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I

(Acts whose publication is obligatory)

DECISION No 182/1999/EC OF THE EUROPEAN PARLIAMENT AND OF THE
COUNCIL

of 22 December 1998

concerning the fifth framework programme of the European Community for research,
technological development and demonstration activities (1998 to 2002)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF
THE EUROPEAN UNION,

Having regard to the Treaty establishing the European
Community, and in particular Article 130i(1) thereof,

Having regard to the proposal from the Commission ⁽¹⁾,

Having regard to the opinion of the Economic and Social
Committee ⁽²⁾,

Having regard to the opinion of the Committee of the
Regions ⁽³⁾,

Acting in accordance with the procedure laid down in
Article 189b of the Treaty ⁽⁴⁾ and in the light of the joint
text approved by the Conciliation Committee on 25
November 1998,

- (1) Whereas, in accordance with Articles 130f(3) and
130i(1) of the Treaty, a multiannual framework
programme covering all Community activities in
the field of research and technological development
including demonstration activities, hereinafter
referred to as RTD, should be adopted;

⁽¹⁾ OJ C 173, 7.6.1997, p. 10, and OJ C 291, 25.9.1997,
p. 15.

⁽²⁾ OJ C 355, 21.11.1997, p. 38, and OJ C 73, 9.3.1998,
p. 133.

⁽³⁾ OJ C 379, 15.12.1997, p. 26.

⁽⁴⁾ Opinion of the European Parliament of 18 December 1997
(OJ C 14, 19.1.1998, p. 171), Council Common Position of
24 March 1998 (OJ C 178, 10.6.1998, p. 49) and Decision
of the European Parliament of 17 June 1998 (OJ C 210,
6.7.1998, p. 131). Decision of the European Parliament of
15 December 1998 and Decision of the Council of 22
December 1998.

- (2) Whereas it has been considered appropriate to
adopt a new framework programme for the period
1998 to 2002 in order to ensure continuity of
Community research;

- (3) Whereas, in accordance with Article 4(2) of
Decision No 1110/94/EC of the European
Parliament and of the Council of 26 April 1994
concerning the fourth framework programme of
the European Community activities in the field of
research, technological development and
demonstration (1994 to 1998) ⁽⁵⁾, the Commission
is required to have an external assessment
conducted into the management of and progress
with Community activities carried out during the
five years preceding the assessment, prior to
presenting its proposal for a fifth framework
programme; whereas that assessment, the
conclusions thereof and the Commission's
comments have been communicated to the
European Parliament, the Council, the Economic
and Social Committee and the Committee of the
Regions;

- (4) Whereas, in accordance with Article 130f(1) of the
Treaty, the Community's research and
technological development policy should address,
as a matter of priority, problems of society,
improving the international competitiveness of
Community industry, sustainable development, job
creation, the quality of life and globalisation of
knowledge, contributing to the development and
implementation of the Community's policies and

⁽⁵⁾ OJ L 126, 18.5.1994, p. 1. Decision as last amended by
Decision No 2535/97/EC (OJ L 347, 18.12.1997, p. 1).

- the role of the Community in the world as a focal point of scientific and technological excellence;
- (5) Whereas appropriate steps should be taken to promote cooperation and coordination between Member States;
- (6) Whereas the RTD activities undertaken in the context of the first activity referred to in Article 130g of the Treaty should focus on a limited number of topics; whereas those activities, in the context of indirect actions, should be implemented through 'key actions', which bring together the activities (ranging from basic research through applied and generic research to development and demonstration) in a coherent whole in order to target them strategically on a common European challenge or problem; research and technological development activities of a generic nature; and activities designed to encourage the optimum use of research infrastructures and improve access thereto;
- (7) Whereas the activities undertaken in the context of the second (cooperation with third countries and international organisations), third (dissemination and optimisation of RTD results) and fourth (training and mobility of researchers) activities referred to in Article 130g of the Treaty should complement, support and interact with each other and the abovementioned RTD activities;
- (8) Whereas this approach presupposes that the potential for scientific and technological excellence existing within the Community is maintained and reinforced, whilst taking full account of the efforts made by its main international partners;
- (9) Whereas it is appropriate, in this same context, to place special emphasis on the needs of small and medium-sized enterprises (SMEs), so as to promote their effective participation in Community programmes and their ability to benefit from them; on the dissemination and transfer of results; on innovation; and on the training and mobility of researchers, thereby encouraging the emergence of a new generation of enterprising researchers with innovative ideas;
- (10) Whereas research and technological development can stimulate economic growth and, as a result, lead to the creation of lasting employment;
- (11) Whereas researchers, industry and users have contributed substantially to the definition of actions to be undertaken in the fifth framework programme and should be involved in its implementation;
- (12) Whereas the formulation and implementation of the Community's policies and actions must take into account objectives related to economic and social cohesion; whereas, in accordance with this principle, the framework programme must contribute to the harmonious development of the Community while encouraging RTD activities of high quality; whereas it is therefore necessary to respect the complementary roles of RTD activities and the action undertaken by the Community through other relevant instruments;
- (13) Whereas it is necessary to promote and facilitate the participation of ultraperipheral regions in Community RTD actions through appropriate mechanisms adapted to their particular situation;
- (14) Whereas, in accordance with the principles of subsidiarity and proportionality as enshrined in Article 3b of the Treaty, the objectives of Community research and technological development policy reflected in the fifth framework programme warrant activities at Community level in so far as the objectives cannot be sufficiently achieved by the Member States; whereas there is a need to establish a 'critical mass' in human and financial terms, in particular through the combination of the complementary expertise and resources available in the various Member States; whereas these objectives can therefore be better achieved at Community level; whereas this Decision does not go beyond what is necessary to achieve these objectives;
- (15) Whereas the Community's financial participation in the actions of the framework programme may, in accordance with the principles set out in this framework programme, be varied at the level of the specific programmes according to the nature of the activities concerned and the proximity to the market, in specific and duly justified cases and in compliance with the provisions of the Community framework for State aid for research and development ⁽¹⁾, in particular points 5.12 and 5.13 thereof, and with international rules;
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- ⁽¹⁾ OJ C 45, 17.2.1996, p. 5.

- (16) Whereas the maximum overall amount of the fifth framework programme would need to be revised should new Member States accede before the framework programme expires;
- (17) Whereas Community participation in the framework programme should correspond to the financial perspective in force for the whole period of the programme; whereas account should be taken of the fact that a new financial perspective will be negotiated during the course of the fifth framework programme; whereas, if the maximum overall amount were inconsistent with the amount available for research within the financial perspective then in force, or if there were no financial perspective in force, it would be necessary to decide on a new amount under the conditions provided for in the Treaty; whereas there should be equivalent arrangements for the specific programmes; whereas, in the absence of such arrangements, the specific programmes could not be implemented since they would have been deprived of a legal base for the expenditures which they foresee;
- (18) Whereas the administrative expenditure arising from research activities has to be financed within the general amount allocated to the framework programme and should be included in the budget in a transparent fashion;
- (19) Whereas the criteria which have been laid down to choose the topics covered by the fifth framework programme and the related scientific and technological objectives take into account the abovementioned principles; whereas those criteria should also be applied when the fifth framework programme is implemented, in order to ensure consistency;
- (20) Whereas the Joint Research Centre (JRC) will implement direct RTD actions through research and scientific and technical support activities of an institutional character where it has special or even unique expertise and facilities in the Community or where it is entrusted with activities necessary for the framing and implementation of Community policies and tasks incumbent on the Commission pursuant to the Treaty which require the JRC's impartiality; whereas in addition, it will participate progressively in a competitive approach, as a member of consortia, in carrying out research activities foreseen by way of indirect actions;
- (21) Whereas it is necessary to take into account the ethical aspects of advances in knowledge and technologies and their application and to conduct research activities in compliance with fundamental ethical principles and with the protection of privacy;
- (22) Whereas the Community equal opportunities policy must be taken into account in implementing the fifth framework programme whereas, therefore, participation of women in the field of RTD should be encouraged;
- (23) Whereas, in addition to the annual report to be submitted to the European Parliament and the Council pursuant to Article 130p of the Treaty, arrangements should be adopted, in accordance with recommendations to be implemented in respect of transparency and sound and efficient management, for the systematic examination of the progress of the fifth framework programme and its evaluation;
- (24) Whereas the European Parliament, as one of the decision-making bodies for future research programmes, intends to follow the progress of the framework programme during its implementation by the Commission, while not impinging on or constraining the Commission's implementation role;
- (25) Whereas a *modus vivendi* between the European Parliament, the Council and the Commission concerning the implementing measures for acts adopted in accordance with the procedure laid down in Article 189b of the Treaty⁽¹⁾ was concluded on 20 December 1994;
- (26) Whereas it is necessary to reinforce the phasing-in within the framework Programme, in accordance with the eligibility criteria, of certain coal and steel research activities currently being carried out on the basis of the Treaty establishing the European Coal and Steel Community, which expires in 2002;
- (27) Whereas, in order to ensure consistency between research activities undertaken under the Treaty establishing the European Community and those carried out under the Treaty establishing the European Atomic Energy Community, the Decision concerning the framework programme for nuclear research and training activities should be adopted at the same time and for the same period as this framework programme;
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- (¹) OJ C 102, 4.4.1996, p. 1.

(28) Whereas the Scientific and Technical Research Committee (CREST) has been consulted,

Activities undertaken within the thematic programmes of the first Community activity will also contribute, in coordination and interaction with the horizontal programmes, to the achievement of the objectives of those three themes.

HAVE DECIDED AS FOLLOWS:

Complementarity with relevant initiatives of the Member States, and initiatives such as COST and Eureka, will be sought.

Article 1

1. A multiannual framework programme for all Community activities, including demonstration activities, in the field of research and technological development, hereinafter referred to as the 'fifth framework programme', is hereby adopted for the period 1998 to 2002.

3. The criteria for selecting the themes referred to in paragraph 2 and the related objectives are set out in Annex I. They shall apply for the purposes of the implementation of the fifth framework programme.

2. The fifth framework programme shall, in accordance with Article 130g of the Treaty, comprise four Community activities:

4. The general outlines of the Community activities, their scientific and technological objectives and the related priorities are set out in Annex II.

- (a) implementation of research, technological development and demonstration programmes;
- (b) promotion of cooperation in the field of Community research, technological development and demonstration with third countries and international organisations;
- (c) dissemination and optimisation of the results of activities in Community research, technological development and demonstration;
- (d) stimulation of the training and mobility of researchers in the Community.

Article 2

1. (a) The maximum overall amount for Community participation in the fifth framework programme shall be ECU 13 700 million.

Of this amount:

to ECU 3 140 million is for the period 1998 to 1999,

to ECU 10 560 million is for the period 2000 to 2002.

The first Community activity shall relate to the following four themes:

- 1. quality of life and management of living resources;
- 2. user-friendly information society;
- 3. competitive and sustainable growth;
- 4. energy, environment and sustainable development.

- (b) The figure of ECU 10 560 million shall be deemed to be confirmed if it is consistent with the financial perspective in force in the period 2000 to 2002. In the case of any new financial perspective in force, this condition shall be met only if:

- the financial perspective indicates the share of expenditure available for research, and
- that share permits Community participation of ECU 10 560 million in the period 2000 to 2002.

The second, third and fourth Community activities shall relate to the following three themes respectively:

- 1. confirming the international role of Community research;
- 2. promotion of innovation and encouragement of participation of SMEs;
- 3. improving human research potential and the socioeconomic knowledge base.

- (c) If the figure of ECU 10 560 million is not consistent with the financial perspective in force in the period 2000 to 2002, or if there is no financial perspective in force in those years,

- the European Parliament and the Council, acting under the conditions provided for in Article 130i(1) of the Treaty, shall set a new maximum overall amount and adjust the amounts in Annex III accordingly,

- the Council, acting under the conditions provided for in Article 130i(4) of the Treaty, shall adapt the amounts deemed necessary for the specific programmes referred to in Article 3, so as to ensure their consistency with the new maximum overall amount.

Pending the decisions provided for in the first and second indents above, the specific programmes shall not be implemented beyond the provision in the first indent of subparagraph (a) of this paragraph.

2. The amount referred to in paragraph 1 shall be subject to revision should new Member States accede before this framework programme expires.

3. Annex III fixes the respective amounts earmarked for each of the Community activities envisaged in Article 1 and indicates the breakdown between the themes of the first Community activity defined in Article 1(2).

4. All administrative expenditure arising from the research activities shall be paid from the overall amount of the programme. It shall be dealt with in the general budget of the European Communities according to the usual procedures applicable to other comparable administrative expenditure.

Article 3

1. The fifth framework programme shall be implemented through eight specific programmes, four of which correspond to the four themes of the first Community activity, three are linked to the second, third and fourth Community activities respectively, and the eighth is a programme specific to the Joint Research Centre. The scientific, industrial and user communities will be closely involved throughout this implementation process.

Each specific programme shall specify its precise objectives having regard to the scientific and technological objectives set forth in Annex II, define the detailed rules for its implementation, fix its duration and provide for the means deemed necessary.

The Commission will establish and publish under its own responsibility a detailed manual of operational procedures and guidelines for the selection of research and technological development actions.

2. Implementation of the fifth framework programme may give rise, where necessary, to supplementary programmes within the meaning of Article 130k of the Treaty, to Community participation in research and development programmes undertaken by several Member States within the meaning of Article 130l or to the setting-up of joint undertakings or any other structure

within the meaning of Article 130n. It may also give rise to cooperation with third countries or international organisations within the meaning of Article 130m.

Article 4

The detailed rules for financial participation by the Community in the fifth framework programme shall be those laid down in accordance with the special provisions concerning research and technological development appropriations set out in the Financial Regulation applicable to the general budget of the European Communities ⁽¹⁾, as supplemented by Annex IV to this Decision.

Article 5

1. The Commission shall continually and systematically monitor each year, with the help of independent qualified experts, the implementation of the fifth framework programme and its specific programmes in the light of the criteria set out in Annex I and the scientific and technological objectives set out in Annex II. It shall assess, in particular, whether the objectives, priorities and financial resources are still appropriate to the changing situation. Where appropriate, it shall submit proposals to adapt or supplement the framework programme and/or the specific programmes, taking account of the results of this assessment.

2. Before submitting its proposal for a sixth framework programme, the Commission shall have an external assessment conducted by independent highly qualified experts into the implementation and achievements of Community activities carried out during the five years preceding that assessment in the light of the criteria set out in Annex I, the scientific and technological objectives set out in Annex II and the implementation of this Decision via the specific programmes based thereon. The Commission shall communicate the conclusions thereof, accompanied by its comments, to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions.

3. The independent qualified experts referred to in paragraphs 1 and 2 shall be drawn in particular from scientific, industrial and user communities and chosen by the Commission, which shall take account, in a balanced fashion, of the various research players.

⁽¹⁾ OJ L 356, 31.12.1977, p. 1. Regulation as last amended by Regulation (EC, ECSC, Euratom) No 2548/98, OJ L 320, 28.11.1998, p. 1.

The Commission shall make known the full list of experts and their individual qualifications following their appointment.

4. The Commission shall regularly inform the European Parliament and the Council of the overall progress of the implementation of the framework programme and the specific programmes.

Article 6

Halfway through the term of the fifth framework programme, the Commission shall review progress with the programme and shall submit to the European Parliament and the Council, on the basis of the assessments of the various specific programmes, a communication accompanied, if appropriate, by a proposal for the adaptation of this Decision.

Article 7

All research activities conducted pursuant to the fifth framework programme shall be carried out in compliance with fundamental ethical principles, including animal welfare requirements, in conformity with Community law.

Done at Brussels, 22 December 1998.

For the European Parliament

The President

J.M. GIL-ROBLES

For the Council

The President

C. EINEM

ANNEX I

CRITERIA FOR SELECTING THE THEMES AND OBJECTIVES OF COMMUNITY ACTIVITIES

1. The European Community's RTD policy is directed towards strengthening the scientific and technological bases of Community industry and encouraging it to become more competitive at international level, while promoting all the research activities deemed necessary by virtue of other Chapters of the Treaty. It shall also contribute to promoting the quality of life of the Community's citizens and to the sustainable development of the Community as a whole, including the ecological aspects. Its implementation is based on the twin principles of scientific and technological excellence and relevance to the abovementioned objectives.

Moreover, in pursuit of a cost-benefit approach dictated by concern for optimum allocation of European public funding and in accordance with the subsidiarity principle, themes for the fifth framework programme and the related objectives are selected on the basis that the Community shall take action only if and in so far as the objectives cannot be sufficiently achieved by the Member States.

2. In application of the foregoing principles, the framework programme shall be defined on the basis of a set of common criteria, divided into three categories:

— *Criteria related to the Community 'value added' and the subsidiarity principle*

- need to establish a 'critical mass' in human and financial terms, in particular through the combination of the complementary expertise and resources available in the various Member States,
- significant contribution to the implementation of one or more Community policies,
- addressing of problems arising at Community level, or questions relating to aspects of standardisation, or questions connected with the development of the European area,

so as to select only objectives which are more efficiently pursued at the Community level by means of research activities conducted at that level.

— *Criteria related to social objectives*

- improving the employment situation,
- promoting the quality of life and health,
- preserving the environment,

in order to further major social objectives of the Community reflecting the expectations and concerns of its citizens.

— *Criteria related to economic development and scientific and technological prospects*

- areas which are expanding and create good growth prospects,
- areas in which Community businesses can and must become more competitive,
- areas in which prospects of significant scientific and technological progress are opening up, offering possibilities for dissemination and exploitation of results in the medium or long term,

in order to contribute to the harmonious and sustainable development of the Community as a whole.

3. The criteria referred to in paragraph 2 will be used, and where necessary supplemented, for the purposes of the implementation of the fifth framework programme, in order to define the specific programmes and select research and technological development activities, including demonstration activities. The three categories of criteria will supply simultaneously and must all be met, although to a different extent from case to case.

ANNEX II

GENERAL OUTLINES OF COMMUNITY ACTIVITIES, SCIENTIFIC AND TECHNOLOGICAL OBJECTIVES AND RELATED PRIORITIES

I. THEMES AND ORGANISATION

With regard to the themes and organisation of the fifth framework programme, it is recalled that, in accordance with Article 130g of the EC Treaty, the fifth framework programme will comprise four activities:

- the first activity covers research, technological development and demonstration programmes,
- the second activity is aimed at promoting cooperation on research, technological development and demonstration with third countries and international organisations,
- the third activity concerns the dissemination and optimisation of the results of research, technological development and demonstration activities,
- the fourth activity is intended to stimulate the training and mobility of researchers.

1. CONTENT AND ORGANISATION OF THE FIRST ACTIVITY

The research, technological development and demonstration programmes will comprise:

- 'key actions',
- research and technological development activities of a generic nature,
- activities in support of research infrastructures.

These programmes will, where appropriate, include studies and research activities on relevant ethical and legal aspects, within a context of fundamental respect for human values. Community funding for research projects under this programme will be used exclusively for civil purposes, including research on the detection and clearance of landmines.

Within these programmes, particular account will be taken of the socioeconomic implications of the implementation, use, and effects of the technologies, processes and scenarios covered by each of these programmes. As an integral part of actions within the first activity, relevant socioeconomic research will be carried out. A particular effort will be made to ensure coherence between these activities in order to optimise the exploitation and dissemination of results by users. These actions will be complemented by socioeconomic research on horizontal issues carried out within the fourth activity.

Particular account will be taken of the need to encourage the participation of women in the fields of research and technological development.

In addition, in the framework of a coherent approach involving also the second, third and fourth activities, these programmes will implement, in their respective areas, actions contributing to the aims of these activities.

A particular effort will be made to encourage genuine participation of SMEs in the programme, especially in shared-cost actions.

Synergy will be sought with other relevant Community instruments.

(a) 'Key actions'

Key actions will be problem-oriented and clearly defined corresponding to the criteria and specifically targeted to the objectives of each programme and to the desired results, taking into account the views of users. They will have a clear European focus. The 'key action' is regarded as a cluster of small and large, applied, generic and, as appropriate, basic research projects directed towards a common European challenge or problem not excluding global issues.

The research activities carried out in this context will integrate the entire spectrum of activities and disciplines needed to achieve the objectives, and range from basic research through development to demonstration. Appropriate links with relevant national and international initiatives (including complementary European RTD frameworks) will be given proper attention.

(b) Research and technological development activities of a generic nature

These activities, which are essential to achieve the objectives of the thematic programmes, will be carried out in a limited number of areas not covered by the key actions. They will complement the key actions. Their main aim is to help the Community maintain and improve its scientific and technological capability in those areas of research and enabling technologies which should be used widely.

(c) Support for research infrastructures

Since the construction and operation of research infrastructure is the responsibility of national authorities, Community support for research infrastructures in line with the objectives of the thematic programmes should contribute to cover two essential requirements at Community level: (1) the need for an optimum use of existing research infrastructures and (2) the need for transnational cooperation in the rational and cost-effective development of research infrastructures.

The role of the Community should be to provide added value, complementary to national or multinational initiatives. Community support may enhance access to infrastructures and will in particular be provided for research infrastructure networks leading to further complementarity, pooling of efforts and/or specialisation at the European level (including the compatibility of databases).

2. CONTENT AND ORGANISATION OF THE SECOND, THIRD AND FOURTH ACTIVITIES

The horizontal themes are at the crossroads of the Community's research policy and its policies for external relations, innovation, SMEs and human resources, and for social and employment issues.

Each of them comprises:

- specific activities, including, where necessary, key actions, linked to the general objectives of the Community's policy with regard to external relations, innovation, SMEs and human resources which are not carried out as part of the themes of the first activity,
- activities essentially in the form of coordination, support and accompanying activities to ensure the coherence of equivalent activities carried out under the themes of the first activity.

In coordination and interaction with the horizontal programmes, the thematic programmes will take the necessary measures to make an active contribution, in the context of their own activities, towards the achievement of the general objectives of the horizontal programmes.

Community support for research infrastructures in the context of the fourth activity will concentrate in particular on measures enhancing access to such infrastructures.

3. THE JOINT RESEARCH CENTRE

The direct RTD actions to be implemented by the Joint Research Centre (JRC) will comprise research and scientific and technical support activities of an institutional character. The JRC may provide support where it has special or even unique expertise and facilities in the Community or where it is entrusted with activities necessary for the framing and implementation of Community policies and tasks incumbent on the Commission pursuant to the Treaty which require the JRC's impartiality (for example in the case of standardisation). The JRC will carry out its activities in close cooperation with the scientific community and enterprises in Europe. Exchanges between the JRC and universities, research institutes and industry will be encouraged.

The JRC is also progressively involved in competitive activities.

The appropriations made available to the JRC constitute a maximum amount. In addition, the JRC may endeavour to secure funds from other sources. The relevant JRC management rules and regulations will apply to these allocations.

II. SCIENTIFIC AND TECHNOLOGICAL OBJECTIVES

1. FIRST ACTIVITY

THEME 1

QUALITY OF LIFE AND MANAGEMENT OF LIVING RESOURCES

Improving the quality of life and health is a major challenge and the Community plans to tackle it by helping to increase knowledge and develop technologies in the field of the life sciences.

In this context, the need is to improve the quality of life of all Europe's citizens, taking into account the particular problems of certain sectors of the population such as the ageing and the disabled.

At the same time, progress in this area will help to increase the competitiveness of the Community's enterprises by opening up new prospects in areas in which the Community already has a strong hand, such as biotechnology, agro-industry, and the fields of health and the environment, in which rapid progress continues to be made.

(a) *Key actions*

(i) Food, nutrition and health

The aim of this key action is to promote the development of knowledge, technologies and methods, including prenormative aspects, based on multidisciplinary approaches to produce a safe, healthy, balanced and varied food supply for consumers covering the whole food chain. This requires as a priority:

- the development of safe, flexible and new and/or improved manufacturing technologies to improve food quality and consumer acceptability, while guaranteeing traceability of raw materials and final products,
- the development of tests to detect and processes to eliminate infectious and toxic agents throughout the food chain,
- research into the role of food in promoting and sustaining health with respect to diet and nutrition, toxicology, epidemiology, environmental interaction, consumer choice and public health.

(ii) Control of infectious diseases

The priority objectives of this key action are the fight against and control of infectious diseases, both human and animal, including zoonoses, of increasing impact, whether established, newly emerging or in resurgence, based on research seeking a better understanding of the immune system. Close attention is to be paid to:

- the development of improved or novel mono-component, multipurpose and combined vaccines, especially against viral diseases, including the support of multicentre clinical trials,
- new and improved strategies to identify and control infectious diseases, directed at treatment and prevention and based on studies on pathogenesis, emergence of resistance and immunological control,

- aspects connected with public health and care delivery systems, notably management, prevention, surveillance, behavioural aspects and response to infectious diseases (including modelling of human diseases).

(iii) The 'cell factory'

This key action is aimed at helping the Community's enterprises to exploit the advances made in life sciences and technologies, particularly in the fields of health, environment, agriculture, agro-industries and high value-added products, such as chemicals. It is aimed at developing multidisciplinary technologies based on the exploitation of the properties of micro-organisms, plants and animals, in particular at the cellular and sub-cellular levels. The objective is to understand the functioning of cells in order to develop bio-molecules and bio-processes with high added-value capable of enhancing the quality of life and health, including:

- new and innovative health processes and products, particularly from molecular engineering (for example diagnostics, antibiotics, anti-cancer agents, including plant-produced therapeutics),
- energy-efficient bio-remediation and waste bio-treatment processes,
- new biological processes and products, new processing technologies on the basis of new plant and animal characteristics for agri-food and agri-industry and high value-added chemical applications.

This key action should also aim at RTD to make cell cultures available as models for medicine, pharmacology, toxicology and environmental monitoring to substitute for animal testing and for prenormative purposes.

(iv) Environment and health

The aim of this key action is to achieve a better understanding of the interactions between the genetic, physiological, environmental and social factors involved in sustaining good health and so to help reduce the adverse impact on health of changes in the environment and the workplace and the immense costs to health systems arising therefrom. It covers in particular issues such as prevention and the effects on health of air pollution, heavy metals and toxic substances, noise, climatic changes and electromagnetic radiation, as well as the effects of pollution at the workplace. It includes as a priority:

- multidisciplinary approaches for achieving a better understanding of the interaction between the social and physical environment and health, including research into diseases and allergies related to or influenced by the environment and research into their treatment and prevention,
- epidemiological studies and pathogenesis research,
- the development of new methods of diagnosis, risk assessment and prevention,
- the development of processes to identify and, where possible, reduce harmful effects on health and the causes thereof.

(v) Sustainable agriculture, fisheries and forestry, including integrated development of rural areas

The aim is to develop the knowledge and technologies needed for the production and exploitation of living resources, including forests, covering the whole production chain, adapted to recent adjustments in the common agricultural and fisheries policies, while also providing the scientific basis for Community regulations and standards. Similarly, the aim is to promote the multipurpose role of forests and the sustainable management and utilisation of forest resources as an integral factor of rural development. Priority areas include:

- new and sustainable systems of production, including breeding methods, and exploitation in agriculture, forestry, fishing and aquaculture, taking into account profitability, the sustainable management of resources, product quality and employment as well as animal health and welfare,

- the integrated production and exploitation of biological materials (non-food uses),
- sustainable and multipurpose utilisation of forest resources; the integrated forestry-wood chain,
- development of methods of control, surveillance and protection, including protection of land and prevention of soil erosion,
- prelegislative research designed to provide a scientific basis for Community legislation,
- the production of new tools and models for the integrated and sustainable development of rural and other relevant areas based on optimisation of the specific potential of each area, including at regional level, diversification of activities and land use, and involvement of the people concerned.

(vi) The ageing population

This key action aims to help Europe meet the challenge of the growing ageing population through RTD to underpin the development of policies and interventions to extend the quality of life and independence of older people, and to reduce the need for long-term care and its consequential costs. It gives priority to multidisciplinary RTD relating to processes leading to healthy ageing, including demographic, social and economic aspects, and to interventions leading to the postponement and improved management of disability. It aims to generate competitive advantage for a wide range of health related industries and sectors. Priority areas include:

- RTD on illnesses and health problems of high morbidity ⁽¹⁾ which are age-related and where there is a real prospect for significant prevention, treatment or delay in onset,
- RTD concerning biological, psychological, social and economic determinants of healthy ageing and of the mechanisms leading to disability and the postponement of disability,
- demographic and epidemiological research on ageing and disability trends to enable prediction of the size and nature of the ageing population as a basis for policy and planning,
- RTD to provide a basis for new approaches to delaying the onset of disability, to reducing the challenge to older people of their social and physical environment (e.g. in housing and transport) and to supporting mental and physical functioning,
- RTD concerning effective and efficient delivery of health and social care services to older people, including comparative research on the financing of long-term care and pensions.

(b) *Research and technological development activities of a generic nature*

- Chronic and degenerative diseases (in particular cancer and diabetes), cardiovascular diseases and rare diseases

Major challenges in biomedical research are the elucidation of the aetiology and pathogenesis of diseases for which there is more than one interacting cause (genetic, environmental, lifestyle) of high (e.g. cardiovascular diseases, cancer, diabetes) or low (e.g. rare diseases) morbidity. There is an urgent need to improve diagnosis, treatment, prevention and surveillance through epidemiology and applying advances in modern technology, requiring a multinational approach,

- Research into genomes and diseases of genetic origin

The aim of this activity is to identify the physiological functions of genes and to improve the understanding of the meaning of sequence information. The new knowledge and technologies deriving from this generic action should promote the exploitation of genomic information to

⁽¹⁾ Long and serious illness, entailing a high burden on society, families, individuals and their carers.

the benefit of European health, industry and the environment. The organisation of collaboration in this area will underpin the development of expression systems to facilitate the study of genes of industrial and agronomic interest as well as the design of effective molecular and gene-based preventive and therapeutic strategies for human and animal disease,

— Neurosciences

This activity should provide new insights and understanding of the mechanisms governing the interrelationship of biological and psychological processes, to promote new diagnostic (e.g. imaging) and therapeutic approaches to neurological and psychiatric disorders and to underpin opportunities for innovation in health-care industries,

— Research relating to public health and health services

Improvement of health systems: to improve the health of European citizens and the effectiveness and cost-effectiveness of health promotion and health-care technologies and interventions, to enhance health and safety at work, to evaluate health-care models, to develop the evidence base for clinical practice and health policy and to study health variations across Europe.

Fighting drug-related problems: to prevent and, where appropriate, control drug-related health problems through establishing the psychological and socioeconomic factors involved in drug-taking and drug abuse, developing better understanding of the long-term health and social consequences of abuse, and developing more effective treatment strategies,

— Research relating to the disabled

The aim of this activity is to enhance the quality of life and independence of disabled people, notably through improving their social and physical environment and the effective and efficient delivery of the health and social care services available to them.

— The study of problems relating to biomedical ethics and bioethics in the context of respect for fundamental human values ⁽¹⁾,

— The study of the socioeconomic aspects of development of the life sciences and technologies within the perspective of sustainable development (impact on society, the economy and employment)

(c) *Support for research infrastructures*

In accordance with the general objectives outlined above, activities should focus, for example, on databases and collections of biological material, centres for clinical research and trials and facilities for fishery and aquaculture research.

⁽¹⁾ Taking account of the declaration of the European Council of Amsterdam and the European Parliament resolution on the banning of human cloning (OJ C 115, 14.4.1997, p. 92) and of relevant Community legislation, research conducted at Community level will be carried out, taking account of the competent authorities, in particular the European Group on Ethics in Science and New Technologies and the Human Embryo and Foetus Protection Group, as well as the opinions of relevant international organisations, whilst respecting the principles laid down in the Helsinki Declaration and the relevant resolutions of the World Health Organisation (WHO) and in other relevant international Conventions.

No research activity which modifies or is intended to modify the genetic heritage of human beings by alteration of germ cells or by acting at any other stage in embryonic development and which can make such alteration heritable will be carried out under the present framework programme. In the same way, no research activity, understood in the sense of the term 'cloning', will be conducted with the aim of replacing a germ or embryo cell nucleus with that of the cell of any individual, a cell from an embryo or a cell coming from a late stage of development to the human embryo.

To the extent possible, animal experiments and tests on animals should be replaced with *in vitro* or other alternative methods. Modification of the genetic heritage of animals and animal cloning will be envisaged within the current framework programme only for objectives which are justified on ethical grounds and to the extent that the operations involved are effected on an ethical basis, with respect for the well-being of animals and the principles of genetic diversity.

(The practical effects of this will be further elaborated in the specific programmes).

THEME 2

USER-FRIENDLY INFORMATION SOCIETY

The convergence between information processing, communications and content is increasingly pervading most industrial and social activities and is increasingly critical to Europe's competitiveness and quality of life. The advent of the information society is opening up the possibility of a wide range of new activities for both individuals and companies in the Community, e.g. in the fields of commerce, work, transport, the environment, education and training, health and culture. Continuous efforts in relation to research, technological development and technology take-up and demonstration are necessary to realise the full potential of the information society. The technological range of the key actions allows the possibility of a dynamic concentration and a flexible implementation of the activities, reflecting socioeconomic priorities.

These efforts must, in all activities, tackle the universal issues such as access, ease of use, cost-effectiveness and interoperability and standardisation. They should also address the socioeconomic impact of the activities, in particular the social changes brought about by the introduction and more widespread use of new information and communications technologies, including their effect on different population groups, with particular attention to their effect on women and young people. Tackling the issues of access and ease of use in this context shall be an important priority.

(a) *Key actions*

(i) Systems and services for the citizen

The aim of this key action is to meet policy and user needs and to ease access at the lowest cost to quality general-purpose services, boost the industry providing these services and pave the way to 'digital communities' both in rural and urban areas. In this context, it will be based on the following priorities:

- as regards health: on computerised clinical systems, on secure high-capacity health networks and telemedicine,
- as regards persons with special needs, including the disabled and the elderly: on advanced interfaced and on telesystems to integrate the elderly and the disabled into society,
- as regards public administration: advanced multimedia systems to facilitate access to and provision of services of public interest,
- as regards the environment: on intelligent systems for analysis, surveillance, management and early warning and support systems for the detection and clearance of landmines,
- as regards transport and tourism: on the advanced intelligent systems needed for management and associated teleservices.

(ii) New methods of work and electronic commerce

The aim of this key action is to develop technologies to help companies operate more efficiently and to make commerce in goods and services more efficient, and to facilitate improvements in working conditions and the quality of work. The priority topics will be:

- flexible, mobile and remote working methods and tools for individuals and for cooperative and group working and working methods based on simulation and virtual reality — including related training,
- management systems for suppliers and consumers, including systems supporting mass-customisation and interoperable and secure payment systems,

- information and network security, including cryptography, techniques for combating computer crime, the technical means for authentication and the protection of integrity and intellectual property and 'privacy enhancing technologies'.

(iii) Multimedia content and tools

The aim of this key action is to facilitate lifelong learning, to stimulate creativity, to enable linguistic and cultural diversity and to improve the functionality of future information products and services, taking account of user-friendliness and acceptability. The research emphasises intelligent systems for education and training with innovative forms of multimedia content, including audiovisual content, and tools for structuring and processing them. It will focus on four main lines:

- interactive electronic publishing with new methods for creating and structuring publications; personalised dissemination of information and accessing scientific, cultural and other items through networking of libraries, archives and museums,
- education and training: systems, services and software enabling the development and demonstration of new methods using multimedia, broadband communications, simulation and virtual reality,
- new language technologies, including interfaces, which help to make information and communications systems more user-friendly,
- advanced technologies for accessing, filtering, analysing and handling information to help manage the information explosion and facilitate the use of multimedia contents, including geographical information systems.

(iv) Essential technologies and infrastructures

The aim of this key action is to promote excellence in the technologies which are crucial to the information society, to speed up their introduction and broaden their field of application. This action will focus as a matter of priority on:

- technologies for and management of information processing, communications and networks, including broadband ones, together with their implementation, interoperability and application,
- technologies and engineering for software, systems and services, including high-quality statistics,
- real-time and large-scale simulation and visualisation technologies,
- mobile and personal communications and systems, including satellite-related systems and services,
- interfaces making use of the various senses,
- peripherals, subsystems and microsystems,
- micro-electronics (technologies, tools, equipment and hardware necessary for the design and manufacture of circuits and components and the development of applications).

(b) *Research and technological development activities of a generic nature*

In order to develop from a visionary perspective future and emerging technologies with a potential industrial impact, research topics could include, in a non-prescriptive way:

- technologies for the representation, creation and handling of knowledge,
- nano-scale, quantum, photonic, bio-electronic technologies, including future generation integrated circuits, ultra-high performance computers and super-intelligent networks.

(c) *Support for research infrastructures*

The priority is to provide support to facilitate the rapid implementation and interoperability of Europe-wide advanced high-speed computer and communication systems needed for research in all fields of science and technology, in the context of the global evolution of the Internet.

THEME 3

COMPETITIVE AND SUSTAINABLE GROWTH

The objective is to produce and disseminate the knowledge and technologies needed to design and develop processes and produce high-quality, environment- and consumer-friendly products which will be competitive on tomorrow's market, to help increase growth and create new jobs in Europe and to sustain the continuing innovation effort of manufacturing firms (including SMEs) so as to improve their competitiveness.

This goes hand in hand with the development of transport systems which are economic, safe, and protective of the environment and quality of life.

(a) *Key actions* ⁽¹⁾

(i) Innovative products, processes and organisation

The aim of this key action is to facilitate the development of high-quality innovative products and services which meet the needs of the citizen and the market and new methods of production and manufacture, including innovation in and modernisation of traditional industries, which save resources and are environmentally safe, whatever the method of production. Research will focus as a matter of priority on:

- the elaboration, development and integration of new technologies for design, manufacturing, control and production, including micro- and nano-scale technologies and engineering,
- deployment, integration and adaptation of information society technologies for intelligent manufacturing (including flexible workshop systems and systems for flexible management of supply and distribution chains, embedded systems and teleservices for operation and maintenance and simulation and shared-work technologies),
- technologies to improve quality control and for clean and eco-efficient processes, including synthesis and separation techniques, aiming at reducing resource utilisation and promoting the use of renewable resources, reuse and recycling of waste and the development of clean processes and products based on the concept of 'life-cycle analysis',
- new methods of organising production and work and of using and developing skills (including socioeconomic analyses), also in traditional industries.

(ii) Sustainable mobility and intermodality

The aim is to ensure the development of fully integrated policy and operational options for an integrated interoperable European rail and road, air and waterborne transport system on a broadly intermodal basis to ensure the mobility of people and goods, while at the same time improving transport efficiency, safety and reliability and reducing congestion and other environmental disbenefits. This requires as a matter of priority:

- the development, validation and demonstration of rational modal and intermodal transport management systems, including better use of second-generation satellite navigation and positioning systems, and advanced traveller and operator information services,
- research into transport infrastructures and their interfaces with transport means and systems, while reducing any adverse environmental and safety impacts and taking account of accessibility and the integration of regional planning and transport policies,
- the development of technical and socioeconomic scenarios for the sustainable mobility of people and goods.

⁽¹⁾ Coordination will be ensured between the various key actions and generic technologies on rail and road transport means.

(iii) Land transport and marine technologies

The aim is to encourage, while preserving the environment and improving safety, the development and integration of knowledge and technologies specific to land transport and sea-based activities. It will enable the Community to develop technologies to maintain and consolidate the competitive position of the European automotive and rail industry by developing innovative technologies and new materials, modes and systems for sustainable and efficient land transport means and to fully exploit the sea's potential and improve the competitiveness of marine industry. This action will be complementary to the key actions on sustainable mobility and intermodality and sustainable marine ecosystems. Action will cover as a matter of priority:

- development of technologies for economic, clean, safe, efficient, energy-saving and intelligent road and rail vehicles operating in the total integrated transport environment,
- innovative vehicle concepts using new materials and construction techniques with emphasis on improved safety (including weight reduction and crashworthiness), recyclability and reduction of whole life-cycle costs,
- human/vehicle interaction in road and rail vehicles and innovative methods for the adaptation of rail-based systems to new needs,
- development of advanced ships which are safe, environmentally friendly and efficient,
- the use of the sea and inland waterways as economic and safe means of transporting goods and passengers (including advanced port infrastructure) by maximising vessel performance and interoperability in conjunction with the key action on 'sustainable mobility and intermodality',
- technologies for the study and observation of the seas and sustainable exploitation of the seas' energy and mineral resources, including offshore and subsea technologies, and unmanned vehicles and submarine acoustics.

(iv) New perspectives in aeronautics

The aim of this key action is to help the Community consolidate its position in this sector by developing its mastery, in an environmentally friendly manner, of the most advanced aeronautical technologies. It will cover as a matter of priority:

- the development and demonstration of advanced technologies for integrated design and production, and for reduction of energy consumption, emissions and noise for various aircraft concepts,
- the technological and economic feasibility of and the critical technologies for new-generation aircraft concepts including advanced systems and sub-systems,
- the development of technologies to improve operational safety and efficiency, including on-board integration of air-traffic management technologies, in coordination with other transport-related key actions.

(b) *Research and technological development activities of a generic nature*

The effort will be focused on the priority research needed to reinforce European competitiveness and quality of life:

- by supporting the development of new and improved industrial materials and the processes for their manufacture: materials resistant to high temperatures and high pressure (e.g. for energy generation and engines); light materials (for transport and construction); functional materials (opto-electronics, biomaterials, sensors) designed and developed with ease of recycling in mind; surface and interface engineering, as well as nano-scale and beam technologies,
- by ensuring that European standards and testing laboratories provide consistent measurements and tests which are equivalent to similar measurements made by Europe's major trading partners; by making available technical tests, certified reference materials and measuring instruments for use in Member States in order to assure compliance with Community directives; by supporting standardisation and certification, including action to combat fraud and ensure the quality of products and services,

- by developing new and improved materials and production technologies in the steel field.

(c) *Support for research infrastructures*

In accordance with the general objectives outlined above, activities should focus, for example, on computing centres for research, high-power wind tunnels, laboratories and facilities for measurements and tests, as well as specialised databases.

THEME 4

ENERGY, ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

Research and technological development in the field of the environment, energy and the sustainable management of ecosystem resources is essential for the implementation of Union policies. Making use of the knowledge and technologies needed will make it possible to meet a wide range of needs. The results of this research will provide the basis for the framing of policies at Community level or deriving from international treaties.

This objective goes hand in hand with economic development and industrial competitiveness that respects the environment and quality of life. It necessitates clean, efficient, economic and diversified energy systems and services, including the introduction of new and renewable energy technologies. In particular, these should contribute to a substantial reduction in emissions of CO₂ and other greenhouse gases.

Although research and technological development in the field of environment and energy are closely related, they remain distinct areas, each requiring specific financial and administrative arrangements.

1. Environment and sustainable development

(a) *Key actions*

(i) Sustainable management and quality of water

The aim of this key action is to produce the knowledge and technologies needed for the rational management of water resources for domestic needs and those of industry and agriculture. Among the priority fields concerned are:

- treatment and purification technologies to prevent pollution, to purify water and to use and/or reuse water rationally (including closed loops; reliability of distribution networks); integrated approach to management of water resources and wetlands,
- technologies for monitoring and preventing pollution and the protection and management of groundwater and surface-water resources, including ecological quality aspects,
- surveillance, early warning and communication systems,
- technologies for the regulation and management of stocks and technologies for arid and semi-arid areas and generally water-deficient regions.

(ii) Global change, climate and biodiversity

The aim of this key action is to develop the scientific and technological basis and tools necessary to underpin implementation of Community policies, notably the EC environmental action programmes and the biodiversity strategy, and to support the research obligations stemming from international treaties and conventions signed by the European Community and its Member States. Overall, the key action seeks to increase understanding in these areas in order to help deliver the Community goal of sustainable development, where possible in interaction with industry. In this context priorities are:

- to understand, detect, assess and predict global change processes, with an emphasis on the European and sub-regional causes and impacts, with respect to both natural and anthropogenic phenomena and in the context of the sustainable use of natural resources. The natural, the socioeconomic and, where relevant, the cultural sciences will be used,
- to foster better understanding of the terrestrial and marine ecosystems and the interactions between them and other ecosystems,
- to develop scenarios and strategies for the prevention and mitigation of and adaptation to global change, climate change and conservation of biodiversity in the context of sustainable development,
- to support the development of a European component of the global observing systems for climate, terrestrial ecosystems (including biodiversity) and oceans (for example, Euro-GOOS).

(iii) Sustainable marine ecosystems

The aim of this key action is to promote sustainable integrated management of marine resources and to contribute to the marine aspects of the fifth action plan on the environment. Synergy with other relevant activities of the framework programme will be ensured through a specific coordinating mechanism.

Research will be directed towards:

- developing the necessary scientific knowledge base on marine processes, ecosystems and interactions for sustainable use of the marine environment and resources,
- reducing the impact of human activity upon the biodiversity and sustainable functioning of marine ecosystems and developing the technologies required to facilitate safe and economic, yet sustainable, exploitation of marine resources,
- monitoring and managing coastal processes in order to alleviate pollution, flooding and erosion, in particular of fragile coastlines, and to facilitate land reclamation from the sea,
- enabling the operational forecasting of environmental constraints on safe sustainable offshore operations, including the necessary components of an appropriate marine observing system.

(iv) The city of tomorrow and cultural heritage

The aim of this key action is the harmonious development of the citizens' urban environment from a global, innovative and resource-saving viewpoint in an environmentally sound manner, using advanced models of organisation bringing together in particular the improvement of the quality of life, the restoration of social equilibria and the protection, conservation and enhancement of the cultural heritage for the sustainable exploitation of its socioeconomic potential for employment and tourism. Action will focus as a matter of priority on:

- new models for the sustainable development of European cities and city regions, the elaboration of medium- and long-term socioeconomic scenarios and research, development and demonstration activities focusing in particular on supporting and accompanying economic competitiveness, town planning and architecture, social integration, safety, energy efficiency and energy saving (in particular in buildings and in urban transport) and information networks (the concept of 'digital cities'),
- development and demonstration of technologies and products for diagnosis, protection, conservation, restoration and sustainable exploitation of the European cultural heritage, focusing on both movable and immovable cultural assets with a view to promoting their value and the quality of life,
- development and demonstration of technologies for economic, clean, effective and sustainable preservation, recovery, renovation and construction, in particular for large groups of buildings,
- comparative assessment and cost-effective implementation of strategies for sustainable transport systems in an urban environment.

(b) *Research and technological development activities of a generic nature*

- the fight against major natural and technological hazards through the development of forecasting, prevention, impact assessment and mitigation techniques,
- the development of generic Earth observation technologies, notably satellite-borne technologies ⁽¹⁾ for environmental monitoring and resource and ecosystem management applications,
- the study of the socioeconomic aspects of development of environmental change within the perspective of sustainable development (impact on society, the economy and employment).

(c) *Support for research infrastructures*

In accordance with the general objectives outlined above, activities should focus, for example, on databases, marine-research facilities and computer centres for climate studies.

2. Energy

The activities carried out in this area will be closely coordinated, as appropriate, with the activities of the fifth Euratom framework programme for research and training, while respecting the different legal bases of these two programmes.

(a) *Key actions*

(i) *Cleaner energy systems, including renewables*

The aim of this key action is to minimise the environmental impact of the production and use of energy in Europe. Action will be taken to investigate cleaner, most notably renewable, energy sources, as well as to help reduce the environmental impact of existing fossil fuel use. Work will focus by way of priority on:

- large-scale generation of electricity and/or heat with reduced CO₂ emissions from coal, biomass or other fuels, including combined heat and power,
- development and demonstration, including for the purposes of decentralised generation, of the main new and renewable energy sources, in particular biomass, fuel-cell, wind and solar technologies,
- integration of new and renewable energy sources into energy systems,
- cost-effective environmental abatement technologies for power production.

(ii) *Economic and efficient energy for a competitive Europe*

The aim of this key action is to provide Europe with a reliable, efficient, safe and economic energy supply for the benefit of its citizens, the functioning of society and the competitiveness of its industry. Action will need to be taken at every stage of the energy cycle — production, distribution and final use — to improve efficiency and reduce costs. Work will focus by way of priority on:

- technologies for the rational and efficient end-use of energy,
- technologies for the transmission and distribution of energy,
- technologies for the storage of energy on both the macro and the micro scales,
- improved exploration, extraction and production efficiency for hydrocarbons,
- improving the efficiency of new and renewable energy sources,
- the elaboration of scenarios on supply and demand in economy/environment/energy systems and their interactions, and the analysis of the cost-effectiveness (based on whole-life costs) and efficiency of all energy sources.

⁽¹⁾ There will be specific coordination of the activities relating to 'space technology' application carried out within each of the thematic programmes.

(b) *Research and technological development activities of a generic nature*

- The study of the socioeconomic aspects of energy within the perspective of sustainable development (impact on society, the economy and employment).

2. SECOND ACTIVITY

HORIZONTAL THEME 'CONFIRMING THE INTERNATIONAL ROLE OF COMMUNITY RESEARCH'

The main purposes of this horizontal theme are to promote scientific and technological cooperation internationally; to reinforce Community capacities in the fields of science and technology; to provide general support for the achievement of scientific excellence within the wider international framework; and to contribute to the implementation of the Community's external policy also with the accession of new Member States in mind.

The general objectives of international scientific cooperation are:

- to promote scientific and technological cooperation between undertakings, organisations and researchers from third countries and from the Community, which is likely to produce significant, mutual and balanced benefits, taking into account the different needs and circumstances of individual groups of countries and regions whilst respecting the protection of intellectual property,
- to facilitate access for research centres and undertakings established in the Community to scientific and technological knowledge available outside the Community which serves the Community's interests,
- to enhance the position and role of Community research in the international scientific and technological arena and promote a European scientific and technological culture,
- to prepare for the accession of new Member States for example by encouraging their full association with the framework programme; to contribute to the stabilisation of the RTD potential of the CEECs in general and of the newly independent States of the former Soviet Union (NIS), to support and develop the Euro-Mediterranean partnership and to contribute to the sustainable economic, social and scientific development of developing countries,
- to help European research players acquire information and gain experience of research capacity, activity and priorities of industrialised third countries and 'emerging economy' countries, so as to make Community industry more competitive and enhance its presence on new markets.

International scientific and technological cooperation will be implemented on the basis of cooperation agreements, where these exist, and through this horizontal international cooperation programme, as well as through activities undertaken within the other programmes of this framework programme.

1. Specific actions in the 'international cooperation' programme

On the basis of the cooperation policies in specific areas which the Community pursues with its various potential partners, three categories of action will be implemented with a specific international dimension, linked to specific problems facing these countries and not addressed by the other activities of the framework programme. Only these actions will be financed through the specific 'international cooperation' programme.

(a) *Cooperation with certain categories of third country*

- States in the pre-accession phase: promotion of their centres of excellence, accompanying measures to facilitate participation in the other programmes of the framework programme, including through cooperation networks,
- NIS and CEECs not in the pre-accession phase: support for their research and technological development potential (including through INTAS for the NIS, provided that

a new agreement is reached between its members on its continuation), cooperation in areas of mutual interest (including satellite applications, regional problems linked to the environment and health),

- Mediterranean partner countries: improving through joint activities their RTD capacities and promoting innovation; cooperation in areas of mutual interest, notably regional aspects of the Mediterranean, including environmental aspects, support for socio-economic development, including the urban dimension, transition to the information society and preservation of cultural heritage, accompanying measures to facilitate participation in the other programmes of the framework programme, including through cooperation networks,
- developing countries: a policy dialogue on RTD needs and priorities with groups of countries and regions will be developed. Cooperation activities will be envisaged, in particular in the following areas: mechanisms and conditions for sustainable development; sustainable management and use of natural resources, including agricultural production, environmental and energy aspects; health, nutrition and food security,
- emerging economy and industrialised countries: Exchanges of scientists; organisation of workshops; accompanying measures to promote partnerships and to enhance mutual access to each other's RTD activities including, where appropriate, through scientific and technological cooperation agreements.

(b) *Training of researchers*

A system of fellowships will be set up to give young researchers from developing countries, Mediterranean and 'emerging economy' countries the opportunity of collaborating in laboratories in the Community on specific projects of the framework programme. Another fellowship scheme will be provided for a limited number of young Community researchers so as to enable them to work in industrially-oriented laboratories of the highest quality in third countries in areas of particular interest to the Community.

(c) *Coordination*

Coordination with COST actions, and support for COST administration, coordination with Eureka and with international organisations involved in research activities; coordination of activities pursued through the other programmes of the framework programme — with one another, with those pursued through the Community's other cooperation actions (notably PHARE, TACIS and MEDA) and with the Member States' cooperation activities.

2. International cooperation pursued through the other framework programme activities

Participation by entities of third countries in the specific programmes may take basically two forms:

- programme participation based on full association with the framework programme: participation for third-country entities under similar conditions to Member State entities. Full association of States in the pre-accession phase could be facilitated through appropriate degressive financing mechanisms, making use, where so decided, of other relevant Community instruments (e.g. PHARE). For other States in the pre-accession phase which indicate that full participation in the framework programme is not yet feasible for them, partial association with one or more complete specific programmes could be envisaged,
- participation in specific programmes on a project-by-project basis: if a bilateral or a multilateral cooperation agreement is necessary in the Community's interest in order to provide access to high-quality third-country programmes and suitable IPR arrangements, project-by-project participation will be subject to the conclusion of such an agreement. Participating entities of third countries will in principle not benefit from funds under these programmes, except in cases duly justified as being in the Community's interest.

The detailed conditions under which entities from third countries and international organisations involved in research activities may participate in the framework programme, including the financial arrangements, will be specified in the decision which will be adopted pursuant to Article 130j of the Treaty.

3. THIRD ACTIVITY

HORIZONTAL THEME 'PROMOTION OF INNOVATION AND ENCOURAGEMENT OF SME PARTICIPATION'

Innovation is a key factor in industrial competitiveness, sustainable social and economic development and job creation. The aim is to promote innovative activities, including the creation of innovative enterprises, and to facilitate the dissemination and exploitation of research results and support technology transfer.

Small and medium-sized businesses are important vectors and actors in innovation. The development of SMEs can make a vital contribution to economic and social development, new economic activities, job creation and competitiveness. SMEs must therefore be provided with easier access to the advanced technologies which they need, and to the opportunities offered by the Community's as well as the Member States' research programmes.

Promotion of innovation and SME participation, although not synonymous, are closely linked. As far as possible, this theme will therefore be implemented by means of joint action covering both areas. Furthermore, the activities carried out in this programme will be complementary to activities undertaken within Member States and to activities to promote innovation and encourage SME participation carried out elsewhere in the framework programme, and will therefore support, supplement and, as appropriate, give direction to these various efforts.

1. General objectives

(a) *Promotion of innovation*

- to help implement innovation policies in the European Union, in particular by contributing to the creation of an environment conducive to innovation,
- to enhance public awareness of the benefits of innovation,
- to improve the economic and social impact of framework programme research activities by ensuring better dissemination and exploitation of their results, as well as the transfer and dissemination of technology from various sources, taking account of the needs of customers and users,
- to facilitate access of programme participants (particularly SMEs), through provision of information and advice, to instruments which support innovation.

(b) *Encouraging SME participation*

- to stimulate SME participation in the research programmes and technology transfer to SMEs — both SMEs active in research and high technology and those with little or no research capability but with substantial technological needs and a capacity to absorb new technologies; to help SMEs throughout the European Union to develop their technological capabilities, taking into account also specific problems of SMEs in less-favoured regions,
- to assist SMEs in setting up transnational networks and partnerships for the absorption and diffusion of new technologies,
- to encourage the development of transnational links between SMEs, large companies, research centres and universities.

2. Actions specific to the horizontal programme

(a) *Promotion of innovation*

- identification and dissemination, in concert with the other programmes of the framework programme, of adequate mechanisms to facilitate, in the life-cycle of projects, the exploitation, private financing and transfer of technologies and results produced, while guaranteeing protection of the knowledge acquired,
- development, validation and implementation of methodologies for technology transfer actions integrating the technological, economic and social aspects of innovation and, where necessary, transnational dissemination and exploitation of results not stemming from the thematic programmes (taking account of the particular characteristics of each sector of activity),
- coordination of studies and analyses carried out in various fora and integration of their results, with a view to establishing a common reference framework in the area of innovation policy.

(b) *Encouraging SME participation*

- management of a single complementary entry point for SMEs — for all the research programmes — in the Commission's departments, making use of existing support networks in Member States; definition and management of common tools facilitating SME participation in the programmes (fullest possible use of electronic methods for information dossiers, submission of proposals, 'help line', specialised Intranets to stimulate SME participation in innovation, etc.); provision of information on programmes and training on proposal preparation;
- increasing involvement of SMEs at all stages in the consultation/assessment process; where appropriate, their representative associations may also be consulted; ensuring a structured and rapid feedback system for all applicants; assistance for the establishment of consortia; simplifying procedures and further increasing the efficiency of contract and payment arrangements; and improving transparency,
- permanently open calls for proposals for measures specific to SMEs, such as exploratory awards or cooperative research activities,
- assistance to SMEs in identifying their current and future technological needs and provision of information and advice with a view to meeting those needs.

(c) *Joint actions for innovation/SMEs*

- actions at Community level for the rationalisation and coordination of networks providing information and assistance on the Community's research and innovation activities; management, in concert with the other programmes of the framework programme, of the support network for innovation and technology transfer, making best use of the innovation relay centres and the CRAFT focal points; consolidation of mechanisms for gathering and disseminating information, such as the Cordis information service,
- provision of information and advice, as well as pilot activities, in the areas of:
 - intellectual property rights,
 - access to private finance, notably venture capital funds,
 - the creation of innovative start-ups, principally via European organisations and funds (European Investment Fund, European Investment Bank, and the Eurotech Capital scheme).

The objective of the pilot activities will be to improve the existing capacities for information, advice and analysis and to facilitate access to existing public and private instruments at national or Community level without providing financial subsidies to enterprises or creating a competing financial instrument;

- identification and promotion, in concert with the other programmes of the framework programmes, of best practices in innovation.

3. Interaction with related actions in the other framework programme activities

(a) *Promotion of innovation*

- encouraging preparation for the exploitation and dissemination of results during the research phase,
- ensuring consistency between activities to foster innovation under the other programmes and those carried out in this programme,
- coordination of the activities of the 'innovation units' to be set up under the thematic programmes, with the aim of supplementing the innovation dimension of the implementation of programmes (e.g. in the selection and monitoring of projects) and securing, as appropriate, the follow-up of technology transfer, including technology transfer projects with a demonstration effect.

(b) *Encouraging SME participation*

Support for SME participation in RTD and demonstration activities to be carried out in the programmes:

- 'cooperative research' activities enabling at least three mutually independent SMEs from at least two Member States jointly to seek the resolution of their common technological problems internally or by entrusting it to third legal entities with appropriate research capacities,
- activities to support and encourage SME participation in collaborative and cooperative research projects (for example on the basis of 'exploratory awards' respecting the needs of SMEs for a flexible and easily accessible support system.

Support for ensuring and improving dissemination and exploitation of results within the thematic programmes.

4. FOURTH ACTIVITY

HORIZONTAL THEME: 'IMPROVING HUMAN RESEARCH POTENTIAL AND THE SOCIOECONOMIC KNOWLEDGE BASE'

The world is increasingly based on knowledge. The Community's prime asset in this area is the quality of its researchers, engineers and technicians. The aim is to preserve and help develop this knowledge potential through greater support for the training and mobility of researchers and by enhancing access to research infrastructures.

The Community also has a solid tradition of research in social and economic science and the humanities, which needs to be mobilised to identify economic and social trends and requirements, both current and future, in order to contribute to the Community's competitiveness and the quality of life of its citizens.

1. General objectives

The general objectives of this activity, to be realised in concert with related actions elsewhere in the framework programme, are centred on two main areas of activity, namely improving the human research potential and strengthening the socioeconomic knowledge base. To this end, actions will be undertaken:

- to develop the Community's human research potential, making special efforts to ensure equality of access and a better balance between men and women, notably through the training and mobility of researchers so as to contribute, *inter alia*, to efforts for creating new jobs,
- to enhance access to research infrastructures,
- to help make the Community an attractive location for researchers and to promote European research in the international arena and to promote a European scientific and technological culture,
- to strengthen, through a specific key station, the socioeconomic knowledge base for a better understanding of key problems facing European society,
- to help develop scientific and technological policies and other Community policies.

2. Actions specific to the horizontal programme

(a) *Improving human research potential*

Supporting training and mobility of researchers

Actions will cover:

- the establishment of research training networks on high-quality projects, including those in emerging fields of research, on topics freely chosen by the researchers. The accent will be placed on the training and development of young researchers at pre-doctoral and at post-doctoral level,
- the establishment of a coherent system of 'Marie Curie' fellowships centred on individual fellowships for young high-quality researchers with the necessary research experience, awarded for topics chosen by the researchers themselves.

Additional and complementary schemes include:

- industrial host fellowships awarded to, and jointly funded by, enterprises (including SMEs) for the training of young researchers,
- development host fellowships to help develop high-level research capacity in the less favoured regions of the Community,
- experienced researchers' fellowships to promote mobility between industry and academia,
- support for short stays by doctoral students at training sites.

Enhancing access to research infrastructures

The main aim is to enhance access to research infrastructures (large facilities, networks of distributed facilities, infrastructural centres of competence) to the extent that such measures are not undertaken by other activities of the framework programme. To this end, measures are envisaged to help researchers with transnational access to infrastructures which are of Community-wide interest on account of their rarity and/or specialisation, including, where relevant, complementary measures to support the setting up of networks between infrastructure operators and related research projects.

Promoting scientific and technological excellence

The objective here is to stimulate, through exchange, scientific and technological excellence and to make the most of the achievements of research. Activities will build on and complement national activities and will include support for high-level scientific conferences, the networking of Community researchers active outside the Community with their Community colleagues, distinctions for high-level research work, including a European Descartes prize awarded to researchers for outstanding scientific and technological

achievements resulting from European collaborative research, and actions to raise public awareness and making information on important scientific issues available to the public at Community level, including via electronic networks.

(b) *Key action: improving the socioeconomic knowledge base*

The aim of this key action is to define the base for employment-generating social, economic and cultural development and for building a European knowledge society. It covers a number of subjects linked to the general objectives of the framework programme. Work will focus on:

- analysing structural, demographic and social changes, including the phenomena of xenophobia, racism and migration in Europe, and their impact on economic development, social integration and social protection,
- the relationship between technological development, employment and society, including working conditions and workforce skills and on innovation in education and training, including for newly emerging professions,
- analysing the changing role of European institutions, systems of governance and citizenship in the process of European integration, taking account of the impact of culture, the media and the social and legal environment,
- validating new development models, fostering growth, employment, social and economic cohesion and the quality of life, taking account of the development of services and the non-tangible economy.

(c) *Other activities will be undertaken in support of the development of science and technology policies.*

The aim is to support the development of the specific knowledge base needed by policy-makers and other users on European science and technology policy issues. Building on and complementing national and international activities, this action will cover the development of appropriate and comparable indicators, technology watch and assessment, strategic analysis of specific policy issues and, where appropriate, promotion of exchange of information and experience between policy-makers and researchers.

3. Interaction with related actions in the other framework programme activities

This activity will include the coordination, support and accompanying actions needed to ensure consistency with actions undertaken elsewhere in the framework programme on the aspects related to the objectives and activities of this programme. The programme will also ensure, through appropriate monitoring and coordinating mechanisms, the adequate incorporation of socioeconomic and strategic considerations into the research activities of the thematic programmes.

ANNEX III

FIFTH FRAMEWORK PROGRAMME (1998 TO 2002)

AMOUNTS AND BREAKDOWN

	<i>ECU million (current prices)</i>
Indirect actions:	
— First activity	10 843 ⁽¹⁾
— Second activity	475
— Third activity	363
— Fourth activity	1 280
Direct actions ⁽²⁾	739
<i>Maximum overall amount</i>	13 700
⁽¹⁾ Of which 10 % on average for SMEs.	
⁽²⁾ To be carried out by the JRC.	

	<i>(in million ECU)</i>
Indicative breakdown between the themes of the first activity:	
— quality of life and management of living resources	2 413
— user-friendly information society	3 600
— competitive and sustainable growth	2 705
— energy, environment and sustainable development	
— environment and sustainable development	1 083
— energy	1 042
	10 843

ANNEX IV

RULES FOR FINANCIAL PARTICIPATION BY THE COMMUNITY

The Community will contribute financially to the research and technological development activities, including demonstration activities, hereinafter referred to as 'indirect RTD actions', carried out under the specific programmes implementing the framework programme. In addition, it will carry out directly research and development activities in the areas covered by the framework programme, hereinafter referred to as 'direct TRD actions'.

1. Indirect RTD actions

The indirect RTD actions will comprise: shared-cost actions, which will be the principal mechanism for implementing the specific programmes, as well as training fellowships, support for networks, concerted actions and accompanying measures.

(a) Shared-cost actions

- research and technological development projects, demonstration projects, combined RTD/demonstration projects:
- research and technological development projects: projects designed to obtain new knowledge likely to be useful either to develop new or significantly to improve existing products, processes and/or services and/or to meet the needs of Community policies,
- demonstration projects: projects designed to prove the viability of new technologies which offer a potential economic advantage but which cannot be commercialised directly,
- combined RTD/demonstration projects: projects with both a research and technological development component and a demonstration component,
- enhancing access to research infrastructures:

In addition to measures in support of research infrastructure within the other indirect RTD actions, support for enhancing access to research infrastructures will be granted towards the additional costs of receiving Community researchers and making facilities available,

- technology stimulation to encourage and facilitate SME participation in RTD activities:

'cooperative research' projects: projects enabling at least three mutually independent SMEs from at least two Member States to entrust the resolution of their common technological problems to third legal entities with appropriate research capacities jointly.

'Exploratory awards' to support the exploratory phase of a project. This might consist of feasibility studies, project validation and preparation and partner search, during a period not exceeding 12 months.

(b) Training fellowships

Training fellowships are defined in the context of the fourth activity (Marie Curie fellowships). Fellowships awarded under the first, second or fourth activities will provide an allowance for the fellow which will include provision for proper social welfare expenses and a contribution to costs involved in mobility. There will also be a contribution to the eligible costs of the host institution when it is in the Community.

(c) Support for research training networks and thematic networks

- research training networks in the context of the fourth activity. Support will be granted towards the additional eligible costs connected with setting up and maintaining the network,

- thematic networks: networks bringing together, for instance, manufacturers, users, universities, research centres, organisations and research infrastructures around a given scientific and technological objective, so as to facilitate coordination of activities and transfer of knowledge. Support will be granted towards the additional eligible costs of coordinating and implementing the network.

(d) *Concerted actions*

Concerted actions will be designed to coordinate RTD projects already in receipt of funding, in order to exchange experience acquired, to expand the research efforts of the various players so as to reach a critical mass, to disseminate results and to inform users.

(e) *Accompanying measures*

Accompanying measures will contribute to the implementation of the specific programmes or the preparation of future activities, with a view to enabling them to achieve their strategic objectives. They will also seek to prepare for or to support other indirect RTD actions. Measures devoted to the commercialisation of products, processes or services, marketing activities and sales promotion are excluded.

The decisions adopting the specific programmes may spell out in more detail the indirect RTD actions described above, supplement them or subject them to additional conditions or limitations.

The rules for the participation of undertakings, research centres and universities in indirect RTD actions and for the dissemination of results will be specified in the Council Decision to be adopted pursuant to Article 130j of the Treaty. Eligible costs will be defined in that Decision and specified in detail in particular in the contracts.

In addition to the direct RTD actions described below, the JRC will progressively compete for funds for the indirect RTD actions of the framework programme.

2. Direct RTD actions

The direct RTD actions to be implemented by the Joint Research Centre (JRC) will cover research and scientific and technical support activities of an institutional character. The JRC may provide support where it has special or even unique expertise and facilities in the Community or where it is entrusted with activities necessary for the framing and implementation of Community policies and tasks incumbent on the Commission pursuant to the Treaty which require the JRC's impartiality. The JRC will carry out its activities in close cooperation with the scientific community and enterprises in Europe.

3. Rates of participation

In the decisions adopting the specific programmes implementing the fifth framework programme there can be no derogations from the financial participation rates set out below, with the exception of duly justified special cases.

Activity	Rate of framework programme participation
Indirect RTD actions	
RTD projects	50 % of the total eligible costs ⁽¹⁾ ⁽²⁾
Demonstration projects	35 % of the total eligible costs ⁽¹⁾ ⁽²⁾
Combined RTD/demonstration projects	35 to 50 % of the total eligible costs ⁽¹⁾ ⁽²⁾ ⁽³⁾
Support for access to research infrastructures	Maximum of 100 % of additional eligible costs
'Cooperative research' projects	50 % of the total eligible costs ⁽¹⁾
'Exploratory awards'	75 % of the total eligible costs
Training fellowships	Maximum of 100 % of the additional eligible costs ⁽⁴⁾
Research training networks	Maximum of 100 % of additional eligible costs
Thematic networks	
Concerted actions	Maximum of 100 % of additional eligible costs
Accompanying measures	Maximum of 100 % of the total eligible costs
Direct RTD actions	100 % of the costs

⁽¹⁾ These rates may need to be adjusted in individual cases to comply with the Community framework for State aid for research and development and with Article 8 of the Agreement on subsidies and countervailing measures of the WTO Agreement.

⁽²⁾ In the special case of legal entities which do not keep analytical accounts, the additional eligible costs generated as a result of the research will be financed at the rate of 100 %.

⁽³⁾ 35 % for the demonstration part, 50 % for the RTD part.

⁽⁴⁾ In the case of industrial host fellowships, this will normally approximate to 50 % of the total eligible costs.

4. Joint undertakings etc.

Any Council Decisions taken pursuant to Article 130o, as referred to in Article 3(2) of this Decision, will lay down, where necessary, rules on financial participation by the Community.

STATEMENTS

Statement by the European Parliament, the Council and the Commission re Article 2(1)(b)

The European Parliament, the Council and the Commission interpret the Article 2(1)(b) condition that 'the financial perspective indicates the share of expenditure available for research', as meaning that *a range* would be indicated for the research share.

Statement by the European Parliament, the Council and the Commission re Article 2(1)(c)

In the case referred to in Article 2(1)(c), second indent, the European Parliament, the Council and the Commission undertake to take the necessary steps within their respective competencies to allow for a speedy adoption of the decision fixing the amounts for the specific programmes in consequence of the decision of the European Parliament and the Council

Statement by the Commission re Article 3(1)

The Commission states that it will continue to apply all the relevant interinstitutional arrangements, including transmission to the European Parliament of draft measures and — notably in the case of research — the drafts of work programmes and any updating thereof as well as transmission to the European Parliament of the agendas of committee meetings and the result of votes.

Statement by the Commission re Article 5(1)

The Commission states that the annual monitoring reports will be promptly made available, in accordance with current practice, to the relevant programme committees and to the European Parliament's Committee on research, technological development and energy.

Statement by the Commission re Article 5(2)

The Commission comments will state whether and how the recommendations of the experts are being implemented.

Statement by the Commission re Article 5(3)

The Commission states that experts from the Commission including the JRC shall perform only an advisory role in this assessment process.

Statement by the Commission re Article 5(4)

Regular information on programme implementation will be ensured on the one hand via the programme committees and on the other hand via the European Parliament Committee on research, technological development and energy.

Statement by the Commission re Article 5(4)

The Commission states that, when informing the European Parliament and the Council of the overall progress of the implementation of the Framework Programme and the specific programmes, notably in the annual report established in compliance with Article 130P of the Treaty, it will especially address all relevant aspects of SME participation in the programmes as well as their achievements.

Statement by the Commission re Annex II(I)(3) — the Joint Research Centre

The Commission confirms that the European Parliament may request the Commission to perform research activities to be entrusted to the JRC, within the scope of its scientific and technological priorities.

Statement by the Commission re Annex II(I)(3)

If requested by Parliament, the Commission will give favourable consideration to carrying out research into the legal, financial and practical aspects of extending the RTD activities of the EC Treaty to processing methods and technologies for chemical and bacteriological substances.

II

(Acts whose publication is not obligatory)

COUNCIL

COUNCIL DECISION

of 22 December 1998

concerning the Fifth Framework Programme of the European Atomic Energy Community (Euratom) for research and training activities (1998 to 2002)

(1999/64/Euratom)

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Atomic Energy Community, and in particular Article 7 thereof,

Having regard to the proposal from the Commission ⁽¹⁾,

Having regard to the opinion of the European Parliament ⁽²⁾,

Having regard to the opinion of the Economic and Social Committee ⁽³⁾,

(1) Whereas a multiannual framework programme covering all research activities, including demonstration activities, and training activities in the field of nuclear energy, to be implemented by means of research and training programmes, can be adopted pursuant to Article 7 of the Treaty;

(2) Whereas it has been held appropriate to adopt, for the period 1998 to 2002, a new framework programme in order to ensure the continuity of research and training activities in the field of nuclear energy;

(3) Whereas, in accordance with Article 4(2) of Council Decision 94/268/Euratom of 26 April 1994 concerning a framework programme of Community activities in the field of research and training for the European Atomic Energy Community (1994 to 1998) ⁽⁴⁾ the Commission is required to have an external assessment conducted into the management of, and progress with, Community activities carried out during the five years preceding that assessment, before presenting its proposal for the fifth framework programme; whereas that assessment, the conclusions thereof and the Commission's comments have been communicated to the European Parliament, the Council and the Economic and Social Committee;

(4) Whereas European Atomic Energy Community research in the field of nuclear energy must reflect the current context of the need to develop safe and acceptable energy systems that respect standards and the environment and are competitive in terms of production costs;

(5) Whereas the fifth framework programme should focus on a limited number of topics; whereas these activities, in the context of indirect actions, should be implemented through: 'key actions', which bring together the activities (ranging from basic research through applied and generic research to

⁽¹⁾ OJ C 173, 7.6.1997, p. 30, and OJ C 291, 25.9.1997, p. 16.

⁽²⁾ OJ C 14, 19.1.1998, p. 59.

⁽³⁾ OJ C 355, 21.11.1997, p. 38.

⁽⁴⁾ OJ L 115, 6.5.1994, p. 31. Decision as amended by Decision 96/253/Euratom (OJ L 86, 4.4.1996, p. 7).

development and demonstration) in a coherent whole in order to target them strategically on a common European challenge or problem; research and technological development activities of a generic nature; and activities to encourage the optimum use of, and enhance access to, research infrastructures;

- (6) Whereas, furthermore, the fifth framework programme should include, in addition to the thematic aspects, horizontal aspects covering cooperation with third States and international organisations, the dissemination and exploitation of the results of research and training activities and the training and mobility of researchers;
- (7) Whereas this approach presupposes the maintenance and strengthening of the potential for scientific and technological excellence existing within the Community, taking full account of the efforts of its main international partners;
- (8) Whereas cooperation with all third States and international organisations must be stepped up, in particular in pursuit of the objective of the peaceful use of nuclear energy; whereas it is necessary that the Community continues to play an important international role in the field of nuclear fission safety, in particular with regard to the central and east European countries and the States that have emerged from the former Soviet Union; whereas it is also important to continue, where appropriate, international cooperation activities with regard to third States in the field of controlled thermonuclear fusion;
- (9) Whereas, under Article 4(1) of the Treaty, Community research and training activities in the nuclear field must aim to complement action in the Member States; whereas Community action must therefore make it possible to bring added value to the efforts undertaken in the Member States;
- (10) Whereas a financial reference amount, within the meaning of point 2 of the Declaration by the European Parliament, the Council and the Commission of 6 March 1995 ⁽¹⁾, is included in this Decision for the entire duration of the framework programme, without thereby affecting the powers of the budgetary authority as they are defined by the Treaty;
- (11) Whereas the financial reference amount of the fifth framework programme will need to be revised should new Member States accede before the framework programme expires;
- (12) Whereas Community participation in the framework programme should correspond to the financial perspective in force for the whole period of the programme; whereas account should be taken of the fact that a new financial perspective will be negotiated during the course of the fifth framework programme; whereas, if the financial reference amount were inconsistent with the amount available for research within the financial perspective then in force, or if there were no financial perspective in force, it would be necessary to decide on a new financial reference amount under the conditions provided for in the Treaty; whereas there should be equivalent arrangements for the research and training programmes; whereas, in the absence of such arrangements, the research and training programmes could not be implemented since they would have been deprived of a legal base for the expenditures which they foresee;
- (13) Whereas the criteria that have been laid down to choose the areas covered by the fifth framework programme and the related scientific and technological objectives take into account the abovementioned principles; whereas those criteria should also be consistently applied in the implementation of the fifth framework programme in order to ensure consistency;
- (14) Whereas the Joint Research Centre (JRC) will implement direct research actions through research and scientific and technical support activities of an institutional character where it has special or even unique expertise and facilities in the Community or where it is entrusted with activities necessary for the framing and implementation of Community policies and tasks incumbent on the Commission pursuant to the Treaty which require the JRC's impartiality; whereas, in addition, the JRC will participate, progressively in a competitive approach, in the context of consortia, in carrying out research and training activities;
- (15) Whereas the annual report to be submitted to the Council pursuant to Article 7 of the Treaty shall also be submitted by the Commission to the European Parliament; whereas, in accordance with the recommendations to be implemented in respect of transparency and sound and efficient

⁽¹⁾ OJ C 102, 4.4.1996, p. 4.

management, arrangements should also be adopted for the systematic examination of the progress of the fifth framework programme and its evaluation;

- (16) Whereas, in order to ensure consistency between the research activities undertaken under the Euratom Treaty and those carried out under the Treaty establishing the European Community, the Decision concerning the framework programme of the European Community for research, technological development and demonstration activities should be adopted at the same time and for the same period as this framework programme;
- (17) Whereas the Scientific and Technical Committee has been consulted by the Commission and has delivered its opinion,

HAS DECIDED AS FOLLOWS:

Article 1

1. A multiannual framework programme for all research activities, including demonstration activities, and training activities in the field of nuclear energy, hereinafter referred to as the 'fifth framework programme', is hereby adopted for the period 1998 to 2002.

2. The fifth framework programme shall cover the area of controlled thermonuclear fusion and energy systems related to nuclear fission, as well as that of industrial and medical uses of radiation and natural sources of radiation.

Those areas shall include, in addition to the thematic aspects, horizontal aspects concerning cooperation with third countries and international organisations, the dissemination and exploitation of results of research and training activities, and the stimulation of the training and mobility of Community researchers.

3. The criteria for selecting the areas referred to in paragraph 2 and the related objectives are set out in Annex I. They shall apply for the implementation of the fifth framework programme.

4. The general outlines of the aforementioned areas, their scientific and technological objectives and the related priorities are set out in Annex II.

5. The activities carried out in the fifth framework programme shall be closely coordinated, as appropriate, with the activities in the field of energy research described

in the fifth framework programme of the European Community for research, technological development and demonstration activities (1998 to 2002), while fully respecting the legally independent nature of these two programmes.

Article 2

1. (a) The financial reference amount for the implementation of this framework programme for the period 1998 to 2002 shall be ECU 1 260 million, of which ECU 788 million shall be for controlled thermonuclear fusion and ECU 281 million shall be for the JRC.

Of this amount:

- ECU 310 million is for the period 1998 to 1999,
- ECU 950 million is for the period 2000 to 2002.

- (b) The figure of ECU 950 million shall be deemed to be confirmed if it is consistent with the financial perspective in force in the period 2000 to 2002. In the case of any new financial perspective in force, this condition shall be met only if

- the financial perspective indicates the share of expenditure available for research, and
- that share permits Community participation of ECU 950 million in the period 2000 to 2002.

- (c) If the figure of ECU 950 million is not consistent with the financial perspective in force in the period 2000 to 2002, or if there is no financial perspective in force in those years, the Council, acting under the conditions provided for in Article 7 of the Treaty, shall:

- set a new financial reference amount,
- adapt the amounts deemed necessary for the research and training programmes referred to in Article 3, so as to ensure their consistency with the new financial reference amount.

Pending the decisions provided for in the first and second indents, the research and training programmes shall not be implemented beyond the provision in the first indent of the second subparagraph of subparagraph (a).

2. The amounts mentioned in paragraph 1 shall be subject to revision should new Member States accede before the framework programme expires.

Article 3

1. The fifth framework programme shall be implemented through two research and training programmes, one of which shall be specific to the JRC.

Each research and training programme shall specify its precise objectives on the lines of the scientific and technological objectives in Annex II, define the detailed rules for its implementation, fix its duration and provide for the means deemed necessary.

The Commission will establish and publish under its own responsibility a detailed manual of operational procedures and guidelines for the selection of research and training activities. 2. Implementation of the fifth framework programme may give rise, where necessary, to supplementary programmes. It may also give rise to the conclusion of agreements with third countries or international organisations within the meaning of Article 101 of the Treaty.

Article 4

The detailed rules for financial participation by the European Atomic Energy Community in the fifth framework programme shall be those laid down in accordance with the special provisions concerning research and technological development appropriations in the Financial Regulation applicable to the general budget of the European Communities, as supplemented by Annex III to this Decision.

Article 5

1. The Commission shall continually and systematically monitor each year, with the help of independent qualified experts, the implementation of the fifth framework programme and its research and training programmes in the light of the criteria set out in Annex I and the scientific and technological objectives set out in Annex II. It shall assess, in particular, whether the objectives, priorities and financial resources are still appropriate to the changing situation. Where appropriate, it shall submit proposals to adapt or supplement the framework programme and/or the research and training programmes, taking account of the results of this assessment.

2. Before submitting its proposal for a sixth framework programme, the Commission shall have an external assessment conducted by independent highly qualified experts into the implementation of the activities in the areas referred to in Article 1(2), carried out during the five years preceding that assessment, in the light of the criteria set out in Annex I, the scientific and technological objectives set out in Annex II and the implementation of this Decision via the research and training programmes based thereon. The Commission shall communicate the conclusions thereof, together with its comments, to the European Parliament, the Council and the Economic and Social Committee.

3. The independent qualified experts referred to in paragraphs 1 and 2 shall be chosen on the grounds of their expertise and personal aptitude by the Commission, which shall take into account, in a balanced fashion, the various research players.

The Commission shall make known the full list of experts and their individual qualifications following their appointment.

4. The Commission shall regularly inform the European Parliament and the Council on the overall progress of the implementation of the framework programme and the specific programmes. In particular, the Commission shall submit a report to the European Parliament and the Council at the beginning of each year. The report shall cover in particular the research and training activities carried out during the preceding year and the work programme for the year in progress.

Article 6

Halfway through the term of the fifth framework programme, the Commission shall review progress with the programme and shall submit to the European Parliament and to the Council, on the basis of the assessments of the various research and training programmes, a communication accompanied, if appropriate, by a proposal to the Council for the adaptation of this Decision.

Done at Brussels, 22 December 1998.

For the Council

The President

C. EINEM

ANNEX I

CRITERIA FOR SELECTING THE AREAS AND OBJECTIVES

1. The European Atomic Energy Community's research policy in the field of nuclear energy is directed towards strengthening the scientific and technological bases of the civil nuclear industry in the Community and encouraging it to become more competitive at international level, while promoting all the research and training activities deemed necessary for the implementation of the policies laid down in the EAEC Treaty. It shall also contribute to promoting the quality of life of the Community's citizens and to the sustainable development of the Community as a whole, including the ecological aspects. Its implementation is based on the twin principles of scientific and technological excellence and relevance to the abovementioned objectives.

Moreover, in pursuit of a cost-benefit approach dictated by concern for optimum allocation of European public funding and in accordance with the subsidiarity principle, themes for the Fifth Framework Programme and the related objectives will be selected on the basis that the Community shall take action only if, and insofar as, the objectives cannot be sufficiently achieved by the Member States.

2. In application of the foregoing principles, the Framework Programme shall be defined on the basis of a set of common criteria, divided into three categories:

- criteria related to the Community 'value added' and the subsidiarity principle:

- need to establish a 'critical mass' in human and financial terms, in particular through the combination of the complementary expertise and resources available in the various Member States,
- significant contribution to the implementation of one or more Community policies,
- addressing of problems arising at Community level, or questions relating to aspects of standardisation, or questions connected with the development of the European area,

so as to select only objectives which are more efficiently pursued at the Community level by means of research activities conducted at that level;

- criteria related to social objectives:

- improving the employment situation,
- promoting the quality of life and health,
- preserving the environment,

in order to attain major social objectives of Euratom reflecting the expectations and concerns of its citizens;

- criteria related to economic development and scientific and technological prospects:

- areas which are expanding and create good growth prospects,
- areas in which Community undertakings can and must become more competitive,
- areas in which prospects of significant scientific and technological progress are opening up, offering possibilities for dissemination and exploitation of results in the medium or long term,

in order to contribute to the harmonious and sustainable development of the Community as a whole.

3. These criteria will be used, and where necessary supplemented, for the implementation of the fifth framework programme, in order to define the research and training programmes and select the research activities, including demonstration activities, and training activities. The three categories of criteria will apply simultaneously and must all be met, although to a different extent from case to case.

ANNEX II

BROAD LINES OF THE AREAS' SCIENTIFIC AND TECHNOLOGICAL OBJECTIVES

Nuclear energy provides more than 35 % of the electricity generated in the European Community. It makes a significant contribution to the policy of diversifying energy supply and to reducing overall emissions of CO₂.

Efforts to develop the safety and security of nuclear energy systems can strengthen, in the short and medium terms, the Community's industrial competitiveness, through exploiting the European technological advance. In the longer term, technologies with promising prospects require considerable research efforts at Community and world level. Minimising radiation exposure from all sources, including medical exposures and natural radiation, will improve the quality of life and health and will help in addressing environmental problems.

I. AREAS AND ORGANISATION OF THE FIFTH FRAMEWORK PROGRAMME

1. The fifth framework programme will cover controlled thermonuclear fusion, nuclear fission, as well as industrial and medical uses of radiation and natural sources of radiation.

2. With regard to the thematic aspects, the framework programme will centre on:

- (a) 'key actions'

Key actions will be problem-oriented and clearly defined corresponding to the criteria and be specifically targeted to the objectives of each programme and to the desired results, taking into account, where appropriate, the views of users. They will have a clear European focus. The 'key action' is regarded as a cluster of small and large, applied, generic, and, as appropriate, basic research projects directed towards a common European challenge or problem, not excluding global issues.

The research activities carried out in this context will integrate the entire spectrum of activities and disciplines needed to achieve the objectives, and range from basic research through development to demonstration. Appropriate links with relevant national and international initiatives (including complementary European RTD frameworks) will be given proper attention;

- (b) research and technological development activities of a generic nature

These activities, which are essential to achieve the objectives of the programme, will be carried out in a limited number of areas not covered by the key actions. They will complement the key actions. Their main aim is to help the European Community maintain and improve its scientific and technological capability in those areas of research and enabling technologies which should be used widely;

- (c) enhancing access to, and optimal use of, research infrastructures.

3. The horizontal aspects comprise:

- scientific and technological cooperation with third countries and international organisations; the programme (both research and training activities) should be open to participation from entities in third countries so as to facilitate effective cooperation in important areas of research of mutual interest,
- dissemination and optimisation of the results of research and training activities,
- the training and mobility of researchers. The synergy between research and training will continue to be developed. The mobility of scientists and technologists will be increased and the access to large-scale facilities will be facilitated.

4. The activities of the Joint Research Centre (JRC)

The direct research actions to be implemented by the JRC will comprise research and scientific and technical support activities of an institutional character. The JRC may provide support where it has special or even unique expertise and facilities in the Community or where it is tasked with activities necessary for the framing and implementation of Community policies and tasks incumbent on the Commission pursuant to the Treaty which require the JRC's impartiality. The JRC will carry out its activities in close cooperation with the scientific community and enterprises in Europe. Exchanges between the JRC and universities, research institutes and industry will be encouraged.

The appropriations made available to the JRC constitute a maximum amount. In addition, the JRC may endeavour to secure funds from other sources. The relevant JRC management rules and regulations will apply to these allocations.

The JRC is also progressively involved in competitive activities.

II. SCIENTIFIC AND TECHNOLOGICAL OBJECTIVES

(a) *Key actions*

1. Key action: controlled thermonuclear fusion

- (i) The long-term objective of the fusion activities, embracing all the research activities undertaken in the Member States aimed at harnessing fusion, is the joint creation of prototype reactors for power stations to meet the needs of society: operational safety, environmental compatibility, economic viability.

The proposed strategy to achieve the long-term objective includes the development of an experimental reactor (the Next Step) followed by a demonstration reactor (DEMO), accompanied by physics and technology R & D activities, also involving European industry.

In the context of this strategy, construction of an experimental reactor is necessary and, in the light of progress to date, seems technically feasible during the next decade. This should take place within the framework of international cooperation, such as the international thermonuclear experimental reactor (ITER).

The aim of this key action is to develop further the necessary basis for the possible construction of an experimental reactor. This key action should thus enhance the Community's preparedness, from a scientific, technical, financial and organizational point of view, to decide on and support such a future experimental reactor.

- (ii) During the period of the fifth framework programme, implementation of the strategy will entail:
 - Next Step activities: the fusion physics and technology activities needed mainly in the associations, Joint European Torus (JET) and European industry to develop the capacity to construct and experimental reactor and prepare to operate it; Europe will continue to participate in the detailed engineering design activities (EDA), including procurement specifications and licensing preparations for ITER with a view to its possible construction,
 - concept improvements: structured activities in the field of physics to improve the basic concepts of fusion devices, including from the perspective of preparing the Next Step and the conceptual definition of DEMO,
 - long-term technology: structured technological activities for the longer term which are essential to make progress with harnessing fusion, in particular to prepare for DEMO and then the prototype reactor.

- (iii) In the context of this strategy, the contribution of fusion power to safe and clean base-load electricity generation will be investigated in the wider context of studies on the socio-economic aspects of fusion.

The full-scale operation of the JET, the main instrument from which data can be extrapolated for the experimental reactor, will be completed. Before the joint undertaking expires, the possible extended use of the JET facilities will be explored. They could be used to obtain further knowledge for the Next Step.

As an integral part of this key action, the following activities will also be carried out: coordination, in the context of a keep-in-touch activity, of the Member States' civil research activities on inertial confinement and possible alternative concepts; a fresh assessment of safety and environmental aspects; dissemination of results and the diffusion of information to the public; mobility and training.

2. Key action: nuclear fission

- (i) The aim of this key action is to help ensure the safety of Europe's nuclear installations and to improve the competitiveness of Europe's industry; to ensure the protection of workers and the public from radiation; to support the application of international safeguards on nuclear materials; and to help ensure the safe and effective management and final disposal of radioactive waste.

- (ii) Research will focus on:

- the operational safety of existing installations:

measures to maintain and improve the safety of existing installations, including safety aspects relating to prolongation of the life-span of reactors,

- safety of the fuel cycle:

measures to maintain and improve the safety of the entire cycle, in particular: technological aspects of severe accidents, strategies and methods for the prevention and management of accident and post-accident situations; a scientifically founded approach to the management and disposal of radioactive waste, especially long-lived radioactive waste, and its reduction to a minimum, including by the transmutation of long-lived isotopes into short-lived isotopes, technological and operational reliability of final repositories, including experiments in large-scale facilities; development of best practices and maintaining and updating databases, including on decommissioning of nuclear facilities,

- safety and efficiency of future systems:

studies on advanced and more efficient fuels, future and innovative systems, facilities and concepts. These studies will cover safety analysis, impact on man and the environment, and the most promising approaches from a technological, economic and competition viewpoint, including safeguards and non-proliferation aspects, in a sustainable development perspective,

- safeguards on nuclear materials:

technologies and methods of nuclear materials safeguards to meet recent developments: changes in the fuel cycle, the sharp rise in the stock of fissile materials due to nuclear disarmament, the extra obligations arising out of new international agreements, the illicit traffic in fissile materials; scientific and technological cooperation, as appropriate, with the IAEA in Vienna,

- radiation protection:

radiation protection specific to nuclear installations for the protection of workers and the public, in support of regulatory and operational aspects; the management of nuclear emergencies and the restoration of contaminated environments.

- (iii) Cooperation with the countries of eastern and central Europe and the new independent States in the area of nuclear fission will focus on: research aimed at helping these countries and States in improving the safety of their reactors; waste management; radiation protection; the effects of long-term radiation damage and the control of fissile materials.

Participation of these countries and States will be encouraged through appropriate financial support from the Community, where such participation will make a substantial contribution to the aims of the programme and is thus in the Community's interest. Where appropriate, synergy should be sought with other relevant Community instruments.

(b) *Research and technological development activities of a generic nature*

Efforts will be focused on the research needed to consolidate and advance European knowledge and competence in:

- radiological protection and health with the emphasis on understanding and awareness of the hazards related to ionising radiation and radioactivity, more especially the effects of low-dose radiation, particularly on humans, and including epidemiological studies,
- environmental transfer of radioactivity,
- enhancing the safety and efficacy of medical and industrial uses of radiation and better assessment of exposures from sources of natural radiation,
- improvements in internal and external dosimetry.

(c) *Enhancing access to and optimising use of research infrastructures*

The priority is to make optimal use of, enhance access to and improve the consistency of the European research fabric of infrastructures (large facilities, networks of distributed facilities, infrastructural centres of competence) to the extent that such measures are not undertaken by other activities of the framework programme. To this end, measures are envisaged to help researchers with transnational access to infrastructures which are of Community-wide interest on account of their rarity and/or specialisation.

Complementary measures may include, where relevant, support for setting up networks between infrastructure operators and for research projects which enhance access to infrastructures.

*ANNEX III***RULES FOR FINANCIAL PARTICIPATION BY EURATOM**

The European Atomic Energy Community will contribute financially to the research and technological activities, including demonstration activities, and training activities, hereinafter referred to as 'indirect actions', carried out under the programmes implementing the framework programme. In addition, it will carry out directly research and technological activities, including demonstration activities, and training activities, hereinafter referred to as 'direct actions'.

1. INDIRECT ACTIONS

The indirect actions will comprise: shared-cost actions, which will be the principal mechanism for implementing the research and training programmes, as well as training fellowships, support for networks, concerted actions and accompanying measures.

(a) Shared-cost actions

- Research and technological projects, demonstration projects, combined research/demonstration projects:
 - research and technological projects: projects designed to obtain new knowledge likely to be useful either to develop new or significantly improve existing products, processes and/or services and/or to meet the needs of Community policies,
 - demonstration projects: projects designed to prove the viability of new technologies which offer a potential economic advantage but which cannot be commercialised directly,
 - combined research/demonstration projects: projects with both a research component and a demonstration component,
- enhancing access to research infrastructures:

In addition to measures in support of research infrastructure within the other indirect actions, support for enhancing access to research infrastructures will be granted towards the additional costs of receiving Community researchers and making facilities available.

(b) Training fellowships

In the context of the training and mobility of researchers ('Marie Curie fellowships'), fellows will be provided an allowance which will include provision for proper social welfare expenses and a contribution to costs involved in mobility. There will also be a contribution to the eligible costs of the host institution when it is in the Community.

(c) Support for research training networks and thematic networks

- Research training networks: support will be granted towards the additional eligible costs connected with setting up and maintaining the network,
- Thematic networks: networks bringing together, for instance, manufacturers, users, universities, research centres, organisations and research infrastructures around a given scientific and technological objective, so as to facilitate coordination of activities and transfer of knowledge. Support will be granted towards the additional eligible costs of coordinating and implementing the network.

(d) **Concerted actions**

Concerted actions will be designed to coordinate projects already in receipt of funding, in order to exchange experience acquired, to expand the research efforts of the various players so as to reach a critical mass, to disseminate results and to inform users.

(e) **Accompanying measures**

Accompanying measures will contribute to the implementation of the research and training programmes or the preparation of future activities, with a view to enabling them to achieve their strategic objectives. They will also seek to prepare or support the other indirect actions. Measures devoted to the commercialisation of products, processes or services, marketing activities and sales promotion are excluded.

The Decisions adopting the research and training programmes may spell out in more detail the indirect actions described above, supplement them or subject them to additional conditions or limitations.

The rules for the participation of undertakings, research centres and universities in indirect actions are specified in Council Decision 1999/66/Euratom of 22 December 1998 concerning the rules for the participation of undertakings, research centres and universities in the implementation of the fifth framework programme of the European Atomic-Energy Community (Euratom) (1998-2002) ⁽¹⁾. The dissemination of research results will be carried out in accordance with Title II, Chapter 2 of the Treaty.

In addition to the direct actions described below, the JRC will progressively compete for funds for the indirect actions of the framework programme.

2. DIRECT ACTIONS

The direct actions to be implemented by the JRC will comprise research and scientific and technical support activities of an institutional character. The JRC may provide support where it has special or even unique expertise and facilities in the Community or where it is tasked with activities necessary for the framing and implementation of European Atomic Energy Community policies and tasks incumbent on the Commission pursuant to the European Treaty which require the JRC's impartiality. The JRC will carry out its activities in close operation with the scientific community and enterprises in Europe.

3. RATES OF PARTICIPATION

In the Decisions adopting the research and training programmes implementing the fifth Euratom framework programme there can be no derogations from the financial participation rates set out below, with the exception of duly justified special cases.

⁽¹⁾ See page 56 of this Official Journal.

Activity	Rate of framework programme participation
Indirect actions	
Research and technological projects	50 % of the total eligible costs ⁽¹⁾
Demonstration projects	35 % of the total eligible costs ⁽²⁾
Combined research/demonstration projects	35 % to 50 % of the total eligible costs ⁽¹⁾ ⁽²⁾
Support for access to research infrastructures	Maximum of 100 % of additional eligible costs
Training fellowships	Maximum of 100 % of additional eligible costs ⁽³⁾
Research training networks	Maximum of 100 % of additional eligible costs
Thematic networks	
Concerted actions	Maximum of 100 % of additional eligible costs
Accompanying measures	Maximum of 100 % of additional eligible costs
Direct actions	100 % of the costs

⁽¹⁾ In the special case of legal entities which do not keep analytical accounts, the additional costs generated as a result of the research will be financed at the rate of 100 %.

⁽²⁾ 35 % for the demonstration part, 50 % for the research part.

⁽³⁾ In the case of industrial host fellowships, this will normally approximate to 50 % of the total eligible costs.

4. OTHER ACTIONS

The rules for participation by the European Atomic Energy Community in the JET Joint Undertaking, Next Step/ITER activities, Contracts of Association and in certain tasks which can only be performed by industry will be specified in the corresponding research and training programme.

COUNCIL DECISION

of 22 December 1998

concerning the rules for the participation of undertakings, research centres and universities and for the dissemination of research results for the implementation of the fifth framework programme of the European Community (1998-2002)

(1999/65/EC)

THE COUNCIL OF THE EUROPEAN UNION,

may vary depending on whether the participant is based in a Member State, an Associated State or a third country and on its legal structure;

Having regard to the Treaty establishing the European Community, and in particular Article 130j and the second paragraph of Article 130o thereof,

Having regard to the proposal from the Commission ⁽¹⁾,

Having regard to the opinion of the Economic and Social Committee ⁽²⁾,

Acting in accordance with the procedure referred to in Article 189c of the Treaty ⁽³⁾,

(1) Whereas the fifth framework programme of the European Community for research, technological development and demonstration activities (1998 to 2002) (hereinafter referred to as 'the fifth framework programme') was adopted by Decision No 182/1999/EC of the European Parliament and Council ⁽⁴⁾; whereas the detailed rules for financial participation by the Community, as set out in Annex IV to that Decision, must be supplemented by other provisions to be laid down in accordance with Article 130j and the second paragraph of Article 130o of the Treaty;

(2) Whereas the new provisions should be part of a complete, coherent and transparent framework so that the specific programmes implementing the fifth framework programme may be carried out in a harmonised manner;

(3) Whereas the rules for the participation of undertakings, research centres and universities must be adapted to the nature of the research and technological development activities, including demonstration activities (hereinafter referred to as 'indirect RTD actions'); whereas, moreover, they

(4) Whereas, under the fifth framework programme, the participation of legal entities of third countries should be envisaged, including on the basis of international agreements; whereas, however, the agreements concluded with the Community, in particular on the basis of Article 130m of the Treaty, must be implemented in accordance with the principle of reciprocity and the protection of intellectual and industrial property rights; whereas the Community's legal entities must accordingly enjoy genuine access to the research programmes of the third country concerned;

(5) Whereas, in the specific case of small and medium-sized enterprises, particular stress should be laid on indirect RTD actions designed to encourage their participation, since they can contribute to the creation and maintenance of jobs and to innovation;

(6) Whereas the Joint Research Centre (JRC) takes part in indirect RTD actions on the same basis as legal entities established in a Member State or in an Associated State;

(7) Whereas the rules should be applied in a simple and efficient manner so as to minimise the administrative and financial burden on participants and the Commission, particularly with respect to the time taken to prepare proposals, conclude contract negotiations and make reimbursements;

(8) Whereas the Community financial participation must be paid to the participants against justification of the eligible costs of the indirect

⁽¹⁾ OJ C 40, 7.2.1998, p. 14.

⁽²⁾ OJ C 214, 10.7.1998, p. 51.

⁽³⁾ Opinion on the European Parliament of 28 May 1998 (OJ C 195, 22.6.1998), Council common position of 10 July 1998 (OJ C 262, 19.8.1998, p. 50) and Decision of the European Parliament of 8 October 1998 (OJ C 328, 26.10.1998).

⁽⁴⁾ See page 1 of this Official Journal.

RTD action, although other more appropriate methods may be used;

- (9) Whereas the RTD activities should be carried out in compliance with ethical principles;
- (10) Whereas the rules for the dissemination of research results must guarantee the protection of rights linked to obtaining and using knowledge;
- (11) Whereas the rules must take account of the interests of the Community and the legitimate interests of the parties to any contract concluded as a result of the selection of the proposal for an indirect RTD action;
- (12) Whereas, in the case of indirect RTD actions, the rules must, generally speaking, be adapted to the level of the Community financial participation or the proximity to the market of the RTD activity in question, including demonstration;
- (13) Whereas ownership of the knowledge resulting from indirect RTD actions is normally determined in accordance with the level of Community financial participation;
- (14) Whereas, in the case of indirect RTD actions, the knowledge must be used or, failing that, disseminated;
- (15) Whereas the primary responsibility for dissemination or use of research results rests with the contractors; whereas for projects closer to the market the rules must promote the use of results suitable for exploitation by the contractors; whereas the rules must otherwise promote the dissemination of suitable results, including those suitable for use which have not been exploited, to third parties, including Member States' and Associated States' governments, so as to facilitate the use of those results and avoid duplication of research efforts;
- (16) Whereas agreements concerning exclusive rights may be necessary to facilitate exploitation of the knowledge; whereas such agreements must comply with the applicable rules on competition;

- (17) Whereas, in the case of certain indirect RTD actions, a technological implementation plan must be produced by the contractors to enable the Commission to monitor the use and dissemination of the knowledge;
- (18) Whereas RTD activities should be carried out in accordance with the principles of sound financial management;
- (19) Whereas, to the extent necessary for achieving their objectives, the specific programmes may set out in greater detail or supplement the rules for the participation of undertakings, research centres and universities and for the dissemination of research results;
- (20) Whereas, in order to ensure coherence between the activities carried out under the fifth framework programme and those undertaken pursuant to Council Decision 1999/64/Euratom of 22 December 1998 concerning the fifth framework programme of the European Atomic Energy Community (Euratom) for research and training activities (1998-2002) ⁽¹⁾, this Decision and Council Decision 1999/66/Euratom of 22 December 1998 concerning the rules for the participation of undertakings, research centres and universities and for the implementation of the fifth framework programme of the European Atomic Energy Community (Euratom) (1998 to 2002) ⁽²⁾ should be adopted simultaneously and for the same period,

HAS DECIDED AS FOLLOWS:

CHAPTER I

GENERAL PROVISIONS

Article 1

Definitions

For the purposes of this Decision:

- (a) *RTD activities* means the research and technological development activities, including demonstration activities, described in Annex II to the fifth framework programme;

⁽¹⁾ See page 34 of this Official Journal.

⁽²⁾ See page 56 of this Official Journal.

- (b) *indirect RTD actions* means one of the two ways of implementing RTD activities, as described in Annex IV to the fifth framework programme. Such actions are carried out by third parties under contracts concluded with the Community; the JRC may take part in such actions under the conditions laid down in Article 7;
- (c) *direct RTD actions* means one of the two ways of implementing RTD activities, as described in Annex IV to the fifth framework programme. Such actions are carried out by the JRC;
- (d) *Associated State* means a State which is party to an international agreement concluded with the Community, in particular on the basis of Article 130m of the Treaty, under which the State concerned makes a financial contribution to the fifth framework programme. The said agreement relates to cooperation in research, technological development and demonstration;
- (e) *third country* means a country which is neither a Member State nor an Associated State;
- (f) *legal entity* means:
- any natural person, or
 - any legal person, provided that it has been established under Community law or the applicable national law and has been given legal personality or has the capacity, in its own name, to hold rights and obligations of all kinds, to conclude contracts and to be a party to legal proceedings;
- (g) *international organisation* means any association of States, other than the Community, established on the basis of a Treaty or similar act, having common institutions and an international legal personality distinct from that of its Member States;
- (h) *potential user of RTD results* means any legal entity, any international organisation or the JRC which, by virtue of its needs and capabilities — whether scientific, technological, economic or social — has a specific contribution to make to the use or the ensuring of the use of the results of indirect RTD actions;
- (i) *small and medium-sized enterprises* (hereinafter referred to as ‘SMEs’) means enterprises which meet the criteria set out in Commission Recommendation 96/280/EC, ⁽¹⁾ namely:
- have fewer than 250 employees (full-time equivalents), and
 - have either an annual turnover not exceeding ECU 40 million or an annual balance-sheet total not exceeding ECU 27 million, and
 - conform to the criterion of independence as defined in the Recommendation;
- (j) *knowledge* means the results, including information, which result from RTD actions under the fifth framework programme;
- (k) *dissemination* means the disclosure of knowledge by any appropriate means other than the publication resulting from the formalities for protecting the knowledge, for the purposes of promoting scientific and technical progress;
- (l) *use* means the direct or indirect use of knowledge in research activities or for the purposes of exploitation;
- (m) *exploitation* means the use of knowledge for creating and marketing a product or process or for creating and providing a service;
- (n) *pre-existing know-how* means the information which is held by the proposer prior to the conclusion of a contract referred to in Article 12 of this Decision or acquired in parallel to it and necessary for the proper execution of an indirect RTD action, and the rights attaching thereto.

Article 2

Interests of the Community

The interests of the Community, as referred to in Articles 6, 15, 16, 17, 18 and 20, shall be assessed with particular regard to:

- (a) the objective of strengthening the international competitiveness of Community industry;
- (b) the objective of providing appropriate incentives for maintaining and creating jobs in the Community;
- (c) the objective of promoting sustainable development and improving the quality of life in the Community;
- (d) the needs of other Community policies in support of which the RTD actions are carried out;
- (e) the existence of scientific and technical cooperation agreements between the Community and third countries or international organisations.

⁽¹⁾ OJ L 107, 30.4.1996, p. 4.

CHAPTER II

RULES FOR THE PARTICIPATION OF UNDERTAKINGS,
RESEARCH CENTRES AND UNIVERSITIES*Article 3***Scope**

The rules laid down in this Chapter shall apply to the participation of legal entities and international organisations and of the JRC in indirect RTD actions.

Section 1

Conditions for participation and financing*Article 4***Number of participants in indirect RTD actions**

1. Indirect RTD actions shall be carried out by:

- (a) at least two mutually independent legal entities established in two different Member States or in a Member State and an Associated State; or
- (b) at least one legal entity established in a Member State or in an Associated State and the JRC; or
- (c) one or several legal entities established in a third country or international organisations, acting in cooperation with the minimum number of legal entities established in a Member State or Associated State and the JRC, as required in points (a) or (b).

2. Exceptionally, where the nature of the indirect RTD action or activity to be undertaken requires it to be carried out by a single participant, it must be carried out by:

- (a) a legal entity established in a Member State, in an Associated State or in a third country; or
- (b) an international organisation; or
- (c) the JRC.

*Article 5***Conditions for legal entities from the Member States
and Associated States**

1. Any legal entity established in a Member State or in an Associated State may take part in indirect RTD

actions and receive funding from the fifth framework programme, provided that:

- it is carrying out or is about to carry out a research, technological development or demonstration activity, or
- it contributes to the dissemination and use of results in accordance with the specific programme on 'Promotion of innovation and encouragement of SME participation', or
- it is a potential user of RTD results,

or, additionally for thematic networks and concerted actions,

- it is instead in a position to contribute substantial added value to the quality of work to be undertaken by virtue of its knowledge of the relevant area of research.

2. The conditions set out in paragraph 1 do not apply in the following cases:

- (a) for exploratory awards, where the legal entity must be an SME or, exceptionally, a potential user of RTD results. In the latter case, the entity will not normally receive funding from the fifth framework programme;
- (b) for cooperative research projects, where the legal entity must be an SME which is a potential user of RTD results but with little or no RTD capability of its own;
- (c) for accompanying measures, where the legal entity has the necessary technical know-how to carry out the indirect RTD action in question.

3. Where an Associated State is only partially associated with the fifth framework programme, a legal entity in that country may only take part and receive financing under this Article in those specific programmes covered by the association agreement. Participation in specific programmes to which that country is not associated is subject to Article 6.

4. Where the purpose of the indirect RTD action concerned so permits, any legal entity referred to in paragraphs 1 and 2 shall carry out the major part of the work within the Member States or Associated States.

*Article 6***Conditions for legal entities from third countries and for international organisations**

1. Any legal entity established in a third European country or Mediterranean partner country and any international organisation may take part in indirect RTD actions on a project-by-project basis in conformity with the interests of the Community and without financing from the fifth framework programme, provided that:

- (a) the number of participations in the proposal for an indirect RTD action is in accordance with Article 4; and
- (b) it meets the conditions laid down in Article 5(1) and (2) for legal entities from the Member States and Associated States.

This shall not apply to training fellowships as defined in Annex IV to the fifth framework programme.

2. Legal entities established in other third countries may participate on the same terms provided that their participation is also of substantial added value or implementing all or part of the specific programmes in accordance with the objectives of that programme.

3. Where an international agreement between the Community and a third country is necessary to provide access to high-quality programmes in the third country concerned and/or to ensure suitable IPR arrangements, participation of legal entities established in that third country shall be subject to the conclusion of such an agreement. Where such an agreement exists, participation shall additionally be subject to the principles, conditions and limits laid down therein.

4. Any legal entity referred to in paragraphs 1, 2 and 3 may, exceptionally, participate with financing from the fifth framework programme provided that the financing is duly justified as being essential for achieving the objectives of the indirect RTD action in question.

This shall not apply to training fellowships as defined in Annex IV to the fifth framework programme.

5. In the case of RTD activities under the specific programme on 'Confirming the international role of Community research', any legal entity which meets the conditions laid down in paragraph 1(a) and (b) may take

part provided that it contributes to one of the objectives of the specific programme and its participation is in conformity with the interests of the Community.

Community financing will be provided only for the activities specified in this specific programme and under the conditions laid down therein.

6. Any international organisation may, exceptionally, receive financing from the fifth framework programme provided that:

- (a) in the case of indirect RTD actions other than accompanying measures,
 - the financing is duly justified as being essential for achieving the objectives of the indirect RTD action in question, and,
 - where any basic facility is to be used which is located in a third country, it is essential for carrying out the proposed work;
- (b) in the case of accompanying measures, it has the necessary technical skills and know-how, which are not readily accessible or are unavailable in the Member States or the Associated States.

*Article 7***Conditions for the JRC**

Subject to the internal budgetary and administrative measures necessary to enable the JRC to take part in indirect RTD actions, the JRC shall be bound by the same conditions and have the same rights and obligations as the legal entities established in a Member State or an Associated State taking part in indirect RTD actions.

*Article 8***Conditions relating to resources**

1. Any legal entity, international organisation and the JRC must:

- when filing its proposal for an indirect RTD action, have at least the potential resources needed for carrying it out,
- when the contract is signed, demonstrate that it will have all the necessary resources as and when needed for carrying it out.

2. The resources needed for carrying out the indirect RTD action shall comprise human resources, infrastructure, financial resources and, where appropriate, intangible property.

Section 2

Article 10

Procedures

Selection criteria and conditions applicable in accordance with the type of procedure

Article 9

Procedures to be applied

1. Indirect RTD actions other than accompanying measures shall be the subject of calls for proposals. These may be preceded by a call of expressions of interest of an informative nature. All such calls shall be published in the *Official Journal of the European Communities* and should also be disseminated through other appropriate channels.

2. Accompanying measures shall, as appropriate, be the subject of:

- calls for proposals, in accordance with procedures identical to those described in paragraph 1,
- public procurement procedures, where the indirect RTD action consists of a purchase or a service, in accordance with the applicable provisions,
- invitations to apply for appointment as an independent expert where the measure concerned requires the Commission to take account in a balanced fashion of the various research players, without prejudice to other procedures designed to achieve the same result in the case of the independent highly qualified experts appointed for the five-year evaluation referred to in Article 5(2) of the fifth framework programme.

In specific cases, for example for a contribution to the costs of conferences, workshops and seminars, spontaneous applications for a subsidy, addressed to the Commission by a legal entity or international organisation, may be supported by the Community.

3. Indirect RTD actions carried out as pilot schemes shall be governed by procedures appropriate to those actions as set out in the relevant specific programme decisions.

4. Subject to legal constraints and the need to respect requirements of transparency and equal treatment, the Commission shall keep the procedures for the submission, selection and adoption of proposals as short as reasonably achievable and keep the administrative costs of the applicants and of the Commission to the minimum level necessary.

1. Proposals for indirect RTD actions resulting from calls for proposals and pilot schemes shall be selected in conformity with Annex I to the fifth framework programme on the basis of the conditions for participation set out in Articles 4 to 8 and the following criteria:

- (a) scientific excellence;
- (b) Community added value;
- (c) the potential contribution to furthering the economic and social objectives of the Community;
- (d) the innovative nature of the proposal for an indirect RTD action;
- (e) the prospects for disseminating/exploiting the results, as described in the plan for dissemination and use attached to the proposal for an indirect RTD action;
- (f) effective transnational cooperation;
- (g) effective and efficient management;
- (h) any additional criteria set out in the specific programme concerned.

These criteria shall be applied in accordance with the category of indirect RTD action and with the nature of the RTD activity.

Any project which contravenes the ethical principles laid down in the relevant international conventions and regulations shall not be selected.

Proposals for accompanying measures which are subject to a public procurement procedure shall be evaluated on the basis of selection and award criteria defined in accordance with the relevant provisions.

2. Applications for subsidies shall be selected on the basis of:

- the relevant conditions for participation set out in Articles 4, 5, 6 and 8, and
- their appropriateness and usefulness in contributing to the objectives and to the scientific and technological content of the fifth framework programme and/or of the specific programme concerned.

3. Applicants responding to an invitation to apply shall be selected on the basis of the criteria set out in the relevant Commission Decision and of the relevant conditions for participation set out in Articles 4, 5 and 6.

Section 3

Contracts

Article 11

Community financial participation and eligible costs

1. In compliance with the provisions of Annex IV to the fifth framework programme, the Community financial participation shall consist of the reimbursement, in part or in whole, of the eligible costs of the indirect RTD action.

2. A cost relating to an indirect RTD action shall be eligible where it is necessary for the action in question and is provided for in the contract. It shall be reimbursable by payment within a reasonable period provided that the amount has actually been spent and has been recorded in the accounts or the tax documents.

In the appropriate circumstances, provisions should be made for advance payments.

3. In the case of the research and technological development projects, demonstration projects and combined RTD/demonstration projects, recourse shall be had to additional eligible costs where, in the view of the Commission, the system of accounting used by the participant in an indirect RTD action does not enable the full costs of carrying out the indirect RTD action to be established with sufficient precision.

4. Total eligible costs will be reimbursed by payments against justification of the actual costs of the indirect RTD action concerned. The documents substantiating these costs must be satisfactory. However, at the request of those taking part in the proposal for an indirect RTD action, general expenses may instead be calculated on a flat-rate basis by agreement with the Commission.

At the request of those taking part in the proposal for an indirect RTD action and by agreement with the Commission, the contract can establish other conditions:

(a) in the case of small-scale projects, fixed amounts determined on the basis of an assessment of the estimated costs of the work;

(b) in other cases, fixed amounts linked to the demonstration of best efforts to complete contractually agreed objectives;

(c) other arrangements involving flat- and composite-rate payments appropriate to specific projects.

5. Additional eligible costs, as referred to in Annex IV to the fifth framework programme, shall comprise the following:

- the additional eligible costs generated simply by taking part in the indirect RTD action,
- a flat-rate contribution to the general expenses.

Article 12

Contracts

1. Proposals for indirect RTD actions selected following any of the procedures set out in Article 9 shall be the subject of a contract.

2. Contracts will be based on the relevant model contract drawn up by the Commission in consultation with Member States, taking account, where appropriate, of the different RTD activities involved.

CHAPTER III

RULES FOR THE DISSEMINATION AND USE OF RESEARCH RESULTS

Article 13

Scope

For the purpose of carrying out the specific programmes implementing the fifth framework programme, the rules for the dissemination and use of research results shall:

- apply in compliance with international agreements concluded with the Community in particular under Article 130m of the Treaty,
- take full account of pre-existing know-how including the relevant existing property rights without prejudice to the contents of the detailed rules of application provided for in Article 22 and of the contracts referred to in Article 12.

*Article 14***Adaptation of the rules for the dissemination and use of research results**

The rules for the dissemination and use of research results relating to knowledge resulting from work carried out under indirect RTD actions shall, as a general rule, be determined by the level of Community financing reflecting, where appropriate, the different RTD activities involved and the proximity to the market.

The Community shall disseminate or promote the use of research results where it has financed indirect actions entirely.

*Article 15***Ownership of knowledge**

1. Knowledge resulting from work carried out under direct RTD actions shall be the property of the Community.

2. Knowledge resulting from work carried out under indirect RTD actions the full cost of which is borne by the Community shall, as a general rule, be the property of the Community.

Knowledge resulting from work carried out under cooperative research projects shall be the property of the SMEs who have entrusted the resolution of their research problem to a third legal entity.

Knowledge resulting from work carried out under other indirect RTD actions the full cost of which is not borne by the Community shall, as a general rule, be the property of the contractors who have carried out the work, including, where applicable, the Community, pursuant to Article 7.

Any subsequent transfer of such intellectual property rights to a third party is for the contractors to decide subject to imposing a contractual responsibility to respect those obligations on them concerning their dissemination and use and, in particular, the interests of the Community.

*Article 16***Protection of knowledge**

Knowledge capable of industrial or commercial application shall be protected in an appropriate manner and for an appropriate period of time, with particular regard to the interests of the Community and of the contractors, and in accordance with the contractual provisions and any applicable legislation or convention.

*Article 17***Use of knowledge**

1. The Community and the contractors shall use, or ensure that effective use is made of, any knowledge suitable for use in their possession, in conformity with the interests of the Community.

2. The Commission shall ensure that all knowledge belonging to the contractors which is suitable for use is used effectively by them. Failing that, after a specified period of time, it must be disseminated by the contractors or, where appropriate, by the Commission.

*Article 18***Making knowledge available with a view to its use**

1. As a general rule, knowledge resulting from work carried out under direct RTD actions, together with any information necessary for its use, should be made available to any interested legal entity established in a Member State or in an Associated State, provided that the entity undertakes to use the knowledge, or to ensure that it is used, in accordance with the interests of the Community. The making available of knowledge and information shall be subject to appropriate conditions, in particular concerning the payment of fees.

2. Knowledge belonging to any of the contractors and resulting from work carried out under indirect RTD actions, together with any information necessary for its use, shall be made available to the other contractors in the same project, provided the legitimate interests, including commercial interests, of all the contractors are safeguarded.

The detailed arrangements for making knowledge available to third parties with a view to its use shall take account of the interests of the Community and, in principle, the level of Community financial participation reflecting, where appropriate, the different RTD activities involved and the proximity to the market.

3. The making available of such knowledge and information may be subject to appropriate conditions. It may give rise to specific agreements, notably concerning exclusive rights, in compliance with the applicable rules on competition. The grantor of rights shall in that context take into consideration the constraints and risks resulting for the recipient of rights from the investment needed for exploiting the knowledge.

*Article 19***Dissemination of knowledge**

1. The Commission shall disseminate knowledge resulting from work carried out under direct RTD actions and which is suitable for dissemination.

Particular account shall be taken of:

- (a) the need to safeguard intellectual and industrial property rights;
- (b) confidentiality;
- (c) the benefits of swift dissemination, for example in order to avoid duplication of research efforts.

2. The Commission shall ensure that knowledge resulting from work carried out under indirect RTD actions and which is suitable for dissemination is disseminated through appropriate forums (e.g. scientific publications) by the contractors or, where appropriate, by the Commission itself.

For indirect actions, in addition to (a), (b) and (c) above, particular account shall also be taken of:

- the legitimate interests of the contractors, including commercial interests,
- in principle, the level of Community financial participation.

3. Subject to the conditions set out in paragraphs 1 and 2, Member States and Associated States shall, on request, for reasons of public and in specific cases, have access, without undue delay, to useful knowledge which is relevant to policy-making. General requirements in this respect shall be set out in the relevant calls for proposals and arrangements, or any exceptions to this principle, for individual projects shall be agreed in the contract.

*Article 20***Technological implementation plan**

1. Depending on the nature of the RTD activity concerned, contractors taking part in work under indirect RTD actions shall produce a technological implementation plan. It shall reflect the broad outlines of the dissemination and use plan evaluated as part of the original proposal presented to the Commission for participation in indirect RTD actions.

2. The technological implementation plan shall set out the conditions, including a timetable, under which the knowledge is to be disseminated and used. It shall be approved by the Commission, which shall assess its content with regard to the interests of the Community and of the contractors.

3. The contractors shall inform the Commission of the steps taken to carry out this technological implementation plan. They shall justify any material subsequent change in the plan.

CHAPTER IV**FINAL PROVISIONS***Article 21***Provisions which may be laid down in the specific programmes**

1. The rules for the participation of undertakings, research centres and universities and for the dissemination and use of research results may be set out in greater detail or supplemented in the Council Decision adopting the specific programmes implementing the fifth framework programme.

2. The first paragraph shall not apply in the case of the definitions set out in Article 1 or the training fellowships referred to in the second subparagraphs of Article 6(1) and (4).

*Article 22***Detailed rules of application**

The detailed rules for applying Articles 4, 8, 11 and 14 to 20 shall be drawn up and amended as necessary in accordance with the procedure provided for in Article 23.

*Article 23***Procedure for drawing up the rules of application**

1. The Commission shall be assisted by a committee composed of the representatives of the Member States and chaired by the representative of the Commission.

2. The representative of the Commission shall submit to the Committee a draft of the measures to be taken. The Committee shall deliver its opinion on the draft within a time limit which the Chairman may lay down according to the urgency of the matter. The opinion shall be

delivered by the majority laid down in Article 148(2) of the Treaty in the case of decisions which the Council is required to adopt on a proposal from the Commission. The votes of the representatives of the Member States within the Committee shall be weighted in the manner set out in that Article. The Chairman shall not vote.

The Commission shall adopt the measures envisaged if they are in accordance with the opinion of the committee.

If the measures envisaged are not in accordance with the opinion of the committee, or if no opinion is delivered, the Commission shall, without delay, submit to the Council a proposal relating to the measures to be taken. The Council shall act by qualified majority.

If, within three months from the date of referral to the Council, the Council has not acted, the proposed measures shall be adopted by the Commission.

Article 24

Reports

1. The annual report which the Commission sends to the European Parliament and the Council in accordance with Article 130p of the Treaty shall contain information on the implementation of this Decision.
2. Before the end of the fifth framework programme the Commission shall present a report to the Council on the application of this Decision.

Article 25

Duration

This Decision shall apply to direct RTD actions and indirect RTD actions implementing the fifth framework programme.

Done at Brussels, 22 December 1998.

For the Council

The President

C. EINEM

COUNCIL DECISION

of 22 December 1998

concerning the rules for the participation of undertakings, research centres and universities in the implementation of the fifth framework programme of the European Atomic Energy Community (Euratom) (1998-2002)

(1999/66/Euratom)

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Atomic Energy Community, and in particular Article 7 thereof,

Having regard to the proposal from the Commission ⁽¹⁾,

Having regard to the opinion of the European Parliament ⁽²⁾,

Having regard to the opinion of the Economic and Social Committee ⁽³⁾,

(1) Whereas the fifth framework programme of the European Atomic Energy Community (Euratom) for research and training activities (1998-2002) (hereinafter referred to as 'the fifth framework programme') was adopted by Council Decision 1999/64/Euratom ⁽⁴⁾; whereas the detailed rules for financial participation by the Community, as set out in Annex III to that Decision, must be supplemented by other provisions relating to the participation of undertakings, research centres and universities in research and technological activities, including demonstration activities, and training activities, hereinafter referred to as 'indirect RTDT actions';

(2) Whereas the new provisions should be part of a complete, coherent and transparent framework;

(3) Whereas the rules for the participation of undertakings, research centres and universities must be adapted to the nature of the indirect RTDT actions; whereas moreover, they may vary depending on whether the participant is based in a Member State, an Associated State or a third State and on its legal structure;

(4) Whereas the participation of legal entities of third States should be envisaged, including on the basis of international agreements; whereas, however, the agreements concluded with the Community, in particular on the basis of Article 101 of the Treaty, must be implemented in accordance with the principle of reciprocity and the protection of intellectual and industrial property rights; whereas the Community's legal entities must accordingly enjoy genuine access to the research programmes of the third State concerned;

(5) Whereas the Joint Research Centre (JRC) takes part in indirect RTDT actions on the same basis as legal entities established in a Member State or in an Associated State;

(6) Whereas the rules should be applied in a simple and efficient manner so as to minimise the administrative and financial burden on participants and the Commission, particularly with respect to the time taken to prepare proposals, conclude contract negotiations and make reimbursements;

(7) Whereas the Community financial participation should be paid to the participants against justification of the eligible costs of the indirect RTDT action, although other more appropriate methods may be used;

(8) Whereas research and technological activities, including demonstration activities, and training activities should be carried out in accordance with the principles of sound financial management;

(9) Whereas, to the extent necessary for achieving its objectives, the research and training programme may set out in greater detail or supplement the rules for the participation of undertakings, research centres and universities;

⁽¹⁾ OJ C 40, 7.2.1998, p. 14.

⁽²⁾ OJ C 195, 22.6.1998, p. 27.

⁽³⁾ OJ C 214, 10.7.1998, p. 51.

⁽⁴⁾ See page 34 of this Official Journal.

- (10) Whereas the provisions relating to dissemination of knowledge are laid down in Articles 12 to 29 of the Treaty;
- (11) Whereas, in order to ensure coherence between the activities carried out under the fifth framework programme and those undertaken pursuant to Decision No 182/1999/EC of the European Parliament and the Council of 22 December 1998 concerning the fifth framework programme of the European Community for research, technological development and demonstration activities (1998-2002) ⁽¹⁾, this Decision and Council Decision 1999/65/EC of 22 December 1998 concerning the rules for the participation of undertakings, research centres and universities and for the dissemination of research results for the implementation of the fifth framework programme ⁽²⁾, should be adopted simultaneously and for the same period,
- (d) 'third State' means a State which is neither a Member State nor an Associated State;
- (e) 'legal entity' means:
- any natural person, or
 - any legal person, provided that it has been established under Community law or the applicable national law and has been given legal personality or has the capacity, in its own name, to hold rights and obligations of all kinds, to conclude contracts and to be a party to legal proceedings;
- (f) 'international organisation' means any association of States, other than the Community, established on the basis of a Treaty or similar act, having common institutions and an international legal personality distinct from that of its Member States;
- (g) 'potential user of RTD results' means any legal entity, any international organisation or the JRC which, by virtue of its needs and capabilities — whether scientific, technological, economic or social — has a specific contribution to make to the use or the ensuring of the use of the results of indirect RTDT actions.

HAS DECIDED AS FOLLOWS:

CHAPTER I

GENERAL PROVISIONS

Article 1

Definitions

For the purposes of this Decision:

- (a) 'RTDT activities' means the research activities, including demonstration activities, and training activities described in Annex II to the fifth framework programme;
- (b) 'indirect RTDT actions' means one of the two ways of implementing RTDT activities, as described in Annex III to the fifth framework programme. Such actions are carried out by third parties under contracts concluded with the Community; the JRC may take part in such actions under the conditions laid down in Article 6;
- (c) 'Associated State' means a State which is party to an international agreement concluded with the Community, in particular on the basis of Article 101 of the Treaty, under which the State concerned makes a financial contribution to the fifth framework programme. The said agreement relates to cooperation in research and training;

CHAPTER II

RULES FOR THE PARTICIPATION AND UNDERTAKINGS, RESEARCH CENTRES AND UNIVERSITIES

Article 2

Scope

The rules laid down in this chapter shall apply, in conformity with Article 10 of the Treaty, to the participation of legal entities and international organisations and of the JRC in indirect RTDT actions.

Section 1

Conditions for participation and financing

Article 3

Number of participants in indirect RTDT actions

1. Indirect RTDT actions shall be carried out by:

⁽¹⁾ See page 1 of this Official Journal.

⁽²⁾ See page 46 of this Official Journal.

- (a) at least two mutually independent legal entities established in two different Member States or in a Member State and an Associated State; or
- (b) at least one legal entity established in a Member State or in an Associated State and the JRC; or
- (c) one or several legal entities established in a third State or international organisations, acting in cooperation with the minimum number of legal entities established in a Member State or Associated State and the JRC, as required in (a) or (b).

2. Exceptionally, where the nature of the indirect RTDT action or activity to be undertaken requires it to be carried out by a single participant, it must be carried out by:

- (a) a legal entity established in a Member State, in an Associated State or in a third State; or
- (b) an international organisation; or
- (c) the JRC.

Article 4

Conditions for legal entities from the Member States and Associated States

1. Any legal entity established in a Member State or in an Associated State may take part in indirect RTD actions and receive funding from the fifth framework programme, provided that:

- it is carrying out or is about to carry out an RTDT activity, or
- it contributes to the dissemination and use of results of RTDT activities, or
- it is a potential user of RTDT results, or
- in the case of thematic networks and concerted actions, it is in a position to contribute substantial added value to the quality of work to be undertaken by virtue of its knowledge of the relevant area of research.

2. The conditions set out in paragraph 1 do not apply in case of accompanying measures, where the legal entity has the necessary technical know-how to carry out the indirect RTDT action in question.

3. Where the purpose of the indirect RTDT action concerned so permits, any legal entity referred to in paragraphs 1 and 2 must carry out the major part of the work within the Member States or Associated States.

Article 5

Conditions for legal entities from third States and for international organisations

1. Without prejudice to the conditions set out in paragraph 2, any legal entity established in a third State and any international organisation may take part in indirect RTDT actions in conformity with the interests of the Community and without financing from the fifth framework programme, provided that:

- (a) the number of participations in the proposal for an indirect RTDT action is in accordance with Article 3; and
- (b) it meets the conditions laid down in Article 4(1) and (2) for legal entities from the Member States and Associated States.

This shall not apply to training fellowships as defined in Annex III to the fifth framework programme.

2. Where necessary to provide access to high-quality programmes in a third State and/or to ensure suitable intellectual property rights (IPR) arrangements, participation of legal entities established in that third State is subject to the conclusion of an international agreement between the Community and the third State concerned. Where such an agreement exists, participation is additionally subject to the principles, conditions and limits laid down therein.

3. Any legal entity established in the central and eastern European States or the new independent States which meets the conditions laid down in paragraph 1 may participate with financing from the fifth framework programme in the area of nuclear fission, provided that the financing is duly justified on the grounds that the participation makes an essential contribution to the objectives of the programme which cannot be provided by other means.

Community financing will be provided only for the activities specified in the research and training programme and under the conditions laid down therein.

This shall not apply to training fellowships as defined in Annex III to the fifth framework programme.

4. Any international organisation may, exceptionally, receive financing from the fifth framework programme provided that:

- (a) in the case of indirect RTDT actions other than accompanying measures,

- the financing is duly justified as being essential for achieving the objectives of the indirect RTD action in question, and
 - where any basic facility is to be used which is located in a third State, it is essential for carrying out the proposed work;
- (b) in the case of accompanying measures, it has the necessary technical skills and know-how, which are not readily accessible or are unavailable in the Member States or the Associated States.

Article 6

Conditions for the JRC

Subject to the internal budgetary and administrative measures necessary to enable the JRC to take part in indirect RTDT actions, the JRC shall be bound by the same conditions and have the same rights and obligations as the legal entities established in a Member State or an Associated State taking part in indirect RTDT actions.

Article 7

Conditions relating to resources

1. Any legal entity, international organisation and the JRC must:
 - when filing its proposal for an indirect RTDT action, have at least the potential resources needed for carrying it out,
 - when the contract is signed, demonstrate that it will have all the necessary resources as and when needed for carrying it out.
2. The resources needed for carrying out the indirect RTDT action shall comprise human resources, infrastructure, financial resources and, where appropriate, intangible property.

Section 2

Procedures

Article 8

Procedures to be applied

1. Indirect RTDT actions other than accompanying measures shall be the subject of calls for proposals. These may be preceded by a call for expressions of interest of an informative nature. All such calls shall be published in

the *Official Journal of the European Communities* and should also be disseminated through other appropriate channels.

Indirect RTDT actions relating to controlled thermonuclear fusion and carried out under the contracts of the Association, the Net Agreement, the quadripartite cooperation agreement between the Community, Japan, the Russian Federation and the United States of America concerning the engineering design activities of the International Thermonuclear Experimental Reactor (ITER), The Joint European Torus (JET) Joint Undertaking and any other agreement concluded by the Community shall comply with the procedures laid down in those agreements.

2. Accompanying measures shall, as appropriate, be the subject of:

- calls for proposals, in accordance with procedures identical to those described in paragraph 1,
- public procurement procedures, where the indirect RTDT action consists of a purchase or a service, in accordance with the applicable provisions,
- invitations to apply for appointment as an independent expert where the measure concerned requires the Commission to take account in a balanced fashion of the various research players, without prejudice to other procedures designed to achieve the same result in the case of the independent highly qualified experts appointed for the five-year evaluation referred to in Article 5(2) of the fifth framework programme.

3. Indirect RTDT actions carried out as pilot schemes shall be governed by procedures appropriate to those actions as set out in the research and training programme decision.

4. Subject to legal constraints and the need to respect requirements of transparency and equal treatment, the Commission shall keep the procedures for the submission, selection and adoption of proposals as short as reasonably achievable and keep the administrative costs of the applicants and of the Commission to the minimum level necessary.

Article 9

Selection criteria and conditions applicable in accordance with the type of procedure

1. Proposals for indirect RTDT actions resulting from calls for proposals and pilot schemes shall be selected in conformity with Annex I to the fifth framework

programme on the basis of the conditions for participation set out in Articles 3 to 7 and the following criteria:

- (a) scientific excellence;
- (b) Community added value;
- (c) the potential contribution to furthering the economic and social objectives of the Community;
- (d) the innovative nature of the proposal for an indirect RTDT action;
- (e) the prospects for disseminating/exploiting the results, as described in the plan for dissemination and use attached to the proposal for an indirect RTDT action;
- (f) effective transnational cooperation;
- (g) effective and efficient management;
- (h) any additional criteria set out in the research and training programme.

These criteria shall be applied in accordance with the category of indirect RTDT action and with the nature of the RTDT activity.

Any project which contravenes the principles laid down in relevant international conventions and regulations shall not be selected.

Proposals for accompanying measures which are subject to a public procurement procedure shall be evaluated on the basis of selection and award criteria defined in accordance with the relevant provisions.

2. Applicants responding to an invitation to apply shall be selected on the basis of the criteria set out in the relevant Commission Decision and of the relevant conditions for participation set out in Articles 3, 4 and 5.

Section 3

Contracts

Article 10

Community financial participation and eligible costs

1. In compliance with the provisions of Annex III to the fifth framework programme, the Community financial participation shall consist of the reimbursement, in part or in whole, of the eligible costs of the indirect RTDT action.

2. A cost relating to an indirect RTDT action shall be eligible where it is necessary for the action in question

and is provided for in the contract. It shall be reimbursable by payment within a reasonable period provided that the amount has actually been spent and has been recorded in the accounts or the tax documents.

In the appropriate circumstances, provisions should be made for advance payments.

3. In the case of the research projects, demonstration projects and combined research/demonstration projects, recourse shall be had to additional eligible costs where, in the view of the Commission, the system of accounting used by the participant in an indirect RTDT action does not enable the full costs of carrying out the indirect RTDT action to be established with sufficient precision.

4. Total eligible costs will be reimbursed by payments against justification of the actual costs of the indirect RTDT action concerned. The documents substantiating these costs must be satisfactory. However, at the request of those taking part in the proposal for an indirect RTDT action, general expenses may instead be calculated on a flat-rate basis by agreement with the Commission.

At the request of those taking part in the proposal for an indirect RTDT action and by agreement with the Commission, the contract can establish other conditions:

- (a) in the case of small-scale projects, fixed amounts determined on the basis of an assessment of the estimated costs of the work;
- (b) in other cases, fixed amounts linked to the demonstration of best efforts to complete contractually agreed objectives;
- (c) other arrangements involving flat- and composite-rate payments appropriate to specific projects.

5. Additional eligible costs, as referred to in Annex III to the fifth framework programme, shall comprise the following:

- the additional eligible costs generated simply by taking part in the indirect RTDT action,
- a flat-rate contribution to the general expenses.

Article 11

Contracts

1. Proposals for indirect RTDT actions selected following any of the procedures set out in Article 8 shall be subject of a contract.

2. Contracts will be based on the relevant model contract drawn up by the Commission in consultation with Member States, taking account, where appropriate, of the different RTDT activities involved.

CHAPTER III

FINAL PROVISIONS

Article 12

Provisions which may be laid down in the research and training programme

1. The rules for the participation of undertakings, research centres and universities may be set out in greater detail or supplemented in the Council Decision adopting the research and training programme implementing the fifth framework programme.

2. Paragraph 1 shall not apply in the case of the definitions set out in Article 1 or the training fellowships referred to in Article 5(1), second subparagraph, and Article 5(3), third subparagraph.

Article 13

Detailed rules of application

The Commission shall lay down the detailed rules for applying Articles 3, 7 and 10.

Article 14

Reports

1. The annual report which the Commission sends to the European Parliament and the Council in accordance with Article 5(4) of the fifth framework programme shall contain information on the implementation of this Decision.

2. Before the end of the fifth framework programme the Commission shall present a report to the Council on the application of this Decision.

Article 15

Duration

This Decision shall apply to indirect RTDT actions implementing the fifth framework programme.

Done at Brussels, 22 December 1998.

For the Council

The President

C.EINEM
