

COMMISSION OF THE EUROPEAN COMMUNITIES

COM(93) 203 final

Brussels, 12 May 1993

COMMUNICATION FROM THE COMMISSION TO THE COUNCIL
AND THE EUROPEAN PARLIAMENT

**"COHESION AND RTD POLICY - SYNERGIES BETWEEN
RESEARCH AND TECHNOLOGICAL DEVELOPMENT POLICY AND
ECONOMIC AND SOCIAL COHESION POLICY"**

**COMMUNICATION FROM THE COMMISSION TO
THE COUNCIL AND THE EUROPEAN PARLIAMENT**

**"COHESION AND RTD POLICY - SYNERGIES BETWEEN
RESEARCH AND TECHNOLOGICAL DEVELOPMENT POLICY AND
ECONOMIC AND SOCIAL COHESION POLICY"**

I. The situation

I.1 The Cohesion Gap in the field of RTD

1. Whereas differences in standards of living between Member States are in the range of one to three in terms of their order of magnitude (1), differences in gross expenditure on RTD are significantly greater. Absolute levels of RTD expenditure in Spain, Greece and Portugal are particularly low (2), though the rates of increase of government expenditure in favour of RTD have been substantial in recent years, from a low base, especially in Spain. This trend is further confirmed by looking at expenditure patterns on higher education in the different regions of the Community.
2. Differences in availability of RTD specialised personnel are even more striking. In 1988, for example, Denmark had approximately the same number of RTD scientists and engineers as Greece and Portugal taken together (OECD 1992). France and Germany had three times more RTD personnel per thousand labour force than Spain and nearly twice as many as in Ireland.
3. Differences in business expenditure on RTD are also very significant : expenditure on the effective dissemination of RTD results into the productive sector is extremely low in most of the less prosperous Member States, compared to the rest of the European Community. In the late eighties, in Greece and Portugal only one quarter of the gross domestic expenditure on RTD was performed by the business enterprise sector (OECD 1992), compared with an average of approximately 60% for the rest of the Community.
4. This gap is confirmed by indicators of the employment of technologically and scientifically specialized personnel in business. Other indicators, such as patent applications and the technology balance of payments, also suggest that these countries in particular are badly prepared to reduce their dependency on low labour costs, and on activities with a low technological content. Moreover, a recent study by FAST suggests that firms and research laboratories in less favoured regions participate in only 5-8 % of networks of scientific co-operation within Western Europe (FAST (3), (4), 1992).

5. The cohesion gap in the field of RTD can be as great within some Member States as between Member States in the Community. In Italy, if public non-university research and private research are grouped together, it will be seen that in the South the number of researchers per thousand inhabitants is only one seventh as high as in the Centre and North of the country (MURST report 1988). In the Member States least well endowed with RTD facilities, their facilities are mainly located in and around their capital cities or one other principal centre.
6. There is also a significant gap between advanced countries and less prosperous Member States with respect to the level of state aid for RTD and Innovation. Advanced countries give these types of aids to business a high priority, but public aid for RTD and Innovation in less favoured regions is very considerably lower. While the percentage of State aid to RTD and Innovation to the manufacturing sector 1988-90 in the Community was 10 % of all aids, in Greece and Portugal these types of aids were around 1 % of all aids (SEC(92) 1384/2, EEC 1992). These low shares are, of course, compounded by low absolute levels of spending on aids to the manufacturing sector.
7. This short analysis demonstrates the need to take a broad and integrated approach to reducing the various disparities just described. In the next two sections the way in which Community policy has responded in recent years is described, and this will, of course, be the point of departure for the consideration of future action in the second part of this Communication.

I.2 The RTD Framework Programme

8. The aid granted by the second Framework Programme for shared-cost actions in favour of the less favoured regions (Objective 1) amounts to 7.8 % of all the aid available. The level of participation in the third Framework Programme though not yet completed appears to continue the trend.
9. Less favoured regions may encounter greater difficulties in participation in international research activity such as the Community Research Framework Programme. Since they are less favoured, it is evident that they do not enjoy the same access to resources nor possess the critical mass of richer regions.

Peripherality can add to the cost of involvement in trans-national projects, while mobility/exchange of personnel is less easy to achieve.

Smaller size of firms, the more limited range of research domains and the narrower range of sectors can inhibit the potential scope of participation.

10. The participation of certain countries or regions varies according to different specific programmes of the RTD Framework Programme. In relation to individual research topics, the share of the funds of the Second Framework Programme for shared-cost actions allotted to the regions of the Objective 1, varies from 0.6 % for the programme "Radioactive waste" up to 32.1 % for the "Coordination of

agricultural research". Overall, Objective 1 regions participated to a greater or lesser degree in 31.9 % of all research projects. Clearly Objective 1 regions already have both the interest and the capability to meet excellence criteria in certain research areas, though not in all of them.

11. As regards implementation, particular mention should be made among various measures already envisaged to assist Objective 1 regions, of the third additional year for scholarships in the programme "Human capital and mobility", encouraging the return to the country of origin; of the measures taken in the new programme VALUE (5) to encourage the participation of all the regions in the Community Programmes; and of certain special provisions available to the SMEs (feasibility studies in the programme BRITE-EURAM (6) and special ESPRIT (7) actions which are particularly important for the less-favoured regions).

Those measures should help to overcome the difficulties encountered by the absence of large industries in these regions.

12. To take fuller account of the principle of cohesion in the formulation of overall policy and specific RTD programmes, the second Framework Programme was evaluated by a group of experts (8) which concluded that the Framework Programme made an important contribution to cohesion, especially :

- by reducing the isolation of scientists;
- by creating links, by improving credibility, by fostering closer communication, and by creating confidence;
- by establishing a framework of 'learning by doing' for all the partners taking part or linked to its activities.

13. The less prosperous Member States themselves submitted recommendations for taking better account of cohesion, in particular on the occasion of the Research Council held on the 29 April 1992. These recommendations, which have been considered in the preparation of the fourth Framework Programme, can be summarized as follows :

- a degree of modulation and flexibility has to be ensured in financing rates and in the definition of eligible expenditure.
- the problems of the traditional sectors in the economy, and of the small and medium-sized enterprises, have to be taken more into consideration.

More particularly they urged a greater recognition of the needs of the least prosperous countries in the definition of priority actions for Community research.

I.3 The impact of the Structural Funds: 1989-1993

14. As is shown in annex, the total amount of Community Structural Funds support for RTD and innovation-related measures, including telecommunications, is estimated for the period 1989-1993 at nearly 4 billion ECUs (1989 prices) out of a total availability to the Structural Funds of 60,3 billion ECUs. However, there are very considerable differences between Member States as to the proportion of Structural Fund resources that they have chosen to allocate to RTD-related activities through Community Support Frameworks (CSFs), as is also illustrated in annex.
15. In general, Member States responsible for Objective 1 regions, where the cohesion gaps are the greatest, have concentrated their resources on building up RTD capabilities rather than on stimulating demand for research by the productive sector. They have tended to focus on the financing of infrastructures and equipment for research outside the firm, often in academic institutions or public sector research institutes. That, and the very variable degree of their overall effort, has led the Commission to propose a number of technology-related Community initiatives in addition to national proposals, amongst which particular mention should be made of STRIDE (9) and EUROFORM (10). The former has the objective of further developing regional research capabilities, to encourage a greater participation in programmes of international excellence and to strengthen efforts to stimulate and support the direct involvement of the productive sector in RTD activities. The EUROFORM initiative is intended to develop, for its part, international cooperation to meet new kinds of multidisciplinary training needs linked to technology.

Other initiatives proposed by the Commission have a strong technology content, in the fields of the environment (ENVIREG (11)), renewable energies and energy efficiency (VALOREN (12)), quality infrastructures and business services (PRISMA (13)) and the use of advanced services linked to telecommunications networks (STAR (14) and TELEMATIQUE (15)), and also INTERREG (16) (cross-border cooperation) as well as LEADER (17) (rural development), which contains a number of projects related to IT and Technology structures.

I.4 Conclusions

16. In conclusion, in the less prosperous regions, it may be necessary to look again at the balance between basic research and applied research, and at the balance between research and its effective dissemination into productive activity. Equally, it may be necessary to give more attention to developing the awareness and involvement of the private sector, bearing in mind the predominance of small and medium-sized firms, and the lack of appropriate support structures and business services, for the financing of innovation. Both the fourth RTD Framework Programme and the next round of programming for the Structural Funds offer new opportunities to meet that challenge as is explained in the following sections. The combined action already constitutes a very substantial part of the recent

increase in RTD-related expenditure in Objective 1 countries, and is likely to continue to be essential during this decade.

II. The Principles of Policy

17. The Treaty on European Union places the strengthening of economic and social cohesion among the fundamental objectives of European union (Article B), alongside the completion of the internal market and the establishment of an economic and monetary union. Accordingly, all Community policies have to take into account the objective of cohesion from the stage of their formulation, and not only at the time of their implementation (Article 130 B). Elsewhere, the Treaty on European Union also states that the Community has as its objective to strengthen the scientific and technological bases of Community industry and to encouraging it to become more competitive at international level, (Article 130 F), and also to foster better exploitation of the industrial potential of policies of innovation, research and technological development (Article 130 Title XIII). Moreover, in the Treaty the role of vocational training in facilitating adaptation to industrial change is acknowledged together with the stimulation of cooperation between undertakings, research centres and universities (art. 123, 127 and 130).
18. From the Treaty adopted in Maastricht the general and non-sectoral character of the objective of economic and social cohesion clearly emerges. The various common policies are called upon to contribute to this objective. However, each common policy keeps its characteristics, its specific character and its rules. The Maastricht text states this explicitly for RTD policy, the cornerstone of which remains scientific excellence.

The Community competitiveness is conditioned by its RTD performance in the overall European industry.

This means that besides activities aiming at the promotion of leading edge technology, there is a need for activities aimed at improving the whole of the industrial system. In this respect it is important to integrate effectively the RTD policy into the cohesion objective.

This will allow the promotion of RTD capabilities in the less favoured regions and will let them benefit also from the advantages of research and technological development and in this way contribute to the excellence objective.

Both policies are therefore complementary and any action aiming at establishing a more favorable framework for the participation of the less favoured regions to the RTD Community programmes, will lead to the improvement of their capacities at the highest level of scientific excellence and will thus contribute to the underlying objective.

The Structural Funds, the specific task of which is to pursue economic and social cohesion, play a complementary role both in assisting the less favoured regions to bring their RTD capabilities, including human resources, closer to the best Community's standards and in promoting the transfer of the technologies

developed into the productive sector.

Thus, in implementing the main objectives of the Structural Funds, the Commission shall ensure, within the framework of partnership, coordination and consistency between assistance from the funds and assistance provided from the resources of the Community research budget (18).

According to the provisions of article 130f of the Treaty of European Union it is clear that activities under the Community research programmes as such can not be funded by the Structural Funds.

III The Future Approach

III.1 A new opportunity

19. As was recalled above, the cornerstone of the Community RTD Framework Programme is the principle of excellence, but the Treaty of European Union also makes it clear that, for this policy as for all others, cohesion aims should be taken into account.
20. The challenge is to develop an integrated approach which develops synergies between the RTD Framework Programme and the Structural Funds while respecting the identity of each policy. Thus, the Structural Funds contribute to developing capabilities within the less favoured regions which can facilitate their participation in the RTD Framework Programme. The RTD Framework Programme, mainly through the diffusion of technologies, the mobility of researchers through networking and by the balance between research activities contributes to reducing disparities in RTD capabilities.
21. It is the right moment to take stock on the future approach. The negotiation of the next round of structural funding from 1994 onwards will begin shortly. The Structural Funds in the framework of partnership and to the extent that Member States so desire, could reinforce their present action in the field of RTD and innovation. As regards the RTD Framework Programme the Commission has put forward principles for future actions, the main targets and types of measures. This provides a basis for Member States to prepare for the fourth Framework Programme and an opportunity to prepare an integrated approach. In the next two sections, possible ways in which this integrated approach could be achieved could be explored by building on the synergies between the two policies concerned.

III.2 The Fourth RTD Framework Programme

22. It is clear that actions within the RTD Framework Programme should reflect the need for cohesion. All four activities are asked to contribute, the first two in general, the latter two more specifically. For the First and Second Activities the

less prosperous Member States are looking, first of all, for a measure of continuity in the funding of research, technological development and demonstration programmes in which they have already demonstrated their relative competence and interest. But they will also be able to take advantage of some of the changes of emphasis which are proposed, for example:

a/ improving communication and awareness of actions including electronic networks related to linguistics, for information interchange among health care institutions, for distance learning, and for industrial co-operation more generally.

b/ retention of research topics as well as the addition of new actions in which less favoured regions perform well, such as:

- the new accent within environment on the management of soils and water, and to prevent desertification,
- the identification of new orientations for the agricultural sector and of rural development matters.
- the use of renewable energies and the promotion of energy-efficient growth.

23. The Commission intends to review the effectiveness of its promotion and information actions in favour of the less favoured regions relating to the First and Second Activities with particular reference for the productive sector in those regions and including the assistance to create consortia. This will be complemented by additional measures taken in its higher education and training programmes.

24. The most relevant opportunities appear in the Third and Fourth Activities of the fourth RTD Framework Programme. It is intended to increase the resources for these two Activities and their share of the RTD budget will rise from 9.8 % to 10.6 %. These Activities concern interventions in the following fields :

- the dissemination and the application of the results of the Community activities of research, technological development and demonstration.
- the stimulation of training and the mobility of research workers throughout the Community.

25. In the Third Activity particular attention will be given to promoting cohesion in the less favoured regions. In practice, the Commission considers that this implies the following:

a/ the Commission's services will organise and support access to international expertise for the design and evaluation of technology diffusion networks in the less prosperous regions. Proposals which are promising but which are not yet

at the necessary standard of excellence will be the subject of an offer to strengthen them in partnership, so that the necessary basis for their acceptance is established wherever possible.

- b/ special attention will be given to regions in which SMEs are the predominant form of economic organisation within the proposed fund for the integration of technologies by SMEs,
- c/ similarly, actions to promote the interface between research and the scientific community will mainly concentrate on regions and sectors where the diffusion of information is felt to be less effective at present,
- d/ a special effort will be made in favour of traditional sectors of the economy, for example through the promotion of innovation and technology transfer,
- e/ actions will be taken to encourage less favoured regions to exchange experiences with more advanced regions on the design and implementation of measures to raise the capacity of their SMEs to absorb technology,
- f/ the flexibility should exist to finance through the RTD Framework Programme the purchase of equipment and software directly related to the development of networks for the dissemination of technology, in addition to the current costs of running the networks. The Commission intends to encourage the setting up of European Economic Interest Groups (EEIGs) as a preferred method of organising networks between the richer and less prosperous of the Community.

26. As regard the Fourth Activity the Framework Programme will envisage special actions such as;

- The possibility of one additional year of financing for the scientists from LFRs to encourage the return to their country of origin.
- Particular financing of "visiting professors and scientists" coming from advanced regions and wishing to make a sabbatical year in less favoured regions.
- Where a scientist is returning home to a laboratory and there is participation within a community network, there will be a possibility of additional financing of equipment for the laboratory concerned.
- The researchers from LFRs will have a selection priority for the Euroconferences and for the access to big Science and Technology centres.

Besides those, other additional ideas that could be taken account of are;

- a) scholarships to encourage a reverse brain drain from the richer regions towards the less favoured regions, offering more attractive terms than for mobility between the more prosperous regions.

- b) initiatives to propose to researchers in the less favoured regions particular scientific and technical networks or university twinning arrangements which it might be appropriate for them to participate in.
 - c) priority being given to action in favour of the creation of industry-academia networks.
27. For each of the above actions within the Third and Fourth Activities, the Commission, in partnership with the less prosperous regions, will actively promote their participation and will regularly evaluate the progress made with a view to adapting its accompanying actions as necessary. For example, this could imply a regular review of the effectiveness of measures to encourage the return of young scientists to their country of origin in the case of the less prosperous Member States, to be undertaken in partnership with the Member States concerned.
28. The less prosperous Member States, to make full use of these new opportunities, may wish to consider and synchronize their own RTD policies and their concordance with their specific development problems.

III.3 The Structural Funds

29. A second new opportunity arises through the Structural Funds. A further substantial increase in resources available for commitment by the Structural Funds has been agreed, particularly for the four least prosperous Member States for which commitments for Structural purposes are foreseen to double for the period 1993-1999 (19). Also the Commission has proposed a number of modifications to the regulations governing the Structural Funds which would give new emphasis to support secondary and higher education, and for improving research and technology development capacities in the less favoured regions.
30. More specifically, because of the significant contribution to development made by research and technology development, the Commission is proposing in the revised Structural Funds regulations to make the following explicit references to this sector:

Article 1, e) of Regulation N° 4254 as proposed by the Commission foresees the financing by the ERDF of RTD actions including those contributing to the implementation of multiannual framework programmes in this domain.

In relation to the ESF, Article 1, 3 b) of Regulation N° 4255 as proposed by the Commission foresees the reinforcement of human potential in matters of research, of science and technology, in particular postgraduate training, training of managers, technicians and other personnel in research centres, and by the transfer of know-how in relation to the operation of the labour market and the development of human resources.

These proposals imply for the ERDF, measures to improve the capability of the

eligible regions to achieve greater participation in the Community's RTD Framework Programme, for financing the transfer of technology, and for the introduction of innovation in firms. For assisted regions, the ESF identifies the boosting of human potential in research, science and technology in research centers as well as in companies as an important aim.

Moreover, provision is made for ESF support for promoting links between education establishments and firms in order to promote new technology. Actions could also be envisaged under the new Objective 4 to facilitate the adaptation of workers to industrial change and to changes in production systems.

31. If they are to take full advantage of these new opportunities, it is desirable that Member States should set precise goals to reduce disparities in the field of RTD and examine the overall contribution that the Community can make by utilising the various sources of funding available, in particular from the RTD Framework Programme, from the Community's Structural Funds and from the Community's education and vocational training programmes, so as to obtain the maximum impact.

For the Structural Funds, the starting point for the next programming period is the preparation of plans for Objective 1 to 5. It must be stressed, however, that the Structural Funds do not intervene in favour of RTD for its own sake, but as one important means of promoting economic development, higher productivity and competitiveness and thereby narrowing existing disparities. Measures to improve the mastery of technology change as one of the most important contributory factors to economic progress should be accorded higher priority; but funding for RTD related actions, like any other sector, will have to demonstrate that the economic development impact in the regions is in keeping with the resources deployed.

32. Within the plans drawn up for the next period of Structural Fund intervention, synergies with the multiannual RTD framework programmes can be looked for in relation to pre-competitive research, technology dissemination and innovation and higher education in the fields of science and technology.

As regards pre-competitive research, the Structural Funds will continue to be available to fund RTD infrastructure and equipment complementary to the first Activity of the fourth Framework Programme. To a limited degree, the Structural Funds might undertake to meet part of the operating costs of RTD centres whose creation or development has been funded in the previous period. They may also fund some research projects directly relevant to the economic development of the region concerned. However, it is important to avoid second-class projects. It may be necessary, therefore, to ensure that national selection processes properly reflect criteria agreed at Community level, and in particular provide for strengthened international peer review procedures, drawing on the experience of the Community's RTD Framework Programme.

33. A successful technology dissemination policy will be based on a detailed analysis

of the specific local economic situation and of the interests and requirements of the productive sector in the area, and be compatible with a broader policy framework designed at a national level. The effectiveness of public policy, including Structural Funds interventions, depends on the quality of the partnership between public authorities and the principal RTD actors in the regions, and on an ability to integrate national and international dimensions.

The Commission is therefore willing to provide technical assistance through the Structural Funds for developing regional research and technological development strategies in the context of the preparation of the next round of the CSFs in partnership with the Member States.

The Structural Funds are likely to continue their efforts in support of innovation and technology transfer, for example by the development of technology centres, of advanced business services based on telecommunications, by the upgrading of technological skills, by improving educational and vocational training facilities and by the promotion of finance for technological innovation, and more generally by the modernisation of the firm including the incorporation of information technologies. They could give greater emphasis to the integration of generic technologies (20) in the productive sectors of the less favoured regions. All of these actions imply possible synergies with the RTD Framework Programme and indeed with other technology related actions such as the COMETT (21) or the ERASMUS (22) programme.

34. Turning to initial education, training and mobility for researchers and other scientifically and technologically qualified personnel, the amendments proposed to both the ERDF regulation concerning investment in education in Objective 1 regions, and to the ESF regulation concerning training and secondary and higher education systems within Objective 1,2 and 5(b) areas, offer scope for synergies in particular with the fourth Activity of the fourth RTD Framework Programme.

As in other cases, achieving synergy requires cooperation in the planning and implementation phases between the various authorities, bodies and institutions concerned within the Member States and between the responsible departments of the Commission.

35. Finally it should be recalled that the European Council meeting in Edinburgh concluded that 5% to 10% of commitment resources available to the Structural Funds should be set aside for Community initiatives in the next planning period. The Commission intends to issue a Green Paper in the near future, to seek opinions on the directions Community initiatives should take in the next programming period, from 1994 to 1999.

IV. Conclusions

36. Narrowing disparities, both in general economic and social terms and in RTD terms, strengthens the Community, bolstering the growth and stability of the

internal market and improving overall competitiveness.

Therefore, the Commission considers necessary to reduce the RTD gap which characterizes the less favoured regions and which is an obstacle to their development.

37. Significant progress will be made in the fourth RTD Framework Programme in terms of the incorporation of cohesion goals in the formulation of its Activities and especially the Third and Fourth Activities, and this is also reflected in the proposed balance of funding in favour of technology dissemination and human capital and mobility. This being said, a large part of the responsibility for making a success of the fourth RTD Framework Programme must lie with the Member States with less favoured regions themselves, who must bring forward proposals of the necessary quality.
38. The action of the Structural Funds is managed at Member State level and the success of the RTD actions which they cofinance depends even more than in the case of the RTD Framework Programme on the programming and implementation undertaken at a decentralised level. Developing an integrated approach involving Structural Funding and the RTD Framework Programme implies strengthening in some cases co-ordination between departments within national and regional administrations, and partnership of the public sector with the private sector. Within overall budget choices adequate provision should be made for developing technological capabilities including related measures for education and vocational training. However, those responsible for RTD policies will need to specify more precisely the development goals, including goals for the regional distribution of RTD capabilities they expect to attain. For its part, the Commission will further strengthen cooperation within his own services.
39. The Commission feels that greater use could be made of technical support co-financed by the Structural Funds in the design, implementation and evaluation of RTD strategies, infrastructures and programmes, drawing in particular on the best practice in highly performing economies. The challenge is to promote scientific partnerships and technology exchange between public sector and private organisations and companies in the advanced regions and those in the assisted regions, as well as amongst less developed regions themselves, both through the RTD Framework Programme and the Structural Funds.
40. Finally, Article 130H of the Treaty offers an opportunity for cooperation between Member States to develop RTD capabilities on a wider basis than Community financed actions above. The Commission is ready to provide a forum in which such cooperative action between Member States could be discussed, if Member States consider that could be useful.

EXPLANATORY NOTES

- (1) In 1988, the average index of GDP per inhabitant (PPS) of the 10 weakest regions in the EC was 45 (Europe 12 = 100) compared with 151 for the 10 strongest regions (EEC 1991).
- (2) In 1988, for example, government RTD (financing as a percentage of total budget did not reach 1% in Ireland, Portugal or Greece (EUROSTAT. 1992), compared with a Community average of 3,24 %.
- (3) FAST Prospective Dossier : "Science, Technology and Social and Economic Cohesion in the Community". "Archipelago Europe - Islands of Innovation". Vol. 18, Ulrich Hilpert, May 1992.
- (4) The objective of FAST is to conduct global analyses in the long-term of Science and Technology development and their interactions with the social and economic changes in the Community and outside.
- (5) Value - Diffusion and Valorisation of Community RTD results (Council Decision of 20th June 1989).
- (6) Brite-Euram stands for basic research in industrial technologies for Europe/European research on Advanced materials (follow-up programme in the O.J. of 25.09.1991).
- (7) Esprit stands for specific research and technological development programme in the field of information technologies (1990-1994) (O.J. L 218 of 6.08.1991).
- (8) "Evaluation of the effects of the EC Framework Programme for Research and technological Development on economic and social cohesion in the Community". Caraca Report. CEC September 1991. (EUR 13994).
- (9) Science and Technology for Regional Innovation and Development in Europe (O.J. C 196 of 4.8.1990).
- (10) Development of Community dimension for vocational training and employment promotion measures (O.J. - C 327/03 of 29.12.1990).
- (11) Community Initiative concerning the environment (O.J. C 115/03 of 9.05.1990).
- (12) Community Initiative for the development of certain less favoured regions of the Community by exploiting endogenous energy potential (O.J. L 305/6 of 31.10.1986).
- (13) Community Initiative concerning the preparation of enterprises for the Single Market (O.J. C 33/9 of 8.2.1991).
- (14) Community Initiative for the development of certain less favoured regions of the Community by improving access to advanced telecommunications services (O.J. L 305/1 of 31.10.1986).
- (15) Community Initiative for regional development concerning services and networks related to data communication (O.J. C 33/7 of 8.02.1991).
- (16) Community Initiative concerning border areas (O.J. C 215/4 of 30.08.1990).
- (17) Community Initiative for rural development (O.J. C 73 of 19.3.1991).
- (18) See Article 3 in the Regulation EEC N° 4253/88.
- (19) Conclusions of the Presidency of the European Council meeting at Edinburgh 11-12 December 1992.

- (20) Generic technologies are defined as those technologies whose impact has an effect on a whole range of other technologies used by the productive system, and hence the whole industrial system ("Research after Maastricht: an assessment. A strategy." EEC, 1992).
- (21) Community actions programme in Education and Training for Technology (O.J. L 13 of 17.01.1989).
- (22) European Communities Action Scheme for the Mobility of university students.

ANNEXES

- 1. RTD indicators for the European Community**
- 2. Estimates of EC Structural Funds commitments for RTD and innovation related measures 1990-1993**
- 3. Estimated percentage of Structural Funds assistance for RTD and innovation related actions in the Community Support Frameworks (1989-1993).**

RTD INDICATORS FOR THE EUROPEAN COMMUNITY

MEMBER STATE	GDP PER HEAD EUR12 = 100 1990	GERD AS % OF GDP 1990		BERD AS % OF GDP 1990		PERCENTAGE OF GERD PERFORMED BY THE BUSINESS ENTERPRISE SECTOR 1990	GOVERNMENT R&D FINANCING AS % OF TOTAL BUDGET 1988	TOTAL R&D SCIENTISTS AND ENGINEERS (OR UNIVERSITY GRADUATES) PER THOUSAND LABOUR FORCE 1989	BUSINESS ENTERPRISE R&D SCIENTISTS AND ENGINEERS (OR UNIVERSITY GRADUATES) PER THOUSAND LABOUR FORCE 1989
		%	EUR12 = 100	%	EUR12 = 100				
BELGIUM	105	1.69	85	1.23	95	73	1.40	4.4 (3)	2.4 (3)
DENMARK	139	1.54 (2)	77 (2)	0.85 (2)	65 (2)	57 (4)	2.28	3.8	1.5
GERMANY	128	2.81	141	2.02	155	72	4.11	5.9	3.8
GREECE	35	0.47 (2)	24 (2)	0.10 (2)	8 (2)	22 (2)	0.60	1.4	0.2
SPAIN	69	0.87 (4)	44 (4)	0.52 (4)	40 (4)	60 (4)	2.19	2.2	0.6
FRANCE	115	2.42 (4)	121 (4)	1.48 (4)	114 (4)	61 (4)	6.91	5.1 (3)	2.3 (3)
IRELAND	66	0.91	46	0.55	42	61	0.98	5.0 (3)	1.3 (3)
ITALY	103	1.38 (4)	69 (4)	0.77 (4)	59 (4)	56 (4)	1.85	3.2 (3)	1.3 (3)
NETHERLANDS	102	2.06	103	1.11 (4)	85 (4)	56	2.50	4.0	1.6
PORTUGAL	35	0.50 (1)	25 (1)	0.12 (1)	9 (1)	25 (1)	0.98	1.1 (1)	0.1 (1)
UNITED KINGDOM	93	2.21	111	1.47	113	67	2.83	4.6 (1)	2.8 (3)
EUR12 ***	100	2.00	100	1.30	100	65	3.24	4.2	2.2

SOURCE :
EUROSTAT CEC
1992

SOURCE : OECD 1992

SOURCE : OECD 1992

SOURCE :
OECD
1992

SOURCE :
EUROSTAT CEC
1992

SOURCE :
OECD
1992

SOURCE :
DERIVED BY DGXII
FROM OECD DATA
1992

- 1) 1988.
- 2) 1989.
- 3) 1990.
- 4) 1991.

*** Note :

EUR12 - Luxembourg (G.D.) is not included. RTD data for Luxembourg (G.D.) are not available.

GDP : Gross Domestic Product.

GERD : Gross Domestic Expenditure on R&D.

BERD : Business Enterprise Expenditure on R&D.

**ESTIMATES OF EC STRUCTURAL FUNDS COMMITMENTS FOR RTD AND
INNOVATION RELATED MEASURES 1989-1993**

OPERATIONAL PROGRAMMES	MECUS	
Community Support Frameworks		
Objective 1 (1989-93)	1113	(1)
Objective 2 (1989-91)	306	(1)
Objective 2 (1992-93)	232	(2)
Objective 3&4 (1989-92/93)	453	(3)
Objective 5b (1989-92)	32	(4)
Other Programmes (IMP, PEDIP, ...)	202	
Community Initiatives		
STAR (1989-91)	624	(5)
STRIDE	400	
TELEMATIQUE	200	
OTHERS (PRISMA, EUROFORM, LEADER....)	226	(6)
TOTAL ESTIMATE	3788	(7)

Source: CEC Services (1989 prices)

- (1) Including figures on RTD and innovation related measures in the relevant axes in Objective 1 and Objective 2, and also any RTD elements from other axes. It also includes PRODEP.
- (2) Figure estimated on the basis of 1989-1991 allocations.
- (3) With respect to 1993, data is available only for Spain.
- (4) Figure only taking into account specific measures devoted to RTD. This amount does not consider the RTD and innovation actions included in the sectoral measures.
- (5) Figure relating to the remaining funding for the period 1989-1991.
- (6) Figure estimated on the basis of the allocations of Operational Programmes covering 44% of the total (3200MECU) for PRISMA, EUROFORM, NOW, HORIZON, LEADER, REGIS, REGEN, RECHAR, ENVIREG and INTERREG.
- (7) This figure represents some 6% of the total Structural Fund allocation for the period 1989-1993.

Note 1: These measures cover a wide spectrum of RTD and innovation related actions such as information, Science Parks, infrastructures, Universities, training programmes, construction of new RTD centres, laboratory equipment, technology transfer centres, research/industry links, demonstration projects.

Note 2: Some earlier Community Initiatives (VALOREN, RESIDER, RENAVAL), other programmes such as POSEICAN or POSEIMA, and the funding of the five new Länder and East Berlin in the RFA are not included.

ESTIMATED PERCENTAGE OF STRUCTURAL FUNDS ASSISTANCE
FOR RTD AND INNOVATION RELATED ACTIONS¹
IN THE COMMUNITY SUPPORT FRAMEWORKS

(1989-1993)

COUNTRIES	OBJECTIVE 1	OBJECTIVE 2
Belgium	-	13.3
Denmark	-	12.8
Germany	-	14.1
Greece	1.9	-
Spain	2.0	9.7
France	1.1	10.7
Ireland	4.0	-
Italy	4.9	20.9
Luxembourg	-	0.0
Netherlands	-	7.9
Portugal	6.5	-
U.K.	2.1	5.3
EUR 12	3.6	9.3

Source: CEC

¹ These measures cover a wide spectrum of RTD and innovation related actions such as information, Science Parks, infrastructures, Universities, training programmes, construction of new RTD centres, laboratory equipment, technology transfer centres, research/industry links, demonstration projects.

Note: The ratios were estimated based on figures covering ERDF, ESF and EAGGF and include figures on RTD and Innovation related measures in the relevant axes in Objective 1 and Objective 2 and also any RTD elements from other axes. The IMP, PEDIP and PRODEP are also included. However, old Community Initiatives (STAR, VALOREN, RESIDER, RENAVAL), and new Community Initiatives (STRIDE, TELEMATIQUE, EUROFORM...) are not taken into account. The CSF's for Objective 2 (1992-1993) and the funding for the five new Länder and East Berlin in the RFA are not included.

ISSN 0254-1475

COM(93) 203 final

DOCUMENTS

EN

10 15

Catalogue number : CB-CO-93-252-EN-C

ISBN 92-77-55917-9

Office for Official Publications of the European Communities
L-2985 Luxembourg