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AMENDED PROPOSALS FOR COUNCIL DECISIONS
CONCERNING THE SPECIFIC PROGRAMMES IMPLEMENTING THE
FOURTH EUROPEAN COMMUNITY FRAMEWORK
PROGRAMME FOR
RESEARCH, TECHNOLOGICAL DEVELOPMENT AND
DEMONSTRATION ACTIVITIES
(1994-1998)

(submitted by the Commission pursuant to Article 189 A (2)
of the EC Treaty)

EXPLANATORY MEMORANDUM

Following the agreement reached at the Conciliation Committee meeting on 21 March 1994 on the fourth RTD framework programme, on 30 March the Commission adopted and forwarded to the Council its proposals for specific programmes implementing the framework programme in two documents containing the 17 proposals for EC programmes (COM(94)68) and the three proposals for EAEC programmes (COM(94)70). The framework programme was formally adopted on 26 April 1994 and on 5 May 1994 the European Parliament, acting in accordance with Article 130i(4) of the EC Treaty, delivered its opinion on the following 12 proposals for specific programmes:

- Telematics
- Communications technologies
- Information technologies
- Industrial technologies and materials technologies
- Standardization, measurement and testing
- Marine science and technology
- Agriculture and fisheries
- Non-nuclear energy
- Targeted socio-economic research
- Cooperation with third countries and international organizations (second area of activity)
- Stimulation of the training and mobility of researchers (fourth area of activity)
- Activities to be carried out by means of direct action (JRC) and by means of activities within the framework of a competitive approach and intended for scientific and technical support to Community policies.

The European Parliament endorsed the Commission's proposals subject to a total of 274 amendments. Of these, 120 concern general matters (11 amendments per programme, 10 in the case of the programme for the stimulation of the training and mobility of researchers, and none concerning the JRC programme). The other 154 amendments are specific to the different programmes.

Where the 11 amendments of a general horizontal character are concerned, the Commission has agreed to five concerning the speed of implementation of the programmes, efforts to simplify and improve procedures and make them more transparent, staff and administrative expenditure, and reference to the financial perspective. These amendments make useful clarifications to certain aspects of the implementation of the programmes. However, the Commission has not agreed to the six amendments concerning committee procedure, international cooperation, and SMEs, for the following reasons:

- the amendments concerning committee procedure raise a legal and institutional problem going beyond RTD policy. As indicated during the conciliation procedure concerning the framework programme, the Commission takes the view that programme decisions should be based on the *status quo* until such time as there is a complete new legal framework for committee procedure;
- the amendment concerning international cooperation (extension of the Commission's

negotiating mandate to include the countries of the Mediterranean Basin) fails to take sufficient account of the diversity of legal frameworks governing the European Union's relations with the various third countries or the desiderata with regard to S/T coöperation with the European Union which vary from one country to another;

- the Commission proposals already make provision for specific measures to facilitate SME involvement in Community RTD activities. However, it would seem to be inappropriate systematically to give priority to SMEs when it comes to project selection since, even in the case of equivalent merit, other criteria may also play a role.

The Commission has also agreed to the substance of the vast majority of the 154 specific amendments, considering that in general they usefully clarify the scientific and technical content of the programmes. However, the following amendments were not accepted by the Commission because they go into excessively great detail, introduce considerations going beyond the scope of RTD, raise legal difficulties, are contrary to the generic nature of the activities, distort the focus on priority activities, or alter the internal balance of the programme by proposing a significantly different breakdown of funding between areas:

- Telematics programme: Amendments Nos 4, 11, 18, 20 and 24;
- Information technologies programme: Amendments Nos 30 and 38 (concerning the breakdown of the amount deemed necessary);
- Industrial technologies programme: Amendments Nos 6 and 9;
- Standardization, measurement and testing programme: Amendment No 13;
- Agriculture and fisheries programme: Amendments Nos 10, 21 and 23;
- Non-nuclear energy programme: Amendments Nos 3, 5 (second part), 6 (second part), 13 (first paragraph), 14, 15, 19, 21, 28 (second part), 29 (first and third parts), 31 (second part), 33 and 34;
- International cooperation programme: Amendments Nos 18, 20 and 22;
- Stimulation of the training and mobility of researchers programme: Amendments Nos 12, 16, 23, 24 and 26.

In accordance with the position it has taken vis-à-vis the European Parliament and pursuant to Article 189a(2) of the EC Treaty, the Commission hereby submits its amended proposals concerning the twelve specific programmes on which the European Parliament delivered its opinion on 5 May 1994.

Amended proposal for a

94/0079(CNS)

COUNCIL DECISION

adopting a specific programme of
research, technological development and demonstration
in the area
of telematics applications of common interest
(1994-1998)

(submitted by the Commission pursuant to Article 189 A (2)
of the EC Treaty)

The proposal for a Council Decision adopting a specific programme of research, technological development and demonstration in the area of telematics applications of common interest (1994-1998) (COM 68 (94) final -94/0079 (CNS)) is amended as follows :

Recital Nr 4 Whereas in accordance with Article 130i (3), it is appropriate to make an estimate of the means deemed necessary for the realization of this specific programme; and that the funds effectively available shall be determined by the budgetary authorities according to the resources available under the financial perspective and the relative priorities given within the First Action of the fourth framework programme;

Recital Nr 5a
(new) Whereas any increase in the overall maximum amount of the framework programme will depend in particular on the evaluation of the progress made in implementing the programme; whereas the progress made in this programme will be deemed satisfactory only if the first commitments of appropriations are effected within a reasonable period following the adoption of the programme; whereas that period may not exceed twelve months;

Recital Nr 6 a
(new) Whereas to enable the European Union to meet the challenges of the 'information society', it is essential not only to develop the necessary technological basis, but also to facilitate the acquisition of information technologies by as many European citizens as possible, taking account of their socio-cultural diversity, and to promote, within society, the widest possible access to new information infrastructures;

Recital Nr 9

Whereas telematics applications shall contribute to improving the quality and the economic and social efficiency of services of public interest, the access to knowledge sources and the conditions of life of citizens; they shall stimulate the creation and exchange of electronic information in all languages of the European Union;

Recital Nr 9 a
(new)

Whereas the Commission's efforts to simplify and accelerate the candidature and selection procedures and make them more transparent must be continued in order to support the implementation of the programme and to facilitate the action which firms, and particularly SMEs, research centres and universities have to undertake in order to participate in a Community RTD activity;

Recital Nr 14a
(new)

Whereas, in view of the growing convergence between information technologies, telecommunications technologies and telematics, this programme should be implemented in close coordination with the research-programme in the area of advanced communications technologies and services, telematics applications of common interest and industrial technologies in order to enhance their synergetic effect;

Recital Nr 18a
(new)

Whereas, in conjunction with the programme on targeted socio-economic research, research should be carried out not only into the impact of telematics applications on the organization of production and of work, but also into the interaction between the European citizen and the information infrastructure;

Article 2.1

1. The funds estimated as necessary for the execution of the programme amount to ECU 843 million, including a maximum of 10.3% for staff and administrative expenditure.

The first commitments of appropriations shall be effected no later than twelve months following the adoption of the programme, unless good reason is given for exceeding that time-limit.

Article 2.4

4. The budgetary authority shall lay down the available appropriations for each financial year in accordance with the availability of resources under the financial perspective and in agreement with the scientific and technological priorities fixed by the fourth framework programme.

Annex I,
Introduction,
first paragraph,
second sentence

The RTD areas proposed are those most vital to the development of the infrastructure, taking into account the objective of improving the competitiveness of all industry and the employment situation in the European Union, and of enhancing quality of life for citizens, in particular by facilitating equal, universal access to the information infrastructure.

Annex I
section I,
first paragraph

The TELEMATICS programme has two aims. One is to further promote the efficiency of European industry and services of public interest and to stimulate job creation through the development of new telematics systems and services in such areas as telework and teleservices. The other, which is a new feature contained in the Treaty on European Union, is to promote research activities necessary for other common policies. In view of the user-oriented nature of the programme, the latter aim will also be given priority.

Annex I,
Section II,
Area 1,
Health care,
first paragraph

There are two challenges facing the public health systems in Europe. On one hand, operating costs need to be reduced while at the same time all citizens must be offered equal and guaranteed access to health care at any place and at any time. On the other hand, the medical professions need to take account of the rapid advances in knowledge and the increasing complexity of their tasks. Likewise, mobile communications applications should be developed in the health care field. Work under the Third Framework Programme has shown that telematics could help them meet these challenges.

Annex I,
Section II,
Area 2,
Libraries, Aim,
Second paragraph
first sentence
(new)

Special attention will be paid to the telecommunications needs of major libraries.

Annex I,
Section II,
Area 3,
Urban and rural
areas,
Validation tests and
pilot projects

Areas for validation tests will include networks of partners already set up under the ORA project and other existing networks for cooperation between European cities (Eurocities, Telecities, etc.). These activities will be co-ordinated with the pilot projects implemented under the land-development plans of certain Member States or Community regional programmes. Priority will be given to validation projects incorporating several telematics applications on the same rural or urban site. The pooling of experience between the various sites will be encouraged and particular emphasis will be placed on ease of use and user acceptability of telematics applications.

Annex I,
Section II,
Area 4,
Language
engineering, Aim,
second paragraph,
first sentence a
(new)

Priority assistance will go to research work which is geared to the possibility of quickly translating findings into industrial or commercial applications.

Annex I,
Section II,
Area 5,
International
cooperation

International activities (conferences, study visits, demonstration of exploitable results) will be undertaken in most of the research areas whenever mutual and equitable interest for the European Union has been clearly identified, in particular in the areas covered by the White Paper. Great importance will be attached to co-operation with the countries of Latin America, central and eastern Europe and the new independent states of the former Soviet Union: exchanges of research workers could be envisaged in connection with certain projects and links will be established with telematics activities under the PHARE and TACIS programmes or with initiatives funded by the EBRD. Finally, there will be close co-ordination and where appropriate collaboration between this Community research programme and similar national or European RTD programmes (notably COST, EUREKA, ESA, CERN, and EUROCONTROL).

Annex II, Indicative breakdown of the amount estimated as necessary	Area	ECU millions
	<i>Telematics for services of Public Interest</i>	<u>390</u>
	Administrations	50
	Health care	135
	Transport	<u>205</u>
	<i>Telematics for Knowledge</i>	146
	Telematics for research	50
	Education and training	66
	Libraries	30
	<i>Telematics for Improving Employment and the Quality of Life</i>	<u>133</u>
	Urban and rural areas	<u>48</u>
	Elderly and disabled people	65
	Exploratory action (environment)	20
	Other exploratory actions	pm
	<i>Horizontal RTD Activities</i>	<u>133</u>
	Telematics engineering	15
	Language engineering	81
	Information engineering	<u>37</u>
	<i>Horizontal actions</i>	41
	TOTAL	843

This breakdown does not exclude projects which might relate to several areas.

94/0080 (CNS)

Amended proposal for a

COUNCIL DECISION

adopting a specific

programme of research, technological development and demonstration
in the area of advanced communications,
technologies and services

(1994-1998)

(submitted by the Commission pursuant to Article 189 A (2)
of the EC Treaty)

The proposal for a Council Decision adopting a specific programme of research, technological development and demonstration in the area of advanced communications technologies and services (COM (94) 68 final -94/0080 (CNS)) is amended as follows:

Recital n°4

Whereas in accordance with Article 130i(3), an estimate should be made of the financial resources needed to carry out this specific programme; whereas the final amounts will be decided upon by the budgetary authority in accordance with the resources available under the financial perspective and the relative priority assigned to the area covered by this programme within activity I under the fourth framework programme;

Recital N°5a
(new)

Whereas any increase in the overall maximum amount of the framework programme will depend in particular on the evaluation of the progress made in implementing the programme; whereas the progress made in this programme will be deemed satisfactory only if the first commitments of appropriations are effected within a reasonable period following the adoption of the programme; whereas that period may not exceed 12 months;

Recital n°7a
(new)

Whereas it is essential, to enable the European Union to meet the challenges of the 'information society', not only to develop the necessary technological base but also to encourage the broadest possible access to the new information and communications infrastructures;

Recital n°11a
(new)

Whereas the Commission's efforts to simplify and accelerate the application and selection procedures and make them more transparent must be continued in order to promote the implementation of the programme and to facilitate the action which firms, particularly SMEs, research centres and universities must undertake in order to participate in a Community RTD activity;

Recital n°14a
(new)

Whereas, in view of the increasing convergence between information technologies, telecommunications technologies and telematics, the programme should be implemented in close coordination with research programmes in the fields of information technologies and telematics applications of common interest, so as to reinforce the synergetic effects thereof;

Recital n°16a
(new)

Whereas there is also a need to carry out research, in liaison with the finalized socio-economic research programme, firstly into the social impact of advanced communications technologies and services (particularly on regional planning and the organization of production and labour) and secondly into the interaction between the European citizen and the information infrastructure;

Article 2.1

1. The funds estimated as necessary for the execution of the programme amount to ECU 630 million, including a maximum of 10.3% for staff and administrative expenditure.

The first appropriations shall be committed no later than twelve months following the adoption of the programme unless good reason is given for exceeding this deadline.

Article 2.4

4. The budgetary authority shall lay down the available appropriations for each financial year in accordance with the availability of resources under the financial perspective and the scientific and technological priorities fixed by the fourth framework programme.

**Annexe I, Introduction,
1st para., 2nd sentence**

The RTD areas proposed are those most vital to the development of the infrastructure, taking into account the need for selectivity and concentration of effort and the objective of improving the competitiveness of all industry and the employment situation in the European Union, and of enhancing the quality of life of its citizens, particularly by facilitating equal access for all to the information infrastructure.

Annex II, Area 4 and 6

Area	ECU millions
4. Mobility and personal communications networks	<u>112</u>
6. Quality, security and safety of communication services and systems	<u>50</u>

Amended proposal for a

94/0081 (CNS)

COUNCIL DECISION

adopting a specific research
and technological development programme in
the field of information technologies

(1994-1998)

(submitted by the Commission pursuant to Article 189 A (2)
of the EC Treaty)

The proposal for a Council Decision adopting a specific research and technological development programme in the field of information technologies (COM (94) 68 final -94/0081 (CNS)) is amended as follows :

- Recital 4 Whereas in accordance with Article 130i (3), an estimate should be made of the financial resources needed to carry out this specific programme; whereas the final amounts will be decided upon by the budgetary authority in accordance with the resources available under the financial perspective and the relative priority assigned to the area covered by this programme within activity I under the fourth framework programme;
- Recital 5a (new) Whereas any increase in the overall maximum amount of the framework programme will depend in particular on the evaluation of the progress made in implementing the programme; whereas the progress made in this programme will be deemed satisfactory only if the first commitments of appropriations are effected within a reasonable period following the adoption of the programme; whereas that period may not exceed twelve months;
- Recital 6 Whereas information technologies increasingly underpin economic, industrial and service activities and, in addition, they are becoming the vehicle for an increasing number of social activities; whereas they are vital for the competitiveness of all industry and services; whereas they are radically transforming a host of aspects of social activities and relations; whereas they could help to enhance the quality of life and improve working conditions; whereas they therefore require major efforts in research, the dissemination and application of results and education and training;
- Recital 6a (new) Whereas the Brussels European Council of 10 and 11 December 1993 decided, on the basis of the White Paper on growth, competitiveness and employment, to implement an action plan to develop information infrastructures at Union and Member State level; whereas information technology research provides the essential technological basis for the development of these emerging information infrastructures;

- Recital 6b (new) Whereas, to enable the European Union to meet the challenges of the 'information society', it is essential not only to develop the necessary technological basis, but also to facilitate the acquisition of information technologies by as many European citizens as possible, taking account of their socio-cultural diversity, and to promote, within society, the widest possible access to new information infrastructures;
- Recital 7 Whereas this programme might contribute appreciably to increased competitiveness and new innovative activities and new jobs in the European Union, as indicated in the White Paper on growth, competitiveness and employment if it is accompanied by new ways of organizing production and work and if it facilitates the acquisition of these new technologies by the greatest number of people;
- Recital 7a (new) Whereas it is important that there be maximum user involvement in the various stages of RTD projects, so that their requirements are taken into account, and that they be trained to make use of the results thereof;
- Recital 8a (new) Whereas software, component and subsystem technologies, multimedia systems, open microprocessor systems, high-performance computing and networking, technologies for business processes, integration in manufacturing and the corresponding long-term research were considered priorities in Decision .../.../EC (fourth framework programme);
- Recital 8b (new) Whereas, in view of the growing convergence between information technologies, telecommunications technologies and telematics, this programme should be implemented in close coordination with the research programmes in the area of advanced communications technologies and services, telematic applications of common interest and industrial technologies and materials in order to enhance their synergetic effect;

- Recital 10a (new) Whereas the Commission's efforts to simplify and speed up the application and selection procedures and make them more transparent must be continued in order to promote the implementation of the programme and to facilitate the action which firms, and particularly SMEs, research centres and universities must undertake in order to participate in a Community RTD activity;
- Recital 14 Whereas provision should be made for measures to encourage and facilitate the involvement of SMEs in this programme, in particular through technology promotion measures, as well as through cooperative research and through grants covering the exploratory stage of RDT;
- Recital 15a (new) Whereas, in conjunction with the programme on targeted socio-economic research, research should be carried out not only into the impact of the new information technologies on the organization of production and of work, but also on the interaction between the European citizen and the 'information society';
- Article 2(1) 1. The funds estimated as necessary for the execution of the programme amount to ECU 1 911 m, including a maximum of 7.2% for staff and administrative expenditure.
- The first appropriations shall be committed no later than twelve months following the adoption of the programme, unless good reason is given for exceeding this deadline.
- Article 2(4) 4. The budgetary authority shall determine the appropriations available for each financial year in accordance with the availability of resources under the financial perspective and the scientific and technological priorities fixed by the fourth framework programme.

ANNEX 1,
Introduction,
third paragraph,
second sentence

The RDT areas proposed are those most vital to the development of the infrastructure, taking into account the need for selectivity and concentration of effort, and with the objective of improving the competitiveness of all industry and the employment situation in the European Union, and of enhancing quality of life for citizens, in particular by facilitating equal, universal access to the information infrastructure.

ANNEX 1,
Context,
second paragraph,
first sentence

Information technologies now increasingly underpin all production and service industries and are also the vehicle for a growing number of societal services such as health, education, transport and entertainment and culture.

ANNEX 1,
Context,
third paragraph a
(new)

Social issues are also at stake. The question of the European citizen's acquisition of these new information technologies is becoming a major political challenge. In future, therefore, special attention should be paid to the relationship between the citizen-user and the new information society. Three aspects are particularly important. In tomorrow's increasingly complex society, the individual will have a greater need for information and interactive services giving him access to information. 'Universal' access to this information environment must become a political priority, failing which the differences between social strata within a country, and between countries and regions, could widen.

Consideration should then be given to the vast potential for creativity and for the enrichment of social life, over and above the mere utilitarian and professional aspects, as a result of the interaction between the individual citizen and the information society. Lastly, the information infrastructure will play an increasingly important role in the implementation of public policies in respect of the European citizen's needs. Interaction between individuals and various forms of information and communication will become a determining issue in questions of public interest such as education and training, individual freedom of movement, and the ageing of society.

ANNEX I,
Context,
Sixth Paragraph

The development of new services and new jobs will be heavily influenced by prompt action to put the new information infrastructure into place and by the pace of structural change within the economy, in particular with regard to reorganizing production methods and working time. The creation of new activities will also depend, however, on the ease with which the greatest number of users can gain access to the new information infrastructure.

ANNEX I,
Context,
ninth paragraph,
second sentence

The overall objective is to contribute to the healthy growth of the information infrastructure so as to improve the competitiveness of all industry in Europe and to help enhance quality of life for all citizens, in particular by facilitating IT acquisition and use by the greatest number and by promoting as wide as possible access to the information infrastructure.

ANNEX I,
Context,
eleventh paragraph
a (new)

In cooperation with the programme on targeted socio-economic research, multidisciplinary research will be conducted not only into the complex interaction between the citizen-user and the emerging 'information

space', but also into the impact of the new information technologies on the organization of production and of work.

ANNEX 1,
RTD activities,
fifth paragraph

Focused clusters represent a major innovative modality in this specific programme. A cluster is a set of activities covering a number of technology areas but with a single well-defined goal and clearly geared towards the market or towards 'social demand'. It should make it possible to keep research focused on a specific objective while permitting a measure of variety in interdisciplinary activities. That will require new ways of managing projects for ensuring that there is a degree of continuity throughout the programme while at the same time permitting the necessary flexibility to respond to developments in technology, the market and social demand. As well as collaborative research projects, a cluster may incorporate other kinds of activity, as its specific needs dictate. These may include projects reflecting industrial or social priorities, networks of excellence, association of suppliers and users, cooperation with EUREKA, coordination with national initiatives, international cooperation, dissemination of results, or training initiatives;

ANNEX 1,
RTD activities,
eighth paragraph

Software is a major element in the information infrastructure, and already represents over half the value of computers and embedded systems. The programme concentrates on techniques and best practice in a limited number of software technologies enabling the production of reliable, correct, efficient and usable software. **Electronic components and subsystems** are the physical building blocks of the information infrastructure needed for systems and applications across all industrial sectors. The programme concentrates on RTD into semiconductors in areas where European industry needs the capability and can be competitive, with a particular emphasis on advanced integrated circuits for specific applications; peripherals, and in particular the flat panel displays and compact memory systems; and the emerging field of microsystems.

ANNEX I,
RTD Activities,
eighth paragraph
a (new)

Multimedia technologies will provide the human interface to the information infrastructure. The programme concentrates on the development and integration of technologies needed for the creation, manipulation, display, and storage of multimedia information. Multimedia data transmission and applications will be covered in the telecommunications and telematics programmes.

ANNEX I,
SOFTWARE
TECHNOLOGIES,
third paragraph

Modern information processing systems exhibit an increasing tendency towards the distribution of function and information, so as better to match the nature of the organizations that the systems serve. This evolution is evident not only in business data processing but also in industrial control and embedded systems. Most mass-market electronic products contain an increasing proportion of embedded software. The variety, functionality and complexity of such products is increasing considerably. User interfaces are becoming very important. However the development of dependable, extensible and usable systems with these characteristics presents a special challenge. Such systems are already radically reducing the cost of computing for users. For hardware and software vendors and service suppliers, this segment of the IT market is now forecast to become a key battleground by the mid 1990s. It is an arena in which, at this stage, no company dominates and in which Europe has strongly developed capabilities. Action in this area will help position European industry in this highly competitive and strategic market, as well as providing essential elements of the European information infrastructure.

ANNEX 1,
SOFTWARE
TECHNOLOGIES,
seventh paragraph

A third area will aim to develop and experiment with emerging software technologies, in particular those for incorporating digital signal processing techniques into embedded software. These technologies are at the heart of new developments in the progressive 'digitalization' of the social infrastructure both for the individual citizen and for the less-favoured regions of the Community, since they are a vital factor for information infrastructures. As generic technologies they will also contribute to focused clusters involving high-performance computing and networking. This area also includes emerging software technologies providing reasoning capabilities, allowing intelligence, flexibility and adaptation, and supporting modelling, reuse, and sharing of various levels of knowledge. Frameworks and integration techniques to build cooperating or distributed intelligent systems and to model enterprise wide or application sector knowledge assets will be addressed. This RTD mid-term work will be driven by generic needs such as the development and demonstration of complex, distributed decision intensive applications which are present in every sector of human activities and which will have a positive impact on European competitiveness as well as on integration and cohesion.

ANNEX 1,
Software technologies,
tenth paragraph

The final area addresses technologies that will offer increased human comfort and security in dealing with information technology systems. An essential factor in the acquisition of these new technologies is the user-system interface. Dialogue with machines should become easier and more easily absorbed, including for non-professional users. This issue must be examined equally from both the user's and the supplier's standpoint. Human behaviour, in particular cognitive aspects, and artistic/creative ability constitute essential research topics. These research areas will also be important in terms of acceptance and acquisition of future multimedia systems. In achieving this new opportunities are opened up with the promise of increased and wider markets for IT based products. RTD work will be carried out to better understand the user-system interaction, such as, inter alia, cognitive modelling, interaction models, media and metaphors, and cooperative work. The development and consolidation of emerging technologies will be pursued. These activities will be closely related to upstream research, and will build on and contribute to standards and help maintain awareness of the potentialities of the new technologies.

ANNEX 1,
Multimedia technologies,
first paragraph

The objective of this domain is to develop and integrate information and communications technologies which underpin multimedia end-user systems and applications, with a view to offering users new services based on information technologies. Specific work will be undertaken on technologies for integrated personal systems, which will give the individual citizen personal access, whatever the location, to information infrastructure services and local information processing and, for this reason, represent one of the main market opportunities in the area of multimedia systems.

ANNEX 1,

Multimedia technologies,

second paragraph

The emergence of a market for multimedia systems, allowing the seamless integration of voice, video, text, sound, animation and graphics, has been predicted for a decade. The electronic networks emerging in Europe will strongly stimulate these services by rapidly broadening their content and geographical distribution. Only now have advances in microelectronics performance, software techniques, standards and digital communications allowed multimedia systems to become a reality. It is expected that multimedia systems will be taken up first in customized applications in business and the home, in education, manufacturing, financial services, medicine, transport, insurance, retail, tourism, the arts and entertainment, including games, films and television. New levels of productivity are expected to be achieved in business and education as a result of multimedia technologies.

ANNEX 1,

Multimedia technologies,

fifth paragraph

The domain will develop and integrate technologies to allow the creation, manipulation, display and storage of multimedia information. RTD includes the specification of appropriate components, for example video compression/decompression chips, high capacity optical memory and processors, and liquid crystal displays, and their integration into advanced multimedia systems; standards for multimedia storage, representation, and compression/decompression; and generic multimedia software. The area of software includes multimedia extensions to existing system software and tools; creative tools providing software objects in the various media - video, audio, animation, painting and drawing; and authoring tools which allow multimedia user-friendly custom applications to be built from the individual media objects. The integration of hardware and software elements will be demonstrated in systems for a variety of end-user applications. Software technologies which afford enhanced human convenience and security with regard to multimedia systems,

and which will therefore play an important role, are an essential factor in the acceptance of multimedia systems.

ANNEX 1,
Multimedia technologies,
seventh paragraph

Work on integrated personal systems will concentrate on two topics: the development of technologies for multi-function, integrated user access devices capable of handling multimedia data, including the electronic wallet and personal group communicators; and the application of technological advances in the information provider industry to enable them to satisfy the ever increasing user demand for efficient services. These two aspects cover the application sides of the complete system solution that, for its full deployment, will rely on existing wireless network and telecommunication infrastructures, and will take into account new development activities in these areas which are covered in the telecommunications and telematics programmes.

ANNEX II
INDICATIVE BREAKDOWN OF AMOUNT

<u>Long-term research</u> -	<u>10%</u>
<u>Software technologies</u>	<u>14%</u>
<u>Technologies for components and subsystems</u>	<u>23%</u>
<u>Multimedia systems</u>	<u>8%</u>
<u>Focused clusters</u>	
- <u>Open microprocessor systems initiative</u>	<u>10%</u>
- <u>High-performance computing and networking</u>	<u>13%</u>
- <u>Technologies for business processes</u>	<u>10%</u>
- <u>Integration in manufacturing</u>	<u>12%</u>
<u>TOTAL</u>	<u>100%</u>

1 911 MECUs^{1 2 3 4}

The above table shows the indicative allocations to long-term research, software technologies, technologies for components and subsystems, multimedia systems and the focused clusters.

It should be noted that this table does not represent a fixed and linear financial breakdown. Interaction will be fostered between long-term research, software technologies, technologies for components and subsystems, multimedia systems and focused clusters.

The specific programme will moreover seek to develop synergies with the specific programme in the field of advanced communications technologies and services, the specific programme in the field of telematic applications of common interest, and the specific programme in the field of industrial technologies and materials.

The breakdown between the different headings does not exclude the possibility that projects could come under several headings.

¹ Including expenditure on staff (4.2%) and administrative expenditure (3%).

² At least 2% of the appropriations will be spent on training activities forming part of the programme.

³ 19 MECU of the appropriations will be spent on dissemination and optimization activities forming part of the programme or carried out jointly with its other activities.

⁴ Plus 21 MECUs (which is the difference between the amount deemed necessary for the present programme and the amount foreseen for Information Technologies in the Fourth Framework Programme) allocated to the "Specific RTD Programme implemented by means of on the one hand direct actions and on the other hand S&T support activities carried out in the framework of a competitive approach".

ANNEX III

Point 2.2.,

sixth indent a (new)

Preparatory studies and pilot activities to study the interaction between user-citizens and information infrastructures and to experiment with new ways of using information technologies (in close collaboration with the programmes on advanced communications technologies and services and on telematic applications of common interest and with the programme on targeted socio-economic research);

Amended proposal for a

94/0082 (CNS)

COUNCIL DECISION

adopting a specific

research and technological development programme

in the field of

industrial and materials technologies

(1994-1998)

(submitted by the Commission pursuant to Article 189 A (2)
of the EC Treaty)

The proposal for a Council Decision adopting a specific research and technological development programme in the field of industrial and materials technologies (COM(94) 68 final - 94/0082 (CNS)) is amended as follows :

Recital 4

Whereas in accordance with Article 130i(3), it is appropriate to make an estimate of the means deemed necessary for the realization of this specific programme; and that the funds effectively available shall be determined by the budgetary authorities according to the resources available under the financial perspective and the relative priorities given within the First Action of the fourth framework programme;

Recital 5a (new)

Whereas any increase in the overall maximum amount of the framework programme will depend in particular on the evaluation of the progress made in implementing the programme; whereas the progress in this programme will be deemed satisfactory only if the first commitments of appropriations are effected within a reasonable period following its adoption; whereas that period may not exceed twelve months;

Recital 6a (new)

Whereas any action designed to place the development of Europe's industry on new technological foundations must be based on an adequate knowledge of technological demand in the various sectors which constitute Europe's industrial structure, including the whole range of scientific and technological strengths and their respective levels of competitiveness; whereas such knowledge is particularly necessary in order to give priority to general technologies for widespread dissemination among the sectors involved;

Recital 10a (new)

Whereas the Commission's efforts to simplify and accelerate the candidature and selection procedures and make them more transparent must be continued in order to support the implementation of the programme and to facilitate the action which firms, and particularly SMEs, research centres and universities have to undertake in order to participate in a Community RTD activity;

Recital 17

Whereas an assessment should be made of the economic and social impact and, in particular, the consequences for employment associated with the activities carried out under this programme; the impact of any technological risks associated with such activities will also have to be assessed;

Article 2 (1)

The funds estimated as necessary for the execution of the programme amount to ECU 1623 million, including a maximum of 5.08% for staff and administrative expenditure.

The first commitments of appropriations shall be effected no later than twelve months following the adoption of the programme, unless good reason is given for exceeding that time-limit.

Article 2 (4)

4. The budgetary authority shall lay down the available appropriations for each financial year in accordance with the availability of resources under the financial perspective and in agreement with the scientific and technological priorities fixed by the fourth Framework Programme.

Annex I, area 2 (2)

By adopting an approach which takes account of the entire product lifecycle, the research activities should seek to harness the best and most appropriate means of ensuring the conservation of resources and satisfying consumer requirements in order to make quality products at a reasonable cost and to act responsibly with regard to the natural and social environment, especially in respect of employment, and social exclusion.

Annex I, area 2 (3)

Linked with the need for increased reliability, safety, health protection and cost-effectiveness, the need for a deeper knowledge of material, component and product behaviour is of growing importance. This area, studied at length in the past, is becoming increasingly important given the current economic, social and environmental challenges. The research topics in this field should be:

**Annex I, area 3.1
first indent**

- development of design tools and support systems for configuration and concept design of vehicles and their components, equipment, subsystems and system interfaces, facilitating rapid and easy definition of users' needs and product specifications;

Amended proposal for a

94/0083 (CNS)

COUNCIL DECISION

adopting a specific

research and technological programme

in the field of standards, measurements and testing

(1994-1998)

(submitted by the Commission pursuant to Article 189 A (2)
of the EC Treaty)

The proposal for a Council Decision adopting a specific research and technological development programme in the field of standards, measurement and testing (COM (94)68 final -94/0083 (CNS)) is amended as follows :

Recital 4

Whereas in accordance with Article 130i(3), an estimate should be made of the financial resources needed to carry out this specific programme; whereas the final amounts will be decided upon by the budgetary authority in accordance with the resources available under the financial perspective and the relative priority assigned to the area covered by this programme within activity I under the fourth framework programme;

Recital 6a
(new)

Whereas any increase in the overall maximum amount of the framework programme will depend in particular on the evaluation of the progress made in implementing the programme; whereas the progress made in this programme will be deemed satisfactory only if the first commitments of appropriations are effected within a reasonable period following the adoption of the programme; whereas that period may not exceed twelve months;

Recital 12a
(new)

Whereas the Commission's efforts to simplify and speed up the application and selection procedures and make them more transparent must be continued, in order to promote the implementation of the programme and to facilitate the action which firms, particularly SMUs, research centres and universities must take in order to participate in a Community RTD activity;

Recital 13a
(new)

whereas research activities related to standardization, measurements and testing for the iron and steel industry can be taken into consideration in this specific programme if they are of a pre-competitive and multi-sectoral nature;

Article 2.1

1. The funds estimated as necessary for the execution of the programme amount to ECU 167 m, including a maximum of 10.9% for staff and administrative expenditure.

The first appropriations shall be committed no later than 12 months following the adoption of the programme, unless good reason is given for exceeding this deadline.

Article 2.4

4. The budgetary authority shall determine the appropriations available for each financial year in accordance with the availability of resources under the financial perspective and the scientific and technological priorities set in the fourth framework programme.

Annex I, (2), first paragraph

Sound, reliable measurements, be they physical, chemical or biological in nature, are essential to the functioning of modern society. Without them, industries, particularly high technology ones, cannot operate, trade is impaired by disputes, health care becomes empirical and legislation, ranging from environmental and worker protection to the operation of the Common Agricultural Policy and the Single Market, cannot be successfully implemented. For these reasons advanced industrial nations spend up to 6% of their gross national product on measurements and measurement-related operations. Community action directed towards the establishment of harmonized systems of measurements, reference materials and written standards is thus fully in line with the principles of subsidiarity and cohesion and supports the aims of the Commission's White Paper on Growth, Competitiveness and Employment. This need is particularly acute in Member States which have less well developed infrastructures for measurements and testing.

Annex I, (2), seventh paragraph

When attempting to meet the above objectives, the Standardization, Measurement and Testing programme will carry out its activities in close collaboration with other specific programmes (for example, Industrial and Materials Technologies, Environment and Climate, Marine Sciences and Technologies, Biotechnology, Biomedicine and Health, Agriculture and Food Technologies, Socio-Economic Research). Similarly, activities aimed at strengthening the metrological infrastructure at the European level will be carried out in consultation with existing networks of national laboratories, such as EUROMET, EURACHEM, EUROLAB, WECC and WELAC. In view of the increased emphasis placed upon the resolution of unpredictable or short- to medium-term difficulties which arise during the development or implementation of a wide range of Community policies, it is also necessary to establish additional thematic networks of excellence. Such networks could serve not only to solve scientific and technical problems but also as reference points for enterprises (especially SMEs) producing goods and services, as centres for analysing national needs and disseminating and transferring information, and as advanced training centres.

Annex I, Theme II, second paragraph,
fifth indent

Measurements required by customs laboratories: the protection of the external frontiers of the Community against the importation of illegal substances, sub-standard goods, counterfeits or fraudulently labelled materials requires the development of new and improved harmonized methods of sampling and measurement. In particular, measures will be promoted for checking that contents accord with labelling, for the general purposes of protecting consumers and the environment. In addition, measurements are required to determine duties to be levied or refunded.

Annex I, Theme III, second paragraph,
third indent

Justice system: coordinated activities are needed to develop and harmonize the specialist measurements used in forensic science and control, in particular, of narcotics in support of the newly established cooperation in the field of justice. Whilst relatively few laboratories are involved, the advanced nature of the measurements and the consequences of the results warrant coordinated action.

Amended proposal for a

94/0085 (CNS)

COUNCIL DECISION

adopting a specific programme of
research and technological development
in the field of marine science and technology

(1994-1998)

(submitted by the Commission pursuant to Article 189 A (2)
of the EC Treaty)

The proposal for a Council decision adopting a specific programme of research and technological development in the field of marine science and technology (1994-1998) (COM(94)68 final - 94/0085 (CNS)) is amended as follows:

Recital 5

Whereas in accordance with Article 130i(3), it is appropriate to make an estimate of the means deemed necessary for the realization of this specific programme; and that the funds effectively available shall be determined by the budgetary authorities according to the resources available under the financial perspective and the relative priorities given within the First Action of the fourth framework programme;

Recital 5a (new)

Whereas any increase in the overall maximum amount of the framework programme will depend in particular on the evaluation of the progress made in implementing the programme; whereas the progress made in this programme will be deemed satisfactory only if the first commitments of appropriations are effected within a reasonable period following the adoption of the programme; whereas that period may not exceed twelve months;

Recital 6a (new)

Whereas marine resources are economically significant for Europe;

Recital 14

Whereas measures are necessary to encourage the involvement of SMEs in this programme, in particular through the development of generic technologies and advanced systems;

Recital 14a (new)

Whereas the Commission's efforts to simplify and accelerate the candidature and selection procedures and make them more transparent must be continued in order to support the implementation of the programme and to facilitate the action which firms, and particularly SMEs, research centres and universities have to undertake in order to participate in a Community RTD activity;

Recital 15a (new)

Whereas the efficient use of capital facilities is important;

Article 2(1)

1. The funds estimated as necessary for the execution of the programme amount to ECU 228 million, including a maximum of 6.7% for staff and administrative expenditure.

The first commitments of appropriations shall be effected no later than twelve months following the adoption of the programme, unless good reason is given for exceeding that time-limit.

Article 2(4)

4. The budgetary authority shall lay down the available appropriations for each financial year in accordance with the availability of resources under the financial perspective and in agreement with the scientific and technological priorities fixed by the fourth framework programme.

Annex I,
Research Area I (3), 3

3. The Canary-Azores region and Alboran Sea:

Analysis and simulation of the exchange of energy, water, particulate and dissolved matter and organisms between the North Atlantic and the Mediterranean and between coastal and ocean waters across the eastern boundary current; work on the Strait of Gibraltar and adjacent seas will focus on analyses and simulations of fluxes and their climatic, geochemical and biological implications.

Annex I, Research Area II,
(1) 'Objective'

To understand the complex interactions of the physical, biological and chemical processes in shelf seas and coastal environments; to enhance through increased scientific knowledge medium and long-term predictive capacity of coastal zone evolution with a view to sustainable use of the coastal and shelf environments.

Annex I, Area IV (4)

4. Coordinated use of capital facilities, including research vessels and large computing facilities, on a regional and European scale.

Amended proposal for a

COUNCIL DECISION

94/0088 (CNS)

adopting a specific research,
technological development and demonstration programme in the
field of agriculture and fisheries
(including agro-industry, food technologies,
forestry, aquaculture and rural development)

(1994-1998)

(submitted by the Commission pursuant to Article 189 A (2)
of the EC Treaty)

The proposal for a Council Decision adopting a specific Research, Technological Development and Demonstration Programme in the Field of Agriculture and Fisheries (including Agro-industry, Food Technologies, Forestry, Aquaculture and Rural Development) (COM(94)0068 final - 94/0088 (CNS)) is amended as follows :

Recital n° 4

Whereas in accordance with Article 130i(3) of the Treaty, it is appropriate to make an estimate of the means deemed necessary for the realisation of this specific programme; whereas the funds effectively available shall be determined by the budgetary authorities according to the resources available under the Financial Perspective and relative priorities given within the First Action of the fourth Framework Programme;

Recital n° 5 2nd
(new)

Whereas Community aid to fisheries research can be more effective if a separate budget line is created for the collection of data and the maintenance and development of appropriate data bases in cooperation with the corresponding authorities in the Member States;

Recital n° 5 3rd
(new)

Whereas any increase in the overall maximum amount of the framework programme will depend in particular on the evaluation of the progress made in implementing the programme; whereas the progress made in this programme will be deemed satisfactory only if the first commitments of appropriations are effected within a reasonable period following the adoption of the programme; whereas that period may not exceed twelve months;

Recital n° 6
4th indent

- contributing to sustainable development, the preservation and restoration of biodiversity and the improvement of rural and coastal development;

Recital n° 11 2nd
(new)

Whereas the Commission's efforts to simplify and accelerate the candidature and selection procedures and make them more transparent must be continued in order to support the implementation of the programme and to facilitate the action which firms, and particularly SMEs, research centres and universities have to undertake in order to participate in a Community RTD activity;

Article 2.1

1. The funds estimated as necessary for the execution of the programme amount to ECU 607 million, including a maximum of 7.3% for staff and administrative expenditure.

The first commitments of appropriations shall be effected no later than twelve months following the adoption of the programme, unless good reason is given for exceeding that time-limit.

Article 2.4

4. The budgetary authority shall lay down the available appropriations for each financial year in accordance with the availability of resources under the financial perspective and in agreement with the scientific and technological priorities fixed by the fourth Framework Programme.

**Annex I
Objectives and
scientific and technical
content
(5th paragraph)**

Research in this area will provide a strong scientific research base for competitive, efficient and sustainable primary production and agro-industrial sector; to support the evolving Community policies (especially the major Community policies of Agriculture, Rural Development, Fisheries, Environment and the Internal Market) and to respond to societal needs for a wide range of healthy and nutritious food, whose organoleptic properties shall be one of the criteria for determining quality, and new non-food products which are produced compatible with the environment.

**Annex I
Scale-up and
downstream
processing
(3rd paragraph)**

The upstream 'green' biobased chemistry, and applied biotechnologies involving enzymatic and fermentative biosynthesis, and the downstream activities of fractionation, separation and product development, are typical examples of processes which pose technological difficulties in scaling up to the industrial operational scale, and where synergy between chemical engineering in design, instrumentation, and equipment, and the life scientist will be most effective. Research on upgrading of by-products from fermentations and other processing industries will be undertaken, including the treatment of agricultural and agro-industrial wastes, but excluding urban waste, to obtain for example by-products or agricultural fertilizers.

**Annex I
Generic science and
advanced technologies
for nutritious foods
(1st paragraph)**

The food and drink industry, including fish processing, ranks second in terms of output in Europe. Research should improve the industry's competitive position but also provide consumers with a safer higher quality, more nutritious and health promoting diet (including organoleptic).

**Annex I
Generic science and
advanced technologies
for nutritious foods
(3rd paragraph)**

Other research will concentrate on generic scientific phenomena involved in the conversion of biological raw materials into food, and its metabolism. The emphasis will be on multidisciplinary, molecular and cellular physiological approaches which will support new advanced technologies for food quality, safety and wholesomeness, including freshness and spoilage of seafood, and other foods.

**Annex I
Agriculture, silvi-
culture, rural
development, and
fisheries and
aquaculture
(2nd paragraph bis
new)**

In the agricultural sector, research will be undertaken in areas related to the preservation of the genetic heritage and biodiversity in seeds of indigenous species, which have proved their ability to adapt to adverse climatic effects, such as drought, or have shown their resistance to specific pests. At the same time, efforts will be made to develop varieties more resistant to these adverse effects to assist in extensive crops for dry farming.

Annex I
Agriculture, forestry,
rural development,
and fisheries and
aquaculture
(2nd paragraph new)

In the same sector, water management models will be developed for preserving crops when precipitation is rare or irregular, so that lowering of the water table through excessive irrigation from subterranean water can be prevented, and for modifying the procedures which prevent the salinisation of water and surface layers. Under the same heading, special attention will be paid to management of soil resources and specifically to the promotion of methods of combating erosion.

Annex I
Fisheries and
Aquaculture
(2nd paragraph)

Environmental impact of fisheries and aquaculture activities : the objective is to generate a better knowledge and understanding of the effects that fisheries and aquaculture have on the ecosystem including work on improving the selectivity of fishing gear with the aim of reducing the mortality of juveniles and non-target species, against the background of other perturbations in the environment caused by natural (e.g. hydrographic) and anthropogenic factors other than fisheries (e.g. pollution, eutrophication, gravel extraction) with the aim of ensuring the conditions for a balanced exploitation of fisheries and aquaculture resources in the Community.

Amended proposal for a
COUNCIL DECISION

94/0089 (CNS)

adopting a specific research, technological
development and demonstration programme in the
field of non-nuclear energy

(1994-1998)

(submitted by the Commission pursuant to Article 189 A (2)
of the EC Treaty)

The proposal for a Council Decision adopting a specific research, technological development and demonstration programme in the field of non-nuclear energy (COM(94)68 final - 94/0089 (CNS) is amended as follows :

Recital 4

Whereas in accordance with Article 130i(3), an estimate should be made of the financial resources needed to carry out this specific programme; whereas the final amounts will be decided upon by the budgetary authority in accordance with the resources available under the financial perspective and the relative priority assigned to the area covered by this programme within activity I under the fourth framework programme;

Recital 5 a (new)

Whereas any increase in the overall maximum amount of the framework programme will depend in particular on the evaluation of the progress made in implementing the programme; whereas the progress made in this programme will be deemed satisfactory only if the first commitments of appropriations are effected within a reasonable period following the adoption of the programme; whereas that period may not exceed twelve months;

Recital 6 b (new)

Whereas the programme for non-nuclear energies calls for a coherent strategy covering the whole process of innovation, from scientific breakthrough all the way to dissemination;

Recital 13 a (new)

Whereas this contribution will be effective only if, in the calls for proposals, the selection of projects, and their follow-up during and after completion, priority is given to the possibilities for subsequent market access of the technologies concerned;

Recital 14 a (new)

Whereas, in order to respect the principle of subsidiarity and pursuant to Article 130h of the Treaty, this programme should be coordinated with the programmes supporting non-nuclear energy in the Member States;

Recital 17 a (new)

Whereas the Commission's efforts to simplify and speed up the application and selection procedures and make them more transparent must be continued in order to promote the implementation of the programme and to facilitate the action which firms, particularly SMEs, research centres and universities must take in order to participate in a Community RTD activity;

Recital 18

Whereas, in accordance with Article 130m of the Treaty, it may be appropriate to engage in international cooperation activities with international organizations, and in particular with the International Energy Agency, and third countries other than the countries covered by the EEA Agreement for the purpose of implementing this programme;

Article 1, second paragraph

It is based on a coherent joint strategy and covers both the research and technological development phase and the demonstration phase of the programme.

Article 2 (1)

1. The amount deemed necessary for carrying out the programme is ECU 967 million, including a maximum of 5.3% for staff and administrative expenditure.

The first appropriations shall be committed no later than 12 months following the adoption of the programme, unless good reason is given for exceeding this deadline.

Article 2 (4)

4. The budgetary authority shall determine the appropriations available for each financial year in accordance with the availability of resources under the financial perspective and the scientific and technological priorities set in the fourth framework programme.

Article 7 (3), first paragraph

3. The Commission shall coordinate the work of the committees and inform them, at each of their meetings of the progress with the implementation of the programme.

Annex I, point A.1.1, second paragraph

Work will be carried out on processes intended to penetrate the market in the short, medium and long term. The short term option aims at improving conventional power plants to efficiencies above 40% with reduction of all pollutants, even with coal/biomass/waste blends. The medium term option aims primarily at IGCC (integrated gasification combined cycles) processes with efficiencies above 45% and further reduction of pollutants. The long term option aims at the development of the after "IGCC generation" processes (efficiency higher than 50%). Preference will be given to medium and long-term options. The conventional option will however receive appropriate support in cooperation actions with the developing countries, the countries of central and eastern Europe and the countries of the former Soviet Union, in synergy with the Second Action of the Framework Programme.

Annex I, point A.1.3., new paragraph before first paragraph

In R & D on fuel cells a strategy will be adopted, in co-operation with all the parties concerned and the potential users with a view to optimum targeting. Without pre-empting the changes which could result from this co-operation, the priorities envisaged are set out below.

Annex I, point A.1.4, first paragraph a (new)

This battery research effort will accompany the effort in the area of fuel cell vehicles, referred to in item 1.3. It will include the development of batteries and supercapacitors for 'peeling power' in hybrid configurations with fuel cells.

Annex I, point A.1.6, new paragraph before first paragraph

Research in sustainable advanced road transportation systems must be given high priority, as is now the case in the United States for example : it will aim at developing transport services that are attractive to the consumer, economically competitive, result in very low local pollutant emission, lead to dramatic reductions in greenhouse gas emissions and enhance energy security.

Annex I, point A.2, fifth paragraph

The financial efforts, concentrated primarily on the areas referred to in point 2.1 to 2.5, will be devoted to the following topics :

Annex I, point A.2.5, second paragraph a (new)

Advanced conversion processes for hydrogen production from biomass will also be studied.

Annex I, point B, first paragraph

Demonstration activities including dissemination and valorisation, will concern 3 areas : rational use of energy, renewable energy sources and fossil fuels. Their contribution to reducing and preventing air pollution, stimulating growth, strengthening competitiveness, increasing employment and to economic and social cohesion will depend crucially on account being taken from the time of the calls for proposals and including the follow-up of projects, during and after implementation, of the possibilities for subsequent market access of the technologies concerned.

Annex I, point B.1.4, second paragraph a (new)

Special attention should be devoted to electric cars, notably in urban environment, in order to avoid damage to people, buildings and cultural heritage caused by exhaust from combustion motors. Developing efficient, light weight rechargeable batteries is a prerequisite for the development of such cars.

Annex I, point B.2, eighth paragraph

Financial support will focus as a priority on energy from biomass and waste, solar energy and wind energy, including its storage, and secondarily on hydroelectric energy and geothermal energy.

Annex I, point B.3.1, new paragraph before first paragraph

The demonstration action in the solid fuels sector will be coordinated with the corresponding research action and integrated into the European network of excellence which must be established.

Annex I, point B.3.1, third paragraph a (new)

A wide-ranging action, conducted in cooperation with the Second Action of the framework programme and in synergy with the research action, will be carried out in relation to the developing countries and the countries of Eastern Europe so that the production and utilization of coal in these countries causes as little pollution as possible. Without neglecting advanced technologies, this action will take into due account of conventional options, in so far as they could contribute in the short term to significant reduction of pollution levels.

Amended proposal for a

94/0091 (CNS)

COUNCIL DECISION

adopting a specific programme in the field of

TARGETED SOCIO-ECONOMIC RESEARCH

(1994-1998)

(submitted by the Commission pursuant to Article 189 A (2)
of the EC Treaty)

The proposal for a Council Decision adopting a specific TARGETED SOCIO-ECONOMIC RESEARCH (COM(94)68 final - 94/0091 (CNS) is amended as follows:

Recital nr 4

Whereas, in accordance with Article 130i(3), an estimate should be made of the financial resources needed to carry out this specific programme; whereas the final amounts will be decided upon by the budgetary authority in accordance with the resources available under the financial perspective and the relative priority assigned to the area covered by this programme within activity I under the fourth framework programme;

Recital nr 5a
(new)

Whereas any increase in the overall maximum amount of the framework programme will depend in particular on the evaluation of the progress made in implementing the programme; whereas the progress made in this programme will be deemed satisfactory only if the first commitments of appropriations are effected within a reasonable period following the adoption of the programme; whereas that period may not exceed twelve months;

Recital nr 10a
(new)

Whereas the Commission's efforts to simplify and accelerate the candidature and selection procedures and make them more transparent must be continued in order to support the implementation of the programme and to facilitate the action which firms, particularly SMEs, research centres and universities have to undertake in order to participate in a Community RTD activity;

Article 2 (1)

The amount deemed necessary for carrying out the programme is ECU 105 million, including a maximum of 25.70% for staff and administrative expenditure.

The first appropriations shall be committed no later than twelve months following the adoption of the programme, unless good reason is given for exceeding this deadline.

Article 2 (4)

4. The budgetary authority shall determine the appropriations available for each financial year in accordance with the availability of resources under the financial perspective and the scientific and technological priorities set in the fourth framework programme.

Annex I, area 2, section 1(b)(ii),
second indent

- the socio-cultural challenges. Europeans' growing awareness of the environment, ethical problems and safety in all its forms, including health and safety at work, the emergence of new leisure pursuits or new cultural activities, adaptation of mentalities to the changes in production methods and the impact of these factors on consumption patterns will be evaluated with regard to the design, production and dissemination of new knowledge, products and processes. Special attention will also be paid to the relationships between technological development, employment and the organization of society. On the basis of the conclusions set out in the White Paper, and in close liaison with the specific programmes most concerned, special emphasis will be placed on the challenges arising from the emergence of the information society. Multidisciplinary studies will be carried out into the social impact of the spread of information and communication technologies and their interaction with private users so as to pinpoint policy options and experiments likely to bring about widespread acceptance of such technologies by the general public.

**Amended proposal for a
COUNCIL DECISION
adopting a specific research,
technological development and demonstration programme
in the field of
cooperation with third countries and international organizations
(1994-1998)**

(submitted by the Commission pursuant to Article 189 A (2) of the EC Treaty)

The proposal for a Council Decision adopting a specific research, technological development and demonstration programme in the field of cooperation with third countries—and international organizations (1994-1998) (COM (94)68 final - 94/0092 (CNS)) is amended as follows :

Recital 4

Whereas, in accordance with Article 130i(3), an estimate should be made of the financial resources needed to carry out this specific programme; whereas the definitive amounts will be decided by the budgetary authority according to the resources available under the financial perspective and in accordance with the breakdown fixed by the Framework Programme;

Recital 5a

Whereas any increase in the overall maximum amount of the Framework Programme will depend in particular on the evaluation of the progress made in implementing the programme; whereas the progress made in this programme will be deemed satisfactory only if the first commitments of appropriations are effected within a reasonable period following the adoption of the programme; whereas that period may not exceed twelve months;

Recital 5b

Whereas science forms part of the common heritage of mankind; whereas action by the Community in the field of cooperation with third countries and international organizations can, with the support of other Community instruments such as PHARE, TACIS and the European Development Fund, help improve the living conditions of the inhabitants of the countries concerned in the context of development which respects natural equilibria; whereas greater cooperation in the field of science and technology can help to meet major international challenges such as health, nutrition and environmental protection;

Recital 6

Whereas the strengthening of the S&T base of the European Union also depends on an adequate level of cooperation with third countries and international organizations, based on the principle of mutual interest; whereas such cooperation may contribute to the implementation of the Union's foreign and development policies; whereas cooperation should be improved with other fora for cooperation in the field of science and technology; whereas a contribution should be made to safeguarding the scientific potential of the countries of Central and Eastern Europe and the new independent States of the former Soviet Union and thus to enhancing their economic and social development; whereas collaboration with non-European industrialized countries should be promoted where appropriate; whereas it is necessary to contribute to the development of the scientific and technological potential of the developing countries; whereas the European Union can contribute to solving regional and global problems calling for international cooperation; whereas a contribution should also be made to strengthening S&T cooperation between third countries, in particular countries of the same region.

Recital 6a

Whereas the European Union could influence the direction of international research if scientific and technological efforts were more closely coordinated at national and Community levels;

Recital 11a

Whereas the Commission's efforts to simplify and accelerate the candidature and selection procedures and make them more transparent must be continued in order to support the implementation of the programme and to facilitate the action which firms, and particularly SMEs, research centres and universities have to undertake in order to participate in a Community RTD activity;

Recital 15a

Whereas scientific cooperation with scientists from Central and Eastern European countries will mean improving their access to European computer networks;

Recital 15b

Whereas cooperation with the developing countries in the advanced technology sphere paves the way for industrial cooperation with those countries and enhances the competitiveness of European industry;

Article 2 (1)

1. The amount deemed necessary for carrying out the programme is ECU 540 million, including a maximum of 10.1% for staff and administrative expenditure.

The first commitments of appropriations shall be effected within a period of not more than twelve months following the adoption of the programme unless good reason is given for exceeding this period.

Article 2 (4)

4. The budgetary authority shall determine the appropriations available for each financial year in accordance with the availability of resources under the financial perspective and with the breakdown set in the Fourth Framework Programme.

Annexe I (C),
second indent

improvement of agricultural production within this framework of preserving biodiversity and sustainable management of renewable natural resources. This concerns the areas of plant breeding and protection in order to adapt them better to environmental conditions, thus permitting better utilization of the available land; livestock farming, with a special emphasis on better health protection of animals, breed improvements and sustainable production of animal feed; aquaculture, in order to facilitate the development of this activity and its environmental integration; improvements in the conditions of product storage and processing, areas in which losses are considerable in the DCs; analysis of production systems and the scope for optimizing rural systems.

Annex I (C)
sixth paragraph

Another aim of this activity is to make it easier for DCs to participate in the major Community research actions on topics of global importance. Some of the topics are highly relevant to the DCs (desertification, demographic growth, very substantial increase in demand for energy, uncontrolled urban growth, economic and social imbalances), while others that also affect the future of the planet as a whole are common to the DCs and the industrialized countries (greenhouse effect, pollution, communicable diseases, pandemics). It is therefore important that the scientific community in the DCs and in Europe should work together to solve these problems, using to best effect the resources available in both (human resources, skills technologies, natural resources etc.).

Amended proposal for a

COUNCIL DECISION

94/0004(CNS)

adopting a specific

research and technological development programme in the

field of the training and

mobility of researchers

(1994-1998)

(submitted by the Commission pursuant to Article 189 A (2)
of the EC Treaty)

The proposal for a Council Decision adopting a specific research and technological development programme in the field of the training and mobility of researchers (1994-1998) (COM (94) 68 final - 94/004(CNS)) is amended as follows :

Recital 4

Whereas in accordance with Article 130i(3), an estimate shall be made of the financial amount necessary to carry out this specific programme; whereas the definitive amount shall be decided by the Budgetary Authority in accordance with the resources available under the financial perspective and with the share fixed by the framework programme;

Recital 5a (new)

Whereas any increase in the overall maximum amount of the framework programme will depend in particular on the evaluation of the progress made in implementing the programme; whereas the progress made in this programme will be deemed satisfactory only if the first commitments of appropriations are effected within a reasonable period following the adoption of the programme; whereas that period may not exceed twelve months;

Recital 5b (new)

Whereas Community activities in the field of the training and mobility of researchers should contribute to increasing Community prosperity, on the basis of industrial competitiveness, the quality of life and sustainable development and to supporting growth and high levels of employment;

Recital 7

Whereas intensification of Community collaboration by the networking of laboratories and research teams in different countries is an important means of strengthening the European research base; whereas it is also important to facilitate the access of Community researchers to large-scale facilities essential to high quality research;

Recital 9a (new)

Whereas the participation in networks of laboratories and research teams from less-favoured regions, together with measures seeking to encourage leading scientists to work for extended periods in these regions, will help to strengthen and harmonize the scientific and technical capacities and potential in the Community as a whole;

Recital 13 a (new)

Whereas it is appropriate to establish a scheme for Community research grant-holders that will ensure, while taking account of local conditions, equality of treatment between Community research grant-holders of the same category, independent of the Member State where their host institution is situated;

Recital 13 b (new)

Whereas the Community grants are to be wholly used for their intended purpose, and are therefore to be exempt from national income tax;

Whereas the Commission's efforts to simplify and speed up the application and selection procedures and make them more transparent must be continued in order to support the implementation of the programme and to facilitate the action which firms, and particularly SMEs, research centres and universities have to undertake in order to participate in a Community RTD activity;

Article 2(1)

1. The funds estimated as necessary for the execution of the programme amount to ECU 744 m, including a maximum of 7.6% for staff and administrative expenditure.

The first appropriations shall be committed no later than twelve months following the adoption of the programme, unless good reason is given for exceeding this deadline.

Article 2(4)

4. The budgetary authority shall define the appropriations available for each financial year in accordance with the availability of resources under the financial perspective and the scientific and technological priorities fixed by the fourth framework programme.

Annex I, point 1.1, sixth paragraph

In order to stimulate fully the mobility of researchers and to ensure equal treatment for all researchers receiving Community training grants, it is appropriate to establish a single grants scheme.

Annex I, point 2.2.1, first paragraph

Networks will allow researchers from as many countries as possible to join their efforts in 'European Laboratories Without Walls' and to constitute, in this manner, groups capable of performing research of higher quality. Small associations of laboratories and research teams from different countries will also be eligible for support when they are considered to form the core of a future larger network.

Annex I, point 2.2.2, second paragraph,
second indent

support for improvement to large-scale facilities where such support is necessary in order to provide wider access to Community researchers, thus encouraging more efficient use of these facilities.

Annex I, point 2.2.3, first indent

Implementation of an activity of training through research and stimulation of researcher mobility in all the fields covered by the programme. Training periods may have a duration of between three months and three years and will allow European researchers to undergo training or specialization outside their country of origin. With regard to cohesion, measures will be taken to encourage the return to their region of origin of researchers from the less-favoured regions.

Other measures shall be taken, in particular as regards grant levels, to enable leading scientists from the industrialized regions to work for extended periods in research centres in the less favoured regions. The main aim of their visits shall be to enable these centres to benefit from their knowledge and the results of the research they are undertaking. These scientists shall not come under the status of research fellow.

Annex I, point 2.2.3, third indent

Terms and conditions for Community research grant-holders. The work programme, foreseen in Article 5, will detail the arrangements that will apply to research grant-holders. It will establish a single scheme for the training grants awarded in the frame of this and the other specific RTD programmes, covering all Member States while taking account of local conditions. Grants paid directly by the Commission to the research grant-holders will be exempt from national income tax.

Annex I, point 2.2.4, second paragraph, fourth indent (new)

"- the study of the participation in the Programme of women researchers and of measures that could be implemented with a view to its improvement".

Annex III(1), second paragraph

As a general rule, a network shall consist of at least five research teams from at least three countries. The lifetime of a network shall be at least three years. However, networks of less than five teams in different countries may be supported when they are considered to form the core of a future larger network. Such networks will be supported, in a starting phase, for a maximum of only two years; the continuation of support will depend on the number of participants having increased to five or more from at least three countries.

Annex 111(3), seventh paragraph

Return grants

Return grants are reserved for researchers from less-favoured regions who have been in receipt of a grant for at least two years for training through research. Their purpose is to enable the researcher to return to his region of origin for an additional period of one year. An applicant for a return grant must provide proof of links (birth or extended period of residence during the last few years) with his region of origin.

Amended proposal for a

COUNCIL DECISION

94/0095 (CNS)

adopting a specific research and development programme
to be carried out for the European Community,

- on the one hand, by means of direct action (JRC),
- and on the other, by means of activities within
the framework of a competitive approach and
intended for scientific and technical support
to Community policies

(1995-1998)

(submitted by the Commission pursuant to Article 189 A (2)
of the EC Treaty)

The proposal for a Council Decision adopting a specific research and development programme to be carried out for the European Community,
- on the one hand, by means of direct action (JRC),
- and on the other, by means of activities within the framework of a competitive approach and intended for scientific and technical support to Community policies (COM(94)68 final - 94/0095 (CNS)) is amended as follows:

Recital 2a (new)

Whereas the present programme must be the subject of a decision concomitant with those concerning the other specific programmes.

Recital 6

Whereas Decision .../.../EC provides that the maximum overall amount for the framework programme is to be reviewed no later than 30 June 1996 with a view to its being increased; whereas, as a result of that review, the amount deemed necessary for implementation of this programme might increase on the basis of a joint assessment/decision by the Council and the European Parliament;

Recital 12

Whereas the Commission must ensure that research activities carried out as part of the direct and the indirect actions respectively are complementary:

Recital 16a (new)

Whereas the Joint Research Centre, with its laboratories and installations, can make an effective contribution to the training and mobility of research workers, and whereas cooperation should therefore be encouraged in all the Member States between official and industrial laboratories and scientific institutes.

Recital 24a (new)

Whereas the EC must equip itself with the means of promoting research within the Community in order to be able to respond effectively to competition from countries such as the United States, Japan and the newly industrialized South-East Asian countries.

Recital 28

Whereas there should be an independent evaluation, in good time, of progress with the institutional research activities in order to provide the background information required for determination of the objectives of the fifth RTD framework programme; whereas it is necessary, under that programme, to carry out a final evaluation of the results obtained in the light of the objectives set out in this Decision; and whereas the conclusions of these evaluations should be submitted to the European Parliament and the Council with a view to the decisions to be taken on the fifth framework programme.

Recital 30

Whereas, within the framework of the support activities needed for the implementation of other Community policies, the Commission will be able to make use, on a competitive basis, of bodies situated in the Member States or the JRC, provided that the subjects covered by the said activities do not require impartiality on the part of the Community institutions,

Recital 30a (new)

Whereas the areas in which disputes are likely to arise between two Member States or between bodies situated in different Member States could not therefore be concerned with these activities.

Article 5(3)

3. The amount deemed necessary, as indicated above, for implementing the programme may increase pursuant to and in conformity with the Decision referred to in Article 1, paragraph 3 of Decision .../.../EC and on the basis of a joint assessment/decision by the Council and the European Parliament.

Article 7(3)

3. In order to contribute to the overall evaluation of the Community activities provided for in Article 4.2 of the Decision adopting the framework programme, the Commission, after consulting the Board of Governors, shall, in good time, instruct independent experts to conduct an evaluation of the research activities and their management conducted by the JRC under this programme. The results of this assessment shall be submitted to the Council and the European Parliament.

Article 10

The Commission may carry out scientific and technical support for Community policies with the aid of activities within the framework of a competitive approach, provided that the subjects receiving such support do not require impartiality on the part of the Community institutions.

Annex I
Scientific and technological objectives and content
Institutional research activities, Environment

The JRC will also contribute to the ENRICH network by making its scientific research on global change available. This network should also contribute to the development of the research capacities of the developing countries, mainly - but not solely - in Africa and the Mediterranean area; it should also provide support for the Central and Eastern European countries. ENRICH should be implemented by means of the JRC's own contributions, of shared-cost projects and using other Community mechanisms.

Annex I
A. Environment
New indent

- develop methods which will help to perfect a system for detecting landmines.

Annex I
Scientific and technological objectives and content
Institutional research activities, Non-nuclear energy

Special efforts will be made in the area of renewable energy sources; prenormative research will be intensified in the areas of photovoltaic energy, solar energy, energy conservation, the development of materials for clean technologies, and analysis of systems and standardization procedures from the energy point of view. Cross-border research of this kind should facilitate the dissemination of these technologies, which are approaching some degree of maturity. The JRC will contribute to the development of technologies for cleaner and more efficient use of energy, with the emphasis on environmental aspects, in the following sectors and in close co-operation with the corresponding shared cost action programme:

Annex I
Scientific and technological objectives and content
Institutional research activities
Targeted socio-economic research

The European Science and Technology Observatory (ESTO) of the JRC's Institute for Prospective Technologies will provide the European Parliament, the Commission and any other interested public or private bodies with an information service on progress in science and technology, and ensure surveillance

of scientific developments and technological innovation.

This service will contribute to an analysis of the situation in the Community and the rest of Europe in a global context, as well as to an analysis of the technological strategies of economic operators (industry, public authorities, etc.) and their social impact. An independent comparative study of the Community's expectations with regard to new scientific, technological and technical developments will contribute to decision-making, whether by the Commission, the public authorities or businesses.

Annex I
Scientific and technological objectives and content
Institutional scientific and technical support activities
Environment, paragraph 1

Research on air quality to be carried out by the Central Laboratory for Air Pollution (ERLAP), which is intended to provide the scientific basis and scientific and technical support for the preparation and implementation of Community directives on air quality. The establishment of harmonization procedures designed to ensure absolute coherence of information coming from the different Member States will be a priority. Such procedures should make for much more effective application of the framework directive on air quality, and enhance awareness of the impact of regulations on air quality in the areas of transport, energy, industry and urban development. Initially, particular attention will be paid to the last two sectors. The implementation of the Community directives on radioactivity in the environment, in particular those concerning exchanges of information between the Member States under normal conditions and in the event of an accident, requires scientific and technical support which is closely associated with this research;

Annex I
Scientific and technological
objectives and content
Institutional scientific and
technical support activities
Environment, paragraph 3

The continuation, also within this framework, of the work undertaken by the European Centre⁻⁻⁻ for the Validation of Alternative Methods (ECVAM) and described in the communication from the Commission to the Council and to Parliament (SEC(91)1794) in October 1991. The aim of ECVAM is to coordinate the validation and acceptance of "alternative" methods which may reduce or abolish laboratory experiments on animals. To this end, discussions between government, companies, scientists, consumers and animal protection associations are being conducted successfully thanks to the impartiality of the JRC. The reinforcement of this dialogue is essential if the Community is to achieve the objective laid down in the Fifth Action Programme on the Environment, i.e. a reduction of at least 50% in the number of vertebrates used in laboratory experiments.

Annex IV
Scientific and technological
objectives and content of the
competitive support activities
Agriculture, paragraph 2

= a series of tests for quality control in food products:

Annex IV
Scientific and technological
objectives
Agriculture, paragraph 4

Deleted

Annex VI
Detailed rules for imple-
menting the competitive support
activities, Paragraph 2

While ensuring maximum flexibility, the Commission will determine the responsibilities, in particular as regards the grant of the financial resources provided for these activities, according to the field of activity concerned. The resources will be granted on a competitive basis. The Commission will ensure that the activities concerned under no circumstances enable a Member State or a national body to influence a future decision using the results of the research it has carried out.

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