECU) to successful applicants. This funding may include the cost of a presentation to the Commission i Brussels.

CONTRACT

The applicants selected for Feasibility Awards will be sent an award contract letter for signature.

The Commission will pay 50% of the award after signature and the balance after receipt and approval of the final report.

REPORT

Applicants must submit a final report at the end of the 9-month period related to the work.

This report must include :

A/ • a full account of the work undertaken, with reference to the original application.
e.g. design studies, laboratory investigations, initial tests, computation, etc
• the results obtained and conclusions drawn
• details of any industrial or commercial property rights applied for

B/ the statements of expenditure related to the work undertaken

C/ a non-confidential Summary of results of the work which the Commission will be free to publish

D/ an outline description and strategy to expand the work into an Industrial Research project.

You will be asked to make a presentation to the Commission in Brussels between the sixth and the ninth month to describe the work carried out to-date and in particular point D above.

INDUSTRIAL PROPERTY RIGHTS

Industrial property rights generated by the work will be owned by the beneficiary. The beneficiary is expected to exploit the results in the best interests of the Community.

INFORMATION AND ASSISTANCE

SEE CHAPTER 8 OF THE GENERAL INFORMATION DOCUMENT FOR DETAILS ON ASSISTANCE AND CONTACT PERSONS.

FORMS

INDUSTRIAL AND MATERIALS TECHNOLOGIES

(Brite-EuRam II)

SME FEASIBILITY AWARD APPLICATION

PART I

FINANCIAL AND ADMINISTRATIVE FORM

Proposal n°

1. Applicant Information

Organisation Name : .....

Technical Contact : .....

Address : .....

Postcode : ..... City : ..... Country : .....

Tel : ..... Fax : ..... E. mail : .....

2. Details of Company

Industrial Sectors : ☐ *(use numbers given in list of Keywords – Example: A05)*

Products/services produced and/or supplied by the Company : .....

.....

.....

Net turnover of the company (M ECU) ? .....

Number of Employees (full-time equivalent) : .....

Number of Employees involved in R&D activities (full-time equivalent) : .....

Is the company more than one third owned by a parent company or any other organization ? YES ☐ NO ☐ *(cross as appropriate)*

(If yes, give name, size and field of avtivities of the parent company : .....

.....)

3. Project Costs in ECU :

Labour Costs :		ECU
Other Costs (please specify) :		ECU
		ECU
		ECU
Total Costs :		ECU
Requested Award : *(75% of total costs, up to 30.000 ECU)*		ECU
Duration of the work :		months

Allowable costs may include :

- labour (charged at cost)
- consumable materials
- computing
- sub-contractors and external services
- overheads (in accordance with known and approved policies and not exceeding those charged to government departments for similar work)
- travel and subsistence

Costs may not include :

- equipment purchase
- profit
- costs of preparing the application
- VAT
- costs associated with patents or other commercial or industrial property rights, on the results

4. Principal Researchers (including Sub-contractors) : *(Names, Qualifications and Involvement)*

Name	Organisation	Qualifications	Manweeks

5. Are you ready to expand the work into a Brite-EuRam industrial research project after having obtained good results? *(cross as appropriate)*

☐ YES ☐ NO

If yes, in which areas ?					
Raw materials	Recycling	Advanced Materials	Design	Manufacturing	Manufacturing/Management Strategies
☐	☐	☐	☐	☐	☐

6. Declaration by Chief Executive or Delegated Representative

I certify that this Application is made with my full knowledge and approval

Full Name : (Capitals) .....

Position in Organisation : .....

Date **Signature**

7. Project Title *(Please keep as short as possible)*

.....

.....

.....

Project keywords : *(use numbers given in list of Keywords – Examples : B03, C10, D05)*

Industrial Processes/ Activities		Materials		Supporting Disciplines Technologies	

Research Areas (principal Area first)
(use numbers given in list of Research Areas – Example : 2.1.2)

8. Abstract

(Please give a short description *(20 lines maximum)* of the proposed feasibility award research which can be used by the Commission as a Non-Confidential Summary. This abstract should briefly describe the industrial objectives of the research and the technological problems to be addressed).

Brite-EuRam II
Programme

PART II

SCIENTIFIC AND TECHNICAL CONTENT

CONFIDENTIAL

9. Objectives

This section will describe the specific industrial and technical objectives of the feasibility research including the industrial sectors likely to use the results of the work.

10. Economic and Technical Benefits

The economic and technical benefits to the Community which would result from an eventual successful development of the idea should be high-lighted and, if possible, quantified. Also indicate how the research could subsequently be exploited in an industrial research project and which types of industry could be associated with the proposing SME.

Brite-EuRam II
Programme

11. Relevant experience of principal researcher and company

Evidence should be provided of the credibility of the company and the principal researcher (including subcontractor, if appropriate) in the field of the proposed research. e.g. relevant patents, publications. etc.

12. State-of-the-Art

This section will describe the present state of knowledge in the field of the proposed research.
It will give details of any prior R & D or feasibility studies on the proposed project and of other developments within the field of the project which are being undertaken by the proposer or others.

Brite-EuRam II
Programme

13. Description of Work

- Description of the different steps or phases of the work
- Timescale and man weeks

COMMISSION OF THE EUROPEAN COMMUNITIES

DIRECTORATE-GENERAL FOR SCIENCE RESEARCH AND DEVELOPMENT

DG XII-C
Brite-EuRam Programme
Rue Montoyer 75
B-1040 Brussels

Brussels :

(1)

ACKNOWLEDGEMENT OF RECEIPT
FEASIBILITY AWARD

Dear Sir or Madam,

We are pleased to acknowledge receipt of your proposal entitled : (2)

.....

.....

This proposal has been given the following reference number : (3)

You are kindly requested always to mention this reference number in all future correspondence relating to this proposal.

It is planned that your proposal will be examined by the services of the Commission with the assistance of committees and experts in .....
The result of this examination will be communicated to you in due course.

On behalf of the Commission, we would like to thank you for your proposal and for your interest in the Brite-EuRam Programme.

Yours sincerely,

Proposal received on ..... by .....

(1) Name and address of applicant - to be entered by the applicant.
(2) Title - to be completed by the applicant.
(3) Reference number will be allocated by the Commission.

RESEARCH AREAS

RAW MATERIALS

1.1.1. Exploration Technology
1.1.2. Mining Technology
1.1.3. Mineral Processing

RECYCLING

1.2.1. Recycling and Recovery of Industrial Waste including Non Ferrous Metals
1.2.2. Recycling, recovery and reuse of advanced materials

STRUCTURAL MATERIALS

1.3.1. Metals and Metal Matrix Composites
1.3.2. Ceramics, Ceramic Matrix Composites and Advanced Glasses
1.3.3. Polymers and Polymer Matrix Composites

FUNCTIONAL MATERIALS FOR MAGNETIC, SUPERCONDUCTING, OPTICAL, ELECTRICAL AND BIOMATERIAL APPLICATIONS

1.4.1. Magnetic Materials
1.4.2. High Temperature Superconducting Materials
1.4.3. Electrical and Ionic Conducting Materials
1.4.4. Optical Materials
1.4.5. Biomaterials

MASS COMMODITY MATERIALS

1.5.1. Packaging Materials
1.5.2. New Construction Industry Materials

DESIGN OF PRODUCTS AND PROCESSES

2.1.1. Innovative design tools and techniques
2.1.2. Design methodologies for complex components
2.1.3. Maintainability and reliability

MANUFACTURING

2.2.1. Tools, techniques and systems for High Quality Manufacturing
2.2.2. Manufacturing Techniques for Industrial Use of Advanced Materials
2.2.3. Integrated Approach to Chemical and Process Engineering

ENGINEERING AND MANAGEMENT STRATEGIES FOR THE WHOLE PRODUCT LIFE CYCLE

2.3.1. Design Integrating Strategies
2.3.2. Engineering
2.3.3. Human Factors in Engineering and Manufacturing Management

EYWORDS

strial sectors

Aeronautics / Aerospace
Automotive, Components & Parts
Chemical / Petrochemical
Construction / Building / Civil engineering
Electrical / Electronic industry
Energy / Power generation
Engineering / Software / Technical services
Food / Drink / Water
Instruments / Sensors / Precision equipments
Materials processing
Mechanical engineering / Machinery
Medical / Biomedical equipment
Mining / Quarrying
Ore / Mineral processing
Printing / Office equipment
Railways / Locomotive
Shipbuilding
Shoe / Leather
Textile / Clothing
Toys / Leisure
Wood / Paper / Furniture
Other manufacturing industries

strial Processes / Activities

Assembly / Joining
Building / Construction
Design
Disposal / Dismantling / Demolition
Engineering (biomedical)
Engineering (chemical)
Engineering (civil)
Engineering (electrical)
Engineering (mechanical)
Engineering (mining)
Engineering (optical)
Engineering (process)
Exploration
Extraction
Forming / Shaping / Casting
Handling / Transportation
Logistics / Management / Production planning
Machining / Cutting
Mining
Packaging
Process / Product monitoring
Processing (metals)
Processing (minerals)
Processing (rubber & plastic)
Processing (ceramic & glass)
Processing (food, non rigid materials)
Prototyping
Quality assurance
Quality control / Inspection
Recovery / Recycling
Repair / Maintenance / Restoration
Storage / Warehousing
Tunnelling
Waste treatment / Containment
Other processes

Materials

C01 Abrasives
C02 Adhesives / Bonding
C03 Biomaterials
C04 Carbon / Graphite
C05 Catalysts / Zeolites
C06 Ceramics / Glasses
C07 Coatings / Thin films
C08 Composites (polymer matrix)
C09 Composites (ceramic matrix)
C10 Composites (metal matrix)
C11 Concrete / Building materials
C12 Diamond / Superhard materials
C13 Dielectrics / Ferroelectrics
C14 Electrical
C15 Ferrous
C16 Fibres / Reinforcing materials
C17 Flexible / Non rigid materials
C18 Foamed materials
C19 Fuels
C20 Gases
C21 Geotextiles
C22 Hydrocarbons / Petrochemicals
C23 Leather
C24 Lubricants
C25 Magnetic
C26 Metallic structural materials
C27 Minerals / ores
C28 Multilayers / Multimaterials
C29 Non ferrous
C30 Optical
C31 Organometallic materials
C32 Paints
C33 Pharmaceuticals
C34 Plastics / Rubbers
C35 Polymers
C36 Powders
C37 Refractories
C38 Rocks / Stones / Aggregates
C39 Smart materials
C40 Solders / Brazes / Welding
C41 Superalloys / Special alloys
C42 Superconductors
C43 Textiles
C44 Waste / Effluents
C45 Wood / Paper
C46 Other materials

Supporting Disciplines / Technologies

D01 Automation / CIM
D02 Biomedical
D03 Blasting technologies
D04 CAE / CAD / CAM systems
D05 Chemistry
D06 Computer science / Software
D07 Computers / Computer systems
D08 Control systems
D09 Data bases / Expert systems
D10 Drilling technologies
D11 Dynamics / Fluid dynamics
D12 Ecology / Environment
D13 Economics
D14 Electronics
D15 Ergonomics
D16 Geochemistry
D17 Geology (economic)
D18 Geophysics
D19 Geotechnics / Soil mechanics
D20 Imaging / Image processing
D21 Instrumentation / Measuring systems
D22 Laser technology / Power beams
D23 Machine tools
D24 Materials characterization / Testing
D25 Materials science
D26 Mathematical modelling
D27 Mechanics / Solid mechanics
D28 Medicine / Health
D29 Membrane / Separation technology
D30 Metallogeny
D31 Metallurgy / Hydrometallurgy
D32 Micro engineering
D33 Multifunctional engineering
D34 Nanotechnology
D35 Particle technology
D36 Powder metallurgy
D37 Psychology / Sociology
D38 Reinforcement technology
D39 Reliability
D40 Remote sensing
D41 Robotics
D42 Safety management
D43 Sensors / Signal processing
D44 Statistics
D45 Surface treatment technologies
D46 Thermodynamics
D47 Tools / Dies
D48 Tribology
D49 Vibration analysis / Acoustics
D50 Vision / Optical systems
D51 Other

Services / Others

E01 Analysis / Auditing / Consultancy
E02 Codes / Standards
E03 Evaluation / Selection
E04 Financing / Joint venture
E05 Forecasting / Marketing
E06 Management
E07 Promotion / Technology transfer
E08 Research / Development
E09 Training
E10 Validation / Certification
E11 Other

Printed by Printéclair Brussels

Commission of the European Communities, Directorate-General XII for Science, Research and Development

INDUSTRIAL AND MATERIALS TECHNOLOGIES (BRITE-EURAM II)

COOPERATIVE RESEARCH: CRAFT

specially addressed to SMEs

GUIDE FOR APPLICANTS

Information Package
Edition 1991

CORRIGENDA

GUIDE FOR APPLICANTS: CRAFT, PAGE 15

The correct addresses for the EC Member State focal points in Belgium, Italy, Portugal and Spain are as follows:

Belgium
Mr D. Bregentzer
Groupe de Concertation Interrégional CRAFT
Rue du Champ de Mars 25
B-1050 Bruxelles
Tel: 32 2 513 97 00 - Fax: 32 2 511 52 55

Italy
Dr G Beghi
APRE
c/o FAST
Piazzale Morandi 2
I-20126 Milano
Tel: 39 2 76015672 - Fax: 39 2 78 24 85

Spain
Mr Ignacio Atorrasagasti Telleria
IMPI
Subdtor Gral Gabinete de Estudios y Centro de Información
Paseo de la Castellana 141 - Edif. Cuzco IV
E-28046 Madrid
Tel: 34 1 582 93 98 - Fax: 34 1 571 28 31

Portugal
Mrs Margarida Garrido
JNICT/COCEDE
Av. D. Carlos I, 126-18-28
P-1200 Lisbon
Tel: 351 1 679021/7 - Fax: 351 1 607481

*COOPERATIVE RESEARCH (CRAFT)**

* **CRAFT:** *Cooperative Research Action for Technology*

COOPERATIVE RESEARCH ACTION FOR TECHNOLOGY (CRAFT)

Summary table

COOPERATIVE RESEARCH (CRAFT)

(9% of total budget for research)

- Conformity with technical areas
- Research defined by industry (bottom-up approach)
- Precompetitive and cooperative
- Research performed by third parties for a group of proposers
- Exploitation oriented
- 2 step application procedure

Cost	-	0.4 - 1 MECU
Duration	-	1-2 years
EC Funding	-	up to 50 % of full costs
Partners	-	**Step 1** : at least two SMEs from different Member States **Step 2** : at least four SMEs from at least two Member States
Calls	-	open Call (approximately 2 evaluations/year)

INTRODUCTION

RATIONALE AND OBJECTIVES

As users of technology, small and medium-sized enterprises (SMEs)(1) are often in the position to provide ideas for improvement or adaptation of existing technology, to define requirements, to respond to specific problems or to conceive new opportunities for development of new products or processes.

Participation of SMEs in European research programmes, although important and increasing, is still restricted to those SMEs with the equipment, research facilities and staff to carry out Research and Technological Development (RTD) work in-house. The CRAFT scheme is primarily aimed at SMEs with limited or no RTD resources of their own.

The Scheme will provide financial support to a group of industrial companies, mainly SMEs, facing a common industrial or technological research need. CRAFT will enable these SMEs to come together and assign outside organisations (research centres, universities, or other companies) to carry out RTD under contract on their behalf.

The proposed RTD should conform with the objectives and contents of the Brite-EuRamII programme. Research proposals must be:

- the result of a "bottom-up" approach, i.e. projects should be proposed by SMEs and reflect their current industrial problems or technological challenges;
- a response to common problems or RTD opportunities affecting a number of companies within one or more industrial sectors, rather than specific problems occurring in individual companies;
- submitted by undertakings which are to take part in planning and piloting the research and implementing the results.

The CRAFT scheme will have a total budget of approximately 57 MECU.

Note: *(1) An SME is a company which:*

a/ has less than 500 employees
b/ has a net annual turnover of less than 38 million ECU
c/ is not more than one third owned by a parent company or any other organisation larger than an SME, although larger shareholdings held by investors such as banks or venture capital firms are permitted.

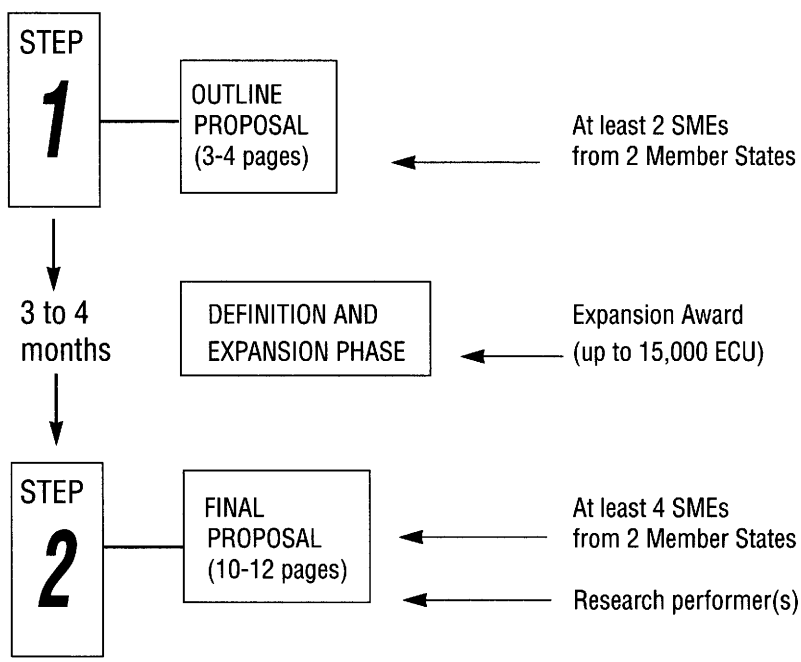
IMPLEMENTATION

CRAFT is implemented through an open call for proposals. Subject to the availability of funds, you are free to present your project at any time during the two year period following the publication of the Call for proposals in the Official Journal of the EC.

Proposals are submitted and evaluated in two steps:

- **Outline** proposals are submitted in the first step. Those selected will be invited to be developed into:
- **Final** detailed proposals which will be submitted in a second step within approximately 3 to 4 months from the initial evaluation. This period is known as the "definition and expansion" phase. Proposer SMEs will have this time period to:
  - develop into a larger consortium,
  - define the RTD workprogramme and
  - identify the organisation(s) who will carry out the work.

The "definition and expansion" phase can be funded by the Commission through an **"expansion award"**.



WHO CAN PARTICIPATE?

The scheme is open to all organisations in the European Community. The Prime Proposer should be an SME (1), and research should be carried out in Europe.

In addition, each proposal should include in its final stage (Step 2) the following two distinct groups of participants:

- the Proposers: industrial companies, mainly SMEs, which have no or limited research facilities and are active in the field of the programme (mining, manufacturing, construction, processing, recycling, etc.). Participation of large companies as well as SMEs with well established R&D resources is possible if this is at the special request and interest of the proposing SMEs;

- the RTD performers who will carry out the project work: e.g. research centres, universities, higher education institutes, and/or companies.

Participants from third European countries who are members of COST (2) and Central and Eastern European countries are allowed to participate on a project by project basis. They cannot act as Prime Proposer nor receive any funding from the Commission. They should contribute to the general administration of the programme.

Note: *(1) To facilitate the administration and assembly of a proposal the proposing SMEs may assign a representative (e.g. an industrial association but **NOT** a potential RTD performer) to act on their behalf as Prime Proposer.*

(2) COST: Coopération européenne dans le domaine de la Recherche Scientifique et Technique.

WHAT ARE THE CRITERIA FOR PROPOSALS?

GENERAL CRITERIA

You should follow these general criteria:

- Conformity with the scope and objectives of Brite-EuRam II
- Scientific and technical excellence and novelty
- Precompetitive character
- Scientific, technical, industrial and economic benefits
- European dimension.

SPECIFIC CRITERIA

In addition, you should pay attention to the following specific criteria :

- Proposals should be of industrial relevance, if possible multisectorial
- Step 1: submitted by at least 2 independent industrial SMEs from at least 2 Member States (1)
  Step 2: at least 4 independent industrial SMEs from at least 2 Member States
- Preference will be given to projects involving a substantial number of proposers
- Total cost normally in the range of 0.4 to 1 MECU
- Duration: in general between 1 and 2 years
- Projects should be cooperative by ensuring that the research work is carried out by the RTD performers selected by the proposers (2)
- Involvement of the proposer SMEs in planning and steering the project should be clear
- Proposals should include clear routes for exploitation and dissemination of the results, including wherever possible training needs and/or transfer of know-how
- Proposals should contribute to the improvement of working conditions, the environment, and to the social cohesion within the Community.

Notes: *(1) Companies belonging to the same group though in different countries are not independent.*

(2) Proposals with more than one RTD performer are encouraged, taking into account the added value of complementarity and transnational collaboration

HOW TO PREPARE A PROPOSAL (Step 1)

The enclosed forms should be used for submission of outline proposals.

Each proposal must be submitted by the Prime Proposer: the proposing SMEs will delegate one representative who will be responsible for the internal proposal coordination and assembly prior to submission. The identification of the RTD performers is not necessary in this outline proposal.

Note: *Even if you have a fully-formed proposal eligible for Step 2 evaluation, you must precede it with the Step 1 phase.*

PART I: FINANCIAL AND ADMINISTRATIVE FORMS

PART Ia: provides general information on the proposal content and the prime proposer. Information should be non-confidential since the shortlisted outline proposals will be disseminated to assist in enlarging the consortium during the definition and expansion phase.

PART Ib: provides an overview of the consortium and the financial structure of the proposal; it should be filled in and signed by the prime proposer.

In addition to the above form, each proposer listed in Part Ib should write a short letter (of maximum 1 page), to be signed by the chief executive of the company or his delegate, with the following contents:

- A brief introduction of the company's main industrial activities (sectors, products, processes, etc)
- A description of the company's size (No. of employees) and RTD activities (No. of employees, sub-contracted RTD)
- Financial structure of the company (net turnover, ownership)
- Statement, declaring the company's agreement to: participate in the project, contribute financially to it, delegate to the prime proposer for liaison with the Commission in relation to the proposal.

PART II: PROPOSAL DESCRIPTION

PART II is for the description of the work proposed and its justification. Follow the structure and guidelines provided on the reverse side of the form.

Note for Step 2

After the assessment of outline proposals, forms and guidelines for submission of final proposals (Step 2) will be provided to successful proposers, together with the notification of selection.

Final proposals will include:

- detailed costs and funding structure of the project
- definition of the organisations carrying out the RTD work
- detailed workprogramme which will elaborate on the outline proposal to accurately define the project objectives, organisation and management and a full description of the work to be carried out.

5 HOW AND WHEN TO SUBMIT A PROPOSAL

SUBMISSION

It is the prime proposer who is responsible for submitting the proposal.
For both Steps 1 and 2:

- You should submit one original of each proposal plus 7 copies.
- You may submit proposals in any official language of the EC. However, it is advisable to supply at least a summary in English. This will accelerate the assessment of proposals.

TIMETABLE

Outline proposals (Step 1) can be submitted at any time. **Step 1 is mandatory**. Each evaluation exercise will include proposals received up to two weeks before the commencement of the particular evaluation. Proposals received after this deadline will be evaluated in the following evaluation. Prime proposers will be informed with the acknowledgement of receipt about the planned date for the evaluation of their proposals.

Final proposals (Step 2) are expected to be submitted within 4 months after notification of selection of the outline proposal. The deadline will be mentioned in the letter mailed to the prime proposers.

DELIVERY

You should assemble the proposal and ensure that it is submitted in one parcel.
You should address and send it to:

Commission of the European Communities
Directorate-General for Science, Research and Development
Directorate C
Brite-EuRam Programme
Room 2/28
Rue Montoyer 75
B-1040 Brussels

The parcel should be double-wrapped, and you must clearly mark on the inner package:
"Confidential: Proposal for the programme on Industrial and Materials Technologies – Cooperative Research (CRAFT)."

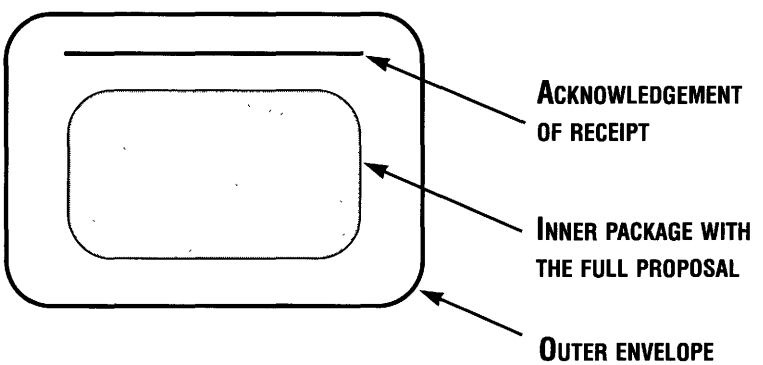
ACKNOWLEDGEMENT OF RECEIPT

You should include – in the outer envelope in which the proposal is delivered – the official "Acknowledgement of Receipt". On this you – the prime proposer – must put your organisation's name and address and the title of the proposed project. This will ensure that the acknowledgement is returned to you correctly addressed.

Before it is returned the Commission's reception staff will record the date of receipt and a unique reference number, for use in all subsequent correspondence relating to the proposal.

You should ensure that all members of the consortium are given the proposal reference number and use it in all contact with the Commission.

If you do not receive an "Acknowledgement of Receipt" within five weeks of the date of dispatch of the proposal, you should assume that the application was not received and should contact the Brite-EuRam office at the Commission immediately. You are strongly advised to retain proof of dispatch if the proposal is mailed.



Note: *Do not send proposals by fax (not even to announce proposals that are in the mail). Faxes will not be acknowledged.*

EVALUATION AND SELECTION OF PROPOSALS

The Commission will ensure a confidential, fair and equitable evaluation of proposals. This evaluation will have due regard to the criteria set out in Chapter 3 and will be carried out under the responsibility and coordination of the Commission, assisted by independent experts chosen by the Commission.

The selection of proposals will proceed as follows:

STEP 1

- Verification of eligibility of proposals by Commission staff
- Confidential evaluation of the proposals by independent experts
- Decision on acceptance for Step 2 by the Commission.

STEP 2

- Verification of eligibility of proposals by Commission staff
- Confidential evaluation of the proposals by independent experts
- Final selection by the Commission and communication of the results to the prime proposer
- Final selection will take account of the Brite-EuRam II programme budgetary allocations.

The Regulatory Committee Industrial and Materials Technologies will be informed of the proposals and the outcome of the assessment. The Committee has to be consulted on any recommended proposal involving organisations from non-Member States.

The evaluation exercises will take place both for outline (Step 1) and final (Step 2) proposals, approximately every 6 months depending on the number of proposals received.

CONTRACTUAL CONDITIONS

SEE CHAPTER 7 OF THE *GENERAL INFORMATION* DOCUMENT WHICH GIVES INFORMATION ON EC RTD CONTRACTS.

In addition the following contractual conditions apply to CRAFT contracts.

- The proposals selected after Step 1 are qualified to receive a contract for the execution of the "expansion" of the proposal into a complete RTD project proposal if necessary. The Commission may support up to 75% of the costs involved with a maximum ceiling of 15.000 ECU for the definition and expansion tasks.

  The Prime Proposer will receive a contract letter for signature.

  The Commission will pay the contribution after receipt of the final proposal (Step2) and the actual cost statements relating to "definition and expansion phase" work.

- Selected final proposals will receive a contract setting out the conditions of Commission support. The contract will be based on the standard Model Contract for RTD work and will be signed by 3 parties:
  - The Commission
  - The RTD performer(s)
  - A representative of the proposer SMEs.

SMEs are encouraged to create an European Economic Interest Grouping (EEIG) (or a similar arrangement under national law). Alternatively the SMEs may delegate the Prime Proposer to represent all of them. In all these cases provisions to regulate the industrial property rights and the exploitation phase should be adopted by the proposers consistent with the conditions of the Commission's contract.

FUNDING AND CONTRIBUTION OF THE COMMISSION

The contribution of the Commission may be up to 50% of the total project (Step2) costs. The balance (50%) shall be provided by the industrial proposers. In addition to cash contribution, auditable in-kind contributions from the proposers are acceptable but should generally not exceed one third of the total project costs and be clearly specified and supported by accountable evidence.

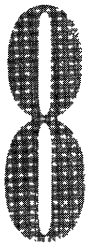
Complementary industrial funding, (i.e. from sources outside the consortium) may be accepted as contribution to the project provided a substantial direct financial involvement of the proposers themselves is also present.

PROJECT COORDINATION AND MONITORING

The Commission may delegate project monitoring to external Project Technical Auditors.

EXPLOITATION OF RESULTS

- Industrial property rights will stay with the proposers
- Actions for exploitation of results should commence immediately after project completion
- RTD Performers might be allowed to disseminate information 12 months after project completion
- Information will be disseminated by the Commission 2 years after project completion
- RTD Performers should keep the know-how available for transfer for at least 3 years after project completion.



INFORMATION AND ASSISTANCE

A Supportive Network implemented through National Focal Points will be at your disposal if you need information or help.

To look for partners and before you submit an outline proposal you may use the Expression of Interest (EOI) system (see Chapter 4 of the *General Information* document; forms are included in the Annexes.)

For selected outline proposals, the abstract, partners' names, estimated costs and proposers' contributions will be made public immediately after Step 1. Companies interested in joining the consortium and RTD performers willing to carry out the research are invited to contact the Prime Proposers as soon as possible during the "definition and expansion phase" to discuss participation possibilities and conditions. Any organisation interested in the results of Step 1 may consult:

- the Supportive Network of Focal Points
- EUROKOM electronic mail
- the Euro-Info-Centres
- the Commission.

CRAFT Supportive Network: Focal Points in the EC Member States

Belgium
Mr H. Monard
Diensten voor Programmatie van het Wetenschapsbeleid
Wetenschapsstraat 8
B-1040 Brussel
Tel: 32 2 238 35 18 - Fax: 32 2 230 59 12

Italy
Mr A. Damiani
APRE
c/o Ministero dell'Università e della Ricerca S/T
L.re Thaon di Revel 76
I-00196 Roma
Tel: 39 6 399 759 - Fax: 39 6 322 15 84

Denmark
Mr P. M. Soerensen
Nat. Agency of Ind. and Trade
Tagensvej 135
DK -2200 København N
Tel: 45 31 85 10 66 - Fax: 45 31 81 70 68

France
Mme F. Girault
A.N.R.T.
Avenue Bugeaud 16
F-75216 Paris
Tel: 33 1 47 04 47 57 - Fax: 33 1 47 04 25 20

Germany
Mr K. Middeldorf
AIF
Bayenthalgvertel 23
D-5000 Köln 51
Tel: 49 221 3768014 - Fax: 49 221 376 80 27

Greece
Mr N. Koralis
Hellenic Organisation for SME(HOMMEH)
Xenias 16
GR-11528 Athens
Tel: 30 1 7772832 / 7788467 / 7780435 - Fax: 30 1 7715025

Ireland
Mr D. Carroll
EOLAS
Glasnevin
IRL- Dublin 9
Tel: 353 1 37 01 01 - Fax: 353 1 37 96 20

Luxembourg
Mr S. Pommerell
Luxinnovation
P.O. BOX 1304
L-1013 Luxembourg
Tel: 352 43 62 63 - Fax: 352 43 83 26

Portugal

Mrs Ma Celeste Lopes
ENGA
Directora de Serviço da Direcçao Geral da Industria
Rua Cons. Fernando da Sousa 11
P-1000 Lisbon
Tel: 351 1 659167 ext. 263 - Fax: 351 1 691042

Spain

Mr José Gil Gillem
IMPI
Subdtor Gral Gabinete de Estudios y Centro de Información
Paseo de la Castellana 141 - Edif. Cuzco IV
E-28046 Madrid
Tel: 34 1 582 93 29 - Fax: 34 1 571 28 31

The Netherlands

Mr G. Dubbeld
Bureau EG-Liaison
Grote Marktstraat 43
Postbus 13766
NL-2501 ET Den Haag
Tel: 31 70 3610444 - Fax: 31 70 3562811

United Kingdom

Mr G. A. Gadge
Dept. of Trade and Industry
151 Buckingham Palace Road
UK- London SW 1W 9SS
Tel: 44 71 215 15 55 - Fax: 44 71 215 29 09

FOCAL POINTS IN EFTA COUNTRIES

Austria

Mr G. Zeichen
Techn. Univ. Wien
Gusshaussstrasse 25/29
A-1040 Wien
Tel: 43 1 58801/3742 - Fax: 43 1 5875998

Finland

Mr M.R. Pulkkinen
TEKES
P.O. Box 69
SF-00101 Helsinki
Tel: 358 0693691 - Fax: 358 069 367794

Iceland

Mr V. Ludviksson
Nat. Research Council
Laugavegur 13
IS-101 Reykjavik
Tel: 354 1 21320 - Fax: 354 1 29814

Norway

Mr O. Aabye
Royal Norw. Council S&T Res.
Sognsveien 70, Taesen
N-0801 Oslo 8
Tel: 47 2 237685 - Fax: 47 2 184137

Sweden

Mrs E. Bergendal-Stenberg
The Swedish Nat. Board for Techn. Dev.
Liljeholmsvägen 32
S- 11786 Stockholm
Tel: 46 8 7754371 - Fax: 46 8 196826

Switzerland

Mr A.M. Taormina
KBF c/o VSM
Kirchenweg 4
CH-8032 Zurich
Tel: 41 1 3844844 - Fax: 41 1 3844848

CONTACT AT THE COMMISSION OF THE EC

Commission of the European Communities
Directorate-General for Science, Research and Development
Directorate for Technological Research
Brite-EuRam Programme (CRAFT)
Rue Montoyer 75
B-1040 Brussels

Helpline 32 2 236 51 51

Telefax 32 2 2358046
32 2 2365987

Telex 21877 COMEU B

EUROKOM

Avenue de la Joyeuse Entrée, 1
B-1040 Brussels, Belgium
Tel: 32 2 230 36 47 - Fax: 32 2 280 01 32

Belfield
Dublin 4, Ireland
Tel: 352 1 697890 - Fax: 353 1 838605

FORMS

INDUSTRIAL AND MATERIALS TECHNOLOGIES

(Brite-EuRam II)

COOPERATIVE RESEARCH

PART Ia	Proposal n°
FINANCIAL AND ADMINISTRATIVE FORM	

Project Title [1] : .....

.....

Keywords [2]
(use numbers in Keywords list – Example: A05)

Industrial Sectors		Industrial Processes/ Activities		Materials		Supporting Disciplines/ Technologies	

Research Areas (principal Area first) [2]
(use numbers in Research Area list – Example: 2.1.2)

Prime proposer *(Full legal organisation name)* .....

Department/unit : .....

Address : .....

.....

Tel [3] : ..... Fax : ..... E. Mail .....

Project leader within organisation :

First name : ..... Name : .....

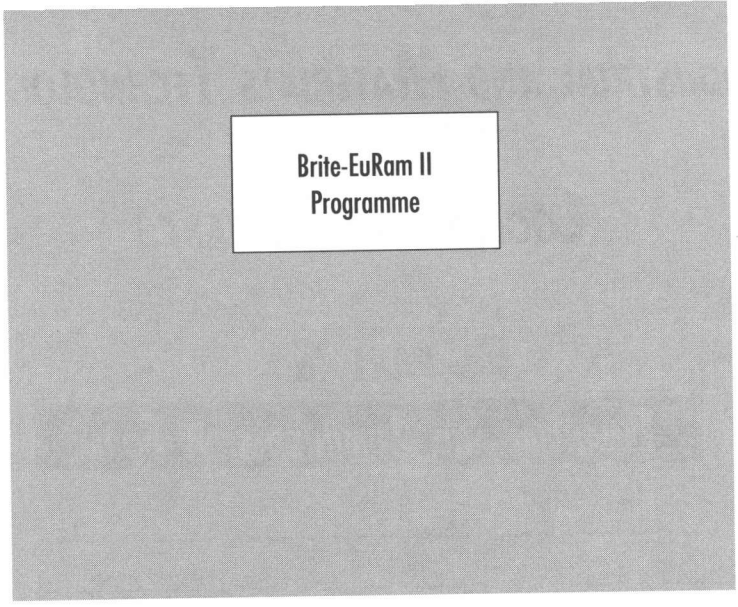
Position : .....

PROPOSAL ABSTRACT

(4)

Estimated duration of project : ..... months

1, 2, 3, 4 : see instructions overleaf

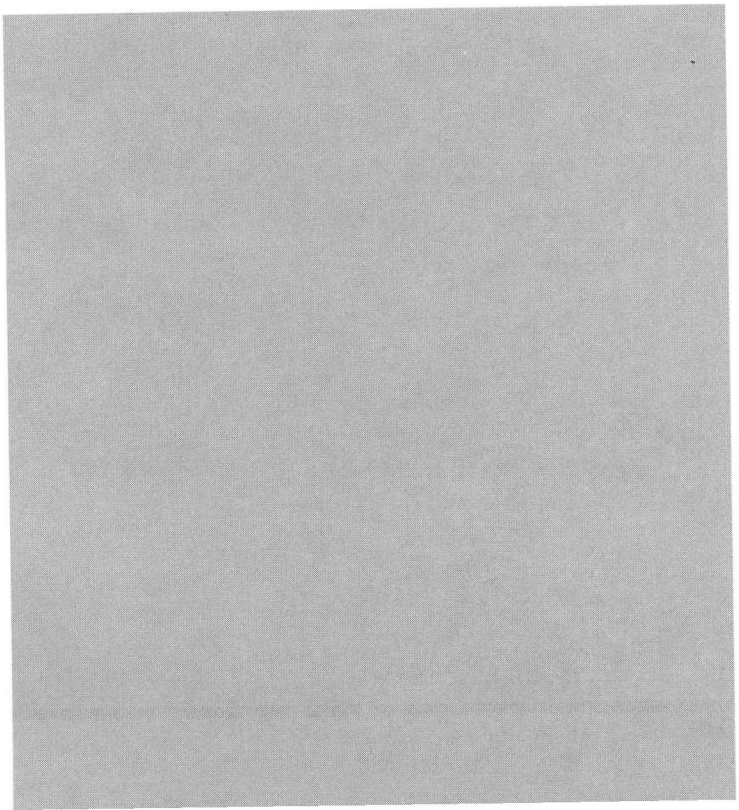


(1) Project title : maximum 15 words

(2) Please complete with the Keywords and Research Areas that define the proposed project.
Use the code numbering given in the lists of Keywords and Research Areas.

(3) Please include country code

(4) The proposal abstract is a summary description (20 lines maximum) of the proposed research project which can be used by the Commission as a ***Non-confidential*** *summary.*
This summary should be a short synopsis in English and shall include the industrial objectives of the project, as well as describing the technological problems to be solved through the research proposal.
The abstract will be disseminated to assist in enlarging the Consortium during the definition and expansion phase.



INDUSTRIAL AND MATERIALS TECHNOLOGIES

(Brite-EuRam II)

COOPERATIVE RESEARCH

PART Ib

FINANCIAL AND ADMINISTRATIVE FORM

Project Title [1] : .....

.....

COST OVERVIEW

N° (2, 5)	Name of Organisation (3)	Size (4)	Country (4)	Estimated contribution to the project (in ECU)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

Total project cost estimate [3] : ..... ECU
Total proposer's contribution : ..... ECU
CEC funding requested (up to 50% of total costs) ..... ECU
Additional industrial funds needed (*) ..... ECU ..... YES ☐ →

(*) ☐ From non participants : ..... ECU Source : .....
(*) ☐ From additional industrial partners : ..... ECU

Do you need help in finding - additional partners? : YES ☐ NO ☐
- candidate R&D performers? : YES ☐ NO ☐

(3) Authorized signatory of PRIME PROPOSER : *(Full name in capitals)* .....

Position in the organisation : .....

Signature

1, 2, 3, 4, 5 : see instructions overleaf

Brite-EuRam II
Programme

(1) Project title : maximum 15 words

(2) Prime Proposer to be listed as N° 1.

At least 2 independent SMEs from at least 2 different Member States should submit the outline proposal.

(3) Name of proposers organisations and estimated total project cost will be disseminated (for successful outline proposals) to inform companies interested in joining the consortium during the definition and expansion phase.

(4) See codes for size and countries

Size organisation	*S1*	*less than 50 employees*
	S2	*51-100*
	S3	*101-500*
	S4	*501-1000*
	S5	*1001-5000*
	S6	*more than 5000*

Country Codes	*B*	*Belgium*	*NL*	*Netherlands*
	D	*Germany*	*P*	*Portugal*
	DK	*Denmark*	*UK*	*United Kingdom*
	E	*Spain*	*A*	*Austria*
	F	*France*	*CH*	*Switzerland*
	GR	*Greece*	*IS*	*Iceland*
	I	*Italy*	*N*	*Norway*
	IRL	*Ireland*	*S*	*Sweden*
	L	*Luxemburg*	*SF*	*Finland*

(5) Please use additional forms if more than 12 proposers are involved. In this case, please number the pages consecutively, i.e. page 2/1, 2/2 ...

INDUSTRIAL AND MATERIALS TECHNOLOGIES

(Brite-EuRam II)

COOPERATIVE RESEARCH

PART II

PROPOSAL DESCRIPTION

Title :.....

.....

The following aspects must be included in the proposal description (i.e. four A4 pages maximum).

TITLE : Max. 15 words

1. BACKGROUND INFORMATION ON THE PROJECT (Max. 2 A 4 pages)

1.1. Objectives and expected results of the research (20-30 lines)

This section must describe the specific industrial and technical objectives of the cooperative research project including the industrial sectors likely to use the results of the work. Specific aspects to be included are :

- clear and quantified industrial goals of the research
- indication of the cooperative and pre-competitive character of the research

1.2. Economic and industrial benefits (20-30 lines)

This section must include :

- qualitative and, if possible, quantitative description of the industrial and technical benefits of the proposed research in the event of a successful outcome;
- applicability and relevance of the research to a particular or several industrial sectors;
- potential industrial opportunities and expected impact on the European market;
- indication of level of urgency of the research in relation to potential industrial applications.

1.3. State-of the art and innovation (20-30 lines)

This section must provide the basic reasons to carry out the project, describe the present state of development or knowledge of the proposers in the field of the proposed research and compare it with the state of the art worldwide. The innovative character of the proposed R&D should be stated. The proposed R&D work should not duplicate existing work.

2. R&D APPROACH (Max. 1 A4 page)

2.1. Proposed project methodology and structure (20-30 lines)

This part should include information on :

- considered methodology : an overview of the potential technical approach(es) (if any) envisaged to achieve the objectives (e.g. development of new processes, adaptation of existing technologies, performance of round robins, etc)
- potential scope of participation of SMEs and their role in the execution of the R&D work. Participation of suppliers, transformers, users

2.2. Candidate R&D organisation : (10-20 lines)

- please indicate candidate R&D performer(s) (if identified at this stage) who could carry out the research, and their connections with the proposers

3. STRATEGY FOR EXPLOITATION OF RESULTS (Max 20 lines)

This section shall describe the strategy of the proposers and planned actions for dissemination and exploitation of the results An overview of concrete actions foreseen to be taken to guarantee an optimal dissemination and exploitation of the results of the project by the proposers and its impact on European cohesion and competitiveness should be included here.

4. PLANS FOR THE EXPANSION PHASE AND REQUEST FOR FINANCIAL SUPPORT (Max 20 Lines)

This section shall describe the actions and expected expenditure foreseen for the definition and expansion phase. Selected outline proposals can obtain financial support for further development into a final proposal. The outline proposal should state here the formal request for financial support and include a description of actions planned for the expansion of the outline proposal (use of consultants, meetings, travel, constitution of an EEIG,...) as well as the associated budget estimated.

COMMISSION OF THE EUROPEAN COMMUNITIES

DIRECTORATE-GENERAL FOR SCIENCE RESEARCH AND DEVELOPMENT

DG XII-C
Brite-EuRam Programme
Rue Montoyer 75
B-1040 Brussels

Brussels :

(1)

ACKNOWLEDGEMENT OF RECEIPT
COOPERATIVE RESEARCH
CRAFT

Dear Sir or Madam,

We are pleased to acknowledge receipt of your proposal entitled : (2)

.....

.....

This proposal has been given the following reference number : (3)

You are kindly requested always to mention this reference number in all future correspondence relating to this proposal. Please ensure that all your partners are also made aware of this reference number.

It is planned that your proposal will be examined by the services of the Commission with the assistance of committees and experts in . . . . . .
The result of this examination will be communicated to you in due course.

On behalf of the Commission, we would like to thank you for your proposal and for your interest in the Brite-EuRam Programme.

Yours sincerely,

Proposal received on ..... by .....

(1) Name and address of project Coordinator - to be entered by the project Coordinator.
(2) Title - to be completed by the project Coordinator.
(3) Reference number will be allocated by the Commission.

RESEARCH AREAS

RAW MATERIALS

1.1.1. Exploration Technology
1.1.2. Mining Technology
1.1.3. Mineral Processing

RECYCLING

1.2.1. Recycling and Recovery of Industrial Waste including Non Ferrous Metals
1.2.2. Recycling, recovery and reuse of advanced materials

STRUCTURAL MATERIALS

1.3.1. Metals and Metal Matrix Composites
1.3.2. Ceramics, Ceramic Matrix Composites and Advanced Glasses
1.3.3. Polymers and Polymer Matrix Composites

FUNCTIONAL MATERIALS FOR MAGNETIC, SUPERCONDUCTING, OPTICAL, ELECTRICAL AND BIOMATERIAL APPLICATIONS

1.4.1. Magnetic Materials
1.4.2. High Temperature Superconducting Materials
1.4.3. Electrical and Ionic Conducting Materials
1.4.4. Optical Materials
1.4.5. Biomaterials

MASS COMMODITY MATERIALS

1.5.1. Packaging Materials
1.5.2. New Construction Industry Materials

DESIGN OF PRODUCTS AND PROCESSES

2.1.1. Innovative design tools and techniques
2.1.2. Design methodologies for complex components
2.1.3. Maintainability and reliability

MANUFACTURING

2.2.1. Tools, techniques and systems for High Quality Manufacturing
2.2.2. Manufacturing Techniques for Industrial Use of Advanced Materials
2.2.3. Integrated Approach to Chemical and Process Engineering

ENGINEERING AND MANAGEMENT STRATEGIES FOR THE WHOLE PRODUCT LIFE CYCLE

2.3.1. Design Integrating Strategies
2.3.2. Engineering
2.3.3. Human Factors in Engineering and Manufacturing Management

KEYWORDS

Industrial sectors

A01 Aeronautics / Aerospace
A02 Automotive, Components & Parts
A03 Chemical / Petrochemical
A04 Construction / Building / Civil engineering
A05 Electrical / Electronic industry
A06 Energy / Power generation
A07 Engineering / Software / Technical services
A08 Food / Drink / Water
A09 Instruments / Sensors / Precision equipments
A10 Materials processing
A11 Mechanical engineering / Machinery
A12 Medical / Biomedical equipment
A13 Mining / Quarrying
A14 Ore / Mineral processing
A15 Printing / Office equipment
A16 Railways / Locomotive
A17 Shipbuilding
A18 Shoe / Leather
A19 Textile / Clothing
A20 Toys / Leisure
A21 Wood / Paper / Furniture
A22 Other manufacturing industries

ndustrial Processes / Activities

B01 Assembly / Joining
B02 Building / Construction
B03 Design
B04 Disposal / Dismantling / Demolition
B05 Engineering (biomedical)
B06 Engineering (chemical)
B07 Engineering (civil)
B08 Engineering (electrical)
B09 Engineering (mechanical)
B10 Engineering (mining)
B11 Engineering (optical)
B12 Engineering (process)
B13 Exploration
B14 Extraction
B15 Forming / Shaping / Casting
B16 Handling / Transportation
B17 Logistics / Management / Production planning
B18 Machining / Cutting
B19 Mining
B20 Packaging
B21 Process / Product monitoring
B22 Processing (metals)
B23 Processing (minerals)
B24 Processing (rubber & plastic)
B25 Processing (ceramic & glass)
B26 Processing (food, non rigid materials)
B27 Prototyping
B28 Quality assurance
B29 Quality control / Inspection
B30 Recovery / Recycling
B31 Repair / Maintenance / Restoration
B32 Storage / Warehousing
B33 Tunnelling
B34 Waste treatment / Containment
B35 Other processes

Materials

C01 Abrasives
C02 Adhesives / Bonding
C03 Biomaterials
C04 Carbon / Graphite
C05 Catalysts / Zeolites
C06 Ceramics / Glasses
C07 Coatings / Thin films
C08 Composites (polymer matrix)
C09 Composites (ceramic matrix)
C10 Composites (metal matrix)
C11 Concrete / Building materials
C12 Diamond / Superhard materials
C13 Dielectrics / Ferroelectrics
C14 Electrical
C15 Ferrous
C16 Fibres / Reinforcing materials
C17 Flexible / Non rigid materials
C18 Foamed materials
C19 Fuels
C20 Gases
C21 Geotextiles
C22 Hydrocarbons / Petrochemicals
C23 Leather
C24 Lubricants
C25 Magnetic
C26 Metallic structural materials
C27 Minerals / ores
C28 Multilayers / Multimaterials
C29 Non ferrous
C30 Optical
C31 Organometallic materials
C32 Paints
C33 Pharmaceuticals
C34 Plastics / Rubbers
C35 Polymers
C36 Powders
C37 Refractories
C38 Rocks / Stones / Aggregates
C39 Smart materials
C40 Solders / Brazes / Welding
C41 Superalloys / Special alloys
C42 Superconductors
C43 Textiles
C44 Waste / Effluents
C45 Wood / Paper
C46 Other materials

Supporting Disciplines / Technologies

D01 Automation / CIM
D02 Biomedical
D03 Blasting technologies
D04 CAE / CAD / CAM systems
D05 Chemistry
D06 Computer science / Software
D07 Computers / Computer systems
D08 Control systems
D09 Data bases / Expert systems
D10 Drilling technologies
D11 Dynamics / Fluid dynamics
D12 Ecology / Environment
D13 Economics
D14 Electronics
D15 Ergonomics
D16 Geochemistry
D17 Geology (economic)
D18 Geophysics
D19 Geotechnics / Soil mechanics
D20 Imaging / Image processing
D21 Instrumentation / Measuring systems
D22 Laser technology / Power beams
D23 Machine tools
D24 Materials characterization / Testing
D25 Materials science
D26 Mathematical modelling
D27 Mechanics / Solid mechanics
D28 Medicine / Health
D29 Membrane / Separation technology
D30 Metallogeny
D31 Metallurgy / Hydrometallurgy
D32 Micro engineering
D33 Multifunctional engineering
D34 Nanotechnology
D35 Particle technology
D36 Powder metallurgy
D37 Psychology / Sociology
D38 Reinforcement technology
D39 Reliability
D40 Remote sensing
D41 Robotics
D42 Safety management
D43 Sensors / Signal processing
D44 Statistics
D45 Surface treatment technologies
D46 Thermodynamics
D47 Tools / Dies
D48 Tribology
D49 Vibration analysis / Acoustics
D50 Vision / Optical systems
D51 Other

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Commission of the European Communities, Directorate-General XII for Science, Research and Development

INDUSTRIAL AND MATERIALS TECHNOLOGIES (BRITE-EURAM II)

WORKPROGRAMME

TECHNICAL CONTENT

Information Package
Edition 1991

TECHNICAL CONTENT OF WORKPROGRAMME

TECHNICAL CONTENT OF WORKPROGRAMME

I. BACKGROUND

This programme is a direct follow-up of the previous BRITE/EURAM and Raw Materials-Recycling programmes. Its general objective is to contribute to the rejuvenation of European manufacturing industry by strengthening its scientific base through research and technological development. RTD effort will be directed towards integration of all aspects of the life cycle of materials and products, and will also take account of the more severe constraints as regards acceptability of technological developments. Those will include protection of the environment, working conditions, the continuous adaptation of the skills of the workforce to technological change, and new methods of management and organisation to ensure a smooth and effective relationship between technology and the working world.

The present workprogramme is prepared in compliance with Article 5, paragraph 3, of the Council Decision adopting the programme. It includes the following sections :

- Detailed objectives and research tasks;
- Implementation : call for proposals, types of projects, financial arrangements.

While a single research proposal need address only one element of the life cycle, it is to be expected that preference will be given to proposals anticipating results arising from a multidisciplinary approach with a breadth of eventual applications. Particular attention will be paid to initiatives which provide the widest accessibility of results to potential exploiters and eventual users, taking account of the legitimate rights for the protection of intellectual and industrial property.

II. DETAILED OBJECTIVES AND RESEARCH TASKS

Area 1: Materials - Raw Materials

The focus is on improving the performance of both advanced and traditional materials at a cost which permits competitive industrial exploitation over a broad range of applications. This extends to improving the technologies to ensure the supply of raw material resources and for recycling, so promoting an integrated approach to the whole life cycle of materials. It also includes the cost effective use of new materials in a broad range of products and applications and their diffusion to new application fields.

RAW MATERIALS AND RECYCLING

1.1. RAW MATERIALS

1.1.1. Exploration Technology

Objectives

To provide new or improved low cost tools and better geological concepts for use in the mining industry in exploration. To improve the know-how and hardware in this field and detection-monitoring techniques and mapping of polluted mine areas.

Research Tasks

1.1.1.1 To develop and test advanced approaches for the exploration and the discovery of deposits and evaluation of known targets.

1.1.1.2 To refine deposit models and exploration concepts.

1.1.1.3 To refine methods and techniques for the calculation of ore reserves.

1.1.1.4 To develop and improve integrated systems based on multidata analysis.

1.1.1.5 To develop and test new and improved cost effective geophysical and geochemical exploration methods such as Transient Electromagnetic Measurements (TEM), optical spectrometry and analysis of platinum group elements (PGE).

1.1.1.6 To apply and assess recently developed exploration techniques such as ground geophysical like georadar, seismic methods and airborne systems and to evaluate their potential for broader application.

1.1.1.7 To develop advanced exploration equipment like miniaturisation of instruments such as spectrometers and downhole logging tools, and to develop more cost-effective drilling techniques.

1.1.1.8 To develop and test exploration techniques for environmental monitoring, detection and mapping of polluted areas around mines and quarries (see also 1.1.2.7. and 1.1.2.8.).

1.1.2. Mining Technology

Objectives

To develop techniques which can enable an increase in productivity, such as an amelioration in the operating costs of mining operations, having regard to environmental and safety aspects and the ability to assess the social and economic impact of mining and quarrying.

Research Tasks

1.1.2.1 To develop techniques and systems for rock cutting and continuous quarrying and mining.

1.1.2.2 To develop specialised techniques to improve safety and working conditions, and environmental protection.

1.1.2.3 To develop selective exploitation methods minimising waste production (see also 1.1.3.6.).

1.1.2.4 To develop new concepts for open pit mining as well as new concepts to optimise and integrate mining unit operations such as backfilling, drilling, blasting and transportation.

1.1.2.5 To improve the modelling and practical technologies for supporting systems, rock reinforcement and stability.

1.1.2.6 To develop multidata analysis and advanced modelling and simulation for computer aided management and planning of mining operations.

1.1.2.7 To develop simulation and modelling, and experimental techniques to optimise the rehabilitation of redundant sites of mines including their use for waste disposal (see also 1.1.1.8.).

1.1.2.8 To develop techniques which assess the social and economic consequences of placing environmental constraints on mines and quarries. (see also 1.1.1.8.).

1.1.3. Mineral Processing

Objectives

To improve existing processes and to develop innovative technologies to be applied to full scale operations based on laboratory scale research and to optimise methods and techniques used in the various treatments of mineral concentrates, tailings and residues of mines and metallurgical plants in order to reduce production costs of new and existing plants and alleviate environmental problems.

Research Tasks

1.1.3.1 To characterise industrial minerals and stones in order to improve their processing technology and suitability for alternative uses.

1.1.3.2 To improve physical and chemical mineral separation techniques.

1.1.3.3 To improve techniques for mineral processing and extractive metallurgy such as hydro-, biohydro-, and electro and pyrometallurgy (including slag chemistry).

1.1.3.4 To develop technologies which will reduce emissions and energy consumption and increase the range of acceptability of feed materials in mineral and stone processing plants.

1.1.3.5 To develop methods and techniques for the fixation and stabilisation of metals and toxic compounds in final residues, mining wastes, slags and tailings.

1.1.3.6 To develop new process routes and equipment which optimise quality yield, and minimise production of waste (see also 1.1.2.3.)

1.1.3.7 To develop instrumentation, particularly sensors, for monitoring processes, materials and product quality.

1.1.3.8 To develop mathematical models and simulations of mineral processing and extractive metallurgy unit processes and their integration into operating plants. To develop expert and automated systems.

1.2. RECYCLING

1.2.1. Recycling and Recovery of Industrial Waste including Non Ferrous Metals

Objectives

To develop new technologies for physical and/or chemical treatment of residues, scraps and industrial waste in order to improve the recovery rates and minimise environmental problems. Research in this respect will cover pyrometallurgy, hydrometallurgy and refining techniques applied to processing of complex residues, alloys and multi-element scraps.

Research Tasks

1.2.1.1 To characterise, identify, classify and quantify secondary materials and used non-ferrous metals arising from industrial activities. To develop quality control methods for secondary materials before recycling, utilisation or controlled disposal.

1.2.1.2 To optimise existing separation, concentration and recycling processes at industrial level, in respect to energy saving, flexibility of feed, concentration and reduction of emissions.

1.2.1.3 To develop new separation, concentration and recycling processes for more efficient recovery of valuable materials from scraps and industrial wastes including linings of refractory materials avoiding external contamination.

1.2.1.4 To develop cost effective pyrometallurgical processes such as plasma and laser processes capable of accepting fluctuations of feed concentrations to recover basic, special and precious metals originating from industrial sectors, metal industry wastes, complex residues, spent catalysts, used goods and equipment.

1.2.1.5 To develop cost effective biohydrometallurgical, photocatalytic and hydrometallurgical processes to treat slags, residues, industrial liquid effluents and wastes for recovery of metals, salts and valuable materials, and decontamination to minimize pollution.

1.2.1.6 To develop advanced technologies for reduction and refining secondary products and wastes e.g. by : fluid bed technology, aqueous electrolysis, vacuum distillation, plasma technology, molten salt electrolysis, and chloride technology.

1.2.1.7 To develop technologies which recover and recycle metals from materials containing organic and metalplastic compound structures while minimising environmental damage.

1.2.1.8 To develop computer based models to assess the economic viability and availability of secondary materials for recycling and metallurgical models to predict the effect of multiple recycling on the characteristics and processibility of raw materials.

1.2.2. Recycling, recovery and reuse of advanced materials.

Objectives

To improve recycling technologies seeking to reuse advanced materials waste in order to enhance the quality of the new products or compounds having a high level of quality and economic value.

Research Tasks

1.2.2.1 To characterise, classify and quantify advanced materials wastes and to develop quality control methods for secondary materials before recycling, reuse or controlled disposal.

1.2.2.2 To develop analytical and marking techniques for identification. To develop safe, cost effective technologies for the recycling of residues and scraps, originating from organic and inorganic composite and other advanced materials.

1.2.2.3 To develop models to assess the economic viability and availability of advanced materials for recycling and to predict the effects of multiple recycling on the physical characteristics and processibility of the initial materials.

NEW AND IMPROVED MATERIALS AND THEIR PROCESSING

1.3. STRUCTURAL MATERIALS

1.3.1. Metals and Metal Matrix Composites

Objectives

To secure the advances needed to exploit fully the potential of new alloys, composites and their processing; and in particular the technologies to address the problems associated with series production. Additionally, to develop high temperature resistant superalloys, intermetallics, metallic powders, metal glasses, hard metals, wear resistant alloys and coatings which are required for specific applications with complex design specifications.

Research Tasks

1.3.1.1 To develop cost-effective technologies for the synthesis and production of metallic materials and alloys aimed at a broader range of final products with high quality and performance.

1.3.1.2 To develop alloys, structural intermetallics and metal matrix composite systems with specific performance properties, such as improved stiffness, increased strength to weight ratio, environmental and high temperature resistance.

1.3.1.3 To improve performance through the control of powder morphology and interface properties of metal matrix composites.

1.3.1.4 To develop thin or thick coating systems with improved functional properties for metallic substrates.

1.3.1.5 To apply computer simulation techniques linking micro and macro structural modelling.

1.3.1.6 To develop techniques for assessing the long term stability and behaviour of metallic materials.

1.3.2. Ceramics, Ceramic Matrix Composites and Advanced Glasses

Objectives

To advance the understanding and technologies of areas of critical importance such as quality, processing and reliability with particular emphasis on economic processing and tough, defect free products.

Research Tasks

1.3.2.1 To develop high temperature materials with increased strength, toughness, ductility and resistance to corrosion and erosion.

1.3.2.2 To optimise powders as starting materials.

1.3.2.3 To develop cost-effective and high-yield processing techniques for high quality materials and which permit their diffusion into new application fields.

1.3.2.4 To improve consistency and reliability of components including long term in-service stability.

1.3.2.5 To improve thermal shock resistance, creep resistance, thermal insulation and high temperature oxidation and corrosion behaviour.

1.3.2.6 To develop probabilistic design methodologies for high performance engineering components.

1.3.2.7 To develop surface treatment technologies to aid manufacture and use in services.

1.3.2.8 To apply computer simulation techniques linking micro and macrostructural modelling.

1.3.2.9 To develop techniques for assessing the long term stability and behaviour of ceramic materials.

1.3.3. Polymers and Polymer Matrix Composites

Objectives

To achieve a better understanding of the performance-structure capabilities of these materials and to extend the understanding of the relationship between materials properties and their process routes. Such advances could come about by innovative design and processing practices. To respond to environmental concerns with new technical thermoplastics which retain their mechanical properties at higher temperature, and which can be produced through the lower cost thermal processing routes.

Research Tasks

1.3.3.1 To develop cost-effective polymeric materials, composites and fibres and adhesives for a broader range of application fields which have improved material properties such as resistance to aggressive environments, temperature, pressure, impact loading and solvents.

1.3.3.2 To develop polymeric materials with specific properties which minimise environmental impact, such as biodegradability, recyclability and reusability.

1.3.3.3 To develop cost-effective and high-yield processing techniques for high quality materials.

1.3.3.4 To investigate new types of composites such as molecular and self reinforcing composites.

1.3.3.5 To assess composite fibre/matrix interfaces through development of non-intrusive techniques.

1.3.3.6 To develop high performance preimpregnated semi-finished products for, composite components, with applications where high strength and high toughness are required.

1.3.3.7 To develop intelligent process design and control techniques for polymeric materials and their composites.

1.3.3.8 To apply specific treatments for upgrading low-cost polymeric material into tailor-made high performance components.

1.3.3.9 To apply mathematical modelling for material, product and process optimisation.

1.3.3.10 To develop combined and fully integrated transformation techniques, such as injection moulding, lamination, and multilayer and sandwich formation, for innovative high performance structural materials.

1.4. FUNCTIONAL MATERIALS FOR MAGNETIC, SUPERCONDUCTING, OPTICAL, ELECTRICAL AND BIOMATERIAL APPLICATIONS

1.4.1. Magnetic Materials

Objectives

To meet the requirement for new materials with improved magnetic properties, which are easily processed, as advanced magnetic materials including hard, semi hard and soft magnets and their integration into components and systems.

Research Tasks

1.4.1.1 To develop advanced magnetic materials, such as the new rare earth types, with cost efficient processing.

1.4.1.2 To develop materials and their processing with improved high temperature magnetic performance and to develop improved permanent magnetic bulk materials with increased energy product and improved volumetric efficiency for specific applications such as electric motors and other electrical devices.

1.4.1.3 To improve the structural capability of magnetic materials through innovative design of their synthesis, processing and control of composition.

1.4.1.4 To improve functional capabilities of magnetic materials through multilayer formation.

1.4.2. High temperature Superconducting Materials

Objectives

To develop high critical temperature and high current and flux density superconductors for power applications capable of being combined with other materials at low processing temperatures.
To understand the new superconducting materials and their intrinsic properties.

Research Tasks

1.4.2.1 To develop reliable and cost-effective processing for the manufacture of high current superconductor material components such as wires, cables and layers.

1.4.2.2 To establish a design methodology for increased component reliability, specially for the preparation of wires, cables, thin and thick layers.

1.4.2.3 To develop processing routes such as sol-gel, mixing, sintering, spraying techniques for the preparation of well characterised and controlled powders for superconductors.

1.4.2.4 To increase the understanding of basic property/structure/ stoichiometry relationships, including electrical and magnetic properties, as a function of phase segregation, anisotropy and grain boundary effects.

1.4.3. Electrical and Ionic Conducting Materials

Objectives

To advance the synthesis/processing technology for electrically conducting materials and conducting material matrices which are at an early stage of technological development. To open up application areas such as electric wires, energy storage and acoustic devices. To develop the materials necessary for fuel cell systems for the production of clean electricity. To better understand the limits of present technology and the means by which the limits can be surpassed by new processing methods.

Research Tasks

1.4.3.1 To develop electrical materials with better conductivity, higher strength and fatigue properties, corrosion and thermal resistance and spark erosion behaviour.

1.4.3.2 To develop solid ionic conductor materials for solid electrolytes in energy conversion devices.

1.4.3.3 To develop conducting polymeric materials systems containing inorganic fillers for high volume processing or for use in packaging and joining.

1.4.3.4 To establish the relationship between polymeric material structures and their electrical and acoustic properties.

1.4.3.5 To develop age hardened alloys and multi-layered composite materials which combine high electrical and thermal conductivity or electron emissivity together with improved mechanical properties and corrosion resistance.

1.4.4. Optical Materials

Objectives

To address the outstanding problems which include the availability of ultra pure materials with low optical losses for transmission systems, and materials processing including materials fabrication by Chemical Vapour Deposition processing for 2 or 3 dimensions.

Research Tasks

1.4.4.1 To develop new glass types with variable light transmission properties along with cost effective technologies for their application.

1.4.4.2 To develop and characterise non linear optical materials, including organic materials and intermediate products.

1.4.4.3 To develop active coatings such as magnetic, piezoelectric and chemical dye surface layers for sensors.

1.4.4.4 To optimise electroluminiscent, electrochromic, photochromic and thermochromic phenomena for producing optical materials with controllable light transmission and generation.

1.4.5. Biomaterials

Objectives

To meet the requirements for new biomaterials including metal alloys, ceramics, composites, glasses, polymers and adhesives for applications such as orthopaedic and dental implants, soft tissue and body fluid replacements, internal or external devices of permanent or temporary nature. To develop technologies for cost effective operations for item manufacturing, clinical procedures and rehabilitative systems.

Research Tasks

1.4.5.1 To develop special and medical grade materials with biocompatible and biofunctional properties for devices and load bearing implants.

1.4.5.2 To develop techniques for innovative design, modelling and clinical testing of new structures and complex shaped components and devices combining all aspects of reliable bio-operational ability : human tissues and implant compatibility.

1.4.5.3 To develop surface treatment techniques for medical devices to prevent erosion and corrosion and improved biointegration properties.

1.5. MASS COMMODITY MATERIALS

1.5.1. Packaging Materials

Objectives

To improve the technologies needed for cost effective processing including automation and on-line control, including the introduction of natural materials, the substitution of toxic materials and the improved recycling of materials systems.

Research Tasks

1.5.1.1 To develop environmental friendly packaging materials which are reusable, recyclable or degradable, and non toxic in use and disposal.

1.5.1.2. To improve current processing methods for increased productivity and for high added value packaging products.

1.5.2. New Construction Industry Materials

Objectives

To improve materials currently used for civil construction and to develop new materials, including composites, able to combine functional and structural characteristics.

Research Tasks

1.5.2.1 To develop new material technologies aiming at improved thermal insulation, sound shielding and mechanical integrity.

1.5.2.2 To develop introduction of novel production and assembly methods allowing a high degree of automation.

1.5.2.3 To investigate the degradation of construction materials and systems exposed to air, water, pollution, ultra violet radiation, temperature and humidity.

1.5.2.4 To develop structural adhesives which act as binders and reinforcement for hybrid prefabricated systems.

1.5.2.5 To develop techniques for the use of metallic or organic materials as reinforcement for concrete, glasses and ceramics, leading to systems with high corrosion resistance, good thermal and sound insulation and increased fire security.

AREA 2: DESIGN AND MANUFACTURING

The objective is to improve the capability of industry to design and manufacture products which are, at the same time, of high quality, easy to maintain, highly competitive and environmentally and socially acceptable.

2.1. DESIGN OF PRODUCTS AND PROCESSES

2.1.1. Innovative design tools and techniques

Objectives

To develop design tools such as decision support systems to promote more efficient design methods, more economic manufacture, assembly and dismantling, and reliable and ergonomic products.

Research Tasks

2.1.1.1 To develop decision support systems for design in the areas of materials and standardised components which incorporate mathematical modelling, production characteristics, product performance and anthropometric data.

2.1.1.2 To establish methods for validation and certification of design support, modelling and analysis tools.

2.1.1.3 To develop techniques for minimising the "design to product" time based on value analysis, modelling, simulation and rapid prototyping techniques.

2.1.1.4 To develop a methodology for modelling of the whole engineering process from conceptual to detailed design, including representation of functional tolerancing, and to validate the approach.

2.1.2. Design Methodologies for complex components

Objectives

To develop approaches for the incorporation of multifunctional components in product design.
To advance the capability of high precision and micro-engineering systems together with design for micro-miniaturisation.

Research Tasks

2.1.2.1 To establish new approaches to, and applications for, the design of multi-functional components.

2.1.2.2 To develop multidisciplinary approaches to the design of integrated systems such as mechatronics, optomatronics, and multi-component systems.

2.1.2.3 To develop design methodologies for high precision and microengineering systems relating to mechanics and materials behaviour at microstructural level.

2.1.3. Maintainability and reliability

Objectives

To develop the support tools, including sensor systems, for improved product performance, reliability and maintainability. To advance the capability and applicability of mathematical modelling to support design, including the integration of modelling techniques with defect and failure mode analysis needed for reliability and predictive maintenance.

Research Tasks

2.1.3.1 To improve design methods and modelling capabilities for products and processes with respect to quality, reliability, durability, maintainability and safety.

2.1.3.2 To develop reliability support systems which provide information on component behaviour based on the analysis of their deterioration and failure.

2.1.3.3 To develop techniques for predictive maintenance including condition monitoring and vibration analyses.

2.1.3.4 To develop integrated system design incorporating sensors with improved performance and reliability.

2.1.3.5 To develop techniques for minimising noise and vibration generated by products and manufacturing equipment.

2.2. MANUFACTURING

2.2.1. Tools, techniques and systems for High Quality Manufacturing

Objectives

To develop skill supporting technologies to make human skills and judgment more effective in the manufacturing process.To develop innovative tools and techniques for high quality and cost effective manufacturing systems to give better process control, higher precision and faster operation and the integration of new processing technologies with established manufacturing processes.

Research Tasks

2.2.1.1 To develop improved models to exploit knowledge based systems for manufacturing processes.

2.2.1.2 To improve systems, which may include robotics, for workpiece fixturing, transport and safe handling in manufacturing.

2.2.1.3 To develop cost-effective manufacturing processes such as cutting, machining, grinding, forming, joining and bonding to improve productivity, quality and precision.

2.2.1.4 To develop cost effective high power beam processes, fibre optics for beam delivery systems, and associated acoustical and optical inspection and test techniques.

2.2.1.5 To develop and integrate technologies relating to high quality surface treatments within the manufacturing process.

2.2.1.6 To develop flexible and economic manufacturing systems for small batches of a large number of variants.

2.2.2. Manufacturing Techniques for Industrial Use of Advanced Materials

Objectives

To develop cost-effective and efficient manufacturing techniques for advanced materials to help realise their full potential.

Research Tasks

2.2.2.1 To improve and extend the capability for net and near net shape forming of advanced materials, including the automation of preformed manufacture.

2.2.2.2 To develop cost-effective machining techniques for difficult and advanced materials associated wherever possible with process modelling.

2.2.2.3 To develop and automate equipment for the economic manufacture of composites and ceramics.

2.2.2.4 To improve assembly and joining technologies for advanced materials and components

2.2.2.5 To develop non-destructive tests and quality assurance techniques for adhesive bonds and composite materials.

2.2.2.6 To develop and extend surface treatment and surface finishing techniques suitable for advanced materials and methods for their inspection.

2.2.3. Integrated Approach to Chemical and Process Engineering

Objectives

To tailor manufacturing technology to the requirements of chemical engineering and to integrate design with process control. To advance the understanding needed to design and control chemical processes with increasing complexity to include avoidance and prevention of pollution.

Research Tasks

2.2.3.1 To improve the design and control of chemical and biochemical reactors for increased flexibility, productivity and better product quality

2.2.3.2 To develop techniques to combine individual chemical process steps in material synthesis, material processing and particle technology through a better understanding of basic chemical and physical phenomena.

2.2.3.3 To develop innovative separation techniques. (see also 1.1.3.2.)

2.2.3.4 To model chemical reactions which are important to manufacturing processes such as reaction injection moulding, etching, deposition and bonding.

2.2.3.5 To develop models of multiphase systems and interfacial phenomena for process design and control

2.2.3.6 To develop a better understanding of processes in which reactions, catalysis and transport phenomena are strongly coupled, and where the product quality depends strongly on the coupling.

2.2.3.7 To optimise chemical engineering processes through an integrated approach to process design, modelling and control for recycling, environmental protection and process safety

2.3. ENGINEERING AND MANAGEMENT STRATEGIES FOR THE WHOLE PRODUCT LIFE CYCLE.

2.3.1. Design Integrating Strategies

Objectives

To develop new and more holistic approaches to support the integration of engineering tasks for the whole product life cycle, such as simultaneous engineering concepts which bring together design, engineering and manufacturing.

Research Tasks

2.3.1.1 To develop design optimisation strategies and constraint modelling techniques for the whole product life cycle, including recycling and disposal.

2.3.1.2 To develop systematic approaches in the context of the extended enterprise to reduce design to product lead time, and increase manufacturing flexibility.

2.3.1.3 To extend multidisciplinary approaches such as simultaneous engineering for integrating engineering tasks and engineering management tasks.

2.3.1.4 To extend novel design, redesign and costing practices, taking account of whole product life cycle, including recycling or disposal.

2.3.2. Engineering

Objectives

To bring an integrated approach making full use of new materials, new design and manufacturing technologies and process and product control to traditional manufacturing industries, with particular attention to new requirements for environmental control and improved working conditions.

Research Tasks

2.3.2.1 To extend the field of application for flexible manufacturing techniques taking full use of new materials and new technologies.

2.3.2.2 To develop new design and engineering methods for ease of manufacture, assembly, use and dismantling of products, including ergonomic such as innovative approaches to prefabrication and modular design.

2.3.2.3 To develop interactive engineering techniques that will improve working conditions and ergonomics.

2.3.2.4 To develop engineering methodologies for extending the application of the total quality concept throughout the whole product cycle.

2.3.3. Human Factors in Engineering and Manufacturing Management

Objectives

To accelerate the take up of new technology by developing new management techniques which allow identification and reconciliation of potential areas of conflict between new technologies and human resources. To improve methods for the evaluation of the performance of products and processes and their linkage to the overall business.

Research Tasks

2.3.3.1 To develop strategies for improving the management and organisation of design, manufacture and construction so as to make the best use of available resources and new technologies.

2.3.3.2 To develop management support systems for the evaluation, control, forecasting and measurement of production requirements and resources within industry.

2.3.3.3 To develop techniques for quantifying, evaluating and matching human skills and experience with specific job requirements.

AREA 3: AERONAUTICS

(To submit proposals specifically directed at this area, you must have the relevant separate Information Package. See Chapter 8 of the General Information *document.)*

The objective is to strengthen the technology base of the European aeronautical industry and to contribute to the knowledge base which supports actions to minimise environmental impact and enhance the safety and efficiency of aircraft operations.

3.1. ENVIRONMENT RELATED TECHNOLOGIES

Objectives

To provide new or improved tools and techniques for analysis, prediction and control of air vehicle exterior noise, interior noise and exhaust emissions.

Research Tasks

3.1.1. To develop improved tools and techniques for prediction and control of exterior noise from advanced propellers, propfans and helicopter rotors.

3.1.2. To develop and evaluate cost effective techniques for reducing aircraft interior noise.

3.1.3. To develop low emission combustor technology.

3.2. TECHNOLOGIES OF AIRCRAFT OPERATION

Objectives

To provide new or improved tools and techniques for monitoring the health of aircraft systems, designing structures resistant to fatigue, crash and fire, and for integration of the air vehicle in future advanced ATC systems.

Research Tasks

3.2.1. To develop and validate improved design tools for treating acoustic fatigue.

3.2.2. To develop improved techniques for health and usage monitoring.

3.2.3. To develop improved techniques for crashworthiness analysis.

3.2.4. To develop improved techniques for fire risk analysis and detection.

3.2.5. To develop improved flight management/ATC interface techniques.

3.3. AERODYNAMICS AND AEROTHERMODYNAMICS

Objectives

To advance CFD techniques, laminar flow technology, tools for analysis of propulsion integration and techniques for analysis of the aerothermodynamics of turbomachinery.

Research Tasks

3.3.1. To develop and validate new and improved CFD tools for flow solution, post processing and aerodynamic design optimisation.

3.3.2. To develop improved techniques for natural and hybrid laminar flow control.

3.3.3. To develop improved experimental means for study of propulsion system integration.

3.3.4. To develop improved techniques for analysis of wing mounted ducted propulsion systems.

3.3.5. To develop improved tools for analysis of helicopter rotor/fuselage interaction.

3.3.6. To develop improved tools for analysis of axial and mixed flow compressor aerothermodynamics.

3.3.7. To develop improved tools for analysis of turbine aerothermodynamics.

3.3.8. To develop improved turbulence models (focused fundamental research only)

3.4. AERONAUTICAL STRUCTURES AND MANUFACTURING TECHNOLOGIES

Objectives

To advance techniques for realisation of large pressurised composite fuselage structures.

Research Tasks

3.4.1. To develop design concepts for pressurised fuselage structures of composite and/or metal laminate.

3.5. AVIONIC SYSTEM TECHNOLOGIES

Objectives

To provide new or improved techniques for design of modular, high integrity airborne information processing and sensing systems and for analysis and design of man-machine interaction on the flight deck.

Research Tasks

3.5.1. To develop techniques and tools for integration and evaluation of complex, flight critical, fault tolerant avionic equipments and systems.

3.5.2. To develop and evaluate new and improved techniques for electronic and/or optical sensing and data processing, including standardisation issues.

3.5.3. To develop improved techniques and architecture for flight critical signal processing and data fusion.

3.5.4. To develop advanced flight deck concepts and related techniques for optimising man-machine interaction.

3.5.5. To develop improved techniques for design and analysis of the helicopter cockpit and its functioning.

3.6. MECHANICAL, UTILITY AND ACTUATION TECHNOLOGIES

Objectives

To provide new or improved techniques for design of key equipment components of the air vehicle system.

Research Tasks

3.6.1. To develop and validate new concepts and modelling techniques for provision of the landing gear function.

3.6.2. To develop non-bleed air based techniques for deicing and/or cabin conditioning.

3.6.3. To develop and validate advanced techniques for integrated fuel management systems.

3.6.4. To develop advanced techniques for electrically powered actuators with integrated electronic information processing.

4. TARGETED RESEARCH ACTIONS

The concept of Targeted Research Actions is to secure added value by helping participants in complementary projects covering different technologies of the programme to coordinate their activities around one specific objective. This will be of importance to a range of industries made up of users and producers – including SMEs.

The scientific and technological content of the projects will draw on the research topics of Area 1 and 2 of the programme and potential themes will be published with the normal call for proposals. Depending on the quality of proposals received it is expected that approximately four targets will be selected for the first round.

Targeted research actions will seek wherever possible to encompass as wide a range of industrial activity compatible with achieving their specific objectives. Actions will normally come under one of the following categories, although – on the basis of proposals received – the Commission might suggest other subjects for this form of action:

4.1. ENVIRONMENTALLY FRIENDLY TECHNOLOGIES

a/ Manufacturing and materials technologies necessary for machines – including vehicles, trains and ships – with reduced environmental impact particularly in terms of pollution, waste, safety, noise and consumption of materials along with user safety and acceptability. Accordingly, R&D could include:

- advanced design technologies leading to "lean" supply
- assembly technologies
- recycling technologies
- materials technologies covering composite material systems with the potential for improved performance and styling flexibility
- manufacturing technologies for mass or "lean" batch production to meet relevant quality, flexibility and cost constraints
- mechanical and electrical systems as well as advanced braking systems, and
- internal and external noise and vibration suppression.

b/ Technologies for construction which are better suited to the needs of the user in terms of a controllable working environment and flexibility, and can be designed, constructed, maintained and reused in a safe and efficient manner with minimum impact on the environment. Research might include:

- design, materials, manufacturing and construction techniques,
- the development of specifications for performance requirements,
- simulation and calculation models for structural design, the scope and durability of new materials,
- flexible manufacturing and assembly systems and repair technologies.

4.2. FLEXIBLE AND CLEAN MANUFACTURING

Technologies for reduced environmental impact, greater flexibility, efficiency and accuracy along with improved quality, productivity and fast response of each stage of product manufacture, for instance in the textile, clothing and distribution chain. Resarch could cover:

- process technologies, including precision machinery,
- materials development,
- automation,
- materials handling, including cutting and joining,
- quality control, and
- process management.

Technologies to integrate these stages, so that the manufacturing chain can respond quickly and efficiently to market needs and to environmental considerations with safer, less polluting and less wasteful processes, can also be envisaged.

Printed by Printéclair SRL Brussels

Commission of the European Communities, Directorate-General XII for Science, Research and Development

INDUSTRIAL & MATERIALS TECHNOLOGIES (BRITE-EURAM II)

1991-1994

Materials and Raw Materials
Design and Manufacturing

GENERAL INFORMATION

Information Package
Edition 1991

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INDICATIVE TIMETABLE

ACTIVITY	DATE
INFORMATION PACKAGE AVAILABLE	*December 1991*
INDUSTRIAL RESEARCH ***FOCUSED FUNDAMENTAL RESEARCH*** ***CONCERTED ACTIONS***	
FIRST CALL FOR PROPOSALS	*December 1991*
EXPRESSION OF INTEREST CAMPAIGN	*October 1991- January 1992*
DEADLINE FOR RECEIPT OF PROPOSALS	***3 April 1992***
RESULTS OF EVALUATION	*June 1992*
FIRST CONTRACT NEGOTIATIONS	*June 1992*
PROBABLE EARLIEST START OF CONTRACTS	*October 1992*
SECOND CALL FOR PROPOSALS	*September 1992*
ESTIMATED DEADLINE FOR RECEIPT OF PROPOSALS	*26 February 1993*
COOPERATIVE RESEARCH ***ACCOMPANYING MEASURES***	
OPEN CALL FOR PROPOSALS	*from December 1991 to December 1993*
EXPRESSION OF INTEREST CAMPAIGN	*from October 1991 to September 1993*

INTRODUCTION

THE THIRD FRAMEWORK PROGRAMME (1990-1994)

Since 1983, the European Community (EC) has coordinated its research and technical development (RTD) activities through multiannual Framework Programmes. These Framework Programmes are implemented through specific RTD programmes dealing with selected areas of research – such as the environment or health. So far there have been two Framework Programmes.

On 23 April 1990, the Council adopted the Third Framework Programme. This has a duration of 5 years, a budget of 5,7 billion ECU and contains 15 specific RTD programmes in the following areas:

- information technologies
- communications technologies
- development of telematics systems in areas of general interest
- **INDUSTRIAL AND MATERIALS TECHNOLOGIES (Brite-EuRam II)**
- measurement and testing
- environment
- marine science and technology
- biotechnology
- agricultural and agro-industrial research
- biomedical and health research
- life sciences and technologies for developing countries
- non-nuclear energies
- nuclear fission safety
- controlled thermonuclear fusion
- human capital and mobility

Most of these programmes will be carried out through:

- shared-cost research projects (Community participation in the cost of the research is in principle 50% of the total project costs)
- concerted research actions (the Community does not participate in the costs of the research itself, but reimburses only coordination costs, such as meetings, travel, etc.)

In addition to these actions, the Community supports demonstration projects and coal and steel research projects, and carries out its own research activities in the Community Joint Research Centre.

1 INDUSTRIAL AND MATERIALS TECHNOLOGIES (BRITE-EURAM II)

RATIONALE AND OBJECTIVES

The programme on Industrial and Materials Technologies (Brite-EuRam II) aims to revitalize European industry by reinforcing its scientific and technological base through research and development work.

General objectives

The programme's main objectives are:

- to increase the competitiveness of European producer and user industries;
- to strengthen European economic and social cohesion;
- to promote the scientific, technological, and economic integration of European industry.

Strategic aims

A number of strategic aims complement the general objectives of the programme:

- to increase the application of advanced technologies by small and medium sized enterprises (SMEs)
- to increase the involvement of manufacturing SMEs in European RTD through developing links with other enterprises and promote a better management of their resources
- to reinforce and diversify the training of research workers and engineers for modern European industry
- to give full consideration to the social, human and environmental impact of advanced technologies
- to ensure an appropriate dissemination and exploitation of results, especially for development of standards and user specifications.

Note: *More details about the technical areas and research tasks are contained in the Workprogramme.*

TECHNICAL AREAS

The scope of the technical areas reflects the multisectorial approach of the programme and emphasizes the need to bring together, in RTD, partners drawn from suppliers, producers and end-users as well as from basic research institutes and industrial enterprises (including SMEs).

There are three main technical areas:

Area 1 - Materials / Raw Materials

To improve the performance of both advanced and traditional materials at a cost which permits competitive industrial exploitation over a broad range of applications. This extends to improving the technologies to ensure the supply of raw material resources and for recycling, so promoting an integrated approach to the whole life-cycle of materials. It also includes the cost-effective use of new materials in a broad range of products and applications and their diffusion to new application fields. Sub-areas are:

- **Raw Materials:** covering existing processes and new techniques relating to exploration technology, mining technology and mineral processing;
- **Recycling:** covering technologies involved in the recycling and recovery of industrial waste including non ferrous metals and reuse of advanced materials;
- **Structural Materials:** including metals, ceramics, polymers, their corresponding alloys, composites and hybrid combinations, and advanced glasses;
- **Functional Materials for Magnetic, Superconducting, Optical, Electrical and Biomaterial Applications:** focusing on synthesis, processing, design and manufacturing within the constraints of optimized performance;
- **Mass Commodity Materials:** covering in particular packaging materials and new construction industry materials.

Area 2 - Design and Manufacturing

To improve the capability of industry to design and manufacture products which take account of functionality, cost-effectiveness, quality, reliability and maintainability, and environmental and social acceptability. Sub-areas are:

- **Design of Products and Processes:** tools and techniques for innovative design, design methodologies for complex high-technology components, maintainability and reliability ;
- **Manufacturing:** tools, techniques and systems for high quality manufacturing, manufacturing techniques for industrial use of advanced materials and integrated approaches to chemical and process engineering;
- **Engineering and Management Strategies for the whole product life cycle:** design integrating strategies, engineering, human factors in engineering, quality and manufacturing management.

Note: *Some research actions under Areas 1 & 2 sharing common objectives might be coordinated as* ***Targeted Projects*** *according to the adopted Workprogramme.*

Area 3 - Aeronautics Research

For information about Aeronautics Research, please see the appropriate contact (Chapter 8).

IMPLEMENTATION

The Brite-EuRam II programme is implemented in the following three ways:

1. Shared-cost Research
2. Concerted Actions
3. Accompanying Measures

1. Shared-cost Research

The main actions of the programme are carried out through **Shared-cost Contracts** between the EC and pan-European consortia, made up of partners from Industry, Research Institutes, Universities or similar higher education establishments.

There are three types of **Shared-cost Research**:

- **Industrial Research** involving industrial enterprises from different Member States collaborating in precompetitive research. The research must have the potential for a significant medium-term industrial and economic impact (2-3 years after the end of the project).
- **Focused Fundamental Research** for applied research which is up-stream of industrial research but is nevertheless of industrial relevance. The research requires the endorsement of industrial enterprises from different Member States.
- **Cooperative Research (CRAFT)** to enable groups of enterprises without research facilities – especially SMEs – to contract with outside research institutes, universities or enterprises to carry out research and development on their behalf.

2. Concerted Actions

Concerted Actions are designed to coordinate individual research activities carried out in Member States. Their aim is to give new technologies the benefit of real added value through cross-border collaboration.

3. Accompanying Measures

The main accompanying measures are:

- **Feasibility Awards** to facilitate the participation of SMEs in collaborative industrial research;
- **Specific Training** to train technologists for European industry.

Other accompanying measures include:

- support for workshops and conferences
- meetings of experts
- study contracts and promotion activities for the exploitation, evaluation and dissemination of results.

All these types of action have their own Guides for Applicants, which are included with this Information Package

- **Industrial Research, Focused Fundamental Research, Concerted Actions and Specific Training**
- **Cooperative Research (CRAFT)**
- **Feasibility Awards**

BUDGET

The programme has a total budget of 663.3 MECU for the period 1991-1994.

Breakdown of the budget by technical area:

Area 1:	Raw materials and Recycling	80 MECU	12%
	Materials	228.8 MECU	35%
Area 2:	Design and Manufacturing	301.5 MECU	45%
Area 3:	Aeronautics Research	53 MECU	8%

The total indicative funding devoted to research is:

Industrial Research	483.8 MECU	77%
Focused Fundamental Research	62.8 MECU	10%
Cooperative Research	56.5 MECU	9%
Concerted Actions	6.3 MECU	1%
Feasibility Awards	6.3 MECU	1%
Specific Training	12.6 MECU	2%

CALLS FOR PROPOSALS

Proposals for research projects are invited in a formal Call for Proposals published in the Official Journal of the European Communities.

Industrial Research, Focused Fundamental Research and Concerted Actions have a fixed closing date and two Calls for proposals are planned:

Ist Call for Proposals (Areas 1, 2, and 3): 302.5 MECU

2nd Call for Proposals (Areas 1 and 2 only): 252.5 MECU

For all other actions, the Call will remain open until December 1993, subject to funding remaining available.

2 WHO CAN PARTICIPATE?

FROM MEMBER STATES

The programme is open to all persons and organisations established in the Member States of the European Community (industrial firms – both large companies and SMEs –, universities, higher education institutes, research organisations, etc.).

FROM OTHER COUNTRIES IN EUROPE

Full participation

If a non-Member State has signed an agreement with the Community for full association with the programme, organisations from that country can "fully participate" in the programme under the same conditions as organisations from Member States.

Project by project participation

If a non-Member State does not have a full association agreement, but does have some agreement on Science & Technology cooperation with the Community, organisations from that country can participate in the programme on a project by project basis. These organisations will not, however, receive any funding from the Community.

Notes: 1. *An SME is a company which:*

- *a/ has less than 500 employees*
- *b/ has a net annual turnover of less than 38 million ECU*
- *c/ is not more than one third owned by a parent company or any other organisation larger than an SME, although larger shareholdings held by investors such as banks or venture capital firms are permitted.*

2. *In certain exceptional cases, international European organisations (e.g. CERN, ESA etc.) may participate in the specific RTD programmes of the European Community.*

WHAT ARE THE CRITERIA FOR PROPOSALS?

GENERAL CRITERIA

Conformity with the scope and objectives of the programme

Your proposal must fall within the scope and objectives of the programme (see Chapter I) and in particular within the terms set out in the Workprogramme. The proposal may relate to more than one of the listed objectives in the call. Proposals which do not conform with the programme research tasks are unlikely to be successful unless they demonstrate exceptional technical merit and industrial relevance.

Scientific and technical excellence and novelty

Your proposal must be of a high scientific/technical quality:

- The objectives of the proposal must be convincing and feasible.
- The proposal must be innovative, i.e. represent a significant step forward beyond the state-of-the-art and include substantial original work. Proposals must not unnecessarily duplicate existing RTD.
- The scientific/technical aspects of the proposal should be clearly described.
- For any untried techniques, you should explain why your new approach is likely to succeed.

Precompetitive character

Your proposed research must be precompetitive in character, i.e. its results will require further development to produce marketable products or processes.

Scientific, technical and economic benefits

You should give a realistic description of any expected scientific, technical and economic benefits from your proposed RTD.

European dimension

Your proposal must have a European dimension. You must indicate the importance of the project to the Community and explain why the proposal merits European Community funding. You should give special attention to social and economic cohesion in the EC.

If an organisation from a non-Member State is proposing to collaborate on a project by project basis (i.e. where the country has no full association with the programme) your proposal should clearly describe the benefits to the European Community from the participation of this organisation.

Transnational collaboration

Each research proposal must be transnational involving at least two independent participants from different Member States. Collaboration in projects must be real and the proposal must show a significant and balanced commitment of project partners.

Project management

You must convincingly indicate an ability to exercise a high quality of management and describe how you will achieve this.

Potential exploitation of results

You must indicate the routes of potential exploitation of your results and your own commitment to such exploitation.

Technical competence

Your proposal must indicate the technical credibility and effectiveness of the partnership involved.

Environmental aspects

Your proposal should address the environmental aspects of products and processes and any anticipated benefits to the working environment.

SPECIFIC CRITERIA

Please refer to the appropriate Guide for Applicants for specific criteria for each type of action.

Note: *You should give special attention to the participation of SMEs.*

HOW TO PREPARE A PROPOSAL

HOW TO FIND PARTNERS

Expression of Interest

To help you to identify potential partners as early as possible and to put together the best consortium, an "Expression of Interest" (EOI) form is included in the Annexes. Please complete and return this form as soon as possible to the address given on the reverse of the form. This will help us to match potential partners and comment on the suitability of possible proposal subjects. The submission of an Expression of Interest is not a prerequisite for submitting a proposal but it is highly recommended for those consortia needing to complete their partnership.

An Expression of Interest data base of potential participants will be created and classified by research tasks and types of action. It will be accessible via the Commission and the National Contact Persons to enable contact between partners interested in the same subject.

Names on the Expression of Interest will also be added to the Brite-EuRam mailing list to inform participants about future publications and Calls for Proposals.

Information Days and Proposers Forum

Brite-EuRam organizes a series of events in a number of countries to publicize and promote participation in the new programme. You are invited to attend these events where Commission staff will give you information and answer your questions on the programme and on the procedures for submitting proposals. The events will also give you the opportunity to meet possible partners with the complementary skills required for the proposals you have in mind. Direct consultation with, and input to, the Expression of Interest data base will be possible during these events.

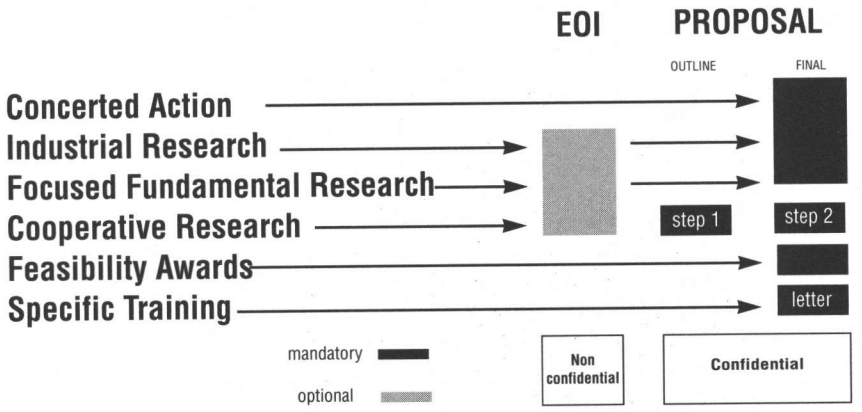
HOW TO WRITE A PROPOSAL

Please see the Guides for Applicants for information on how to write proposals for each type of action.

Note: *In addition to sending your Expression of Interest form to Brite-EuRam, we advise you to submit a copy also to your National Contact Person.*

5 HOW TO SUBMIT A PROPOSAL

PROCEDURE



SUBMISSION

- You may submit proposals in any official language of the EC. However, it is advisable to supply at least a summary in English. This will accelerate the assesment of proposals.
- You should submit one original of each proposal plus 7 copies.

DEADLINE

Some actions have **fixed deadlines**:

- Industrial Research
- Focused Fundamental Research
- Concerted Actions

Others have an **open call**:

- Cooperative Research
- Feasibility Awards
- Specific Training

DELIVERY

- You should address and send your proposal to the Commission offices in Brussels. It is your responsibility to ensure that it has been delivered to the Commission to the address given in the guide for applicants.
- Proposals should **NEVER** be sent by fax.

EVALUATION AND SELECTION OF PROPOSALS

The Commission will ensure a confidential, fair and equitable evaluation of proposals. This evaluation will have due regard to the criteria set out in Chapter 3 and the Guides for Applicants and will be carried out under the responsibility and coordination of the Commission, assisted by independent experts chosen by the Commission.

Evaluation and selection of proposals will proceed as follows:

- Verification of eligibility of proposals by Commission staff
- Confidential evaluation of the proposals by independent experts
- Initial grading of proposals by the Commission

  Each proposal will receive one of the following four recommendations:

  A1: outstanding proposal
  A2: proposal of excellent quality
  B: proposal of good quality : C: proposal not to be retained

- Consideration of the graded proposals by the Regulatory Industrial and Materials Technologies Committee.
- Final selection by the Commission after approval of the Committee and communication of the results of the evaluation and selection procedure to the project coordinators.

The final selection will be made by the Commission taking into account the selection criteria and subject to the Brite-EuRam II programme budgetary allocations.

7 CONTRACTS: PROCEDURES AND PRINCIPLES

GENERAL PROCEDURES

Negotiation of Contracts

Soon after the selection process the Commission will ask successful proposers to provide:

- more detailed financial information
- an appropriate project description for inclusion in the contract.

The Commission may require changes to your proposed project on the basis of the evaluation. Participants in selected projects may be required to travel to Brussels to negotiate the details of the contract.

The negotiation process may take some months, depending on the complexity of the project, or the nature of any technical or financial modifications required by the Commission, and successful proposers should plan their work accordingly. The Commission will not contribute to any costs incurred before the formal commencement date specified in the contract.

In order to facilitate the negotiation process, you should:

- be familiar with the allowable costs which can be included in EC supported projects
- provide rapidly all the detailed information requested, and submit it through the project coordinator
- keep the number of main participants in a project to a minimum and decide at the outset how best to participate (contractor, associated contractor, sub-contractor).

This will help to get the project started as quickly as possible, and contribute to the effectiveness of its management.

Form of Contract

The Commission will prepare a contract setting out the conditions of EC support for projects selected.

The contract with successful proposers will be based on the model RTD contracts. The main principles of RTD contracts are outlined on the following pages.

These model contracts may be adapted to take into account specific conditions of the particular RTD programme or project.

The model RTD contracts form a flexible mechanism for participating in projects. However, participants may conclude **cooperation agreements** amongst themselves to complement the conditions of the model RTD contracts (but in doing so, they must respect competition rules under the EEC Treaty and the principles concerning the ownership, exploitation and dissemination of results).

The role of "project coordinator"

All projects must have a "project coordinator" who will be responsible for the management of the project and who therefore should have the appropriate management expertise, as well as the technical expertise, to direct the project. The coordinator's responsibilities also include administrative responsibilities, such as general liaison with the Commission, the submission of all documents — including technical reports giving an overview of the project — and the distribution of the financial support paid by the Commission.

Two types of contractor

Participants who contribute to the costs of, and carry out, the work may be:

- **contractors**, in which case they will sign the contract with the Commission and assume joint and several liability for completing the work envisaged

or

- **associated contractors**, in which case they will not sign the contract with the Commission. This is particularly appropriate for projects involving a large number of participants or for organisations making small contributions to the project.

Contractors should grant fair and reasonable rights to the associated contractors for their contribution to the project. Contractors should conclude appropriate arrangements with the associated contractors; these arrangements can be a simple exchange of letters or a more formal written agreement, but they must conform with principles specified in the model RTD contracts (Article 3.2 of Annex II) and be submitted to the Commission for approval.

Subcontractors

Participants who are fully reimbursed by the contractors or associated contractors for their work should be treated as **subcontractors**. Minor subcontracts do not generally require the approval of the Commission, but approval is required for the subcontracting of project work which exceeds limits specified in the model contracts.

European Economic Interest Groupings

Participants may wish to establish a **European Economic Interest Grouping (EEIG)** as a separate legal entity to enter into the contract with the Commission and perform the work. An EEIG is a useful mechanism for participating in EC RTD programmes and can easily be created, or dissolved, or new members added with minimum formalities. The existence of an EEIG can help:

- in dealing quickly with the procedural stages prior to the beginning of the project
- in the management of the project.

A guide to the role of EEIGs in RTD can be obtained from Directorate-General XII and more detailed documentation is also available from Directorate-General XV (Financial Institutions and Company Law).

Participation by Organisations from Non-Member States

Organisations from non-Member States which are not fully associated in the Community RTD programme covered by this information package will only be eligible to participate in projects as outlined in Chapter 2.

In these circumstances, these organisations will:

- not receive any financial support from the EC (consequently, statements of effort, rather than cost statements, will be required for actual cost contracts)
- be required to contribute 5,000 ECU per project towards the administrative costs of the RTD programme (this does not apply to organisations similar to those EC organisations using additional (marginal) costs, e.g. universities, hospitals, etc.)

- not be able to act as project coordinator except in the case of full participation of EFTA countries
- not have access to results generated from other Community RTD programmes
- be required to comply with the same selection criteria requirements as EC organisations.

Organisations from non-Member States which are fully associated in the RTD programme covered by this information package will be able to participate in projects under the same conditions as EC organisations. Access to results will, however, be limited to the RTD programme.

Affiliated Companies

Affiliated companies of a contractor (whether controlling, controlled by, or under the same control as, the contractor) are only entitled to have access to the results generated by the project in circumstances specified in the model contract. They must comply with the framework for the exploitation of results, and the criteria defining affiliated companies.

Arrangements involving associated contracts and subcontracts between affiliated companies do not generally require the approval of the Commission (although such arrangements must be notified).

ODEL RTD CONTRACTS: AIN PRINCIPLES AND SPECIFIC CONDITIONS

Procedures

- Two copies of the contract will be sent to each partner (coordinator and contractors) for signature; the Commission will only sign after the return of the documents by all the signatories.
- Only one language version of the contract will be prepared for signature -the language and law will usually be that of the "project coordinator".
- The operative commencement date of the project will normally be the first day of the month following the signature of the contract by the Commission; only costs incurred after this date will be allowable (as an exception, durable equipment purchased for the project up to six months prior to its commencement may be charged to the project, but only for the period of its use after the start of the work.)

Payments

- All payments will be made in ECU through the "project coordinator".
- An advance payment will be made after the signature of the contract by the Commission (for indicative purposes only, approximately 40% of the EC support for a typical three-year project).
- Periodic payments, normally at 12 monthly intervals, will depend on the submission and approval of progress reports, and appropriate cost claims. For smaller projects, the Commission may decide to use a fixed contribution contract under which the EC support will be reimbursed in accordance with a payment profile setting out fixed percentage instalments; for larger projects, cost statements setting out some specified details of actual costs incurred are required.
- A retention (normally 10% of the EC contribution or 500,000 ECU, whichever is the lower) is withheld until all the final documents (technical and financial) have been received and approved by the Commission. For larger projects where cost statements are required, a consolidated cost statement must be submitted within three months of the end of the project.

Costs

- The allowable costs to which the EC support will be given are the full costs of the project (the EC contribution will not normally exceed 50%), or up to 100% of the additional (marginal) costs (i.e. not paid from any other income) for universities, and similar institutions, whose primary functions are not related to research activities.
  Universities, etc., may use full costs if they can show to the satisfaction of the Commission that their costing and recording systems enable them to identify the full direct, and indirect, costs relating to their research activities. Organisations which can use either full or additional costs will normally be expected to operate on one basis for all Community RTD programmes, and not reach a decision on a project by project or programme by programme basis.
- Allowable costs may include:
  - labour (for those using additional (marginal) costs, only additional research staff, not permanent teaching staff)
  - capital equipment (depreciated over 3 years for computers costing less than 10,000 ECU, and over 5 years for all other equipment)
  - other direct running costs (travel, consumable materials, computing, external assistance, etc.)
  - indirect overhead costs (necessary to support the research activities) (for those using additional (marginal) costs, a maximum of 20% of costs excluding associated contracts and VAT)
- Rates approved by national governments for research may be charged if they are adjusted to take account of any differences with Commission principles for costs.
- No profit may be included in any costs charged to the Commission. Costs should also exclude interest or return on capital employed; notional or opportunity costs or revaluations (use historic costs); distribution, marketing and advertising costs for products and activities; and patent protection costs.
- VAT and customs duties paid in connection with the project should be reclaimed from national authorities. Those organisations unable to reclaim the VAT may include the costs separately in cost statements. However, no VAT should be included in proposals in the estimated costs.

Reports

- The "project coordinator" must provide technical progress reports giving an overview of the project to assist the Commission to monitor the work and results; individual contributions by other contractors to be appended to these global reports must be submitted through the "project coordinator".
- During the project these reports must be submitted normally at 6 or 12 monthly intervals.
- At the end of the project, a final report covering all the work, objectives achieved and conclusions, together with a confidential report on the intentions and potential for protecting and exploiting results, must be submitted.
- All reports will be treated as confidential, but reports suitable for publication, excluding any commercially sensitive information, must be provided with the 12 monthly and final reports. These are intended to inform the industrial and scientific community of the progress of EC funded research to avoid unnecessary duplication of effort and to enable contact to be established directly with the participants concerning exploitation arrangements or additional research, inside or outside the framework of the EC funding.

Ownership and Exploitation of Results

- All intellectual property rights generated under the research project will be owned by the relevant contractors who must:
  - exploit or commercialise them in conformity with the interests of the Community (this includes the need to grant licences on commercial conditions to other organisations established in the EC where the necessary exploitation or commercialisation cannot be undertaken or arranged by the participants themselves - results cannot be locked away).
  - freely grant licences and user rights amongst themselves for carrying out the research project, and any subsequent exploitation and commercialisation. Non commercial organisations may be paid royalties in certain circumstances, but any financial negotiations must not hinder or prejudice such exploitation or commercialisation.

- grant licences and user rights to others needing access to the results in specified circumstances (1). In limited circumstances, and against payment, background results developed without Community support must also be made available to facilitate the use of the foreground results.

- Participants must inform the Commission in the proposal of any interests which could affect their obligations concerning the exploitation and dissemination of results.
- In certain circumstances, the Commission may protect the foreground results where the contractors do not wish to take out patents, etc. Researchers, particularly those in non commercial organisations are advised to consult experts in their organisations or their partners on the commercial potential of results before unrestricted disclosure of information which could subsequently prejudice patent applications.
- Assistance is available from the Commission in technology transfer under EC initiatives, such as SPRINT and VALUE, and further information can be obtained from Directorate General XIII - Telecommunications, Information Industries and Innovation (Directorate XIII.C, Bâtiment Jean Monnet, Rue Alcide de Gasperi, L-2920 Luxembourg).

Note: *(1) Licences and user rights are summarised in the table on pages 26 and 27. Adequate protection is included to safeguard legitimate business interests and intentions concerning the exploitation or commercialisation of the results; Community requirements relating to a broad access to the results for legitimate research and compliance with competition rules are also reflected in this framework.*

LICENCES AND USER RIGHTS

For Research and Development Purposes

RECIPIENT	Foreground Information (User Rights) / Foreground Patents (Licences)	Background Information (User Rights) / Background Patents (Licences)
1 Partners/signatories; Complementary contractors (projects with technical inter-dependence)	***ROYALTY-FREE*** if necessary for carrying out their EC contracts (Art. 16.1.1)	***ON NON DISCRIMINATORY TRANSFER CONDITIONS*** if necessary for carrying out their EC contracts, but only if contractor is free to disclose or grant licences (Art 16.2.1)
2 Entities carrying out research in the EC and participating in the same RTD programme	***ON TRANSFER CONDITIONS*** if necessary for carrying out their EC contracts (Art. 16.1.2)	***ON FAVOURABLE CONDITIONS*** if necessary for Foreground Information available under Art. 16.1.2 for carrying out their EC contracts, provided the contractor: • is free to disclose or grant licences • may oppose the grant **for major business interests** (Art. 16.2.2)
3 Entities carrying out research outside the EC and participating in the same RTD programme	***ON TRANSFER CONDITIONS*** if necessary for carrying out their EC contracts (Art. 16.1.2)	To the extent agreed by the contractors ***ON FAVOURABLE CONDITIONS*** if necessary for Foreground Information made available under Art. 16.1.2, provided the contractor is free to disclose or grant licences. Contractors shall have regard to the interests of the EC in the implementation of the programme as well as their business interests in reaching a decision (Art. 16.2.3)
4 Entities carrying out research in the EC and participating in a different RTD programme in related fields or with related objectives	***ON TRANSFER CONDITIONS*** if necessary for carrying out their EC contracts (Art. 16.1.2)	***ON FAVOURABLE CONDITIONS*** if necessary for Foreground Information available under Art. 16.1.2 for carrying out their EC contracts, provided the contractor: • is free to disclose or grant licences • may oppose the grant **for major business interests** (Art. 16.2.2)
5 Entities carrying out research in the EC	Not to unreasonably refuse to grant ***ON FAVOURABLE CONDITIONS*** if necessary for R&D in the same or related fields. *The right to refuse*, inter alia, for major business interests or if adequate steps are being taken by contractors or their licencees to exploit or commercialise Foreground Information/Patents in the Community (Art. 16.1.3)	No obligations
6 Any entity established or incorporated in the EC	No obligations	No obligations
7 EC (JRC or joint undertakings)	***ROYALTY-FREE*** non exclusive licences to use, if requested for its needs, but no right to grant sublicences and must remain confidential (Art. 19) (No time limit)	No obligations

For Exploitation or commercialisation

'eground Information (User Rights) / 'eground Patents(Licences)	Background Information (User Rights) / Background Patents (Licences)
'ALTY-FREE exclusive rights: for the exploitation or commercialisation e results of their EC contracts, or to have products manufactured for ɔitation or commercialisation by or s behalf. 'ior right to undertake manufacture/ keting on fair and reasonable terms is to be given to r partners). commercial bodies (e.g. universities) may grant licences ıst financial compensation, but must give up their right ımmercialisation and discussions and must not delay or dice the commercialisation (Art. 17.2)	***ON FAVOURABLE CONDITIONS*** for the exploitation or commercialisation of Foreground Information/Patents if the contractor is free to grant the licence. *The right to withhold:* • **for major business interests** (these must not abusively restrict the grant) • if the Foreground Information/Patents relate to products about to become commercially available (Art. 17.5)
o unreasonably refuse to grant *'AVOURABLE CONDITIONS* xclusive rights or licences if required for the itation or commercialisation of the results of their EC acts. *ight to refuse*, inter alia, **for major business interests** e must not abusively restrict the grant) or if the licences to products about to become commercially available 17.3)	No obligations
above) 17.3)	No obligations
above) 17.3)	No obligations
unreasonably refuse to grant, *)MMERCIAL CONDITIONS* ɔssary for the exploitation or commercialisation of R&D same or related fields. *ght to refuse* as 2 above 7.4(a)) ear time limit)	No obligations
exploitation or commercialisation by the contractors or licencees in accordance with the contract (Art 17.1), ıot to unreasonably refuse to grant ***OMMERCIAL CONDITIONS*** anufacture, exploitation or commercialisation, in rmity with the interests of the Community. *ight to refuse* as 2 above (Art. 17.4(b)) 'ear time limit)	No obligations
ligations	No obligations

Notes

- Article numbers refer to provisions in Part B of Annex II to the EC Model RTD contracts.
- The contractors have an obligation to exploit or commercialise, or have exploited or commercialised – in the interest of the EC – the results within a period of time to be agreed. This obligation has a maximum ten year time limit after the expiration of the contract.
- Associated contractors must be granted fair and reasonable rights and benefits.
- Where user rights are to be granted outside the project consortium or complementary contractors for **non protectable information**, they are subject to the limitation that suitable arrangements required by the grantor are concluded to ensure that the information will not be used (by the grantee) for any purpose other than that for which it is granted.
- All obligations specified in this table have a five year time limit after the expiration of the contract unless otherwise indicated.
- "commercial conditions" means open market payments and other conditions.
- "favourable conditions" means conditions that have a value lower than commercial conditions.
- "transfer conditions" means conditions that have a value lower than favourable conditions – normally the cost of making the licences and user rights available.
- "royalty-free" means at no cost and against no conditions other than those specified in Part B of Annex II to the Model EC RTD contracts.

8 CONTACT PERSONS

CONTACT PERSONS IN THE EC MEMBER STATES

Belgium

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Areas 1 & 2

Commission of the European Communities
Directorate-General for Science, Research and Development
Directorate for Technological Research
Brite-EuRam Programme
Rue Montoyer 75
B-1040 Brussels

BRITE-EURAM	**Helpline**	32 2 2352345
BRITE-EURAM	**Telefax**	32 2 2358046 32 2 2365987
BRITE-EURAM	**Telex**	21877 COMEU B

Area 3

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Commission of the European Communities
Directorate XII-H
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B-1040 Brussels
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EUROKOM

Avenue de la Joyeuse Entrée, 1
B-1040 Brussels, Belgium
Tel: 32 2 230 36 47 - Fax: 32 2 2800132

Belfield
Dublin 4, Ireland
Tel: 352 1 697890 - Fax: 353 1 838605

If you have any questions concerning the Programme or more specifically concerning the preparation or presentation of proposals, please get in touch with the contact person in your own country. He or she is in direct contact with the responsible Commission personnel in Brussels.

You can obtain additional copies of this Information Package, the Model RTD contracts, and the EEIG guide, on written application to the Brite-Euram programme at the Commission in Brussels (see above) or through the Information Offices of the Commission in the Member States.

ANNEXES

EXPRESSION OF INTEREST
RESEARCH AREAS
KEYWORDS

Brite-EuRam II Programme

EXPRESSION OF INTEREST

Reserved for the Commission

Title of the proposed research: .....

.....

Related Research Areas
(use numbers in the list of Research Areas – Example 2.1.2)

Type of Project:
intention to participate in (cross as appropriate)

Industrial Research		Focused Fundamental Research		Cooperative Research	

	YES	NO
Targeted Projects [1]		
Prenormative Research		

Short Description of Intended Research: *(Maximum 10 lines of 80 characters)*

Partners' Skills and Competences sought :

.....

.....

.....

Keywords
relating to potential partners *(use numbers in the list of Keywords – Example: A05)*

Industrial Sectors		Industrial Processes/ Activities		Materials		Supporting Disciplines/ Technologies	

Organisation Name: .....

Department or Unit: .....

Address: .....

.....

Country: ..... Postcode: ..... City: .....

Type of Organisation	
Industry	
SME	
Research Centre	
University or similar	

Keywords
relating to the proposer *(use numbers in the list of Keywords – Example: D36)*

Industrial Sectors		Industrial Processes/ Activities		Materials		Supporting Disciplines/ Technologies	

Authorised Signatory: Name : ..... First name : ..... Title (Mr, Mrs, Dr, Prof) : .....

Position in Organisation : .....

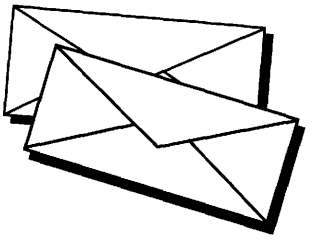
Tel : ..... Fax : ..... E-Mail : .....

Signature : ..... Date : .....

[1] Are you willing to be coordinated with other research projects sharing common objectives?

- instructions overleaf -

SEND BACK TO



COMMISSION OF THE EUROPEAN COMMUNITIES

DG XII-C

Brite-EuRam II Programme - EOI

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B - 1040 Brussels
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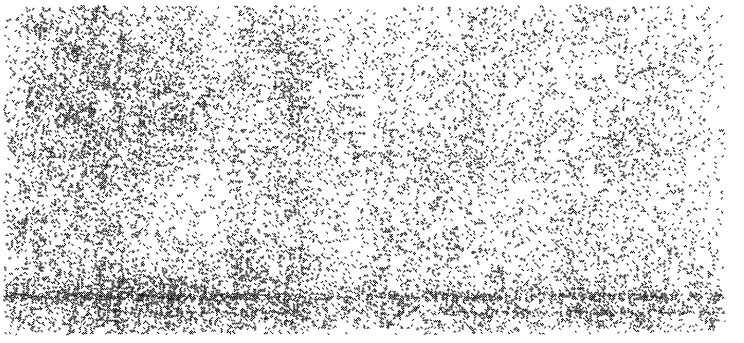
+32.2. 236 59 87



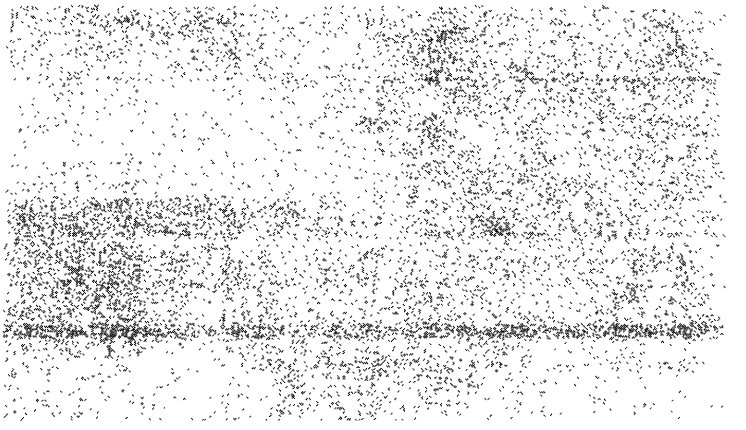
EXPRESSION OF INTEREST

1. Organisations seeking help to find partners for a future proposal are invited to complete and return this form to the above address. The form should however not be used for general advertising!

2. The form will be displayed and distributed during the Proposers' Days, the information provided is therefore **"NON CONFIDENTIAL"**.

3. The form should preferably be completed in English for a better dissemination of the information.

4. For Research Area and Keyword numbers, refer to the annexed pages.



RESEARCH AREAS

RAW MATERIALS

1.1.1. Exploration Technology
1.1.2. Mining Technology
1.1.3. Mineral Processing

RECYCLING

1.2.1. Recycling and Recovery of Industrial Waste including Non Ferrous Metals
1.2.2. Recycling, recovery and reuse of advanced materials

STRUCTURAL MATERIALS

1.3.1. Metals and Metal Matrix Composites
1.3.2. Ceramics, Ceramic Matrix Composites and Advanced Glasses
1.3.3. Polymers and Polymer Matrix Composites

FUNCTIONAL MATERIALS FOR MAGNETIC, SUPERCONDUCTING, OPTICAL, ELECTRICAL AND BIOMATERIAL APPLICATIONS

1.4.1. Magnetic Materials
1.4.2. High Temperature Superconducting Materials
1.4.3. Electrical and Ionic Conducting Materials
1.4.4. Optical Materials
1.4.5. Biomaterials

MASS COMMODITY MATERIALS

1.5.1. Packaging Materials
1.5.2. New Construction Industry Materials

DESIGN OF PRODUCTS AND PROCESSES

2.1.1. Innovative design tools and techniques
2.1.2. Design methodologies for complex components
2.1.3. Maintainability and reliability

MANUFACTURING

2.2.1. Tools, techniques and systems for High Quality Manufacturing
2.2.2. Manufacturing Techniques for Industrial Use of Advanced Materials
2.2.3. Integrated Approach to Chemical and Process Engineering

ENGINEERING AND MANAGEMENT STRATEGIES FOR THE WHOLE PRODUCT LIFE CYCLE

2.3.1. Design Integrating Strategies
2.3.2. Engineering
2.3.3. Human Factors in Engineering and Manufacturing Management

KEYWORDS

ndustrial sectors

01 Aeronautics / Aerospace
02 Automotive, Components & Parts
03 Chemical / Petrochemical
04 Construction / Building / Civil engineering
05 Electrical / Electronic industry
06 Energy / Power generation
07 Engineering / Software / Technical services
08 Food / Drink / Water
09 Instruments / Sensors / Precision equipments
10 Materials processing
11 Mechanical engineering / Machinery
12 Medical / Biomedical equipment
13 Mining / Quarrying
14 Ore / Mineral processing
15 Printing / Office equipment
16 Railways / Locomotive
17 Shipbuilding
18 Shoe / Leather
19 Textile / Clothing
20 Toys / Leisure
21 Wood / Paper / Furniture
22 Other manufacturing industries

dustrial Processes / Activities

1 Assembly / Joining
2 Building / Construction
3 Design
4 Disposal / Dismantling / Demolition
5 Engineering (biomedical)
6 Engineering (chemical)
7 Engineering (civil)
8 Engineering (electrical)
9 Engineering (mechanical)
0 Engineering (mining)
1 Engineering (optical)
2 Engineering (process)
3 Exploration
4 Extraction
5 Forming / Shaping / Casting
6 Handling / Transportation
7 Logistics / Management / Production planning
8 Machining / Cutting
9 Mining
0 Packaging
Process / Product monitoring
1 Processing (metals)
2 Processing (minerals)
3 Processing (rubber & plastic)
4 Processing (ceramic & glass)
5 Processing (food, non rigid materials)
6 Prototyping
7 Quality assurance
8 Quality control / Inspection
B30 Recovery / Recycling
B31 Repair / Maintenance / Restoration
B32 Storage / Warehousing
B33 Tunnelling
B34 Waste treatment / Containment
B35 Other processes

Materials

C01 Abrasives
C02 Adhesives / Bonding
C03 Biomaterials
C04 Carbon / Graphite
C05 Catalysts / Zeolites
C06 Ceramics / Glasses
C07 Coatings / Thin films
C08 Composites (polymer matrix)
C09 Composites (ceramic matrix)
C10 Composites (metal matrix)
C11 Concrete / Building materials
C12 Diamond / Superhard materials
C13 Dielectrics / Ferroelectrics
C14 Electrical
C15 Ferrous
C16 Fibres / Reinforcing materials
C17 Flexible / Non rigid materials
C18 Foamed materials
C19 Fuels
C20 Gases
C21 Geotextiles
C22 Hydrocarbons / Petrochemicals
C23 Leather
C24 Lubricants
C25 Magnetic
C26 Metallic structural materials
C27 Minerals / ores
C28 Multilayers / Multimaterials
C29 Non ferrous
C30 Optical
C31 Organometallic materials
C32 Paints
C33 Pharmaceuticals
C34 Plastics / Rubbers
C35 Polymers
C36 Powders
C37 Refractories
C38 Rocks / Stones / Aggregates
C39 Smart materials
C40 Solders / Brazes / Welding
C41 Superalloys / Special alloys
C42 Superconductors
C43 Textiles
C44 Waste / Effluents
C45 Wood / Paper
C46 Other materials

Supporting Disciplines / Technologies

D01 Automation / CIM
D02 Biomedical
D03 Blasting technologies
D04 CAE / CAD / CAM systems
D05 Chemistry
D06 Computer science / Software
D07 Computers / Computer systems
D08 Control systems
D09 Data bases / Expert systems
D10 Drilling technologies
D11 Dynamics / Fluid dynamics
D12 Ecology / Environment
D13 Economics
D14 Electronics
D15 Ergonomics
D16 Geochemistry
D17 Geology (economic)
D18 Geophysics
D19 Geotechnics / Soil mechanics
D20 Imaging / Image processing
D21 Instrumentation / Measuring systems
D22 Laser technology / Power beams
D23 Machine tools
D24 Materials characterization / Testing
D25 Materials science
D26 Mathematical modelling
D27 Mechanics / Solid mechanics
D28 Medicine / Health
D29 Membrane / Separation technology
D30 Metallogeny
D31 Metallurgy / Hydrometallurgy
D32 Micro engineering
D33 Multifunctional engineering
D34 Nanotechnology
D35 Particle technology
D36 Powder metallurgy
D37 Psychology / Sociology
D38 Reinforcement technology
D39 Reliability
D40 Remote sensing
D41 Robotics
D42 Safety management
D43 Sensors / Signal processing
D44 Statistics
D45 Surface treatment technologies
D46 Thermodynamics
D47 Tools / Dies
D48 Tribology
D49 Vibration analysis / Acoustics
D50 Vision / Optical systems
D51 Other

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Commission of the European Communities, Directorate-General XII for Science, Research and Development

INDUSTRIAL AND MATERIALS TECHNOLOGIES (BRITE-EURAM II)

INDUSTRIAL RESEARCH
FOCUSED FUNDAMENTAL RESEARCH
CONCERTED ACTIONS
SPECIFIC TRAINING

GUIDE FOR APPLICANTS

Information Package
Edition 1991

PART 1
INDUSTRIAL RESEARCH AND FOCUSED FUNDAMENTAL RESEARCH

PART 2
CONCERTED ACTIONS

PART 3
SPECIFIC TRAINING

INDUSTRIAL RESEARCH
FOCUSED FUNDAMENTAL RESEARCH

Summary tables

INDUSTRIAL RESEARCH PROJECTS

(77 % of total budget for research)

- Conformity with research tasks
- Precompetitive and collaborative
- Subsequent exploitation expected

Size	-	10 man-years minimum
Duration	-	2 - 4 years
Total cost	-	1 - 5 MECU
Funding	-	EC funding: normally not to exceed 50% Industrial funding: minimum $^2/_3$ of EC funding
Partners	-	at least 2 independent industrial enterprises from different Member States
Calls	-	fixed closing dates: 3 April 1992 26 February 1993 (provisional)

FOCUSED FUNDAMENTAL RESEARCH PROJECTS

(10 % of total budget for research)

- Basic research upstream of Industrial Research
- Conformity with research tasks
- Precompetitive and collaborative
- Industrial endorsement

Size	-	10 man-years minimum
Duration	-	2 - 4 years
Total cost	-	0.5 - 1.0 MECU
EC Funding	-	up to 50% of full costs up to 100% of additional (marginal) costs
Partners	-	at least 2 organisations from different Member States
Endorsers	-	at least 2 independent industrial enterprises from different Member States
Calls	-	fixed closing dates: see above

1 INTRODUCTION

RATIONALE AND OBJECTIVES

The scheme covers collaborative research projects for industry. This is the most important implementation tool of the Brite-EuRam II programme.

Collaboration in industrial research means:

- trans-national cooperation
- multidisciplinary approach which integrates the scientific, technical, economic and industrial background of a group of partners to solve a clear industrial problem
- the combined efforts of suppliers, producers and end-users to ensure the best potential transfer of RTD results to the marketplace, and to establish codes of good practice and standards.

IMPLEMENTATION

- Research is implemented through a Call for proposals with a specified closing date.
- Each research proposal must be led by a project coordinator.
- Two types of proposal are possible: Industrial Research and Focused Fundamental Research.

WHO CAN PARTICIPATE?

The scheme is open to all organisations in the European Community:

- Industrial firms, both large companies and SMEs
- Research organisations
- Universities, higher education institutes and all other establishments interested in industrial research.

Participants from third European countries who are members of COST (1), in particular members of the European Free Trade Association (EFTA), and Central and Eastern European countries are allowed to participate on a project by project basis. They cannot act as project coordinator nor receive any funding from the Community.

Note: *(1) COST: Coopération européenne dans le domaine de la Recherche Scientifique et Technique.*

3 WHAT ARE THE CRITERIA FOR PROPOSALS ?

ELIGIBILITY CRITERIA

- **Transnational collaboration**
  - *For Industrial Research:*

    At least two independent industrial enterprises active in the project and from different Member States (1)
  - *For Focused Fundamental Research*:

    At least two independent organisations from different Member States.

- **Industrial relevance**
  - *For Industrial Research:*

    The project must be supported by a substantial financial contribution from the industrial participants or nominated sponsors: a minimum funding **equivalent to 2/3 of the EC funding** must originate from industry (2).
  - *For Focused Fundamental Research:*

    The project must involve at least two independent industrial enterprises from different Member States as industrial endorsers (3). A named senior representative of the endorser will be required to commit at least eight man-days per year in steering the project.

- **Size and Duration**

  Your project must have a duration from **2 to 4 years** with a minimum of **10 man-years activity**. The total research costs including non EC participants must be in the limits of:
  - **1.0 to 5.0 MECU** for Industrial Research
  - **0.5 to 1.0 MECU** for Focused Fundamental Research.

- **International balance**
  - No more than 2/3 of EC funds should go to a single partner or industrial group or to partners in a single country
  - No more than one third of total project costs should originate from non-Member State countries.

- **Place**

  Your proposed work must be carried out within the European Community or, where appropriate, within EFTA or other European countries. (This limitation is not applicable to research tasks relating to raw materials).

Notes: *(1) Enterprises and organisations belonging to the same group but in different countries are not independent*

(2) The EC funding should normally not exceed 50% of total research costs

(3) An endorser is an industrial partner who is not necessarily in the research team. The endorsement is a statement by the industrial enterprises of their interest in the research and in the future exploitation.

SELECTION CRITERIA

- **Conformity with the scope and objectives of the programme**
- **Impact on Competitiveness of European Community Industry**
- **Clear, verifiable and realistic objectives**
  - problem specification
  - quantification of objectives
  - time-scale for process/product development.
- **Economic potential, and industrial, social and environmental benefits**
  - economic and industrial opportunities
  - social and environmental benefits
  - breadth of applicability and multisectorial aspects
  - prenormative aspects
  - strategic importance and commercial risks.
- **Progress beyond the state of the art and innovative character**
- **Scientific and technical merit**
  - balance and consistency of approach
  - appraisal of technical risk of the RTD work
  - justification of theories, methods and techniques
  - clear description of methods
  - innovative character of each task.
- **Effectiveness of the partnership**
- **Quality of management**
  - description of the method of management
  - project scheduling
  - manpower allocation
  - justification of major equipment, consumables, computing and other items.
- **Role of partners and relevant experience**
- **Consistency with corporate strategy of the industrial participants**
- **Exploitation policy**
  - credibility of partnership for industrial exploitation
  - plans for dissemination of results.
- **European dimension and cohesion**
- **Improvement of technological cooperation**

4 HOW TO PREPARE A PROPOSAL

The proposal should be presented in two parts:

Part I: Financial and administrative form

The official application form is for the financial and administrative details of the proposal. You should follow the instructions given on the forms.

Part II: Scientific and technical content

This part comprises two sections:

PART II(a): Proposal Description

PART II(b): Participant Details

ANONYMITY AND CONFIDENTIALITY

Partners must not be named in Part II(a). They may be referred to as "Company A", "University B" or "Research Centre C". Partners are identified in Part II(b). In order to ensure confidentiality and a fair, impartial evaluation, Parts I, II(a), and II(b) should be presented as **three physically separate documents**.

PART II(a): PROPOSAL DESCRIPTION

Use the following structure and headings (a similar structure to Part II(a) will be used during contract negotiation).

Title *[about 15 words]*

Summary *[Maximum 1 A4 page]*

- Give a brief description of the industrial and technical objectives and the principal tasks required to meet them.

1. Industrial Objectives and Expected Achievements *[Maximum 1 A4 page]*

- Specify clearly the industrial problem
- Specify and quantify verifiable industrial objectives
- Explain how the industrial objectives comply with Brite-EuRam II objectives and research tasks
- For Industrial Research: explain how the research is precompetitive
- For Focused Fundamental Research: explain why the research is upstream of Industrial Research
- Define the scope for development of new or improved products or processes, with improved performance and functionality
- Give the estimated timescale (after completion of the RTD) for product or process development, and the estimated time to market.

2. Economic, Industrial, Social and Environmental Benefits

[Maximum 2 A4 pages]

2.1 Economic and Industrial Opportunities

- Provide full economic justification for the proposed research, taking into account the overall cost of the project in relation to its potential direct economic benefits
- Identify direct potential industrial applications and potentially patentable ideas
- Specify any other industrial sectors which may benefit indirectly from the research.

For Industrial Research:

- Give quantitative estimates for:
  - the market size in ECU/year both inside and outside the Community;
  - the direct medium and long term potential in terms of increased market share for sale of improved products or processes;
  - the direct effect on productivity.
- Give quantitative estimates, or if not possible, indicators for:
  - indirect medium and long term market potential;
  - reduced costs, e.g. energy consumption, maintenance, consumables, use of cheaper materials;
  - increased quality and reliability;
  - improved functionality.

Note: *Use tabular presentations wherever possible.*

For Focused Fundamental Research:

- Address the above items where appropriate
- Describe any potential for evolution into an Industrial Research proposal
- Identify longer term commercial opportunities and exploitation.

2.2 Social and Environmental Benefits

- Identify and quantify where possible any social and environmental benefits including:
  - better working conditions (health and safety, improved ergonomics, enhanced job satisfaction . . .);
  - opportunities for education and training;
  - new major employment opportunities;
  - environmental benefits;
  - conservation of scarce materials.

2.3 Strategic Importance and impact on standards and codes of practice

- Identify and quantify where possible :
  - the strategic importance of the research to the partners' core business and to the European Community;
  - assessment of economic/commercial risks, timeliness and competitive market situation;
  - the scope for developing codes of practice and standards.

3. State-of-the-Art and Degree of Innovation *[Maximum 2 A4 pages]*

- Report on the international state-of-the-art, including literature and patent searches (references cited should be listed in Part II(b))
- Briefly describe the technical limitations of existing products/processes or competing techniques and technical barriers to progress
- Specify the main innovations claimed
- Indicate the scope for technology transfer
- Describe the innovative character compared to any other relevant Community or national funded projects and identify the scope for interaction or technology transfer.

4. Overview of Technical Programme *[Maximum 2 A4 pages]*

- Briefly describe the technical programme in terms of its main research tasks
- Include a project flow diagram to illustrate the sequence of major tasks
- Justify the theories, scientific method or technical approach
- Give a critical appraisal of the level of technical risk and any relevant factors which may influence the chance of success.

5. Profile of Consortium *[Maximum 1 A4 page]*

- Present the consortium profile in terms of organisation type (Industry, SME, University, Research Centre). Partners should not be named.
- Describe the contribution and responsibility of each proposer and major subproposer to the main research tasks
- Justify the partnership structure in terms of its complementarity and multidisciplinary nature through the participation of suppliers, manufacturers and end-users
- Specify the role of any industrial endorsers or sponsors.

Note: *Use tabular presentations wherever possible.*

6. Scientific and Technical Project Description *[Maximum 10 A4 pages]*

For each of the main research tasks identified in Section 4 specify:

- the relevant and quantified technical objectives;
- the starting point (for example research previously carried out in another programme, or within a company, or input from another task in the proposal);
- a quantitative description of the technical work to be carried out;
- any technical innovation claimed or progress beyond the state-of-the-art;
- the manpower allocated per partner per task in man-months (1 man-month = 150-160 hours);
- the deliverables, including for example: software codes; experimental results; laboratory demonstrations; prototype products etc.

7. Project Management *[2 A4 pages, tables, chart]*

- Specify the proposed structure for the project management
- Identify methods for monitoring and reporting progress, including identification of project 'milestones' and documentation to be issued
- Indicate mid-term review procedure and assessment criteria
- Indicate procedures for managing future exploitation of results.

Note: *Use tabular presentations wherever possible:*

- *bar chart showing scheduling of research tasks and partners' involvement; timing of reports and milestones should be shown;*
- *Pert or similar chart showing interdependencies between tasks and sub-tasks;*
- *table showing project deliverables and their timing;*
- *table showing manpower allocations per task and per sub-task, in man months; include a task specifically for project technical management;*
- *table summarising major facilities and equipment including computing facilities to be provided or purchased (> 10 k ECU) by each partner; specify tasks for which these items are required.*

PART II(b): PARTICIPANT DETAILS *[Maximum 15 A4 pages]*

Part II(b) is to be kept **physically separate** from Part II(a).

1. List of Participants

- Include a Table showing the consortium profile in terms of organisation type, role (Project Coordinator, Proposer, Associated Proposer, Sub-Proposer, Sponsor, Endorser) and size. Participants should be named at this point. For industrial endorsers, include the endorsement letter.
- Provide the following information for each participant (including major subproposers):
  - list of principal research personnel and relevant experience;
  - list no more than five recent publications and/or patents relevant to the project.

2. Corporate Strategy

- For industrial proposers include a brief overview of the core business activity and justification of the importance of the project to long term business plans.
- For research centres and universities, justify the involvement in terms of the services they provide to industry and the scope for subsequent transfer of the technology to other industrial sectors.

3. Exploitation and Dissemination Policy

- Demonstrate the credibility of the partnership for industrial exploitation of the results
- Explain the partnership policy in respect of securing patents or granting licences for the technology (this is especially important for SMEs)
- Specify how the partnership plans to disseminate the results to other industrial sectors.

4. Impact on European Cohesion

- Explain how the research may improve European social and economic cohesion, for example by technology transfer to less technically advanced regions.

5. Improvement of Technological Cooperation and Impact on European Competitiveness

- Explain how the research may increase technological co-operation within the Community (e.g. involvement of new partners)
- Show how the research may enhance European competitiveness both within and outside the primary sector
- Give the scope for developing codes of practice or standards.

6. Other Relevant Information/Prior Commitments

- Disclose any existing or anticipated business agreements or commitments which may impose limitations on the subsequent exploitation of information or inventions generated as a result of the research.

7. List of References and Related Projects

- Include a list of any formal links which partners may have with other relevant Community or National funded projects
- Include the list of references cited in Part II(a).

HOW AND WHEN TO SUBMIT A PROPOSAL

SUBMISSION

Each research proposal must be submitted by the project coordinator.

It is the project coordinator who will be responsible for the internal management and administration of the proposal and liaison with the Commission.

- You should submit one original of each proposal plus 7 copies.
- You may submit proposals in any official language of the EC. However, it is advisable to supply at least a summary in English. This will accelerate the assessment of proposals.

DEADLINE

The Commission must receive proposals on or before the closing date stated in the Call. The Commission reserves the right not to evaluate proposals received after the deadline.

It is your responsibility to ensure that proposals are received by the Commission by 17H00 at the latest on the closing date.

1st Call: 3 April 1992
2nd Call: 26 February 1993 (provisional)

DELIVERY

It is the responsibility of the project coordinator to assemble the proposal and ensure that it is submitted in one parcel.

You should address and send it to:

Commission of the European Communities
Directorate-General for Science, Research and Development
Directorate C
Brite-EuRam Programme
Room 2/28
Rue Montoyer 75
B-1040 Brussels

The parcel should be double-wrapped, and you must clearly mark on the inner package:

"Confidential: Proposal for the programme on Industrial and Materials Technologies –
Type of Action :
- Industrial Research
- Focused Fundamental Research
- Concerted Actions"

(Choose the appropriate action.)

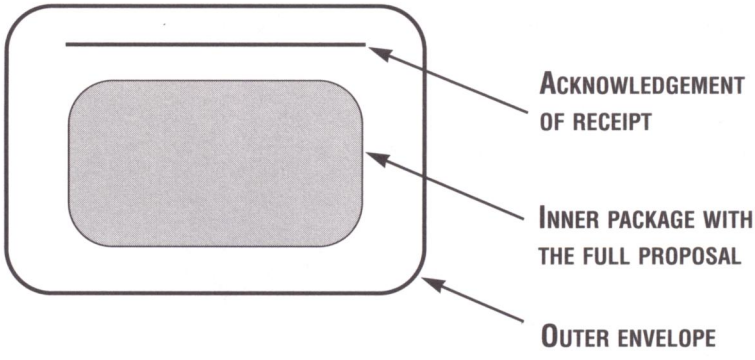
ACKNOWLEDGEMENT OF RECEIPT

You should include – in the outer envelope in which the proposal is delivered – the official "Acknowledgement of Receipt". On this you – the project coordinator – must put your organisation's name and full address and the title of the proposed project. This will ensure that the acknowledgement is returned to you correctly addressed.

Before it is returned the Commission's reception staff will record the date of receipt and a unique reference number, for use in all subsequent correspondence relating to the proposal.

You should ensure that all members of the consortium are given the proposal reference number and use it in all contact with the Commission.

If you do not receive an "Acknowledgement of Receipt" within two weeks after the closing date, you should assume that the application was not received and should **contact the Brite-EuRam office at the Commission immediately**. You are strongly advised to retain proof of dispatch if the proposal is mailed.



Note: *Do not send proposals by fax (not even to announce proposals that are in the mail). Faxes will not be acknowledged.*

EVALUATION AND SELECTION OF PROPOSALS

The Commission will ensure a confidential, fair and equitable evaluation of proposals. This evaluation will have due regard to the criteria set out in Chapter 3 and will be carried out under the responsibility and coordination of the Commission, assisted by independent experts chosen by the Commission.

EVALUATION OF PROPOSALS

- Verification of eligibility of proposals by Commission staff
- Confidential evaluation of the proposals by independent experts
- Initial grading of proposals by the Commission.

SELECTION OF PROPOSALS

- Consideration of the recommended proposals by the Regulatory Industrial and Materials Technologies Committee. (This Committee has to be consulted on any recommended proposal exceeding 0,75 MECU of Community funding and/or involving organisations from non-Member States.)
- Final selection by the Commission after approval of the Committee and communication of the results of the evaluation and selection procedure to project coordinators
- Final selection will be made taking into account the selection criteria and will be subject to the Brite-EuRam II programme budgetary allocations.

7 CONTRACTUAL CONDITIONS

SEE CHAPTER 7 OF THE *GENERAL INFORMATION* DOCUMENT WHICH GIVES INFORMATION ON EC RTD CONTRACTS.

The following conditions also apply to Industrial Research and Focused Fundamental Research contracts.

FUNDING

Generally speaking, the financial participation of the Commission in a shared-cost contract will not normally be more than 50%.

Universities and other research centres participating in shared-cost projects will have the option of requesting, for each project, either 50% funding of total expenditure or 100% funding of the additional (marginal) costs.

TECHNICAL AUDITING

The Commission may appoint an expert ("Project Technical Auditor") to assist in the technical monitoring of the project.

8 INFORMATION AND ASSISTANCE

SEE CHAPTER 8 OF THE *GENERAL INFORMATION* DOCUMENT FOR DETAILS ON ASSISTANCE AND CONTACT PERSONS.

CONCERTED ACTIONS

Summary table

CONCERTED ACTION PROJECTS

(1% of total budget for research)

- Co-ordination of related research
- Conformity with research tasks
- Different Member States
- Proposers must justify concerted activity
- Industrial involvement

Duration	-	2 - 4 years
EC Funding	-	up to 100% of co-ordination costs only (0.4 MECU maximum)
Partners	-	typically 10 - 30 from at least 3 Member States
Calls	-	fixed closing dates: 3 April 1992 26 February 1993 (provisional)

1 INTRODUCTION

RATIONALE AND OBJECTIVES

Concerted Actions aim to coordinate research and development activities which are already under way. They are based on the fact that many major technological and materials problems facing European industry can best be solved by working together in a multidisciplinary way at the Community level rather than only in one single country or in a particular RTD project.

Concerted actions, therefore, bring together suppliers, producers, users, academia and the marketplace to discuss innovative solutions to technological and materials problems of major importance for European industry. In Concerted actions Commission support does not cover the cost of the research itself, but only the cost of coordination.

The specific objectives are to:

- provide a platform within the EC for industries, research institutes and universities to coordinate innovative RTD activities in a given field
- create a framework for attaining RTD targets via active large-scale multinational collaboration to increase scientific efficiency
- improve scientific and technical knowledge in selected areas and promote its efficient transfer into practical applications
- heighten the awareness of industry to research relevant to their particular commercial objectives and educate academia to the principal needs of industry.

Concerted Actions operate on the principle that "the whole is greater than the sum of its parts". Active participation is mandatory for membership so every participant must maintain, carry out and report on his specific part of the RTD programme to the benefit of all participants.

IMPLEMENTATION

A Concerted Action must be led by a project coordinator and steered by a project management board selected from the various teams in the network. New groups may apply to join a Concerted Action after it has begun if their activities and contribution are likely to be of value to the network. The coordinator together with the project management board, shall decide whether to integrate such applicants at any time during the course of the Concerted Action.

Activities may include:

- organisation of meetings of all sizes, from small workshops to plenary meetings;
- short-term exchanges/visits to other participating establishments and countries;
- preparation and distribution of materials and reference products, i.e. for quality control;
- centralised data handling, storage and statistical analysis;
- dissemination of information and results as frequently as possible (e.g information centre, newsletter, electronic mail, etc.).

WHO CAN PARTICIPATE?

PLEASE SEE THE CONDITIONS IN PART 1 FOR INDUSTRIAL RESEARCH AND FOCUSED FUNDAMENTAL RESEARCH.

In addition:

- Industrial enterprises should form the core of the partnership. Contract research, market research and industrial marketing organisations may also be included. Small- and medium-sized enterprises (SMEs) are especially welcome.

- A substantial number of organisations must take part in the Concerted Action. However, because of the nature of the activity, a certain flexibility in the final number of participants during the project's life can be allowed to provide a broader industrial representation and a greater involvement from within the EC.

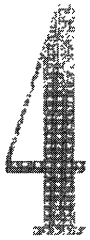
WHAT ARE THE CRITERIA FOR A CONCERTED ACTION PROPOSAL?

ELIGIBILITY CRITERIA

- Funding/size of the proposed concerted action typically between 0.2 and 0.4 MECU with a maximum duration of 4 years
- A substantial number of organisations (typically from 10 to 30)
- At least a third of the participating organisations from industrial entreprises including SMEs
- At least three Member States.

SELECTION CRITERIA

- Research theme coherent with the Brite-EuRam II scope and objectives
- Scientific and technical merit
- European dimension and promotion of social cohesion
- Industrial and economic benefits and potential for exploitation of results
- Involvement of SMEs wherever possible
- Potential for development into new research-related activities
- Quality of management
- Convincing justification of the need for Concerted Action (i.e. the Concerted Action must demonstrate an added value).



HOW TO PREPARE A PROPOSAL

PLEASE FOLLOW THE INSTRUCTIONS GIVEN IN PART 1 FOR INDUSTRIAL RESEARCH AND FOCUSED FUNDAMENTAL RESEARCH. THE FORMS TO BE USED ARE THE SAME.

However:

Part I:	Only to be filled in by the project coordinator. Other partners are considered as minor sub-proposers. Names and addresses to be given in a separate sheet.
Part II (a):	Must not exceed 10 pages.
Part II (b):	Participant details should not exceed 5 lines per partner for each of topics 2, 3 and 6. In general Part II(b) should not exceed 10 pages.

HOW AND WHEN TO SUBMIT A PROPOSAL

PLEASE FOLLOW THE INSTRUCTIONS GIVEN IN PART 1.

EVALUATION AND SELECTION OF PROPOSALS

The Commission will ensure a confidential, fair and equitable evaluation of proposals. This evaluation will have due regard to the criteria set out in Chapter 3 and will be carried out under the responsibility and coordination of the Commission, assisted by independent experts chosen by the Commission as described in Part 1.

CONTRACTUAL CONDITIONS

SEE CHAPTER 7 OF THE *GENERAL INFORMATION* DOCUMENT WHICH GIVES INFORMATION ON EC RTD CONTRACTS. IN ADDITION, THE FOLLOWING CONDITIONS APPLY TO CONCERTED ACTION CONTRACTS.

FUNDING

The contribution of the Commission may be up to 100% of the coordinating expenditure, up to a ceiling of 0.4 MECU. Approved uses for the EC funding are:

- **organisation, coordination and management** of the proposed activity (meetings and workshops; gathering and disseminating information, materials, samples and products; producing and printing a newsletter and carrying out directly related and defined studies);

- **travel and subsistence costs** for participants attending meetings and workshops, short-term exchanges and visits;
- **additional management and steering costs** of the coordinators and committee (travel, administration and other costs incurred in carrying out their specific coordination roles within the activity).

Note: *The Commission's support does **NOT** cover the cost of the research itself, which must be met by the participants themselves from other sources.*

DURATION

The maximum duration of a Concerted Action should not exceed four years.

TECHNICAL AUDITING

The Commission may appoint an expert ("Project Technical Auditor") to assist in the technical monitoring of the project.

8 INFORMATION AND ASSISTANCE

SEE CHAPTER 8 OF THE *GENERAL INFORMATION* DOCUMENT FOR DETAILS ON ASSISTANCE AND CONTACT PERSONS.

The use of electronic mail (Eurokom) is encouraged, since the participants come from many different organisations and are geographically widely-spread across Europe.

SPECIFIC TRAINING

Summary table

SPECIFIC TRAINING ACTIONS

(2% of total budget for research)

- Linked to Brite-EuRam projects
- To train technologists for European industry:
  - industrial research fellowships
  - specialized courses and conferences
  - in-project training to improve exploitation of results, make use of codes and standards, and set up industrial property rights etc.

EC funding	-	Research fellowships: fixed amount per month
	-	Specific grants and courses: to be negotiated with the Commission
Duration	-	3 - 36 months
Call	-	open Call

INTRODUCTION

RATIONALE AND OBJECTIVES

In today's industry, modernisation has to be achieved through an integrated approach since problems that arise are of a technological, economic and social nature. To achieve success in the process of modernisation, European industry needs more highly qualified engineers and technologists able to solve multidisciplinary problems.

With this specific action the Commission will contribute to the training of such indispensable personnel in Brite-EuRam II. The grants will encourage the integration of scientists, researchers and experts into consortia with existing EC research projects. Additionally, support for courses and conferences will be a means of reinforcing the scientific and technological potential of the various research projects.

The overall objectives are:

- to provide academic researchers with practical experience to facilitate their employment by industry;
- to contribute to the education of multidisciplinary technologists by giving them technical experience in an industrial and research environment;
- to promote research within the innovation process through a better combination of knowledge and experience;
- to familiarise engineers and scientific personnel in Brite-EuRam projects with new disciplines to better promote the exploitation of RTD results. Examples include: business plan management, technology transfer, norms and standards, total quality management, etc.;
- to promote social and economic cohesion within the Community.

Specific training thus renders a service in two ways:

- it benefits the partnership through the addition of persons skilled in science or marketing;
- it benefits the trainees themselves, by widening their experience within the Community.

IMPLEMENTATION

Three types of specific training actions are envisaged.

Research fellowships and subsidies

Fellowships are awarded in the context of research projects already selected and ongoing. Applications are only accepted if endorsed by the coordinator of selected projects and also in agreement with the other partners of the consortia.

Subsidies are allocated to the host organisation – which has to be a partner of an existing consortium – in order to cover the expenses incurred in respect of training and mobility of the candidate. In general procedures and conditions are the same as those of the Human Capital and Mobility Scheme.

Specific grants

Existing project consortia may use these grants to enable the temporary engagement of research scientists and experts with particular qualifications (marketing, norms and standards, production management, technology transfer, etc.), with the aim of better promoting the results of the consortia's research work.

These grants provide the opportunity for the research teams concerned to improve or enlarge their technology transfer capability and to learn new disciplines.

Support for courses and conferences

These grants are foreseen for the organisation of courses and conferences for the training of European technologists. These courses and conferences should be aimed at researchers, scientists, industrialists and others needing to be trained to perform specific tasks linked with industrial RTD and exploitation of results. They should be related with the Brite-EuRam programme and objectives and be organised in close collaboration with industries and universities.

WHO CAN PARTICIPATE?

Research fellowships and subsidies

Only scientists who are nationals of Member States of the European Community can be integrated into a consortium. They must be nationals of a country other than that in which the host organisation is established and must not have carried out their normal activity in that country for more than two years.

Specific grants and support for courses and conferences

The above mentioned mobility requirement is not a prerequisite for candidates of a specific grant. Only organisations within Member States can benefit from support for courses and conferences.

3 WHAT ARE THE CRITERIA FOR A SPECIFIC TRAINING ACTION?

In general, applications can only be made in the context of research projects selected within Brite-EuRam II (Areas 1 and 2). Applications can also be submitted within existing contracts of the previous Brite-Euram and Raw Materials & Recycling Programmes provided that the training periods end with the projects.

The appraisal and selection of an application will be based on the following criteria:

- The added value generated for the Brite-EuRam consortia and the benefit for the scientist or expert
- The integration of the proposed work into the objectives of the research project already underway
- The quality of the work proposed
- The transnational character of the training action proposed
- The previous experience and/or academic record of the scientist or expert.

4 HOW TO WRITE AN APPLICATION

RESEARCH FELLOWSHIPS AND SUBSIDIES

The original application together with one copy of all the completed forms has to be submitted. Only fully completed applications will be evaluated. Applications must be accompanied by a declaration of acceptance from the host organisation.

SPECIFIC GRANTS

A written request must be submitted through the project coordinator to the Brite-EuRam programme.

SUPPORT FOR COURSES AND CONFERENCES

A written request must be submitted by the course or conference organiser to the Brite-EuRam programme.

HOW AND WHEN TO SUBMIT AN APPLICATION

Applications can be submitted at any time, throughout the period 1991-1993 after the official launching of the programme.

Research fellowships and subsidies: application forms can be obtained from and should be submitted to:

Commission of the European Communities
Directorate-General for Science, Research and Development
Research Fellowships and Subsidies
DG XII-H1
75 rue Montoyer
B-1040 Brussels

Specific grants and support for courses and conferences: applications should be sent to:

Commission of the European Communities
Directorate-General for Science, Research and Development
Directorate for Technological Research
Brite-EuRam Specific Training Action
DG XII/C
75 rue Montoyer
B - 1040 Brussels

Applications sent by telefax cannot be accepted.

EVALUATION AND SELECTION OF APPLICATIONS

The Commission will ensure a fair and equitable evaluation of the applications submitted. The evaluation will be carried out under the responsibility and coordination of the Commission. The Commission will ensure that the confidentiality of the applications is maintained.

Applications will be evaluated on the basis of the criteria given in Section 3. The final selection will be made taking into account the Specific Training budget.

7 CONTRACTUAL CONDITIONS

TYPE OF CONTRACT

The contract follows a standard format according to the specific action.

Documents indicating the rules governing Community support of training and mobility of scientists will form an integral part of the contract.

In the case of a positive decision, work can commence within approximately two months following the signature of the contract.

The Commission reserves the right to monitor the progress of a training action by such means as reports to be submitted to the Commission and /or technical and financial audits on site.

FUNDING

Research fellowships and subsidies

These are fixed amounts depending on the host country and category of scientist.

Specific grants

During the period of a specific grant, the coordinator of the consortium shall be paid an amount fixed by the Commission on the basis of a proposal set out in the application and in subsequent negotiation.

The proposal may include three cost categories:

- research costs
- mobility costs
- labour costs, including social security contributions.

Support for courses and conferences

A contribution towards the cost of organizing the course or the conference will be made by the Commission, after negotiation.

DURATION

- As a general rule, the duration of research fellowships and subsidies may range from 6 months to 36 months.
- The duration of specific grants may range from 3 months to 6 months.

FORMS

Brite-EuRam II
Programme

CODES FOR USE ON FORMS

Participant Role	*C*	*Coordinator*
	PR	*Proposer*
	AP	*Associated Proposer*
	SP	*Major Subproposer*
	SR	*Sponsor*
	EN	*Endorser*

Country Codes	*B*	*Belgium*	*NL*	*Netherlands*
	D	*Germany*	*P*	*Portugal*
	DK	*Denmark*	*UK*	*United Kingdom*
	E	*Spain*	*A*	*Austria*
	F	*France*	*CH*	*Switzerland*
	GR	*Greece*	*IS*	*Iceland*
	I	*Italy*	*N*	*Norway*
	IRL	*Ireland*	*S*	*Sweden*
	L	*Luxemburg*	*SF*	*Finland*

Organisation Type	*I*	*Industry*
	U	*University*
	NU	*Research Centre*

Organisation Size	*S1*	*Less than 50 Employees*
	S2	*51-100*
	S3	*101-500*
	S4	*501-1000*
	S5	*1001-5000*
	S6	*Over 5000 Employees*

Brite-EuRam II Programme	**PART I**	Proposal n°
	FINANCIAL AND ADMINISTRATIVE DATA	

(To be completed by the Project Coordinator)

Type of Proposal: *(cross one box)*

Industrial Research		Focused Fundamental Research		Concerted Action	

	YES	NO
Targeted Projects (0)		
Prenormative Research		

Research Areas (principal Area first) *(use numbers given in list of Research Areas – Example: 2.1.2)*

Keywords relating to the proposal *(use numbers given in list of Keywords – Example: B06)*

Industrial Sectors		Industrial Processes/ Activities		Materials		Supporting Disciplines/ Technologies	

Title : .....

.....

Coordinator (Organisation Name) : .....

Project Leader : (Name) ..... (Forename) ..... (Title) .....

Tel : ..... Fax : ..... E. Mail : .....

Number of Partners : ..... Duration : ..... Months Man-Months : .....

Costs Summary :

							Costs in ECU		
Organisation Name	No(1)	Role(2)	Country	Type	Size(3)	MM(4)	Total	EC Funding(5)	OWN
	1	C							
	2								
	3								
	4								
	5								
	6								
	7								
	8(6)								
(7)									
(7)									

Total Costs : ..... ECU

EC Funding requested : ..... ECU ..... %

Industrial Funding : ..... ECU ..... %

0, 1, 2, 3, 4, 5, 6, 7 : See notes overleaf

Brite-EuRam II
Programme

(0) Are you willing to be coordinated with other research projects sharing common objectives?

(1) This number should correspond with the partner number on top of Form for the individual partners.

(2) See "Codes for use on Forms" for Role, Country, Organisation type and Size.

(3) Give overall size of parent company, if any

(4) Indicate the man-months involvement

(5) For EFTA and other non Member State partners, please note that EC funding is not permitted

(6) If more partners are involved, use an additional page

(7) For Focused Fundamental Research, the names of the endorsers should be added at the end of the table. Letters of endorsment are to be included in Part II(b).

Brite-EuRam II Programme	**PART I** **INDIVIDUAL PARTNER INFORMATION**	Proposal n°

(To be completed by the Coordinator, each Proposer, Associated Proposer, Major Subproposer, Sponsor and Endorser)

Partner n° ☐

Title : .....

.....

Organisation Name: .....

Department or Unit: .....

Address: .....

.....

Country: ..... Postcode: ..... City: .....

Type of Organisation		Size[1]
Industry	☐	☐
SME	☐	☐
Research Centre	☐	☒
University or similar	☐	☒

Technical Contact: (Name) ..... (Forename) ..... (Title) .....

Tel : ..... Fax : ..... E. Mail : .....

Parent Organisation (if any) : .....

Partner role (Tick one box)

Coordinator ☐ Proposer ☐ Associated Proposer ☐ Major Subproposer ☐ Sponsor or Endorser ☐

Linked to Partner n° ☐

Proposer's Project Costs Breakdown : in ECU (Not required for Sponsors or Endorsers) **Effort in Man-months** ☐

Full costs ☐ [2] Additional (marginal) costs ☐

Labour Costs	
Travel	
Durable Equipment	
Consumables	
External Services and minor Subproposer [3]	
Computing Costs	
Other Costs	
Overheads	
TOTAL (Excluding V.A.T.)	

EC Funding Requested : ..... ECU ..... %

Own Contribution : ..... ECU

Sponsored Contribution : ..... ECU from (Sponsor) : .....

I Certify that I have read the Proposal and agree to the participation of my organisation

Authorised Signatory : (Full Name, in Capitals) .....

Position in organisation : .....

Signature : ..... Date .....

(1) Give size of parent company, if any; see "Codes for use on Forms"
(2) For costing principles please refer to the General Information document chapter 7
(3) Major Subproposers (above 100.000 ECU total) have to fill in an Individual Partner Information form

Brite-EuRam II Programme

PART I

PROPOSAL ABSTRACT

Title : .....

.....

Abstract : (maximum 20 lines for publication purposes)

Note : If appropriate, an English translation of this abstract should be provided.

Please state if this proposal (or a similar proposal) has been submitted to receive financial support from the Commission, Eureka or from any national body. YES ☐ NO ☐

If yes, please give name of programme, proposal number, date of application and outcome of the submission

.....

.....

Brite-EuRam II Programme	**PART II (a)** **PROPOSAL DESCRIPTION**	Proposal n°

Title : .....

.....

Summary :

Brite-EuRam II Programme	**PART II (b)** **PARTICIPANT DETAILS**	Proposal n°

Title : .....

.....

List of Participants :

Name of Organisation	Type	Role [1]	Country	N° Employees	N°Researchers

[1] (Project Coordinator, Proposers, Associated Proposers, Major Subproposers, Sponsors and Endorsers)

COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels :

DIRECTORATE-GENERAL FOR SCIENCE RESEARCH AND DEVELOPMENT

DG XII-C
Brite-EuRam Programme
Rue Montoyer 75
B-1040 Brussels

(1)

ACKNOWLEDGEMENT OF RECEIPT

INDUSTRIAL RESEARCH
FOCUSED FUNDAMENTAL RESEARCH
CONCERTED ACTIONS

Dear Sir or Madam,

We are pleased to acknowledge receipt of your proposal entitled : (2)

.....

.....

This proposal has been given the following reference number : (3)

You are kindly requested always to mention this reference number in all future correspondence relating to this proposal.
Please ensure that all your partners are also made aware of this reference number.

Your proposal will be examined by the services of the Commission with the assistance of committees and experts.
The result of this examination will be communicated to you in due course.

On behalf of the Commission, we would like to thank you for your proposal and for your interest in the Brite-EuRam Programme.

Yours sincerely,

Proposal received on ..... by .....

(1) Name and address of project Coordinator - to be entered by the project Coordinator.
(2) Title - to be completed by the project Coordinator.
(3) Reference number will be allocated by the Commission.

RESEARCH AREAS

RAW MATERIALS

1.1.1. Exploration Technology
1.1.2. Mining Technology
1.1.3. Mineral Processing

RECYCLING

1.2.1. Recycling and Recovery of Industrial Waste including Non Ferrous Metals
1.2.2. Recycling, recovery and reuse of advanced materials

STRUCTURAL MATERIALS

1.3.1. Metals and Metal Matrix Composites
1.3.2. Ceramics, Ceramic Matrix Composites and Advanced Glasses
1.3.3. Polymers and Polymer Matrix Composites

FUNCTIONAL MATERIALS FOR MAGNETIC, SUPERCONDUCTING, OPTICAL, ELECTRICAL AND BIOMATERIAL APPLICATIONS

1.4.1. Magnetic Materials
1.4.2. High Temperature Superconducting Materials
1.4.3. Electrical and Ionic Conducting Materials
1.4.4. Optical Materials
1.4.5. Biomaterials

MASS COMMODITY MATERIALS

1.5.1. Packaging Materials
1.5.2. New Construction Industry Materials

DESIGN OF PRODUCTS AND PROCESSES

2.1.1. Innovative design tools and techniques
2.1.2. Design methodologies for complex components
2.1.3. Maintainability and reliability

MANUFACTURING

2.2.1. Tools, techniques and systems for High Quality Manufacturing
2.2.2. Manufacturing Techniques for Industrial Use of Advanced Materials
2.2.3. Integrated Approach to Chemical and Process Engineering

ENGINEERING AND MANAGEMENT STRATEGIES FOR THE WHOLE PRODUCT LIFE CYCLE

2.3.1. Design Integrating Strategies
2.3.2. Engineering
2.3.3. Human Factors in Engineering and Manufacturing Management

KEYWORDS

ndustrial sectors

01 Aeronautics / Aerospace
02 Automotive, Components & Parts
03 Chemical / Petrochemical
04 Construction / Building / Civil engineering
05 Electrical / Electronic industry
06 Energy / Power generation
07 Engineering / Software / Technical services
08 Food / Drink / Water
09 Instruments / Sensors / Precision equipments
10 Materials processing
11 Mechanical engineering / Machinery
12 Medical / Biomedical equipment
13 Mining / Quarrying
14 Ore / Mineral processing
15 Printing / Office equipment
16 Railways / Locomotive
17 Shipbuilding
18 Shoe / Leather
19 Textile / Clothing
20 Toys / Leisure
21 Wood / Paper / Furniture
22 Other manufacturing industries

dustrial Processes / Activities

1 Assembly / Joining
2 Building / Construction
3 Design
4 Disposal / Dismantling / Demolition
5 Engineering (biomedical)
6 Engineering (chemical)
7 Engineering (civil)
8 Engineering (electrical)
9 Engineering (mechanical)
0 Engineering (mining)
1 Engineering (optical)
2 Engineering (process)
3 Exploration
4 Extraction
5 Forming / Shaping / Casting
6 Handling / Transportation
7 Logistics / Management / Production planning
8 Machining / Cutting
9 Mining
0 Packaging
1 Process / Product monitoring
2 Processing (metals)
3 Processing (minerals)
4 Processing (rubber & plastic)
5 Processing (ceramic & glass)
6 Processing (food, non rigid materials)
7 Prototyping
8 Quality assurance
9 Quality control / Inspection
B30 Recovery / Recycling
B31 Repair / Maintenance / Restoration
B32 Storage / Warehousing
B33 Tunnelling
B34 Waste treatment / Containment
B35 Other processes

Materials

C01 Abrasives
C02 Adhesives / Bonding
C03 Biomaterials
C04 Carbon / Graphite
C05 Catalysts / Zeolites
C06 Ceramics / Glasses
C07 Coatings / Thin films
C08 Composites (polymer matrix)
C09 Composites (ceramic matrix)
C10 Composites (metal matrix)
C11 Concrete / Building materials
C12 Diamond / Superhard materials
C13 Dielectrics / Ferroelectrics
C14 Electrical
C15 Ferrous
C16 Fibres / Reinforcing materials
C17 Flexible / Non rigid materials
C18 Foamed materials
C19 Fuels
C20 Gases
C21 Geotextiles
C22 Hydrocarbons / Petrochemicals
C23 Leather
C24 Lubricants
C25 Magnetic
C26 Metallic structural materials
C27 Minerals / ores
C28 Multilayers / Multimaterials
C29 Non ferrous
C30 Optical
C31 Organometallic materials
C32 Paints
C33 Pharmaceuticals
C34 Plastics / Rubbers
C35 Polymers
C36 Powders
C37 Refractories
C38 Rocks / Stones / Aggregates
C39 Smart materials
C40 Solders / Brazes / Welding
C41 Superalloys / Special alloys
C42 Superconductors
C43 Textiles
C44 Waste / Effluents
C45 Wood / Paper
C46 Other materials

Supporting Disciplines / Technologies

D01 Automation / CIM
D02 Biomedical
D03 Blasting technologies
D04 CAE / CAD / CAM systems
D05 Chemistry
D06 Computer science / Software
D07 Computers / Computer systems
D08 Control systems
D09 Data bases / Expert systems
D10 Drilling technologies
D11 Dynamics / Fluid dynamics
D12 Ecology / Environment
D13 Economics
D14 Electronics
D15 Ergonomics
D16 Geochemistry
D17 Geology (economic)
D18 Geophysics
D19 Geotechnics / Soil mechanics
D20 Imaging / Image processing
D21 Instrumentation / Measuring systems
D22 Laser technology / Power beams
D23 Machine tools
D24 Materials characterization / Testing
D25 Materials science
D26 Mathematical modelling
D27 Mechanics / Solid mechanics
D28 Medicine / Health
D29 Membrane / Separation technology
D30 Metallogeny
D31 Metallurgy / Hydrometallurgy
D32 Micro engineering
D33 Multifunctional engineering
D34 Nanotechnology
D35 Particle technology
D36 Powder metallurgy
D37 Psychology / Sociology
D38 Reinforcement technology
D39 Reliability
D40 Remote sensing
D41 Robotics
D42 Safety management
D43 Sensors / Signal processing
D44 Statistics
D45 Surface treatment technologies
D46 Thermodynamics
D47 Tools / Dies
D48 Tribology
D49 Vibration analysis / Acoustics
D50 Vision / Optical systems
D51 Other

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