

COMMISSION OF THE EUROPEAN COMMUNITIES

COM(87) 319 final

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COMMISSION COMMUNICATION

Community support plan to facilitate access to large-scale
scientific facilities of European interest
1988 - 1992

COM(87) 319 final

Introduction.

In its communication to the Council of 30 September 1985¹, The Commission underlined the need to supplement the existing plan to stimulate European scientific and technical cooperation and interchange by a number of measures representing a further step towards a researchers' Europe.

The Commission stated at that time that a proposal to ensure optimum utilization of the large-scale scientific facilities available in Europe was to be put before the Council.

In its communication to the Council dated 30 July 1986², the Commission presented various activities to be undertaken in order to bring about the establishment of a Researcher's Europe. Amongst the latter, particular stress is laid upon measures seeking to open up to Community scientists the conditions necessary to bring about a better use of large scale facilities by making use of the European dimension.

Apart from the advantages thus made available to the researchers themselves, the proposal in this communication is designed both to ensure better use of existing large-scale facilities, thus increasing economic efficiency, and also to give "added value" to the work done in these facilities through exchanges of researchers, ideas and expertise from different scientific cultures.

Designed as it is to encourage the joint use of existing facilities and make them a focal point for European scientific meetings and cooperation, the proposed Community plan is therefore an important component in the policy for the development of a "researchers' Europe", which is set out in the Community Framework Programme for research and technological development activities.

I. Community plan to support national and international large-scale scientific facilities of interest to Europe.

I. 1. Purpose.

There are in the Community extensive resources in the way of high-quality scientific facilities.

¹ COM(85)530 final "Implementation of the Commission's memorandum : Towards a European Technology Community".

² COM(86)430 final "Proposal for a Council Regulation dealing with the Framework Programme for Community Research and Technological Development Activities (1987-1991)".

Both from the applications received under the stimulation plan and from the recommendations of scientists (almost 6,000 who replied to the survey conducted in 1984 on the status of research in Europe) that European research scientists need to be able to make better use of existing large-scale scientific and technical facilities and that they often have difficulties in doing so. This need has also been clearly shown by OECD studies.

Commission studies and work done at national level, for example during preparation of the COPOL 85 exercise (comparison of national and Community RD&D policies³), have highlighted not only certain requirements :

- for new equipment and/or the upgrading of existing equipment,
- for staff trained to operate specialized large-scale facilities,

but it has also been found that large-scale scientific facilities are to some extent underused and occasionally duplicate (or might duplicate) similar facilities existing elsewhere in Europe. Each is intended to meet a wide range of requirements the only attempts to cover which are made at national level.

This relative "surplus" capacity that has been identified is due mainly to the absence of a European community of users and the fact that facilities of the same type available in the Community are often insufficiently specialized and complementary.

By giving scientists in Community Member States easier access to facilities outside their own countries, in the context of a researchers'Europe, it would be possible to improve the work load and economic efficiency of these large-scale installations, to train a greater number of users as well as allowing scientists of certain nations to benefit from experimental facilities that do not exist in their own countries. This is by no means the least important aspect.

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Note in particular the national documents numbered COPOL 85-2 and 85-7

Assisting all Community researchers to gain access to large-scale facilities wherever they are located would also help to increase the complementarity of existing installations and encourage cross-fertilization between the various techniques available. The facilities could be made more specialized and therefore more efficient in the areas best suited to their characteristics since any team responsible for one large-scale facility would know that it could have access to a complementary specialized facility in a different European centre.

At the same time, as experience shows, the scientific teams having access to these facilities are bound to benefit from exchanges with researchers from different countries and with different scientific outlooks since the comparison of scientific ideas and approaches is an essential factor for progress, especially in advanced scientific and technical areas.

The Community has already adopted this approach in the 1985-1988 stimulation plan which offers researchers from one Member State an opportunity to carry out research in a facility existing in a different Community country. The "laboratory twinning" scheme in that plan covers the travel costs incurred by scientists and the costs of using the large-scale facilities concerned. Thus, for example, German, Italian and French researchers have been enabled to undertake work at the Rutherford Appleton Laboratory, and scientists from the Medical Research Council have been able to continue their research at the Joliot Curie Hospital whilst their own cyclotron was being upgraded in the UK. This is an ideal way of helping scientists to have access to facilities not available in their own countries. Although these measures have aroused great interest and confirmed the need for Community support, the very limited funds available are insufficient to tackle all the problems.

This scheme, limited though it is, has nevertheless demonstrated the value and effectiveness of Community action. A small number of contracts has enabled more than 100 researchers to go to a country other than their own to use a major facility. With the backing of this experience, the Commission considers that it is both desirable and feasible to step up its activities by increasing its support capability not only quantitatively but also qualitatively.

The proposed support plan would supplement and strengthen the existing measures not only by offering European researchers easier access to existing or future scientific and technical facilities in Community countries but also by enabling the Community to improve and upgrade the large-scale facilities existing in Europe.

I. 2. Ways and means.

Afer examining other ventures such as the association of EMBL and ILL⁴ in a high-flux reactor, or EMBL and DESY, and investigating various possible forms of support, the Commission considers that the best way would be for the Community to make contributions to large-scale national or multinational facilities.

Through these contributions the Community as such would be associated in the operation of some large-scale facilities and, in return for its financial support, the scientific facilities and instruments of joint interest set up by one country or a group of countries would be opened up to all the Member States. These national or multinational instruments would benefit both financially and scientifically from being accessible to the whole European scientific community, while all scientists in the Member States, especially those working in small- and medium-sized university or industrial research centres, would profit from new opportunities for exchanges and meetings and the development of their R&D work.

Community participation in a project for the construction of a large-scale scientific facility would have to be considered in a different light from support for an existing installation.

Only Community contributions to existing installations are proposed at present.

I. 2. 1. Community contributions to existing large-scale scientific facilities.

After analysing the needs expressed by those responsible for large-scale facilities and researchers anxious to have access to such equipment and examining the conclusions reached at international level (OECD) on these questions, the Commission has selected an approach that will allow :

- researchers to share the use of a single facility, by giving "guest" researchers access to human and physical resources and experiment time which they would not otherwise have.
- training opportunities to be offered to foreign researchers,
- the dissemination and follow-through of experimental results to be promoted,

4 EMBL : European Molecular Biology Laboratory
ILL : Institut Laue Langevin

while ensuring a better operation of the facilities concerned.

A) Choice of facilities to be given Community support.

Any body having a large-scale scientific and/or technical facility may propose to the Commission that the Community contribute to the facility.

On the basis of a report drawn up by one or more experts, CODEST would give the Commission an opinion on the interest and advisability of the proposal.

With the assistance of CREST (Scientific and Technical Research Committee), the Commission would then decide what action to take.

Once the Commission approves a request, an agreement between the Commission and the body concerned would be negotiated and concluded.

B) Agreement between the Commission and the body concerned.

An agreement of this kind would grant the body financial support of a given amount each year for at least one year and at most five years. In return for this Community support, the body responsible for the facility would allocate a certain amount of its use to European scientists not belonging to the body in question and, obviously, going beyond existing bilateral or multilateral conventions between the body and other public or private European organisations.

Researchers benefiting from the opportunities offered in the facility would have to be given the same scientific and technical backup as its normal users.

The Community contribution could be used by the beneficiary :

- to upgrade the scientific equipment or make it more specialized, in particular by providing the necessary complements (for example by installing multicharge ion sources in the target stations of a linear accelerator),
- to adapt existing equipment so as to allow certain original work (for example by extending a radio-astronomy facility with 15m telescopes for observations needing greater angular resolution),

- to help cover the operating costs and facilitate access for users, particularly by making the necessary technical staff available.

It should also be pointed out that the agreement concluded between the Commission and the body responsible for the facility concerned would give the latter a better idea in advance of the extent to which the facility would be used so that it could improve the scheduling of the work.

C) Selection of European scientists to benefit from the opportunities opened up by the Community contribution.

Proposals for experiments made by European scientists interested in the opportunities made available would be examined by a scientific selection panel consisting of Community representatives and representatives of the existing Scientific Council of the facility concerned.

Beneficiaries would therefore be selected by the scientific authorities responsible for the facility, acting in cooperation with the Commission, which would ensure that the Community's interest was borne in mind.

The Commission will pay particular attention to projects enabling researchers and engineers, especially from small or medium-sized firms, to obtain specialized training or allowing small and medium businesses to develop research of economic value.

D) Evaluation of Activities

Apart from the continuing evaluation of results obtained in the framework of supported projects, which is carried out by CODEST and, where appropriate, by independent specialists, an overall assessment of the work being done, its impact and the scientific and/or technical value of the results obtained will be performed on a regular basis.

The job of making an overall assessment of this kind will be entrusted to a group of independent experts in accordance with arrangements agreed by the Council and the Commission for evaluating Community R&D activities (cf COM(86)660 final). As a first estimate, it would appear at this point that a sum of the order of 35,000 ECU will be needed to evaluate the plan to support large scale facilities.

I.1. 3. Funds required

In the light of the initial analyses carried out and the requests that have reached the Commission in the past, as well as the Community's budgetary restraints, the Commission considers that appropriations totalling 30 million Ecu should be earmarked for this activity over a five-year period (1988-1992).

This 1988-1992 Plan, would be an experimental phase, and according to Commission estimates, this amount of 30 MioECU should be sufficient for some ten support operations over periods of three to five years, in particular for large facilities of multidisciplinary interest (light synchrotron, neutron spallation, particle accelerator, muon spin rotation apparatus, primate centre, for example).

I. 4. Conclusion.

The Commission requests the Council to adopt the annexed proposal for a decision so that this support plan, which will be a major step towards the building of a researchers' Europe, may be launched in 1988.

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ANNEX 1

Draft Council Regulation

adopting a Community plan to support
large-scale scientific facilities of interest to Europe.

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the treaty establishing the European Economic Community, and in particular Article 130Q, paragraph 2 (*) thereof,

Having regard to the proposal from the Commission¹,

Having regard to the opinion of the Economic and Social Committee²

in collaboration with the European Parliament³,

Whereas the Council, when it adopted the Framework Programme for community research and technological development activities 1987-1991 recognised the value of a Programme intended to improve the utilisation of major European scientific and technical facilities by community researchers and engineers.

Having regard to the opinion of the Scientific and Technical Research Committee (CREST) on the Commission proposal,

* This proposal is made in the context of the forthcoming entry into force of the Single European Act, and the Council decision in respect of the Framework Programme for Community RD&T activities (1987-1991). Its adoption by the Council is subject to those two events.

¹ O.J. n°...

² O.J. n° ...

³ O.J. n° ..., approval (amendment or rejection) in O.J. n°...

HAS ADOPTED THE FOLLOWING REGULATION :

Article 1

A plan to support large-scale scientific and technical facilities and installations, national and multinational, available in the Community, hereinafter referred to as the "plan" - as defined in the Annex - is hereby adopted for a five-year period commencing on 1 January 1988.

Article 2

The plan consists of a range of temporary financial support arrangements granted to scientific institutions or bodies in the Community having large-scale research and development facilities or installations which, in return for the Community contribution, agree to make these facilities or installations available to scientists and researchers possessing the nationality of a Community Member State working in universities, public research centres or industrial laboratories situated in a Community Member State and which are outside the institution or body concerned by means of a global allocation of operating time and resources to the Commission.

Article 3

The Commission shall be responsible for implementing the plan. In selecting scientific institutions or bodies to benefit from support, it shall be assisted by the Scientific and Technical Research Committee (CREST) and by the Committee for the European Development of Science and Technology (CODEST) set up under Decision 82/835/EEC⁴

Article 4

The funds estimated as necessary for the execution of the plan amount to 30 million Ecu, including expenditure on a staff of three.

⁴ O.J. n° L350, 12.12.1982, p. 45.

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Article 5

The Commission shall negotiate and conclude the contracts needed to implement the selected projects. To this end it shall draw up contracts showing the rights and obligations of each party, particularly the methods of disseminating, protecting and exploiting the research results and of making any necessary reimbursement of the funding given.

Article 6

In the third year of the plan's implementation, the Commission shall undertake an evaluation of it in the light of the objectives which it was given.

Article 7

1. In accordance with Article 228 of the Treaty, the Community may conclude agreements with European non-Member States and international organisations with a view to associating them fully or partially, with the plan.
2. The Commission is authorized to negotiate the agreements referred to in paragraph 1.

Article 8

This regulation takes effect on ...

The regulation has the force of law in all its parts and is directly applicable in all Member States.

Done at Brussels,

ANNEX TO THE DRAFT REGULATION

adopting a Community plan to support large-scale scientific facilities of interest to Europe.

1. The plan takes the form of a range of temporary financial support arrangements designed to give all researchers possessing the nationality of and working in a European Member State access to the large-scale scientific and technical instruments or facilities available in the Community, thereby helping to optimize and maximize the use of these instruments and facilities, through a Community contribution to the cost of adapting, upgrading and running them.

These measures are thus designed to improve the efficacy of the R&D work done in Europe by encouraging the development of centres for scientific and technical meetings, exchanges, training and cooperation while ensuring that better use is made of the Community's resources in the way of large-scale scientific and technical facilities.

The Community support will also facilitate access to these experimental centres for research teams that have little chance of using them at the present time. These opportunities will therefore be particularly valuable to researchers from countries having few facilities and from small and medium-sized firms.

2. To this end the Commission will conclude with the institution or body concerned an agreement laying down the amount of the Community contribution, the use that can be made of it and the obligations of the beneficiaries, particularly those relating to methods for the protection, dissemination and exploitation of research results obtained in the framework of the agreement.

In return for the Community contribution, the beneficiary institution or body will undertake to give outside researchers access, free of charge and for a given period of time in the year, to the facilities and installations covered by the agreement.

Researchers granted access to these facilities must also be given free of charge the same scientific and technical backup on the site as the other users.

3. The facilities or installations to benefit from Community support will be selected by the Commission with the assistance of CREST and after receiving the opinion of CODEST.

4. The experiments and researchers to benefit from the opportunities provided in facilities or installations in return for the Community contribution will be chosen by a selection panel consisting of Community representatives and representatives of the Scientific Council of the facility concerned.

Priority will be given to researchers from European countries other than that in which the facility or installation is situated.

5. The plan covers all fields of the exact and natural sciences, research and precompetitive technological development.
6. Community support is granted for periods of at least one year and at most five years. At the end of each year in which Community support is received, the body or institution shall report to the Commission on the use of the funds granted and the results of the use by outside researchers of the facilities or installations made available to them under the agreement concluded with the Commission.

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FINANCIAL RECORD

Plan to support large-scale scientific and technical facilities and installations in Europe.

1. Budget heading : 7305

1.1. Title of the project :

Plan to support large-scale scientific and technical facilities and installations in Europe.

2. Legal basis

Article 130 Q paragraph 2 of the Single European Act

3. Description of the project

Designed to promote scientific and technical training, cooperation and mobility within Europe, the plan consists of a range of temporary financial support arrangements to give European researchers access to large-scale scientific and technical instruments or facilities available in the Community, thereby helping to optimize and maximize the use of these facilities and installations through a Community contribution to the cost of adapting, upgrading and operating them.

To this end the Commission will conclude with the beneficiary institution or body an agreement laying down the amount of the Community contribution, the use that may be made of it (for adaptations or additions to existing equipment, operating costs, access costs for foreign researchers, etc.) and the obligations of the beneficiaries.

In return for the Community contribution, the beneficiary institution or body will undertake to give European researchers access, free of charge and for a given period of time in the year, to the facilities and installations covered by the agreement.

4. Justification of the project

The Council resolutions of 14 January 1974, confirmed at the Council meeting of 20 December 1979, gave the Commission precise tasks concerning the common science and technology policy.

In its reply to the mandate of 30 May 1980, the Commission expressed its determination to develop scientific research and technology in the Community so as to increase the contribution they could make to the major socio-economic issues of the present day.

In its proposals for the 1980s (COM(81)574 final), the Commission considered that its R&D programme policy should be strengthened by "stimulating the efficacy of European science and developing specific major projects of particular interest to the Community".

On 28 June 1983 the Council approved the aim of "improving the efficacy of the Community's scientific and technical potential" as one of the goals of the programme for Community R&D activities and on 12 March 1985 it adopted a plan to stimulate European scientific and technical cooperation and interchange designed to open up the scientific Europe's scientific action space.

The Heads of State and of Government of the Community meeting on 29-30 March 1985 urged that the Community's scientific and technological potential be strengthened and put to better use.

The Commission stated in its Communication to the Council of 30 September 1985 (COM(85)530 final) that it would shortly be submitting a draft decision designed to ensure optimum utilization of the large-scale scientific facilities available in Europe.

5. Financial implications

5.1. Type of expenditure.

Contracts for a financial contribution from the Community to the costs of adapting, upgrading and operating scientific and technical facilities and installations and of giving foreign researchers access to those facilities.

5.2. Total cost

30 million ECU 100% financed from the Community budget.
This amount may be reassessed in 1988.

5.3. Method of calculation

A. Staff expenditure

A staff of three (2A, 1C) is proposed for this project.

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The estimated annual cos (including mission expenses, meetings, temporary staff, etc...) amounts to 206.000 ECU in 1988, 304.800 ECU in 1989, 320.000 ECU in 1990, 340.000 ECU in 1991, 360.000 ECU in 1992, giving a total of 1.530.000 ECU for the whole period.

B. Operating costs

These costs, consisting mainly of expenditure on organizing meetings of the committees involved and the cost of administrative backup, are estimated at 830.000 ECU for the period 1988-1992.

C. Expenditure on contracts

The planned amount is 27.640.000 ECU to be spent on the projects to be carried out.

5.3.1. Multiannual timetable

Appropriations for commitment (1.000 ECU)

Type of Expenditure	Year					TOTAL
	1988	1989	1990	1991	1992	
APB	206	304	320	340	360	1.530
Staff	206	304	320	340	360	1.530
Operating	75	175	185	195	200	830
Contracts	4.719	6.521	5.495	5.465	5.440	27.640
TOTAL	5.000	7.000	6.000	6.000	6.000	30.000

Appropriations for payment (ECU)

Year	Type of expenditure			
APB	Staff	Operating	Contracts	TOTAL
1988	206.000	75.000	879.000	1.200.000
1989	304.000	175.000	3.321.000	3.800.000
1990	320.000	185.000	4.795.000	5.300.000
1991	340.000	195.000	4.965.000	5.500.000
1992	360.000	200.000	5.140.000	5.700.000
1993	-	-	5.500.000	5.500.000
1994	-	-	3.000.000	3.000.000
TOTAL	1.530.000	830.000		30.000.000

5.4. Financing of expenditure

Appropriations to be entered in the budgets for 1988, 1989, 1990, 1991, 1992, 1993, 1994.

6. Control

- A. Financial control : by the relevant Commission departments, in particular the DG for Financial Control with regard to the correctness of the expenditure and the implementation of the budget;
- B. Scientific control : relevant Commission departments, Advisory Committee, and according to the general procedures for the evaluation of Community R&D activities.

ASSESSMENT OF IMPACT UPON SMES

Re : Community plan to support large scale scientific facilities of interest for Europe
Communication from the Commission to the Council

1. Administrative obstacles for enterprises

None

2. Advantages for enterprises :

a) Makes access possible to major scientific installations (such as accelerators, synchrotron radiation sources, irradiation channels, test machinery) which are increasingly needed for the development of new materials and/or new technologies, whereas enterprises, and more particularly SMEs, frequently lack the human or financial resources to gain access to them.

b) In the context of this plan, SMEs would have free access to these installations, and would also have the benefit of the necessary scientific and technological back up.

c) The speed of response and the flexibility of the support methods proposed correspond to the specific needs of SMEs.

3. Disadvantages for enterprises :

None

4. Effect upon employment :

Improving the technological basis of SMEs can only have a beneficial effect upon employment in these enterprises.

5. Consultation with the social partners :

No consultation with the bodies representing the social partners has been undertaken during the course of preparing this draft proposal. On the other hand, it has frequently been presented at meetings where people in charge of SMEs were presented. They have always welcomed the initiative.

The Communication will be subject to an opinion from the Economic and Social Committee.

6. Alternative approaches :

Different methods have been tried out in the framework of the Stimulation Plan, where support has been made available via "Research Grants" and "Twinings", to facilitate access to major scientific installations. Whilst these methods were certainly valuable, they did demonstrate limited effectiveness, in that only installations in the public sector with a scientific and technical back-up infrastructure can really make use of them. Another point is that this type of support does not always make it possible for the "major installation" to be adapted to the specific requirements of the experiment being carried out.