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II

(Acts whose publication is not obligatory)

COUNCIL

COUNCIL DECISION

of 18 July 1994

concerning the conclusion of the International Coffee Agreement 1994

(94/570/EC)

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 113 in conjunction with Article 228 (2) first sentence thereof,

Having regard to the proposal from the Commission,

Whereas the International Coffee Agreement 1994 is open for signing as well as for ratification, acceptance or approval from 18 April to 26 September 1994;

Whereas the International Coffee Agreement 1993 as extended expires on 30 September 1994 and the new Agreement, in accordance with Article 40 thereof, provides for its entry into force, provisionally or definitively as of 1 October 1994;

Whereas the objectives pursued by the Agreement fit into the context of the common commercial policy;

Whereas the Member States are called upon to participate, by financial contributions, in the actions provided for by the said Agreement;

Whereas all Member States have expressed their intention to sign, and to submit for ratification the Agreement; whereas the Community should therefore sign the

Agreement lodged with the Secretary-General of the United Nations Organization and notify, by 26 September 1994, its approval thereof,

HAS DECIDED AS FOLLOWS:

Article 1

The International Coffee Agreement 1994 is hereby approved by the Community.

The text of the Agreement is attached to this Decision.

Article 2

The President of the Council is hereby authorized to designate the person empowered to sign the Agreement and to deposit the instrument of approval on behalf of the Community by 26 September 1994.

Done at Brussels, 18 July 1994.

For the Council

The President

K. KINKEL

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INTERNATIONAL COFFEE AGREEMENT 1994

PREAMBLE

THE GOVERNMENTS PARTY TO THIS AGREEMENT,

Recognizing the exceptional importance of coffee to the economies of many countries which are largely dependent upon this commodity for their export earnings and thus for the continuation of their development programmes in the social and economic fields;

Recognizing the need to foster the development of productive resources and the promotion and maintenance of employment and income in the coffee industry in Member countries, thereby bringing about fair wages, higher living standards and better working conditions;

Considering that close international cooperation on trade in coffee will foster the economic diversification and development of coffee-producing countries, will contribute to the improvement of political and economic relations between coffee exporting and importing countries, and will provide for increasing consumption of coffee;

Recognizing the desirability of avoiding disequilibrium between production and consumption which can give rise to pronounced fluctuations in prices harmful both to producers and to consumers;

Considering the relationship between the stability of the trade in coffee and the stability of markets for manufactured goods;

Noting the advantages derived from the international cooperation which resulted from the operation of the International Coffee Agreements 1962, 1968, 1976 and 1983;

HAVE AGREED AS FOLLOWS

CHAPTER I

OBJECTIVES

Article 1

Objectives

The objectives of this Agreement are:

1. to ensure enhanced international cooperation in connection with world coffee matters;
2. to provide a forum for intergovernmental consultations, and negotiations when appropriate, on coffee matters and on ways to achieve a reasonable balance between world supply and demand on a basis which will assure adequate supplies of coffee at fair prices to consumers and markets for coffee at remunerative prices to producers, and which will be conducive to long-term equilibrium between production and consumption;
3. to facilitate the expansion of international trade in coffee through the collection, analysis and dissemination of statistics and the publication of

indicator and other market prices and thereby to enhance transparency in the world coffee economy;

4. to act as a centre for the collection, exchange and publication of economic and technical information on coffee;
5. to promote studies and surveys in the field of coffee; and
6. to encourage and increase the consumption of coffee.

CHAPTER II

DEFINITIONS

Article 2

Definitions

For the purposes of this Agreement:

1. *Coffee* means the beans and cherries of the coffee tree, whether parchment, green or roasted, and includes ground, decaffeinated, liquid and soluble coffee.

These terms shall have the following meaning:

- (a) *green coffee* means all coffee in the naked bean form before roasting;
 - (b) *dried coffee cherry* means the dried fruit of the coffee tree; to find the equivalent of dried coffee cherry to green coffee, multiply the net weight of the dried coffee cherry by 0,50;
 - (c) *parchment coffee* means the green coffee bean contained in the parchment skin; to find the equivalent of parchment coffee to green coffee, multiply the net weight of the parchment coffee by 0,80;
 - (d) *roasted coffee* means green coffee roasted to any degree and includes ground coffee; to find the equivalent of roasted coffee to green coffee, multiply the net weight of roasted coffee by 1,19;
 - (e) *decaffeinated coffee* means green, roasted or soluble coffee from which caffeine has been extracted; to find the equivalent of decaffeinated coffee to green coffee, multiply the net weight of the decaffeinated coffee in green, roasted or soluble form by 1,00, 1,19 or 2,6 respectively;
 - (f) *liquid coffee* means the water-soluble solids derived from roasted coffee and put into liquid form; to find the equivalent of liquid coffee to green coffee, multiply the net weight of the dried coffee solids contained in the liquid coffee by 2,6; and
 - (g) *soluble coffee* means the dried water-soluble solids derived from roasted coffee; to find the equivalent of soluble coffee to green coffee, multiply the net weight of the soluble coffee by 2,6.
2. *Bag* means 60 kilogrammes or 132,276 pounds of green coffee; *tonne* means a mass of 1 000 kilogrammes or 2 204,6 pounds; and *pounds* means 453,597 grammes.
 3. *Coffee year* means the period of one year, from 1 October to 30 September.
 4. *Organization* and *Council* mean, respectively, the International Coffee Organization and the International Coffee Council.
 5. *Contracting Party* means a Government or intergovernmental organization referred to in paragraph 3 of Article 4 which has deposited an instrument of ratification, acceptance, approval or provisional application of this Agreement in accordance with the provisions of Articles 39 and 40 or has acceded thereto in accordance with the provisions of Article 41.
 6. *Member* means a Contracting Party; a designated territory or territories in respect of which separate membership has been declared under the provisions of Article 5; or two or more Contracting Parties or designated territories, or both, which participate in the Organization as a Member group under the provisions of Article 6.
 7. *Exporting Member* or *exporting country* means a Member or country, respectively, which is a net exporter of coffee; that is, a Member or country whose exports exceed its imports.
 8. *Importing Member* or *importing country* means a Member or country, respectively, which is a net importer of coffee; that is, a Member or country whose imports exceed its exports.
 9. *Distributed simple majority vote* means a vote requiring more than half of the votes cast by exporting Members present and voting and more than half of the votes cast by importing Members present and voting, counted separately.
 10. *Distributed two-thirds majority vote* means a vote requiring more than two-thirds of the votes cast by exporting Members present and voting and more than two-thirds of the votes cast by importing Members present and voting, counted separately.
 11. *Entry into force* means, except as otherwise provided, the date on which this Agreement enters into force, whether provisionally or definitively.
 12. *Exportable production* means the total production of coffee of an exporting country in a given coffee or crop year, less the amount destined for domestic consumption in the same year.
 13. *Availability for export* means the exportable production of an exporting country in a given coffee year, plus accumulated stocks from previous years.

CHAPTER III

GENERAL UNDERTAKINGS BY MEMBERS

Article 3

General undertakings by Members

1. Members undertake to adopt such measures as are necessary to enable them to fulfil their obligations under this Agreement and fully cooperate with one another in securing the attainment of the objectives of this

Agreement; in particular, Members undertake to provide all information necessary to facilitate the functioning of this Agreement.

2. Members recognize that Certificates of Origin are important sources of information on the trade in coffee. Exporting Members, therefore, assume responsibility for ensuring the proper issuing and use of Certificates of Origin according to the rules established by the Council.

3. Members recognize further that information on re-exports is also important for the proper analysis of the world coffee economy. Importing Members, therefore, undertake to supply regular and accurate information on re-exports, in the form and manner determined by the Council.

CHAPTER IV

MEMBERSHIP

Article 4

Membership of the Organization

1. Each Contracting Party, together with those territories to which this Agreement is extended under the provisions of paragraph 1 of Article 43, shall constitute a single Member of the Organization, except as otherwise provided for under the provisions of Articles 5 and 6.

2. A Member may change its category of membership on such conditions as the Council may agree.

3. Any reference in this Agreement to a Government shall be constructed as including a reference to the European Community, or any intergovernmental organization having comparable responsibilities in respect of the negotiation, conclusion and application of international agreements, in particular commodity agreements.

4. Such intergovernmental organization shall not itself have any votes but in the case of a vote on matters within its competence it shall be entitled to cast collectively the votes of its Member States. In such cases, the Member States of such intergovernmental organization shall not be entitled to exercise their individual voting rights.

5. Such intergovernmental organization shall not be eligible for election to the Executive Board under the provision of paragraph 1 of Article 17 but may participate in the discussions of the Executive Board on matters within its competence. In the case of a vote on matters within its competence, and notwithstanding the provisions of paragraph 1 of Article 20, the votes which its Member States are entitled to cast in the Executive Board may be cast collectively by any one of those Member States.

Article 5

Separate membership in respect of designated territories

Any Contracting Party which is a net importer of coffee may, at any time, by appropriate notification in accordance with the provisions of paragraph 2 of Article 43, declare that it is participating in the Organization separately with respect to any of the territories for whose international relations it is responsible, which are net exporters of coffee and which it designates. In such case, the metropolitan territory and its non-designated territories will have a single membership, and its designated territories, either individually or collectively as the notification indicates, will have separate membership.

Article 6

Group membership

1. Two or more Contracting Parties which are not exporters of coffee may, by appropriate notification to the Council and to the Secretary-General of the United Nations at the time of deposit of their respective instruments of ratification, acceptance, approval, provisional application or accession, declare that they are participating in the Organization as a Member group. A territory to which this Agreement has been extended under the provisions of paragraph 1 of Article 43 may constitute part of such Member group if the Government of the State responsible for its international relations has given appropriate notification thereof under the provisions of paragraph 2 of Article 43. Such Contracting Parties and designated territories must satisfy the following conditions:

- (a) they shall declare their willingness to accept responsibility for group obligations in an individual as well as a group capacity; and
- (b) they shall subsequently provide satisfactory evidence to the Council that:
 - (i) the group has the organization necessary to implement a common coffee policy and that they have the means of complying, together with the other parties to the group, with their obligations under this Agreement; and
 - (ii) they have a common or coordinated commercial and economic policy in relation to coffee and a coordinated monetary and financial policy, as well as the organs necessary to implement such policies, so that the Council is satisfied that the Member group is able to comply with the group obligations involved.

2. Any Member group recognized under the International Coffee Agreement 1983 shall continue to be recognized as a group unless it notifies the Council that it no longer wishes to be so recognized.

3. The Member group shall constitute a single Member of the Organization, except that each party to the group shall be treated as if it were a single Member in relation to matters arising under the following provisions:

- (a) Articles 11 and 12; and
- (b) Article 46.

4. The Contracting Parties and designated territories joining as a Member group shall specify the Government or organization which will represent them in the Council on matters arising under this Agreement other than those specified in paragraph 3 of this Article.

5. The voting rights of the Member group shall be as follows:

- (a) the Member group shall have the same number of basic votes as a single Member country joining the Organization in an individual capacity. These basic votes shall be attributed to and cast by the Government or organization representing the group; and
- (b) in the event of a vote on any matters arising under the provisions of paragraph 3 of this Article, the parties to the Member group may cast separately the votes attributed to them under the provisions of paragraph 3 of Article 13 as if each were an individual Member of the Organization, except for the basic votes, which shall remain attributable only to the Government or organization representing the group.

6. Any Contracting Party or designated territory which is a party to a Member group may, by notification to the Council, withdraw from that group and become a separate Member. Such withdrawal shall take effect upon receipt of the notification by the Council. If a party to a Member group withdraws from that group or ceases to participate in the Organization, the remaining parties to the group may apply to the Council to maintain the group; the group shall continue to exist unless the Council disapproves the application. If the Member group is dissolved, each former party to the group will become a separate Member. A Member which has ceased to be a party to a group may not, as long as this Agreement remains in force, again become a party to a group.

7. Any Contracting Party which wishes to become party to a Member group after this Agreement has entered into force may do so by notification to the Council provided that:

- (a) other Members of the group declare their willingness to accept the Member concerned as party to the Member group; and
- (b) it notifies the Secretary-General of the United Nations that it is participating in the group.

8. Two or more exporting Members may, at any time after this Agreement has entered into force, apply to the Council to form a Member group. The Council shall

approve the application if it finds that the Members have made a declaration and have provided satisfactory evidence in accordance with the requirements of paragraph 1 of this Article. Upon such approval, the Member group shall be subject to the provisions of paragraphs 3, 4, 5 and 6 of this Article.

CHAPTER V

THE INTERNATIONAL COFFEE ORGANIZATION

Article 7

Seat and structure of the International Coffee Organization

1. The International Coffee Organization established under the International Coffee Agreement 1962 shall continue in being to administer the provisions and supervise the operation of this Agreement.
2. The seat of the Organization shall be in London unless the Council by a distributed two-thirds majority vote decides otherwise.
3. The Organization shall function through the International Coffee Council, the Executive Board, the Executive Director and the staff.

Article 8

Privileges and immunities

1. The Organization shall have legal personality. It shall in particular have the capacity to contract, acquire and dispose of movable and immovable property and to institute legal proceedings.
2. The status, privileges and immunities of the Organization, of its Executive Director, its staff and experts, and of representatives of Members while in the territory of the United Kingdom of Great Britain and Northern Ireland for the purpose of exercising their functions, shall continue to be governed by the Headquarters Agreement concluded between the Government of the United Kingdom of Great Britain and Northern Ireland (hereinafter referred to as the host Government) and the Organization on 28 May 1969.
3. The Headquarters Agreement referred to in paragraph 2 of this Article shall be independent of this Agreement. It shall however terminate:
 - (a) by agreement between the host Government and the Organization;
 - (b) in the event of the headquarters of the Organization being moved from the territory of the host Government; or
 - (c) in the event of the Organization ceasing to exist.
4. The Organization may conclude with one or more other Members agreements to be approved by the

Council relating to such privileges and immunities as may be necessary for the proper functioning of this Agreement.

5. The Governments of Member countries other than the host Government shall grant the Organization the same facilities in respect of currency or exchange restrictions, maintenance of bank accounts and transfer of monies, as are accorded to the specialized agencies of the United Nations.

CHAPTER VI

THE INTERNATIONAL COFFEE COUNCIL

Article 9

Composition of the International Coffee Council

1. The highest authority of the Organization shall be the International Coffee Council, which shall consist of all the Members of the Organization.

2. Each Member shall appoint one representative on the Council and, if it so desires, one or more alternates. A Member shall appoint one representative on the Council and, if it so desires, one or more alternates. A Member may also designate one or more advisers to its representative or alternates.

Article 10

Powers and functions of the Council

1. All powers specifically conferred by this Agreement shall be vested in the Council, which shall have the powers and perform the functions necessary to carry out the provisions of this Agreement.

2. The Council shall set up a Credentials Committee which will be in charge of examining the written communications made to the Chairman with respect to the provisions of paragraph 2 of Article 9, paragraph 3 of Article 12 and paragraph 2 of Article 14. The Credentials Committee shall report its proceedings to the Council.

3. The Council may set up any committees or working groups, other than the Credentials Committee, as it considers necessary.

4. The Council shall, by a distributed two-thirds majority vote, establish such rules and regulations, including its own rules of procedure and the financial and staff regulations of the Organization, as are necessary to carry out the provisions of this Agreement and are consistent therewith. The Council may, in its rules of procedure, provide the means whereby it may, without meeting, decide specific questions.

5. The Council shall also keep such records as are required to perform its functions under this Agreement and such other records as it considers desirable

Article 11

Chairman and Vice-Chairmen of the Council

1. The Council shall elect, for each coffee year, a Chairman and a first, a second and a third Vice-Chairman, who shall not be paid by the Organization.

2. As a general rule, the Chairman and the first Vice-Chairman shall both be elected either from among the representatives of exporting Members or from among the representatives of importing Members and the second and the third Vice-Chairmen shall be elected from among representatives of the other category of Member. These offices shall alternate each coffee year between the two categories of Member.

3. Neither the Chairman nor any Vice-Chairman acting as Chairman shall have the right to vote. His or her alternate will in such case exercise the voting rights of the Member.

Article 12

Sessions of the Council

1. As a general rule, the Council shall hold regular sessions twice a year. It may hold special sessions should it so decide. Special sessions shall also be held at the request of the Executive Board, of any five Members, or of a Member or Members having at least 200 votes. Notice of sessions shall be given at least 30 days in advance except in cases of emergency when such notice shall be given at least 10 days in advance.

2. Sessions shall be held at the seat of the Organization, unless the Council decides otherwise by a distributed two-thirds majority of vote. If a Member invites the Council to meet in its territory, and the Council agrees, the additional costs involved above those incurred when the session is held at the seat shall be borne by that Member.

3. The Council may invite any non-member country or any of the organizations referred to in Article 16 to attend any of its sessions as an observer. In case such invitation is accepted, the country or organization concerned shall send a communication to that effect in writing to the Chairman. If it so wishes it may in that communication request permission to make statements to the Council.

4. The quorum required for a Council session shall be the presence of more than half of the number of exporting Members representing at least two-thirds of the votes of all exporting Members and of more than half of the number of importing Members representing at least two-thirds of the votes of all importing Members. If on

the opening of a Council session or of any plenary meeting there is no quorum, the Chairman shall postpone the opening of the session or plenary meeting for at least three hours. If there is still no quorum at the new time set, the Chairman may again postpone the opening of the session or plenary meeting for at least a further three hours. If at the end of this new postponement there is still no quorum, the quorum required for opening or resuming the session or plenary meeting shall be the presence of more than half of the number of exporting Members representing at least half of the votes of all exporting Members and of more than half of the number of importing Members representing at least half of the votes of all importing Members. Representation in accordance with paragraph 2 of Article 14 shall be considered as presence.

Article 13

Votes

1. The exporting Members shall together hold 1 000 votes and the importing Members shall together hold 1 000 votes, distributed within each category of Member — that is, exporting and importing Members, respectively — as provided for in the following paragraphs of this Article.

2. Each Member shall have five basic votes.

3. The remaining votes of exporting Members shall be divided among such Members in proportion to the average volume of their respective exports of coffee to all destinations in the preceding four calendar years.

4. The remaining votes of importing Members shall be divided among such Members in proportion to the average volume of their respective imports of coffee in the preceding four calendar years.

5. The distribution of votes shall be determined by the Council in accordance with the provisions of this Article at the beginning of each coffee year and shall remain in effect during that year, except as provided for in paragraph 6 of this Article.

6. The Council shall provide for the redistribution of votes in accordance with the provisions of this Article whenever there is a change in the membership of the Organization or if the voting rights of a Member are suspended or regained under the provisions of Article 23 or 37.

7. No Member shall hold more than 400 votes.

8. There shall be no fractional votes.

Article 14

Voting procedure of the Council

1. Each Member shall be entitled to cast the number of votes it holds and shall not be entitled to divide its

votes. However, a Member may cast differently any votes which it holds under the provisions of paragraph 2 of this Article.

2. Any exporting Member may authorize any other exporting Member, and any importing Member may authorize any other importing Member, to represent its interests and to exercise its right to vote at any meeting or meetings of the Council. The limitation provided for in paragraph 7 of Article 13 shall not apply in this case.

Article 15

Decisions of the Council

1. All decisions of the Council shall be taken, and all recommendations shall be made, by a distributed simple majority vote unless otherwise provided for in this Agreement.

2. The following procedure shall apply with respect to any decision by the Council which under the provisions of this Agreement requires a distributed two-thirds majority vote:

(a) if a distributed two-thirds majority vote is not obtained because of the negative vote of three or less exporting or three or less importing Members, the proposal shall, if the Council so decides by a majority of the Members present and by a distributed simple majority vote, be put to a vote again within 48 hours;

(b) if a distributed two-thirds majority vote is again not obtained because of the negative vote of two or less exporting or two or less importing Members, the proposal shall, if the Council so decides by a majority of the Members present and by a distributed simple majority vote, be put to a vote again within 24 hours;

(c) if a distributed two-thirds majority vote is not obtained in the third vote because of the negative vote of one exporting or one importing Member, the proposal shall be considered adopted; and

(d) if the Council fails to put a proposal to a further vote, it shall be considered rejected.

3. Members undertake to accept as binding all decisions of the Council under the provisions of this Agreement.

Article 16

Cooperation with other organizations

1. The Council may make arrangements for consultation and cooperation with the United Nations and its specialized agencies and with other appropriate intergovernmental organizations. It shall take full

advantage of the facilities of the Common Fund for Commodities. Such arrangements may include financial arrangements which the Council considers appropriate for achieving the objectives of this Agreement. However, in respect of the implementation of any project under such arrangements the Organization shall not incur any financial obligations for guarantees given by individual Members or other entities. No Member shall be responsible by reason of its membership of the Organization for any liability arising from borrowing or lending by any other Member or entity in connection with such projects.

2. Where possible, the Organization may also collect from Members, non-members, and from donor and other agencies, information on development projects and programmes focusing on the coffee sector. Where appropriate, and with the agreement of the parties concerned, the Organization may make this information available to such other organizations as well as to Members.

CHAPTER VII

THE EXECUTIVE BOARD

Article 17

Composition and meetings of the Executive Board

1. The Executive Board shall consist of eight exporting Members and eight importing Members elected for each coffee year in accordance with the provisions of Article 18. Members represented in the Executive Board may be re-elected.
2. Each Member represented in the Executive Board shall appoint one representative and, if it so desires, one or more alternates. Each Member represented in the Executive Board may also designate one or more advisers to its representative or alternates.
3. The Executive Board shall have a Chairman and a Vice-Chairman, who shall be elected by the Council for each coffee year and may be re-elected. These officers shall not be paid by the Organization. Neither the Chairman nor the Vice-Chairman acting as Chairman shall have the right to vote in the meetings of the Executive Board. His or her alternate will in such case exercise the voting rights of the Member. As a general rule, the Chairman and the Vice-Chairman for each coffee year shall be elected from among the representatives of the same category of membership.
4. The Executive Board shall normally meet at the seat of the Organization, but may meet elsewhere if the Council so decides by a distributed two-thirds majority vote. In case of acceptance by the Council of an

invitation by a Member to host the meeting of the Executive Board, the provisions of paragraph 2 of Article 12 concerning Council sessions shall also apply.

5. The quorum required for an Executive Board meeting shall be the presence of more than half of the number of exporting Members representing at least two-thirds of the votes of all exporting Members elected to the Executive Board and of more than half of the number of importing Members representing at least two-thirds of the votes of all importing Members elected to the Executive Board. If on the opening of an Executive Board meeting there is no quorum, the Chairman of the Executive Board shall postpone the opening of the meeting for at least three hours. If there is still no quorum at the new time set, the Chairman may again postpone the opening of the meeting for at least a further three hours. If at the end of this new postponement there is still no quorum, the quorum required for opening the meeting shall be the presence of more than half of the number of exporting Members representing at least half of the votes of all exporting Members elected to the Executive Board and of more than half of the number of importing Members representing at least half of the votes of all importing Members elected to the Executive Board.

Article 18

Election of the Executive Board

1. The exporting and the importing Members of the Executive Board shall be elected in the Council by the exporting and the importing Members of the Organization respectively. The election within each category shall be held in accordance with the provisions of the following paragraphs of this Article.
2. Each Member shall cast for a single candidate all the votes to which it is entitled under the provisions of Article 13. A Member may cast for another candidate any votes which it holds under the provisions of paragraph 2 of Article 14.
3. The eight candidates receiving the largest number of votes shall be elected; however, no candidate shall be elected on the first ballot unless it receives at least 75 votes.
4. If, under the provisions of paragraph 3 of this Article, less than eight candidates are elected on the first ballot, further ballots shall be held in which only Members which did not vote for any of the candidates elected shall have the right to vote. In each further ballot the minimum number of votes required for election shall be successively diminished by five until eight candidates are elected.
5. Any Member which did not vote for any of the Members elected shall assign its votes to one of them, subject to the provisions of paragraphs 6 and 7 of this Article.

6. A Member shall be deemed to have received the number of votes cast for it when it was elected and, in addition, the number of votes assigned to it, provided that the total number of votes shall not exceed 499 for any Member elected.

7. If the votes deemed received by an elected Member exceed 499, Members which voted for, or assigned their votes to, such elected Member shall arrange among themselves for one or more of them to withdraw their votes from that Member and assign or re-assign them to another elected Member so that the votes received by each elected Member shall not exceed the limit of 499.

Article 19

Competence of the Executive Board

1. The Executive Board shall be responsible to and work under the general direction of the Council.

2. The Council may, by a distributed two-thirds majority vote, delegate to the Executive Board the exercise of any or all of its powers other than the following:

- (a) approval of the Administrative Budget and assessment of contributions under the provisions of Article 22;
- (b) suspension of the voting rights of a Member under the provisions of Article 37;
- (c) decisions on disputes under the provisions of Article 37;
- (d) establishment of conditions for accession under the provisions of Article 41;
- (e) a decision to exclude a Member under the provisions of Article 45;
- (f) a decision concerning the renegotiation, extension or termination of this Agreement under the provisions of Article 47; and
- (g) recommendation of amendments to Members under the provisions of Article 48.

3. The Council may, by a distributed simple majority vote, at any time revoke any powers which have been delegated to the Executive Board.

4. The Executive Board shall set up a Finance Committee which, in accordance with the provisions of Article 22, will be in charge of supervising the preparation of the Administrative Budget to be presented to the Council for approval, and carrying out any other tasks which the Executive Board assigns to it, which shall include the monitoring of income and expenditure. The Finance Committee shall report its proceedings to the Executive Board.

5. The Executive Board may set up any committees or working groups, other than the Finance Committee, as it considers necessary.

Article 20

Voting procedure of the Executive Board

1. Each Member of the Executive Board shall be entitled to cast the number of votes received by it under the provisions of paragraphs 6 and 7 of Article 18. Voting by proxy shall not be allowed. A Member of the Executive Board shall not be entitled to divide its votes.

2. Any decision taken by the Executive Board shall require the same majority as such decision would require if taken by the Council.

CHAPTER VIII

FINANCE

Article 21

Finance

1. The expenses of delegations to the Council, representatives on the Executive Board and representatives of any of the committees of the Council or the Executive Board shall be met by their respective Governments.

2. The other expenses necessary for the administration of this Agreement shall be met by annual contributions from the Members assessed in accordance with the provisions of Article 22, together with revenues from sales of specific services to Members and the sale of information and studies generated under the provisions of Articles 27 and 29.

3. The financial year of the Organization shall be the same as the coffee year.

Article 22

Determination of the Administrative Budget and assessment of contributions

1. During the second half of each financial year, the Council shall approve the Administrative Budget of the Organization for the following financial year and shall assess the contributions of each Member to that Budget. The Administrative Budget shall be prepared by the Executive Director and supervised by the Finance Committee in accordance with the provisions of paragraph 4 of Article 19.

2. The contribution of each Member to the Administrative Budget for each financial year shall be in the proportion which the number of its votes at the time the Administrative Budget for that financial year is approved bears to the total votes of all the Members. However, if there is any change in the distribution of votes among Members in accordance with the provisions of paragraph 5 of Article 13 at the beginning of the financial year for which contributions are assessed, such contributions shall be correspondingly adjusted for that year. In determining contributions, the votes of each

Member shall be calculated without regard to the suspension of the voting rights of any Member or any redistribution of votes resulting therefrom.

3. The initial contribution of any Member joining the Organization after the entry into force of this Agreement shall be assessed by the Council on the basis of the number of votes to be held by it and the period remaining in the current financial year, but the assessments made upon other Members for the current financial year shall not be altered.

Article 23

Payment of contributions

1. Contributions to the Administrative Budget for each financial year shall be payable in freely convertible currency and shall become due on the first day of that financial year.

2. If any Member fails to pay its full contribution to the Administrative Budget within six months of the date on which the contribution is due, both its voting rights in the Council and its rights to have its votes cast in the Executive Board shall be suspended until such contribution has been paid. However, unless the Council by a distributed two-thirds majority vote so decides, such Member shall not be deprived of any of its other rights nor relieved of any of its obligations under this Agreement.

3. Any Member whose voting rights have been suspended either under the provisions of paragraph 2 of this Article or under the provisions of Article 37 shall nevertheless remain responsible for the payment of its contribution.

Article 24

Liabilities

1. The Organization, functioning as specified in paragraph 3 of Article 7, shall not have power to incur any obligation outside the scope of this Agreement, and shall not be taken to have been authorized by the Members to do so; in particular, it shall not have the capacity to borrow money. In exercising its capacity to contract, the Organization shall incorporate in its contracts the terms of this Article in such a way as to bring them to the notice of the other parties entering into contracts with the Organization, but any failure to incorporate such terms shall not invalidate such a contract or render it *ultra vires*.

2. A Member's liability is limited to the extent of its obligations regarding contributions specifically provided for in this Agreement. Third parties dealing with the Organization shall be deemed to have notice of the provisions of this Agreement regarding the liabilities of Members.

Article 25

Audit and publication of accounts

As soon as possible and not later than six months after the close of each financial year, an independently audited statement of the Organization's receipts and expenditures during that financial year shall be presented to the Council for approval and publication.

CHAPTER IX

THE EXECUTIVE DIRECTOR AND THE STAFF

Article 26

The Executive Director and the staff

1. The Council shall appoint the Executive Director on the recommendation of the Executive Board. The terms of appointment of the Executive Director shall be established by the Council and shall be comparable to those applying to corresponding officials of similar intergovernmental organizations.

2. The Executive Director shall be the chief administrative officer of the Organization and shall be responsible for the performance of any duties devolving upon him in the administration of this Agreement.

3. The Executive Director shall appoint the staff in accordance with regulations established by the Council.

4. Neither the Executive Director nor any member of the staff shall have any financial interest in the coffee industry, the coffee trade or the transportation of coffee.

5. In the performance of their duties, the Executive Director and the staff shall not seek or receive instructions from any Member or from any other authority external to the Organization. They shall refrain from any action which might reflect on their position as international officials responsible only to the Organization. Each Member undertakes to respect the exclusively international character of the responsibilities of the Executive Director and the staff and not to seek to influence them in the discharge of their responsibilities.

CHAPTER X

INFORMATION, STUDIES AND SURVEYS

Article 27

Information

1. The Organization shall act as a centre for the collection, exchange and publication of:

- (a) statistical information on world production, prices, exports and imports, distribution and consumption of coffee; and
- (b) in so far as is considered appropriate, technical information on the cultivation, processing and utilization of coffee.

2. The Council may require Members to furnish such information as it considers necessary for its operations, including regular statistical reports on coffee production, production trends, exports and imports, distribution, consumption, stocks, prices and taxation, but no information shall be published which might serve to identify the operations of persons or companies producing, processing or marketing coffee. Members shall furnish information requested in as detailed and accurate a manner as is practicable.

3. The Council shall establish a system of indicator prices which shall provide for the publication of a daily composite indicator price.

4. If a Member fails to supply or finds difficulty in supplying within a reasonable time statistical and other information required by the Council for the proper functioning of the Organization, the Council may require the Member concerned to explain the reasons for non-compliance. If it is found that technical assistance is needed in the matter, the Council may take any necessary measures.

Article 28

Certificates of Origin

1. In order to facilitate the collection of statistics on the international coffee trade and to ascertain the quantities of coffee which have been exported by each exporting Member, the Organization shall establish a system of Certificates of Origin, governed by rules approved by the Council.

2. Every export of coffee by an exporting Member shall be covered by a valid Certificate of Origin. Certificates of Origin shall be issued, in accordance with the rules established by the Council, by a qualified agency chosen by the Member and approved by the Organization.

3. Each exporting Member shall notify the Organization of the government or non-governmental agency which is to perform the functions specified in paragraph 2 of this Article. The Organization shall approve a non-governmental agency in accordance with the rules approved by the Council.

Article 29

Studies and surveys

1. The Organization shall promote the preparation of studies and surveys concerning the economics of coffee

production and distribution, the impact of governmental measures in producing and consuming countries on the production and consumption of coffee, and the opportunities for expansion of coffee consumption for traditional and possible new uses.

2. In order to carry out the provisions of paragraph 1 of this Article, the Council shall adopt, at its second regular session of each coffee year, a draft annual work programme of studies and surveys, with estimated resource requirements, prepared by the Executive Director.

3. The Council may approve the undertaking by the Organization of studies and surveys to be conducted jointly or in cooperation with other organizations and institutions. In such cases, the Executive Director shall present to the Council a detailed account of the resource requirements from the Organization and from the partner or partners involved with the project.

4. The studies and surveys to be promoted by the Organization pursuant to the provisions of this Article shall be financed by resources included in the Administrative Budget, prepared in accordance with the provisions of paragraph 1 of Article 22, and shall be undertaken by members of the staff of the Organization and consultants as required.

CHAPTER XI

GENERAL PROVISIONS

Article 30

Preparations for a new Agreement

The Council may examine the possibility of negotiating a new International Coffee Agreement, including an Agreement which could contain measures designed to balance the supply and demand for coffee, and take such actions as it deems appropriate.

Article 31

Removal of obstacles to consumption

1. Members recognize the utmost importance of achieving the greatest possible increase of coffee consumption as rapidly as possible, in particular through the progressive removal of any obstacles which may hinder such increase.

2. Members recognize that there are at present in effect measures which may to a greater or lesser extent hinder the increase in consumption of coffee, in particular:

- (a) import arrangements applicable to coffee, including preferential and other tariffs, quotas, operations of government monopolies and official purchasing agencies, and other administrative rules and commercial practices;
- (b) export arrangements as regards direct or indirect subsidies and other administrative rules and commercial practices; and
- (c) internal trade conditions and domestic legal and administrative provisions which may affect consumption.

3. Having regard to the objectives stated above and to the provisions of paragraph 4 of this Article, Members shall endeavour to pursue tariff reductions on coffee or to take other action to remove obstacles to increased consumption.

4. Taking into account their mutual interest, Members undertake to seek ways and means by which the obstacles to increased trade and consumption referred to in paragraph 2 of this Article may be progressively reduced and eventually, wherever possible, eliminated, or by which the effects of such obstacles may be substantially diminished.

5. Taking into account any commitments undertaken under the provisions of paragraph 4 of this Article, Members shall inform the Council annually of all measures adopted with a view to implementing the provisions of this Article.

6. The Executive Director shall prepare periodically a survey of the obstacles to consumption to be reviewed by the Council.

7. The Council may, in order to further the purposes of this Article, make recommendations to Members which shall report as soon as possible to the Council on the measures adopted with a view to implementing such recommendations.

Article 32

Measures related to processed coffee

1. Members recognize the need of developing countries to broaden the base of their economies through, *inter alia*, industrialization and the export of manufactured products, including the processing of coffee and the export of processed coffee.

2. In this connection, Members shall avoid the adoption of governmental measures which could cause disruption to the coffee sector of other Members.

3. Should a Member consider that the provisions of paragraph 2 of this Article are not being complied with, it should consult with the other Members concerned, having due regard to the provisions of Article 36. The Members concerned shall make every effort to reach

amicable settlement on a bilateral basis. If these consultations do not lead to a mutually satisfactory solution, either party may bring the matter before the Council for consideration under the provisions of Article 37.

4. Nothing in this Agreement shall prejudice the right of any Member to take measures to prevent or remedy disruption to its coffee sector by imports of processed coffee.

Article 33

Mixtures and substitutes

1. Members shall not maintain any regulations requiring the mixing, processing or using of other products with coffee for commercial resale as coffee. Members shall endeavour to prohibit the sale and advertisement of products under the name of coffee if such products contain less than the equivalent of 90 % green coffee as the basic raw material.

2. The Council may request any Member to take the steps necessary to ensure observance of the provisions of this Article.

3. The Executive Director shall submit to the Council a periodic report on compliance with the provisions of this Article.

Article 34

Consultation and cooperation with the private sector

1. The Organization shall maintain close links with appropriate non-governmental organizations concerned with international commerce in coffee, and with experts in coffee matters.

2. Members shall conduct their activities within the framework of this Agreement in a manner consonant with established trade channels and shall refrain from discriminatory sales practices. In carrying out these activities they shall endeavour to take due account of the legitimate interests of the coffee trade and industry.

Article 35

Environmental aspects

Members shall give due consideration to the sustainable management of coffee resources and processing, bearing in mind the principles and objectives on sustainable development agreed at the Eighth Session of the United Nations Conference on trade and Development and the United Nations Conference on Environment and Development.

CHAPTER XII

CONSULTATIONS, DISPUTES AND COMPLAINTS

Article 36

Consultations

Each Member shall accord sympathetic consideration to, and shall afford adequate opportunity for, consultation regarding such representations as may be made by another Member with respect to any matter relating to this Agreement. In the course of such consultation, on request by either party and with the consent of the other, the Executive Director shall establish an independent panel which shall use its good offices with a view to conciliating the parties. The costs of the panel shall not be chargeable to the Organization. If a party does not agree to the establishment of a panel by the Executive Director, or if the consultation does not lead to a solution, the matter may be referred to the Council in accordance with the provisions of Article 37. If the consultation does lead to a solution, it shall be reported to the Executive Director who shall distribute the report to all Members.

Article 37

Disputes and complaints

1. Any dispute concerning the interpretation or application of this Agreement which is not settled by negotiation shall, at the request of any Member party to the dispute, be referred to the Council for decision.

2. In any case where a dispute has been referred to the Council under the provisions of paragraph 1 of this Article, a majority of Members, or Members holding not less than one third of the total votes, may require the Council, after discussion, to seek the opinion of the advisory panel referred to in paragraph 3 of this Article on the issues on dispute before giving its decision.

3. (a) Unless the Council unanimously agrees otherwise, the advisory panel shall consist of:

- (i) two persons, one having wide experience in matters of the kind in dispute and the other having legal standing and experience, nominated by the exporting Members;
- (ii) two such persons nominated by the importing Members; and
- (iii) a chairman selected unanimously by the four persons nominated under the provisions of sub-paragraphs (i) and (ii) or, if they fail to agree, by the Chairman of the Council.

(b) Persons from countries whose Governments are Contracting Parties to this Agreement shall be eligible to serve on the advisory panel.

(c) Persons appointed to the advisory panel shall act in their personal capacities and without instructions from any Government.

(d) The expenses of the advisory panel shall be paid by the Organization.

4. The opinion of the advisory panel and the reasons therefor shall be submitted to the Council which, after considering all the relevant information, shall decide the dispute.

5. The Council shall rule on any dispute brought before it within six months of submission of such dispute for its consideration.

6. Any complaint that any Member has failed to fulfil its obligations under this Agreement shall, at the request of the Member making the complaint, be referred to the Council which shall make a decision on the matter.

7. No Member shall be found to have been in breach of its obligations under this Agreement except by a distributed simple majority vote. Any finding that a Member is in breach of its obligations under this Agreement shall specify the nature of the breach.

8. If the Council finds that a Member is in breach of its obligations under this Agreement, it may, without prejudice to other enforcement measures provided for in other Articles of this Agreement, by a distributed two-thirds majority vote, suspend such Member's voting rights in the Council and its right to have its votes cast in the Executive Board until it fulfils its obligations, or the Council may decide to exclude such Member from the Organization under the provisions of Article 45.

9. A Member may seek the prior opinion of the Executive Board in a matter of dispute or complaint before the matter is discussed by the Council.

CHAPTER XIII

FINAL PROVISIONS

Article 38

Signature

This Agreement shall be open for signature at the United Nations headquarters from 18 April 1994 until and including 26 September 1994 by Contracting Parties to the International Coffee Agreement 1983 or the

International Coffee Agreement 1983, as extended, and Governments invited to the sessions of the International Coffee Council at which this Agreement was negotiated.

Article 39

Ratification, acceptance or approval

1. This Agreement shall be subject to ratification, acceptance or approval by the signatory Governments in accordance with their respective constitutional procedures.

2. Except as provided for in Article 40, instruments of ratification, acceptance or approval shall be deposited with the Secretary-General of the United Nations not later than 26 September 1994. However, the Council may grant extensions of time to signatory Governments which are unable to deposit their instruments by that date.

Article 40

Entry into force

1. This Agreement shall enter into force definitively on 1 October 1994 if by that date Governments representing at least 20 exporting Members holding at least 80 % of the votes of the exporting Members and at least 10 importing Members holding at least 80 % of the votes of the importing Members, calculated as at 26 September 1994, have deposited instruments of ratification, acceptance or approval. Alternatively, it shall enter into force definitively at any time after 1 October 1994 if it is provisionally in force in accordance with the provisions of paragraph 2 of this Article and these percentage requirements are satisfied by the deposit of instruments of ratification, acceptance or approval.

2. This Agreement may enter into force provisionally on 1 October 1994. For this purpose, a notification by a signatory Government or by any other Contracting Party to the International Coffee Agreement 1983, as extended, containing an undertaking to apply this Agreement provisionally, in accordance with its laws and regulations, and to seek ratification, acceptance or approval in accordance with its constitutional procedures as rapidly as possible, which is received by the Secretary-General of the United Nations not later than 26 September 1994, shall be regarded as equal in effect to an instrument of ratification, acceptance or approval. A Government which undertakes to apply this Agreement provisionally, in accordance with its laws and regulations, pending the deposit of an instrument of ratification, acceptance or approval shall be regarded as a provisional Party thereto until it deposits its instrument of ratification, acceptance or approval, or until and including 31 December 1994 whichever is the earlier. The Council may grant an extension of the time within which any Government

which is applying this Agreement provisionally may deposit its instrument of ratification, acceptance or approval.

3. If this Agreement has not entered into force definitively or provisionally on 1 October 1994 under the provisions of paragraph 1 or 2 of this Article, those Governments which have deposited instruments of ratification, acceptance, approval or accession or made notifications containing an undertaking to apply this Agreement provisionally, in accordance with their laws and regulations, and to seek ratification, acceptance or approval may, by mutual consent, decide that it shall enter into force among themselves. Similarly, if this Agreement has entered into force provisionally but has not entered into force definitively on 31 December 1994, those Governments which have deposited instruments of ratification, acceptance, approval or accession or made the notifications referred to in paragraph 2 of this Article, may, by mutual consent, decide that it shall continue in force provisionally or enter into force definitively among themselves.

Article 41

Accession

1. The Government of any State member of the United Nations or of any of its specialized agencies may accede to this Agreement upon conditions which shall be established by the Council.

2. Instruments of accession shall be deposited with the Secretary-General of the United Nations. The accession shall take effect upon deposit of the instrument.

Article 42

Reservations

Reservations may not be made with respect to any of the provisions of this Agreement.

Article 43

Extension to designated territories

1. Any Government may, at the time of signature or deposit of an instrument of ratification, acceptance, approval, provisional application or accession, or at any time thereafter, by notification to the Secretary-General of the United Nations, declare that this Agreement shall extend to any of the territories for whose international relations it is responsible; this Agreement shall extend to the territories named therein from the date of such notification.

2. Any Contracting Party which desires to exercise its rights under the provisions of Article 5 in respect of any

of the territories for whose international relations it is responsible or which desires to authorize any such territory to become part of a Member group formed under the provisions of Article 6, may do so by making a notification to that effect to the Secretary-General of the United Nations, either at the time of the deposit of its instrument of ratification, acceptance, approval, provisional application or accession, or at any later time.

3. Any Contracting Party which has made a declaration under the provisions of paragraph 1 of this Article may at any time thereafter, by notification to the Secretary-General of the United Nations, declare that this Agreement shall cease to extend to the territory named in the notification. The Agreement shall cease to extend to such territory from the date of such notification.

4. When a territory to which this Agreement has been extended under the provisions of paragraph 1 of this Article subsequently attains its independence, the Government of the new State may, within 90 days after the attainment of independence, declare by notification to the Secretary-General of the United Nations that it has assumed the rights and obligations of a Contracting Party to this Agreement. It shall, as from the date of such notification, become a Contracting Party to this Agreement. The Council may grant an extension of the time within which such notification may be made.

Article 44

Voluntary withdrawal

Any Contracting Party may withdraw from this Agreement at any time by giving a written notice of withdrawal to the Secretary-General of the United Nations. Withdrawal shall become effective 90 days after the notice is received.

Article 45

Exclusion

If the Council decides that any Member is in breach of its obligations under this Agreement and decides further that such breach significantly impairs the operation of this Agreement, it may, by a distributed two-thirds majority vote, exclude such Member from the Organization. The Council shall immediately notify the Secretary-General of the United Nations of any such decision. Ninety days after the date of the Council's decision, such Member shall cease to be a Member of the Organization and, if such Member is a Contracting Party, a Party to this Agreement.

Article 46

Settlement of accounts with withdrawing or excluded Members

1. The Council shall determine any settlement of accounts with a withdrawing or excluded Member. The Organization shall retain any amounts already paid by

a withdrawing or excluded Member and such Member shall remain bound to pay any amounts due from it to the Organization at the time the withdrawal or the exclusion becomes effective; provided, however, that in the case of a Contracting Party which is unable to accept an amendment and consequently ceases to participate in this Agreement under the provisions of paragraph 2 of Article 48, the Council may determine any settlement of accounts which it finds equitable.

2. A Member which has ceased to participate in this Agreement shall not be entitled to any share of the proceeds of liquidation or the other assets of the Organization; nor shall it be liable for payment of any part of the deficit, if any, of the Organization upon termination of this Agreement.

Article 47

Duration and termination

1. This Agreement shall remain in force for a period of five years until 30 September 1999 unless extended under the provisions of paragraph 2 of this Article or terminated under the provisions of paragraph 3 of this Article.

2. The Council may, by a vote of 58 % of the Members having not less than a distributed majority of 70 % of the total votes, decide either that this Agreement be renegotiated or that it be extended, with or without modification, for such period as the Council shall determine. Any Contracting Party which by the date on which such renegotiated or extended Agreement enters into force has not made a notification of acceptance of such renegotiated or extended Agreement to the Secretary-General of the United Nations, or any territory which is either a Member or a party to a Member group on behalf of which such notification has not been made by that date, shall as of that date cease to participate in such Agreement.

3. The Council may at any time, by a vote of a majority of the Members having not less than a distributed two-thirds majority of the total votes, decide to terminate this Agreement. Termination shall take effect on such date as the Council shall decide.

4. Notwithstanding the termination of this Agreement, the Council shall remain in being for as long as necessary to carry out the liquidation of the Organization, settlement of its accounts and disposal of its assets and shall have during that period such powers and functions as may be necessary for those purposes.

Article 48

Amendment

1. The Council may, by a distributed two-thirds majority vote, recommend an amendment of this Agreement to the Contracting Parties. The amendment shall become effective 100 days after the Secretary-

General of the United Nations has received notifications of acceptance from Contracting Parties representing at least 75 % of the exporting countries holding at least 85 % of the votes of the exporting Members, and from Contracting Parties representing at least 75 percent of the importing countries holding at least 80 percent of the votes of the importing Members. The Council shall fix a time within which Contracting Parties shall notify the Secretary-General of the United Nations of their acceptance of the amendment. If, on expiry of such time limit, the percentage requirements for the entry into effect of the amendment have not been met, the amendment shall be considered withdrawn.

2. Any Contracting Party which has not notified acceptance of an amendment within the period fixed by the Council, or any territory which is either a Member or a party to a Member group on behalf of which such notification has not been made by that date, shall cease to participate in this Agreement from the date on which such amendment becomes effective.

Article 49

Supplementary and transitional provisions

1. This Agreement shall be considered as a continuation of the International Coffee Agreement 1983, as extended.

2. In order to facilitate the uninterrupted continuation of the International Coffee Agreement 1983, as extended:

- (a) all acts by or on behalf of the Organization or any of its organs under the International Coffee Agreement 1983, as extended, in effect on 30 September 1994, the terms of which do not provide for expiry on that date, shall remain in effect unless changed under the provisions of this Agreement; and
- (b) all decisions required to be taken by the Council during coffee year 1993/94 for application in coffee year 1994/95 shall be taken by the Council in coffee year 1993/94 and applied on a provisional basis as if this Agreement had already entered into force.

Article 50

Authentic texts of the Agreement

The texts of this Agreement in the English, French, Portuguese and Spanish languages shall all be equally authentic. The originals shall be deposited with the Secretary-General of the United Nations.

In witness whereof the undersigned, having been duly authorized to this effect by their respective Governments, have signed this Agreement on the dates appearing opposite their signatures.

COUNCIL DECISION

of 27 July 1994

adopting a specific programme for research and technological development, including demonstration, in the field of industrial and materials technologies (1994—1998)

(94/571/EC)

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 130i (4) thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament ⁽¹⁾,

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

Whereas, by Decision 1110/94/EC ⁽³⁾, the Council and the European Parliament adopted a Fourth Framework programme for Community activities in the field of research, technological development and demonstration (RTD) for the period 1994—98 specifying *inter alia* the activities to be carried out in the field of industrial and materials technologies; whereas this Decision takes account of the grounds set out in the preamble to that Decision;

Whereas Article 130i (3) of the Treaty stipulates that the Framework programme is to be implemented through specific programmes developed within each activity under the Framework programme and that each specific programme is to define the detailed rules for its implementation, fix its duration and provide for the means deemed necessary;

Whereas the amount deemed necessary for carrying out this programme is ECU 1 617 million; whereas the appropriations for each financial year shall be laid down by the budgetary authority, subject to the availability of resources within the financial perspectives and to the conditions set out in Articles 1 (3) of Decision 1110/94/EC;

Whereas a strengthening of cooperation in RTD concerning industrial and materials technologies is needed in order to develop technologies for the sustainable development of European industry;

Whereas this programme may make a significant contribution to the stimulation of growth, to the

strengthening of competitiveness and to the development of employment in the Community, as indicated in the White Paper on 'Growth, competitiveness and employment';

Whereas the content of the Fourth Framework programme for Community RTD activities was established in accordance with the subsidiarity principle; whereas this specific programme specifies the content of the activities to be carried out in accordance with this principle in the field of industrial and materials technologies;

Whereas Decision 1110/94/EC lays down that a Community action is justified if, *inter-alia*, research contributes to the strengthening of the economic and social cohesion of the Community and the promotion of its overall harmonious development, while being consistent with the pursuit of scientific and technical quality; whereas this programme is intended to help meet these objectives;

Whereas the Community should only support RTD activities of high quality;

Whereas precompetitive and multisectoral research activities relating to steel product and process innovation may gradually be taken into account in the context of this specific programme, given the importance attached to these activities and in view of the forthcoming expiry of the ECSC Treaty;

Whereas the rules for the participation of undertakings, research centres (including the Joint Research Centre (JRC)) and universities and the rules governing the dissemination of research results specified in the measures provided for in Article 130j of the Treaty apply to this specific programme;

Whereas provision should be made for measures to encourage the involvement of small and medium-sized enterprises (SMEs) in this programme, in particular through technology stimulation measures;

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

⁽¹⁾ OJ No C 205, 25. 7. 1994.

⁽²⁾ Opinion delivered on 2 June 1994 (not yet published in the Official Journal).

⁽³⁾ OJ No L 126, 18. 5. 1994, p. 1.

Whereas this programme will help to strengthen synergy between the RTD activities carried out in the field of industrial and materials technologies by research centres, universities and enterprises, in particular SMEs, in the Member States and between these and the corresponding Community RTD activities; whereas coordination between research projects with a common theme should be improved; whereas the establishment of thematic networks will permit greater synergy between fundamental research and industrial research and coordination with other European initiatives and frameworks, in particular Eureka and COST;

Whereas the nature of the activities to be undertaken in this programme requires close coordination with activities undertaken under other specific programmes;

Whereas an action designed to place the development of Europe's industry on new technological foundations must be based on an adequate knowledge of technological demand; whereas such knowledge is particularly necessary in order to give priority to general technologies for widespread dissemination among the sectors involved;

Whereas it may be appropriate to engage in international cooperation activities with international organizations and third countries for the purpose of implementing this programme;

Whereas this programme should also comprise support activities and activities for the dissemination and exploitation of RTD results, in particular towards SMEs, notably those in the Member states or regions which participate least in the programme, and activities to stimulate the mobility and training of researchers within this programme to the extent necessary for proper implementation of the programme;

Whereas an analysis should be made of possible socio-economic consequences and technological risks associated with the programme;

Whereas progress with this programme should be continuously and systematically monitored with a view to adapting it, where appropriate, to scientific and technological developments in this area; whereas in due course there should be an independent evaluation of progress with the said programme so as to provide all the background information needed in order to determine the objectives of the Fifth RTD framework programme; whereas at the end of this programme there should be a final evaluation of the results obtained compared with the objectives set out in this Decision;

Whereas the JRC may participate in indirect actions covered by this programme;

Whereas the JRC will also contribute, through its own programme, to the attainment of the Community RTD objectives in the areas covered by this programme;

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

HAS ADOPTED THIS DECISION:

Article 1

A specific programme for research and technological development, including demonstration, in the field of industrial and materials technologies, as set out in Annex I, is hereby adopted for the period from 27 July 1994 to 31 December 1998.

Article 2

1. The amount deemed necessary for carrying out the programme is ECU 1 617 million, including a maximum of 5,08 % for staff and administrative expenditure.
2. An indicative breakdown of this amount is given in Annex II.
3. The budgetary authority shall lay down the appropriations for each financial year, subject to the availability of resources within the financial perspectives and in accordance with the conditions set out in Article 1 (3) of Decision 1110/94/EC, taking into account the principles of sound management referred to in Article 2 of the Financial Regulation applicable to the general budget of the European Communities.

Article 3

1. The general rules for the Community's financial contribution are laid down in Annex IV to Decision 1110/94/EC.
2. The rules for the participation of undertakings, research centres and universities, and for the dissemination of results are specified in the measures envisaged in Article 130j of the Treaty.
3. Annex III sets out the specific rules for implementing this programme, supplementary to those referred to in paragraphs 1 and 2.

Article 4

1. In order to help ensure, *inter alia*, the cost-effective implementation of this programme, the Commission shall continually and systematically monitor, with appropriate assistance from independent, external experts, the progress within the programme in relation to the objectives set out in Annex I, as amplified in the work programme. It shall in particular examine whether the objectives, priorities and financial resources are still appropriate to the changing situation. It shall, if

necessary, in the light of the results of this monitoring process, submit proposals to adapt or supplement this programme.

2. In order to contribute towards the evaluation of Community activities, as required by Article 4 (2) of Decision 1110/94/EC and in compliance with the timetable laid down in that paragraph, the Commission shall have an external assessment conducted by independent qualified experts of the activities carried out within the areas covered by this programme and their management during the five years preceding this assessment.

3. At the end of this programme the Commission shall have an independent final evaluation carried out of the results achieved compared with the objectives set out in Annex III to Decision 1110/94/EC and Annex I to this Decision. The final evaluation report shall be forwarded to the European Parliament, the Council and the Economic and Social Committee.

Article 5

1. A work programme shall be drawn up by the Commission in accordance with the objectives set out in Annex I and the indicative financial breakdown set out in Annex II, and shall be updated where appropriate. It shall set out in detail:

- the scientific and technological objectives and research tasks,
- the implementation schedule, including dates for calls for proposals,
- the proposals financial and managerial arrangements, including specific modalities for implementing technology stimulation measures for SMEs and the general lines of other measures, including preparatory, accompanying and support measures,
- arrangements for coordination with other RTD activities carried out in this area, in particular under other specific programmes, and, where appropriate, for ensuring improved interaction with activities carried out in other frameworks, such as Eureka and COST,
- arrangements for the dissemination, protection and exploitation of the results of RTD activities carried out under the programme.

2. The Commission shall issue calls for proposals for projects on the basis of the work programme.

Article 6

1. The Commission shall be responsible for the implementation of the programme.

2. In the cases provided for in Article 7 (1), the Commission shall be assisted by a committee composed of representatives of the Member States and chaired by the representative of the Commission.

3. The representative of the Commission shall submit to the Committee a draft of the measures to be taken. The Committee shall deliver its opinion within a time limit that the chairman may lay down according to the urgency of the matter. The opinion shall be delivered by the majority provided for 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.

4. The Commission shall adopt the measures envisaged when they are in accordance with the opinion of the Committee.

5. 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 a qualified majority.

6. If, on the expiry of a period of three months from referral of the matter to the Council, the Council has not acted, the proposed measures shall be adopted by the Commission.

Article 7

1. The procedure laid down in Article 6 (2) to (6) shall apply to:

- the preparation and updating of the work programme referred to in Article 5 (1),
- the content of the calls for proposals,
- the assessment of the RTD activities proposed for Community funding and the estimated amount of the Community contribution for each activity where this is equal to or more than ECU 0,9 million,
- any adjustment to the indicative breakdown of the amount as set out in Annex II,
- specific modalities for the financial participation of the Community in the different activities envisaged,
- the measures and terms of reference for programme evaluation,
- any departure from the rules set out in Annex III,

- participation in any project by legal entities from third countries and international organizations.

Article 8

This Decision is addressed to the Member States.

2. Where, pursuant to the third indent of paragraph 1, the amount of the Community contribution is less than ECU 0,9 million, the Commission shall inform the Committee of the projects and of the outcome of their assessment.

Done at Brussels, 27 July 1994.

3. The Commission shall regularly inform the Committee of progress with the implementation of the programme as a whole.

For the Council
The President
TH. WAIGEL

ANNEX I

SCIENTIFIC AND TECHNOLOGICAL OBJECTIVES AND CONTENT

This specific programme fully reflects the guidelines of the Fourth Framework programme in applying the selection criteria and in specifying its scientific and technological objectives.

Paragraphs 2.A, 2.B and 2.C of Annex III, (First Activity) of that Fourth Framework programme are integral parts of this programme.

OBJECTIVES

The globalization of markets, the greater international competition with newly industrialized countries, the increased cost of developing new technologies and the reduction of product lifetimes are forcing European industries to revise their cooperation strategies in order to master a broad spectrum of technologies and to ensure the cost-effectiveness of RTD efforts. In addition, in our changing society we are moving towards a different development model in which more importance is attached to the quality of life and more rational use of human and natural resources. In this context substantial R&D is needed to develop the technology for human-centred production systems taking account of human factors and based on clean technologies. This being the case, Community programmes may act as a catalyst in spurring medium to long term R&D and in supporting national activities and industrial efforts.

As indicated in the White Paper on growth, competitiveness and employment, boosting industrial competitiveness is one of the most effective means of maintaining and even increasing employment, this being one of the most urgent problems to be overcome if jobs are to be guaranteed for the coming generation.

Technological research may be a major factor in stimulating innovation in respect of products, processes and business organization, and underpinning and prompting new industrial activities which ease the incorporation of new technologies and processes to traditional sectors and the emergence of new sectors, for which Europe's export capacity is currently still limited. The Community's industrial research activity is particularly well placed to provide assistance where the best means of conducting R&D is to do so on the basis of multidisciplinary, cross-frontier cooperation, focusing on generic technologies which can rapidly be applied in different Member States and different industrial sectors.

In order to boost the effectiveness and impact of Community action, efforts will concentrate on the following areas: objectives, scientific and technical content, programme implementation and administration of research projects:

(a) *Objectives:* The programme, which is multi-sectoral and open to various types of industrial activity, will focus on the following three objectives:

- in the short term, priority should be assigned to research for the adaptation of existing technologies, or for the

development of new industrial technologies, which provide competitive leverage, particularly in sectors where the level of technology is lower; small and medium-sized enterprises (SMEs) in these sectors account for a large proportion of European industry and provide the bulk of employment,

- in the medium term, research will focus on industries which are already developing innovative technologies and strategies allowing reinforcement of its competitiveness and better use of human resources while endeavouring to reduce the adverse environmental impact of production,
- in the long term, more fundamental, strategic and high risk research will focus on new technologies for the production and design of products which allow new industries or markets to be created in a context of sustainable growth.

(b) *Content of the programme:* research will concentrate on technologies needed by European industry in relation to critical stages of production systems and the quality of products:

- Production technologies: priority will be given to improving production systems, an area which provides numerous opportunities for technological innovation and the greatest potential in terms of lasting competitive advantages. In a context of respect for human beings and the environment, and sustainable growth, the research will cover new process engineering methods, new manufacturing techniques, new inspection, diagnostic and quality maintenance and assurance systems, research into component miniaturization within industrial systems and into emerging technologies (such as nanotechnologies), and the incorporation of new and existing technologies, especially available information and communications technologies ⁽¹⁾, into manufacturing centres taking into account the new production organization models. Special attention will be paid to business organization, the incorporation of technologies addressing social concerns, the health and safety of

⁽¹⁾ The industrial technologies research programme will draw upon information technologies as well as other generic technologies with a view to promoting innovation and application in manufacturing industry. In turn, it will provide inputs, knowledge, and expertise for the information and communication technologies (ICT) programme aimed at the development of new ICT solutions for advanced manufacturing and engineering processes. To ensure complementarity between the two programmes, close coordination and an active interface will be maintained.

workers (working conditions) and environmental concerns (clean technologies, rational use of resources) whilst taking into account their economic and industrial impact.

- Materials and technologies for product innovation through research into new techniques for the design and preparation of products, including structures, in the context of a rational use of resources, to reduce manufacturing costs and environmental impact, and improve quality, reliability and safety. The research will look into ways of improving the functional properties, including surface properties, of traditional and advanced materials for new and improved products via innovative design and preparation techniques, as well as new technologies for the recycling and reuse of industrial products at the end of their lifecycle. Attention will be paid to high-performance materials engineering and molecular engineering, in particular supramolecular chemistry. The principle of materials cycle optimization, avoiding the use of harmful materials, could be a common feature of the various research activities.
- Technologies for transport means: in support of the establishment of the single market and the implementation of Community policies, in particular the creation of trans-European networks, the development of new, faster, more reliable, comfortable and environment-friendly means of transport at competitive costs calls for a considerable amount of research at Community level, in coordination with that undertaken in the preceding areas, concerning the incorporation and application of new design, manufacturing, modelling, simulation and maintenance technologies, new and improved materials and environmental technologies.

Special emphasis will continue to be given to aeronautics research both to ensure continuity with the action undertaken in the Third Framework programme and to reflect further the essential advanced technology requirements of this industry and its capability for proving feasibility of advanced generic technologies which will then be spun off to other transport or industrial sectors.

- (c) With regard to programme implementation, the following three types of research activities, including where appropriate basic research of an industrial relevance, will be carried out:

- industrial activities targeted on priority objectives of strategic importance to the future of European industry taking into account user needs,
- activities by and for SMEs: measures for technology stimulation, based on the Craft and feasibility awards experience, in order to encourage and facilitate the participation of SMEs, taking account of the needs of those from less advanced regions and
- know-how development and dissemination activities based on generic technologies which could be coordinated through thematic networks.

Stress will be placed on projects displaying multidisciplinary and multi-sectoral characteristics in order to ensure the development and optimum transfer of knowhow and technologies, in particular those developed and used in the high-technology sectors, into basic industries adding more to GDP or into those which are the subject of industrial policy. This research will be organized around consortia of suppliers, manufacturers, end users, universities and research centres. Also in view of the expiry of the ECSC Treaty, research activities linked with steel product and process innovation will gradually be taken over in the context of this programme, on the condition that they comply with the eligibility criteria, in particular as regards their precompetitive and multisectorial nature. Lastly, within its technical competence, complementary activities will be implemented by the JRC in particular in domains 2.1 'materials engineering' and 2.4 'recovering products at the end of their lifecycle'.⁽¹⁾

- (d) *Project management*: a major concentration of effort concerning the management of selected projects could be obtained, where appropriate by means of 'vertical coordination' or the 'network' approach, which is aimed at coordinating relevant projects on a given topic. Taking into account the fact that competitive advantages are obtained right from the basic research stage through the manufacturing or production process, including the design stage, efforts will be made to coordinate research projects around common industrial objectives in order to facilitate the incorporation of technologies and the transfer of knowledge and to encourage cooperation between suppliers, manufacturers and users and between industrial sectors. This will make for improved synergy between those involved and better coordination with the various other complementary Community programmes (in particular, information technologies, telematics, measurements and testing, environment, life sciences and technologies, non-nuclear energy, transport, targeted socio-economic research) and other initiatives at European level, and in particular with Eureka, which is more market-oriented, and with which joint seminars, a reorientation of the projects proposed towards the most suitable framework and an exchange of information between projects will be organized.

SCIENTIFIC AND TECHNOLOGICAL CONTENT

Area 1: Production technologies

1. Background

In accordance with the White Paper on growth, competitiveness and employment, action by the European Union should focus on technological areas and applications which will have an impact on a broad range of industrial activities and which are geared towards sustainable economic growth, the rational use of natural resources and the

⁽¹⁾ A description of the activities envisaged for the JRC in these areas is contained in the proposal for a decision of the Council relating to the activities of the JRC (doc. COM(94) 68 final, 30 March 1994, 94/0095 (CNS)). An extract from this proposal is attached to this Decision.

optimum use of human resources. This topic covers all manufacturing and processing industries. The challenge is to develop generic industrial methods and technologies and apply them to design, engineering, organization, production and the maintenance of high quality and high value-added, thus enabling European industry to remain in the forefront of technological innovation and to clear the way for future industries. The incorporation of new, advanced technologies into production systems, including infrastructures and plant, will help to boost industrial competitiveness and create new jobs by cutting costs, improving reliability and safety and shortening market lead times. It will also help to improve the environment and health and safety at the workplace.

2. Proposed activities

The research will aim at developing and incorporating the most advanced design and engineering tools. These enabling technologies will be applied within production systems in such a way as to meet the requirements of inter-company networks, and the need to optimize industrial plant, cost-effectiveness, product quality and manpower management. Increasing competitiveness by improving productivity, flexibility and quality will be a major aim; the research will look for a proper balance where there is a middle way between full automation and the use of labour alone. Stress will be placed on the integration of intelligent and computer-aided techniques, the latest developments in rapid prototyping, application of cognitive engineering and microsystem technologies, the development of new organizational approaches, man-machine interfaces and the technologies required to deal with the critical aspects of production systems, and in particular those associated with clean, flexible and just-in-time manufacture. The concept of clean production puts a special emphasis on the efficient and hence more cost-effective use of energy and raw materials resources. Research efforts should therefore focus on reducing, avoiding or eliminating polluting substances at source.

Area 1.1: Incorporation of new technologies into production systems

The need for production to be rapidly and continually adapted to changes in demand calls for flexible production systems and structures which include new technologies.

Research should also be considered into the organization of production processes for 'one of a kind' or small scale manufacturing in order to achieve high manufacturing flexibility, product quality, process automation and material and labour cost reduction.

The main ways of making progress are to use new production technologies and information and management systems, and to take greater account of the company's environment. Moreover, the use of computer-aided design and manufacturing technologies (CAD/CAM), the trend towards microsystems and their incorporation in industrial products and processes are changing traditional industrial practices. Finally, optimization of performance, quality, environmental impact, employment, training and health and safety aspects must also be taken into

account; the technical requirements in question should be addressed by research in the following areas:

- generic approaches drawing upon all the possibilities offered by new technologies, in particular computer-aided technologies (CIME), control systems, mechatronics or microsystems, with a view to optimum incorporation into production systems, for example in the machine tool or construction sectors and also in the more traditional sectors,
- research into new manufacturing technologies and improved processes which are better matched to user needs in terms of reliability and flexibility, and which may be used more efficiently for the building, maintenance and reuse of industrial systems and facilities,
- research into quality production systems based on the rapid identification, gathering and communication of manufacturing data or data concerning the use of industrial machines or facilities, defining production or service parameters or establishing references for the continual improvement of industrial processes.

Area 1.2: Development of clean production technologies

In an integrated production system the overall quality of the final product increasingly depends on advances in materials science, process control and an understanding of the phenomena governing these processes. It is therefore necessary to develop the knowhow needed in order to design and control increasingly complex processes, and in particular to develop and apply innovative and clean techniques, including those applicable to the chemical industry. The priority research topics should therefore be as follows:

- improvements in the design and control of increasingly complex industrial processes, taking account of progress in artificial intelligence, and simulation techniques for production processes and facilities, including the use of control strategies, for the increase of productivity, safety, energy efficiency, reducing waste and the need for waste management. The substitution of hazardous materials and lubricants for mechanical processing technologies should also be considered,
- research into application and adaptation to industrial processes of innovative chemical, biochemical and biotechnological engineering techniques, which boost productivity and performance through a better understanding of basic phenomena, while taking account of pollution prevention, recycling and process safety.

Area 1.3: Rational management of raw materials

The rational management of raw materials must be seen in a world context in order to safeguard the supply of resources

while respecting the environment. Given the importance of employment in this sector, emphasis will be placed on technologies aimed at maintaining or creating jobs in a context of safety, health and respect for the global system. The prevention of pollution, which improves productivity and at the same time allows more efficient allocation of resources, has become a crucial industrial parameter. Attempts will be made, in particular, to make progress on technologies for the disposal of problem wastes or the reuse of waste. This means viewing industrial systems in their totality so as to optimize the total materials cycle from raw material to end product. The research will concentrate on:

- new technologies to ensure a sustainable supply of raw materials, especially in the field of mining, quarrying and exploration;
- research into new processes and techniques used for ore treatment, and production of metals and industrial minerals in order to trim production costs and mitigate safety, environmental and energy problems;
- multidisciplinary approaches to the production, exploitation and use of raw materials, to make economic use of residues in production processes and to use them as secondary raw materials.

Area 1.4: Safety and reliability of production systems

Within the Community one of the main industrial objectives is to ensure the safety of factories, mines, building sites, offshore installations, etc., and the health and safety of the workforce or their families. That is why technological research must place emphasis on new methods of diagnosing potentially dangerous faults and the constant monitoring of the condition of plant, buildings, infrastructures and machinery. Also, efficient maintenance and the ability to intervene at the appropriate time, to ensure maximum plant availability, which has a direct impact on company viability, must be ensured. The most urgent research tasks will be:

- research into controlling the service life of production plant and systems, in connection with safety and reliability requirements, based on failure-mode analysis and optimization of inspection, monitoring, diagnostic, maintenance and repair techniques;
- research into new on-line inspection systems incorporating intelligent materials, sensors, actuators and microsystems and the use of advanced technologies, including available information and communication technologies (ICT), in order to monitor and perform diagnoses on large facilities, and to monitor production within the 'clean factory';
- research and development concerning the application of integrated and expert systems for inspecting and monitoring products and industrial processes, in particular by incorporating technological knowledge, improving performance and reliability and by means of the efficient integration of decision-making aids.

Area 1.5: Human and organizational factors within production systems

One of the major challenges facing industry is to improve business organization and man/machine and man/factory interfaces. There are many process-control situations where the use of a system is restricted by its operator's level of confidence — or otherwise — in the information given to him or her. The solution is not simply more automation, but systems which the operator can understand and on which he or she can easily be trained. Likewise it means that operators must be freed from repetitive or unsafe work and be redirected towards more interesting activities. A major effort is needed to provide a degree and form of automation which is suited to the wide range of skills in the workforce and which will ensure that the operator at any level feels confident that he or she and not the machine is in control. As part of a total quality approach and to increase flexibility, new ways of addressing human and organizational aspects within production systems and labour will be taken into account, as well as research into innovative solutions.

The aims of the research are as follows:

- improving the quality of production systems via research into ergonomics, technologies and work organization, account being taken of cultural factors, operator skills and the inherent requirements of the job itself;
- improving working conditions, health and safety, man/machine and man/factory interfaces, by means of harmonization of codes of good practice in company organization and the optimum harnessing of advanced manufacturing, processing and construction technologies;
- research into planning and logistical methods and their incorporation into industrial enterprises and their environment.

Area 2: Materials and technologies for product innovation

1. Background

The competitiveness of European industry will depend on the ability to make new products with a higher added value reflecting the increasing level of quality demanded by the market. This objective can be achieved by developing new design and engineering methods based on the lifecycle of products and aimed at reducing the variety and complexity of materials, costs and production times and increasing the quality and reliability of clean products reflecting environmental concerns and the need for sustainable growth. Materials research can help to provide new solutions capable of optimizing the application of various current technologies and to reduce the complexity of advanced materials themselves, harmful emissions, and even production costs by enabling materials to be recovered and reused, which is particularly relevant to components with high added-value.

The industrial sectors in the field of materials and materials-related technologies constitute a key component of European industry. As an example, the advanced-materials sector alone will represent a market worth ECU 200 billion worldwide by the year 2000. Europe must maintain its presence in this strategic area, firstly by improving the processes generally used in the materials-working or processing industries (metalworking, building, textiles etc.), secondly by ensuring that the most advanced materials can be used cost-effectively by both traditional industries and the high-tech industries in producing the products of the future, and thirdly, by contributing to the competitiveness and balance of the global system.

2. Proposed activities

By adopting an approach which takes account of the entire product lifecycle, the research activities should seek to harness the best and most appropriate means of ensuring the conservation of resources and satisfying consumer requirements in order to make quality products at a reasonable cost and to act responsibly with regard to the natural and social environment, especially in respect of employment and social exclusion. Priority will be given to research topics relating to product design and manufacturing based on improved or advanced components and materials, clean treatment processes and, in the longer-term, processes of an exploratory nature which may quickly yield practical applications and thereby strengthen European industry's technological lead, above all by identifying the products of the future. Examples of this are molecular engineering and biotreatment, new technologies which were not in existence 10 years ago and which are expected to play an important part over the next 10 years. The activities will also concern manufacturing processes making it possible to improve the properties and functionality of traditional materials, possibly resulting in the generation of new products. The programme will also place emphasis on the treatment of waste, and on product recycling and re-use based on product lifecycles, and will include projects relating to the quality, ease of use and reliability of products.

Area 2.1: Materials engineering

Advanced materials are used in industrial components and their characteristics often determine the critical threshold for increasingly complex systems such as propulsion units, or electronic, mechatronic or medical devices. Account must be taken of their behaviour throughout the product lifecycle. Often the progress made in materials research sets the speed at which the key sectors of the economy can develop. This is particularly true for the high-tech sectors but it also applies to basic industries such as chemicals, construction or mechanical engineering. Therefore, RTD in advanced materials engineering (e.g. molecular engineering), or in more forward-looking areas is essential to the future prosperity of industry. However, market demands is forcing industry to reduce the use of excessively exotic materials and try to improve existing traditional and advanced materials. Research and development should focus on the following areas:

- innovations and integrated approaches to techniques for the design, the preparation and treatment of materials, including traditional materials, (e.g. near-net-shape production, powder

metallurgy, surface engineering, etc.) aimed at improving the properties, characteristics and functionality of materials, process efficiency and product quality;

- functional and intelligent materials with a view to obtaining more efficient products for multisectoral applications in electric motors, actuators, sensors and other electrical or mechanical devices, including superconducting materials;
- multidisciplinary research into materials aimed at enabling natural materials to be used cost-effectively in industrial products, at eliminating harmful substances, at increasing their suitability for recycling and at predicting the effects of repeated recycling on the structural and functional characteristics of materials;
- research into the synthesis of new, high-performance materials and chemicals using, for example, computer-aided technologies in order to incorporate specific properties into materials, and minimizing their impact on the environment and health, in particular through their biodegradability and suitability for recycling and reuse;
- support for the development of products and materials of the future, in particular using molecular, macromolecular and supramolecular engineering; research will also focus on biocompatible materials for medical applications and on biotechnology materials aimed at industrial products and processes.

Area 2.2: New methodologies for product design and manufacture

The competitiveness of manufacturing industry will be improved through optimum use of new technologies and improved synergy with knowledge-based activities (such as services, engineering and training). The challenge in particular is to reduce the lead time between the design and marketing of a new product or process. Market competitiveness is increasingly determined by the time factor. This means that engineers must deal with the design and planning of production and marketing at one and the same time. However, research into the optimization of performance also has to consider the entire lifecycle of products and processes, and thus has to endeavour to solve all the related problems. In manufacturing, an important part of lifecycle costs and of reliability and quality problems arise during the critical product design period. The design of products with high added-value and for products of the future calls for research centred on the following points:

- research into, and application and incorporation of new design and engineering methodologies, in particular by making use of recent developments in cognitive engineering and computer-aided technologies, and rapid prototyping, account being made of the planning and implementation of the critical stages of production systems and of the whole product lifecycle;
- research into methods of analysing and modelling phenomena connected with the transformation of materials (e.g. solidification) and product behaviour (e.g. deformation, vibration);

- support for product innovation by developing multidisciplinary approaches involving comprehensive research into materials, design, processing and manufacturing methods, effects on employment and health and safety in the workplace, quality control and product recycling in order to improve cost-effectiveness and reduce environmental and social impacts;

- new techniques for recovering and recycling materials from products at the end of their lifecycle, quality control and methodology to satisfy standards or specifications for reuse;
- more research into cost-effective and safe construction, repair and disassembly techniques allowing the total or partial reuse of components of industrial systems, structures and products.

Area 2.3: Reliability and quality of materials and products

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

- studies combining microstructural and macrostructural modelling, improving detection of microdefects and enabling the phenomena involved to be understood and improvements to be made to the reliability and safety of materials;
- multidisciplinary approaches in order to control the deterioration of products, structures and industrial components and to improve their sustainability (corrosion, fatigue, wear, etc.) based on the modelling of actual behaviour and a better understanding of materials property relationships and how these affect ultimate behaviour;
- development of new approaches to guarantee the quality of products and materials, including non destructive testing.

Area 2.4: Technologies for recovering products at the end of their lifecycle

In the past, technological advances often had adverse effects on the environment during the materials treatment phase, the manufacturing process or the disposal of obsolete products. However, it is possible to develop materials, processes and products which satisfy both the needs of the economy and of the environment in accordance with society's demand for sustainable development. Science and technology now offer opportunities for designing products taking into account the entire lifecycle and the reuse of materials at the end of the lifecycle. This means that research efforts will focus on the design of new products and materials which can be recycled many times and the development of new products with a longer lifespan, e.g. using repair, partial or total reuse techniques. Research will focus on the following as a matter of priority:

- support for research into new product design methodologies and technologies based on the possibility of reusing or repairing products, in particular by simplifying assembly and disassembly and reducing the number of components and the diversity of materials in a product;

Area 3: Technologies for means of transport

1. Background

European integration and current trends in the economy are creating a growing demand for flexible and efficient transport systems. The progress made by the various modes of transport is doubtlessly contributing to the economic development of the regions and European countries, particularly those situated at the periphery, but at the same time it is increasingly exacerbating current environmental and mobility problems. The environmental impact of the various modes of transport is a factor which limits the growth of this sector of activity. Society will accept the future modes of transport if medium and long term solutions are found to the problems of energy consumption and local and global pollution. The rational use of the different modes of transport is the key element in bringing about improvements with regard to capacity, energy consumption, cost-effectiveness, comfort, quality, safety, volume, speed, and environmental compatibility, in liaison with the other European policies concerning industrial competitiveness, transport, environment and social impact and energy saving. By vehicle is meant: aircraft, ship, road and rail transport mean.

2. Proposed activities

The main objective is to strengthen the scientific and technological base of European industry concerned with the production of means of transport. The research carried out in this domain will be closely coordinated with that in the two preceding domains and with the other specific programmes. In the case of the aeronautics, automotive, railway and shipbuilding industries, research will focus as a matter of priority on design, materials applications, and the production and maintenance of advanced means of transport in order to improve their life cycle and cost-effectiveness. Special emphasis will be given to aeronautics research with the objective of responding to the essential advanced technological requirements of the aeronautics industry and enabling it to demonstrate, the feasibility of advanced generic technologies capable of being applied to other transport sectors. Actions previously undertaken will have their continuity assured within the specific programmes of the Fourth Framework programme according to their content.

The competitiveness of each transport mode will depend on the ability to produce vehicles at competitive costs and ensure passengers safety, ease of access and comfort under optimum conditions of speed, range, overall load capacity, reliability and efficiency. The vehicles of the future will also have to meet new needs arising from the creation of the

trans-European networks foreseen in the White Paper. To this end, research and development will focus on the following areas:

Area 3.1: Vehicle design and systems integration

Excellence in design is one of the primary means of improving industrial competitiveness and profitability. Transport vehicles present a quite specific challenge in terms of design because of their multi-functional capability and dependence on the effective integration of, and interaction between, complex on-board and external systems. The research must therefore aim to bring together multidisciplinary modelling, analysis and simulation tools within an Integrated Vehicle Design environment, fully exploiting state-of-the-art high performance computing and multimedia communications technologies. Research should be carried out in the following areas:

- development of design tools adapted to support systems for configuration and concept design of vehicles and their components, equipment, subsystems and system interfaces, facilitating rapid and easy definition of users' needs and product specifications;
- development of methodologies for a vehicle design knowledge base, incorporating best practice with regard to materials, safety, standards, environmental protection, manufacture and maintenance, in order to optimize overall vehicle design;
- development of multidisciplinary analysis and optimization tools capable of supporting design/engineering decisions throughout the design cycle from initial concept design to final prototype validation. These will include, for example, modelling, manufacturing methods and whole life cycle cost estimation;
- application of rapid prototyping techniques such as virtual reality and stereo lithography for the validation of design, simulation of component functionality and optimal vehicle operation;
- research into innovative materials applications, metallic and non metallic materials, composites or multimaterials, in particular for fatigue and severe working conditions, for high-temperature or high-pressure applications;
- research into light structures, including composite structures, to reduce the weight of vehicles and specific subsystems.

Area 3.2: Vehicle production

The production of transport vehicles varies considerably in terms of scale, size, volume and precision. The ability to respond rapidly to orders for individually customized vehicles is increasingly influencing competitiveness and favours a more modular and flexible approach to manufacture and assembly. The demand for vehicles which are lighter, faster, more efficient and yet competitively priced, necessitates the use of alternative structural materials, introducing new challenges for volume

production and flexible assembly. Research in this area will therefore address:

- the development of innovative cost effective modular, flexible and reconfigurable systems for the fabrication and assembly of components, subsystems and vehicles from homogeneous or heterogeneous materials such as composites or advanced materials;
- the development of advanced materials production and fabrication techniques for niche applications and integration in vehicles such as energy storage/converter devices, including batteries, alternative fuel tanks and ancillary equipment;
- development and validation of innovative tools and more efficient and cost-effective procedures for the quality control and testing of components of large complex structures.

Area 3.3: Technologies to improve vehicle efficiency

The efficiency and cost-effectiveness of transport vehicles are crucial factors for an efficient transport system and the competitiveness of the respective supply industries. Research will address:

- the development of technologies for highly energy efficient propulsion systems with low environmental impact and which require less maintenance;
- the development of modelling and experimental techniques to improve the understanding of complex aerodynamic, aerothermodynamic and hydrodynamic flow phenomena, including aspects such as combustion, laminar flow control, shock wave propagation and structure-fluid interaction;
- development of shape optimization techniques aiming at drag reduction and improvement of vehicle stability and whole body dynamics;
- advanced, highly integrated, high-integrity information processing and control sub-systems for optimal vehicle operation, applying established information and communications technologies;
- development of methods and tools for propulsion/transmission integration, aiming at optimal propulsion efficiency.

Area 3.4: Environmental technologies

As transport provision grows, criteria such as efficiency and economy need to be accompanied by reduced environmental impact. Research in this area is also concerned with user needs in terms of comfort, convenience and efficiency, with particular emphasis on measures to improve user acceptability. Related research topics will include:

- a reduction in the volume of emissions leading to an ultra-low level of harmful atmospheric emissions, by using optimization techniques for engines such as variable cycle concepts and advanced combustion chamber design;

- the development of environmental monitoring techniques to detect in situ malfunctions liable to cause increased pollution;
- noise source identification and propagation path analysis, active and passive noise and vibration control;
- development of technologies to improve the dynamics, comfort and ergonomics of vehicles;
- development of new, lightweight equipment for improving passenger comfort, including air conditioning and pressurization.
- methods and tools to identify and control human errors, including data collection, error scenario development, contributing factor analysis and impact assessment methodologies;
- inspection techniques, repair and maintenance strategies for critical systems and components, including large structures and enabling feedback to vehicle design;
- development of simulators for operator training and behavioural response analysis, including electro-mechanical components and their integration with control systems software.

Area 3.5: Technologies for vehicle safety

The objective of this research will be to contribute to a significant improvement in transport safety by means of structured approaches that address the different components of the transport system, including vehicles, interacting with human aspects and operational infrastructures. This encompasses a combination of safety analysis and deployment techniques, cognitive research, vehicle repair and maintenance strategies, including the different approaches to operational and human management that underline the major factors affecting safety and performance. The research in question will include the development of:

- structure approaches for risk assessment of complex vehicles operation and their associated operational systems, leading to the development of computer aided safety audit and analysis tools;
- passive and active systems and structures, safety techniques aiming at significant improvements in aspects such as vehicle crashworthiness and fireworthiness and occupant survivability;

Area 3.6: Technologies for vehicle operation

An important component of transport system effectiveness is provided by the control of transport means and the operational systems within which the transport vehicles operate. Research in this area will address:

- advanced on-board vehicle command and control systems design, taking into account logistic management tools and the requirements for their integration with navigation and communications systems, such as those developed in the telematics programme;
- development of intermodal cargo handling systems, integrated to the vehicle, enabling efficient and flexible transshipment and consignment tracking;
- advanced techniques and methods for predictive maintenance and real-time health and usage monitoring, including advanced non-destructive test techniques and smart structure concepts.

In the development of the abovementioned technologies, due account will be taken of the requirements of the various transport industries:

- Where the aircraft industry is concerned, research will concern advanced technologies, in particular for environmental protection, to reduce both noise and polluting emissions, and, as regards design, to reduce overall energy consumption. The activities in question will aim to improve safety, increase the capacity and cost-effectiveness of the air transport system, and facilitate the production, operation, reliability and maintenance of future generations of aircraft and equipment (complementing the activities foreseen under the telematics programme and the programme of research for transport policy).
- As regards the motor vehicle sector, particular emphasis will be placed on efficient and flexible production technologies and the technologies needed to develop intelligent, clean and safe vehicles, taking into account the activities developed in the other specific programmes. Particular attention will be given to lightweight safe structures, innovative propulsion and energy control systems. Simultaneously engineering for products and process will provide low cost, clean and flexible manufacturing technologies both for mass and low volume production.
- Turning to the railways, efforts will focus in particular on techniques contributing to intermodal operation and interoperability as well as the efficiency of high-speed and urban trains (including electric traction, and on-board control and command and braking systems).
- With regard to the shipbuilding industry, efforts will focus in particular on the development of a new generation of vessels with specific automated and integrated functions (intermodal operation, interoperability and the interface with port infrastructure). Relevant effort will be placed on efficient and flexible production technologies and on the other technologies needed to develop such vehicles.

ANNEX II

INDICATIVE BREAKDOWN OF THE AMOUNT DEEMED NECESSARY

Area	ECU million
1. Production technologies	590
2. Materials and technologies for product innovation	566
3. Technologies for transport means	461 ⁽¹⁾
Total	1 617 ⁽²⁾ ⁽³⁾

⁽¹⁾ Of which 50 % for the aeronautics sector.

⁽²⁾ Of which:

- a maximum of 5,08 % for staff and administrative expenditure;
- a maximum of 5 % for coordination activities;
- 3 % for preparatory, accompanying and support measures, including 1 % for the dissemination and optimization of results;
- 10 % for basic research of industrial relevance;
- 15 % on average for activities in respect of SMEs.

⁽³⁾ A sum of ECU 90 million, the difference between the amount deemed necessary for this programme and the amount foreseen in the fourth RTD framework programme for industrial and materials technologies, is earmarked for the specific RTD programme to be carried out through direct action and science/technology (S/T) support activities in the context of a competitive approach.

This breakdown does not exclude that a project could relate to several areas.

ANNEX III

SPECIFIC RULES FOR IMPLEMENTING THE PROGRAMME

The programme will be executed through indirect action, whereby the Community makes a financial contribution to RTD activities carried out by third parties or by JRC institutes in association with third parties:

1. Shared-cost actions of the following types:

- (a) RTD projects carried out by undertakings, research centres and universities, including, where appropriate, basic research of an industrial relevance.

As a general rule, projects should involve at least two non-affiliated industrial firms from two different Member States.

Community funding will normally not exceed 50 % of the cost of the project, with progressively lower participation the nearer the project is to the market place. Those universities and other similar institutions which do not have analytical budget accountancy will be reimbursed on the basis of 100 % of the additional costs.

- (b) Thematic networks, bringing together manufacturers, end-users, universities and research centres on a single technological or industrial objective in order to facilitate the incorporation and transfer of knowledge and mobility of researchers, and to ensure that greater account is taken of market needs.

Community funding will normally not exceed ECU 20 000, in average per partner and per year, covering up to 100 % of the additional costs for the coordination of the action, and the implementation of the above activities. Members of a network could also apply for research project under normal procedures.

- (c) Technology stimulation to encourage and facilitate participation of SMEs in RTD activities

- (a) by granting awards for carrying out the exploratory phase of a collaborative RTD activity, including the search for partners, during a period of up to 12 months. The award will be granted following the selection of an outline proposal to be submitted normally by at least two non-affiliated SMEs from two different Member States. The award will cover up to 75 % of the cost of the exploratory phase, without exceeding ECU 45 000 or ECU 22 500 in the exceptional case of a single applicant SME, and

- (b) by supporting cooperative research projects, whereby SMEs having similar technical problems but not having adequate own research facilities, engage other legal entities to carry out RTD on their behalf. Community funding for cooperative research projects, involving at least four non-affiliated SME's from at least two different Member States, will normally cover 50 % of the cost of the research.

Following an initial call, in both cases proposals may be submitted at any time.

These activities will be complemented by specific preparatory, accompanying and support measures.

2. Preparatory, accompanying and support measures, such as:

- studies in support of this programme and in preparation for future activities;
- support for exchanges of information, conferences, seminars, workshops or other scientific or technical meetings, including intersectoral or multidisciplinary coordination meetings;
- use of external expertise, including access to scientific databases;
- scientific publications and activities for the dissemination, promotion and exploitation of results, in coordination with the activities carried out under the third action; the factors liable to encourage use of results will be taken into account from the outset and throughout the duration of RTD projects, the partners in which will constitute a key network for diffusion and exploitation of results;

- analysis of possible socio-economic consequences and technological risks associated with the programme, which will also contribute to the programme 'Targeted Socioeconomic Research';
- training actions related to research recovered by this programme in order to enhance employment skills and to facilitate technology transfer to industry;
- independent evaluation of the management and execution of the programme and of the implementation of the activities;
- measures in support of the operation of networks for increasing awareness and providing decentralized assistance to SMEs, in coordination with the Euromanagement auditing activity of RTD.

Community funding may cover up to 100 % of the costs of these measures.

3. Concerted actions, consisting of the coordination of RTD projects already funded by public authorities or private bodies. The Member States will help the Commission to identify relevant laboratories or institutes, in order to ensure that no major activities are left out of this concertation process.

The concerted action option can also be used under the programme as a way of establishing the feasibility and defining the content of shared-cost research activities.

Community funding will cover up to 100 % of the costs of the concertation.

Annex

Extract from the proposal for a Council Decision for the JRC programme (COM(94) 68 final — 94/0095(CNS) concerning the activities envisaged for the Joint Research Centre (JRC) in the areas covered by the industrial and material technologies specific programme

The contribution of the JRC to this sector is aimed at improving the competitiveness of European industry, conducted in close coordination with the corresponding shared cost action programmes. It will focus on prenormative research which, save exceptions, will be undertaken within the framework of networks of European bodies with interests and capabilities in this type of research and in association with standards organizations, in particular the European Committee for Standardization (CEN). This will guarantee that the overall requirements of industry are taken into account from the start.

Research into materials will be directed mainly at the following sectors, which have a prenormative dimension and good potential as enabling technologies, with an emphasis on clean technologies:

- ceramics, metals and composite materials: process development, study of interfaces and joints, improvement of technological properties, characterization and demonstration;
- surface modification and characterization technology: ion implantation and laser beam, protective coating, non-destructive evaluation methods;
- prenormative research leading to standards on material recyclability, including the development of a database on recyclable materials (ecological characteristics and estimation of useful life).

This research is aimed at acquiring, in close cooperation with the national laboratories concerned, the scientific knowledge necessary for these materials to be used industrially, and to provide the standards bodies with knowledge which is essential for standardization in this field.

Furthermore, the development of non-destructive evaluation techniques to study the reliability and useful life of mechanical constructions will continue with a view to the development of component inspection techniques and the harmonization of qualification procedures. This research will continue to be conducted in the framework of the laboratory networks which have existed for a number of years, which will be gradually enlarged in line with needs.

COUNCIL DECISION

of 27 July 1994

adopting a specific programme for research and technological development, including demonstration, in the field of advanced communication technologies and services (1994—1998)

(94/572/EC)

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 130i (4) thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament ⁽¹⁾,

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

Whereas, by Decision 1110/94/EC ⁽³⁾, the Council and the European Parliament have adopted a Fourth Framework Programme for Community actions of research, technology development and demonstration (referred to hereafter as RTD) for the period 1994—1998 specifying *inter alia* the activities to be pursued in the area of advanced communications technologies and services; whereas this Decision takes account of the grounds set out in the preamble to that Decision;

Whereas Article 130i (3) of the Treaty stipulates that the Framework Programme is to be implemented through specific programmes developed within each activity of the Framework Programme and that each specific programme is to define the detailed rules for implementing it, fix its ration and provide for the means deemed necessary;

Whereas the amount deemed necessary for carrying out this programme is ECU 630 millin; whereas the appropriations for each financial year should be laid down by the budgetary authority, subject to the availability of resources within the financial perspectives and to the conditions set out in Article 1 (3) of Decision 1110/94/EC;

Whereas the harmonized development and introduction of new generations of communication systems and services is vital to the consolidation of the internal market; whereas research and technology development is an essential underpinning to the development of trans-European networks and services; whereas innovative use of new communications services underpins

the development of more flexible working patterns and the convergence of the media, television and telecommunications sectors in provision of interactive video services; whereas decisions taken on liberalization of telecommunications services by 1998 will pose new challenges in technology development for both network and service inter-operation and service management in a competitive environment;

Whereas this programme may make a significant contribution to the stimulation of growth, to the strengthening of competitiveness and to the development of employment in the Community, as indicated in the White Paper on 'growth, competitiveness and employment';

Whereas the content of the Fourth Framework Programme for Community RTD activities was established in accordance with the subsidiarity principle; whereas this specific programme specifies the content of the activities to be carried out in accordance with this principle in the area of advanced communications technologies and services;

Whereas Decision 1110/94/EC lays down that a Community action is justified if, *inter alia*, the research contributes to the strengthening of the economic and social cohesion of the Community and the promotion of its overall harmonious development, while being consistent with the pursuit of scientific and technical quality; whereas this programme is intended to help meet these objectives;

Whereas the Community should only support RTD activities of high quality;

Whereas fundamental research must be encouraged, because of the rapid pace of technological innovation, particularly in the area of photonic communications;

Whereas the rules for the participation of undertakings, research centres (including the Joint Research Centre (JRC)) and universities, and the rules governing the dissemination of research results specified in the measures provided for in Article 130j of the Treaty, apply to this specific programme;

Whereas provision should be made for measures to encourage the participation of small and medium-sized enterprises (SMEs) in this programme, in particular through technology stimulation measures;

⁽¹⁾ OJ No C 205, 25. 7. 1994.

⁽²⁾ Opinion delivered on 2 June 1994 (not yet published in the Official Journal).

⁽³⁾ OJNo L 126, 18. 5. 1994, p. 1.

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

Whereas this programme will help to strengthen synergy between the RTD activities carried out in the field of advanced communications technologies and services by research centres, universities and enterprises, in particular SMEs, in the Member States and between these and the corresponding Community RTD activities;

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

Whereas it may be appropriate to engage in international cooperation activities with international organizations and third countries for the purpose of implementing this programme;

Whereas this programme should also comprise activities for the dissemination and exploitation of RTD results, in particular towards SMEs, notably in the Member States and regions which participate least in the programme, and activities to stimulate the mobility and training of researchers within this programme to the extent necessary for proper implementation of the programme;

Whereas an analysis should be made of possible socio-economic consequences and technological risks associated with the programme;

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

Whereas progress with this programme should be continuously systematically monitored with a view to adopting it, where appropriate, to scientific and technological developments in this area; whereas in due course there should be an independent evaluation of the progress with the said programme so as to provide all the background information needed in order to determine the objectives of the Fifth RTD Framework Programme; whereas at the end of this programme there should be a final evaluation of results obtained compared with the objectives set out in this Decision;

Whereas the JRC may participate in indirect actions covered by the present programme;

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

HAS ADOPTED THIS DECISION:

Article 1

A specific programme for research and technological development, including demonstration, in the field of advanced communications technologies and services, as set out in Annex I, is hereby adopted for the period from 27 July 1994 to 31 December 1998.

Article 2

1. The amount deemed necessary for carrying out the programme is ECU 630 million, including a maximum of 6,3 % for the Commission's staff and administrative expenditure.

2. An indicative breakdown of this amount is given in Annex II.

3. The budgetary authority shall lay down the appropriations for each financial year, subject to the availability of resources within the financial perspectives and in accordance with the conditions set out in Article 1 (3) of Decision 1110/94/EC, taking into account the principles of sound management referred to in Article 2 of the Financial Regulation applicable to the general budget of the European Communities.

Article 3

1. The general rules for the Community's financial contribution are laid down in Annex IV to Decision 1110/94/EC.

2. The rules for the participation of undertakings, research centres and universities, and for the dissemination of results are specified in the measures envisaged in Article 130j of the Treaty.

3. Annex III sets out the specific rules for implementing this programme, supplementary to those referred to in paragraphs 1 and 2.

Article 4

1. In order to help ensure, *inter alia*, the cost-effective implementation of this programme, the Commission shall continually and systematically monitor, with appropriate assistance from independent, external experts, the progress within the programme in relation to the objectives set out in Annex I, as amplified in the work programme. It shall in particular examine whether the objectives, priorities and financial resources are still appropriate to the changing situation. It shall, if

necessary, in the light of the results of this monitoring process, submit proposals to adapt or supplement this programme.

2. In order to contribute towards the evaluation of Community activities, as required by Article 4 (2) of Decision 1110/94/EC and in compliance with the timetable laid down in that paragraph, the Commission shall have an external assessment conducted by independent qualified experts of the activities carried out within the area covered by this programme and their management during the five years preceding this assessment.

3. At the end of this programme, the Commission shall have an independent final evaluation carried out of the results achieved compared with the objectives set out in Annex III to Decision 1110/94/EC and Annex I to this Decision. The final evaluation report shall be forwarded to the European Parliament, the Council and the Economic and Social Committee.

Article 5

1. A work programme shall be drawn up by the Commission in accordance with the objectives set out in Annex I and the indicative financial breakdown set out in Annex II, and shall be updated where appropriate. It shall set out in detail:

- the scientific and technological objectives and research tasks,
- the implementation schedule, including dates for calls for proposals,
- the proposed financial and managerial arrangements, including specific modalities for implementing technology stimulation measures for SMEs and the general lines of other measures, including preparatory, accompanying and support measures,
- arrangements for coordination with other RTD activities carried out in this area, in particular under other specific programmes, and, where appropriate, for ensuring improved interaction with activities carried out in other frameworks, such as Eureka and COST,
- arrangements for the dissemination, protection and exploitation of the results of RTD activities carried out under the programme.

2. The Commission shall issue calls for proposals for projects on the basis of the work programme.

Article 6

1. The Commission shall be responsible for the implementation of the programme.

2. In the cases provided for in Article 7 (1), the Commission shall be assisted by a committee composed of representatives of the Member States and chaired by the representative of the Commission.

3. The representative of the Commission shall submit to the Committee a draft of the measures to be taken. The Committee shall deliver its opinion within a time limit that the Chairman may lay down according to the urgency of the matter. The opinion shall be delivered by the majority provided for 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.

4. The Commission shall adopt the measures envisaged when they are in accordance with the opinion of the Committee.

5. 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 a qualified majority.

6. If, on the expiry of a period of three months from referral of the matter to the Council, the Council has not acted, the proposed measures shall be adopted by the Commission.

Article 7

1. The procedure laid down in Article 6 (2) to (6) shall apply to:

- the preparation and updating of the work programme referred to in Article 5 (1),
- the content of the calls for proposals,
- the assessment of the RTD activities proposed for Community funding and the estimated amount of the Community contribution for each activity where this is equal to or more than ECU 1 million,
- any adjustment to the indicative breakdown of the amount as set out in Annex II,
- specific modalities for the financial participation of the Community in the different activities envisaged,
- the measures and terms of reference for programme evaluation,
- any departure from the rules set out in Annex III,

— participation in any project by legal entities from third countries and international organizations.

2. Where, pursuant to the third indent of paragraph 1, the amount of the Community contribution is less than ECU 1 million, the Commission shall inform the Committee of the projects and of the outcome of their assessment.

3. The Commission shall regularly inform the Committee of progress with the implementation of the programme as a whole.

Article 8

Participation in this programme may be open, on a project-by-project basis without financial support by the

Community, to legal entities established in third countries, where such participation contributes effectively to the implementation of the programme and taking into account the principle of mutual benefit.

Article 9

This Decision is addressed to the Member States.

Done at Brussels, 27 July 1994.

For the Council
The President
Th. WAIGEL

ANNEX I

SCIENTIFIC AND TECHNOLOGICAL OBJECTIVES AND CONTENT

This specific programme fully reflects the guidelines of the Fourth Framework Programme, in applying the selection criteria and in specifying its scientific and technological objectives.

Section 1.B of Annex III, (First Activity) of that Fourth Framework Programme, forms an integral part of this programme.

Introduction

The new focus of RTD in the specific programme on communications technologies is the emerging information and communications infrastructure, which will provide the basis of the information society of the future. The RTD areas proposed are those most vital to the development of the infrastructure, taking into account the need for selectivity and concentration of effort, and with the objective of improving the competitiveness of all industry and the employment situation in the European Union, and of enhancing the quality of life of its citizens, particularly by facilitating equal access for all to the information infrastructure.

Community support for research and technology development in this area started in 1988 under the Second Framework Programme and was reinforced in 1991 and 1993 under the Third Framework Programme. This industrial sector has considerably changed in recent years, and the focus of Community RTD support in the Fourth Framework Programme will be different, but it is vital that the Community continues to support RTD activities in advanced communications technologies and services for three reasons.

Firstly, the harmonized development and introduction of new generations of communications systems and services is vital to the consolidation of the internal market: research and technology development is an essential underpinning to the development of trans-European networks and services.

Secondly, the telecommunications sector is of major economic importance in its own right and as a support for all other sectors of the economy: new integrated communications services are the key to increased productivity, industrial competitiveness, economic growth and the creation of new employment; innovative use of new communications services underpins the development of more flexible working patterns and the convergence of the media, television and telecommunications sectors in provision of interactive video services.

Thirdly, decisions on liberalization of telecommunications services by 1988 will pose new challenges in technology development for both network and service inter-operation and service management in a competitive environment. Continued support for RTD at Community level is therefore an essential part of Community policies for the internal market, industrial development, new employment creation, and telecommunications itself.

The context

Advanced communications technologies and services are crucial for consolidation of the internal market, for Europe's industrial competitiveness and for balanced economic development. The services are a vital link between industry, services sector and market as well as between peripheral areas and economic centres. They are also a prerequisite for social cohesion and cultural development.

Advanced communication services will multiply the benefits of more traditional services. Some major corporations have already realized the advantages that can accrue: lower costs, improved productivity, competitive advantages and reduced environmental impact. However, in Europe, there is still a gap between the potential of technology and the reality of applications.

The activities to be pursued will not only be a basis for innovation and a key to competitiveness, but will also make a contribution to answering European society's needs. The research will concentrate on the interworking, integration and verification through trials of high-speed, photonic and mobile communication systems, and the distribution of network and service intelligence.

The two phases of the RACE programme focused on integrated broadband networks and demonstrations of how services could exploit such networks. Work in this programme will build on the achievements, and

contribute further to the success of European actions in this area. However, in the period to 1998, a paradigm shift is needed towards a stronger focus on stimulating innovative use. This will require a multi-disciplinary approach, and strengthened collaboration between users of advanced communications in the public and private sectors.

Community support for technology development is still needed in selected areas where no one player can act alone, and where common European specifications and standards are necessary. These are the areas covered in this programme.

The work will capitalize on the results achieved, and the collaboration frameworks established within the RACE programme. The emphasis on common functional specifications and standards is still vital. The actions will take account of the interaction between technology development and regulations, in collaboration with national regulatory bodies, to support the continuing harmonization of regulatory regimes in Europe, and to allow national authorities to manage the industrial and social impacts of new technologies and services.

Objectives of the programme

The objective is to develop advanced communication systems and services for economic development and social cohesion in Europe, taking account of the rapid evolution in technologies, the changing regulatory situation and opportunities for development of advanced trans-European networks and services.

The aims are to support European policies for early deployment and effective use of advanced communications in consolidation of the internal market, and to enable European industry to compete effectively in global markets. The work will enable the rebalancing of public and private investments in communications, transport, energy use and environment protection, as well as experimentation in advanced service provision. In conjunction with the work in the specific programme on information technologies, it will provide a common technological basis for applications research and development in the specific programme on telematic systems and will prepare the ground for the development of a European market for information services.

Measures for technology-use stimulation, based on feasibility grants, will be implemented to encourage and facilitate the participation of SMEs.

The areas of work

The work will consolidate European technological leadership in digital broadband communications and enable effective network management and service deployment in a diverse and competitive communication environment. In particular, the work will stimulate and coordinate the emergence of digital multimedia services and integrated photonic systems with a view to their widespread introduction in Europe from 2000, including development of the technological basis for deployment of 'Transparent Highways': (all-optical networks). It will ensure mobility on fixed networks and through advanced wireless, radio and satellite systems across Europe, with particular emphasis on user access in both public and private networks, and develop and demonstrate technologies for the integrity, confidentiality (protection of privacy) and availability of information in integrated systems.

In all areas, technology and service demonstrators will allow uses of generic advanced communications services to evaluate the applicability of new technologies and to focus technology developments on their needs and on key areas for Europe's economic and social development. The lead given by users will also ensure that the technology development activities respond quickly to changes in economic and social conditions and to new scientific discoveries and breakthroughs.

A key role will be given to system integration, usage trials and demonstration of advanced services, and a close link will be maintained with trans-European network developments. Application trials will serve to demonstrate the capabilities of advanced communications in a variety of business and public service sectors, and will allow the advantages in terms of efficiency, reliability and environmental impact reduction to be evaluated. They will enable common interest groups to experiment with emerging technologies, to address structural and regulatory constraints to better use of advanced communication, to identify 'best practice'

and to evaluate the impacts of societal evolution to an 'information economy', with decentralized collaborative working and small business networking.

It is expected that the main technology development activities will fall in the following six areas:

1. *Interactive digital multimedia services*

Multimedia services, including television, have a strong impact on the socio-cultural life of society. European standards and multilingual services are essential for social cohesion in Europe, and a strong multimedia sector will create new employment opportunities. Digital systems will allow better use to be made of existing infrastructures for TV distribution, and will enable the provision of increased image quality and definition (to HDTV and beyond). They will make it possible to increase the number of programmes, to increase the number of sound channels for multilingual programmes, and to create advanced interactive audiovisual services.

The objectives of the work, in coordination with other European policies, will be to stimulate the emergence of European interactive digital multimedia communication services at least as fast as in other developed countries, with a view to their widespread introduction from 2000, and in order to keep competitive advantage.

The aims will be to enable the integration of existing broadband services, including terrestrial, cable and satellite TV distribution, with the public switched digital services (ISDN and GSM) for interactive multimedia services. Furthermore it will enable network development towards fully symmetrical interactive multimedia services. The work will aim to increase the efficiency of frequency spectrum use, increase the number of channels and quality of service available on all TV distribution networks and develop technologies for flexible use of digital video communications, including ultra-high definition video, for a range of different purposes.

The work will make it possible to introduce new services: from specialist and professional telework support to public entertainment services. Enhanced interactivity is a prerequisite for 'pay-per-view' TV, more selective public information dissemination, on-demand training support, electronic information services for the general public, on-line feature-film access, 'video dial' (to view a recent TV programme) and viewer-profiled advertising and direct marketing. Switched video services will allow high-quality video telephony and videoconferencing to be provided to a wide range of organizations, including small businesses and private individuals. By enabling the linking of multimedia workstations through high-speed digital networks, it will allow full motion video to be received and transmitted.

The work will involve development of digital technologies for cost-effective transmission and reception of different image resolutions for large screens and portable receivers, in a coherent digital image hierarchy. The provision of a powerful, flexible multiplex scheme will enable the different configurations of image and sound streams within one channel; it will provide means for access control at programme and channel level, and it will enable more efficient use of the frequency spectrum. Technology developments will include work on image and channel coding, service multiplexing, network management and access control. It will include development of systems for efficient frequency allocation; multimedia communication architectures; an interoperable set of source-coding systems for storage, transmission and display; common channel-coding and modulation techniques for digital transmission, and advanced operating systems for management of multimedia communication services. The source- and channel-coding systems will be based on a digital hierarchy offering flexibility in service provision to match the viewing situation.

The work will also involve the development of advanced image compression systems for communication on bandwidth-limited media, and image analysis, understanding and generation for advanced services such as 3D-video communication and 'Virtual Presence'. It will involve development of stereoscopic and 3D presentation technologies; advanced image capture, editing, storage and retrieval; and advanced interaction techniques for digital video services.

The results of the work in this area will be tested and demonstrated in technically-realistic trials.

The work will make a major contribution to European common functional specifications and standards, particularly in the area of multimedia communication protocols, and image coding, and will permit the economies of scale that are needed for European industry to stay competitive in world markets.

2. *Photonic technologies*

The objective will be to stimulate the introduction of integrated photonic systems, including development of the technological basis for deployment of fully optical networks ('Transparent Highways') in Europe by 2000.

The work will exploit and build on the outstanding progress that has been made in optical communications and opto-electronics in the last decade. Technology will be developed to use optics throughout the network, for both switching and transmission, avoiding unnecessary conversion between photonics and electronics.

The work will include development of techniques for multi-gigabit bandwidth provision (at minimal cost, bit-rate and distance independent), optical switching technology, optical signal processing and control. Migration paths and timescales will be established for the evolution from present-day networks, based on electronic switches, to the future hybrid and all-optical networks. Radically new concepts in design, network management and control of photonic networks will be developed. The fundamental advantages in physical properties that photons possess compared to electrons will be demonstrated in realistic applications.

New concepts in quantum optics, non-linear dynamics, femtosecond technologies and optical processing will be used to achieve the next generation of technological breakthroughs and to provide terabit bandwidth capability beyond 2000. The necessary cost reductions for broadband access will be made, to take full advantage of the 'Transparent Highway', particularly for customer network interfaces and interfaces between the fixed network and mobile services. The design and development of the new network infrastructure and interfaces will be closely linked with the broadband services they will support.

3. *High-speed networking*

The objective is to provide integrated high-speed multi-gigabit networks by 2000 to leading-edge users in European industry, research organizations and universities, and to prepare for the Europe-wide mass deployment of these networks, at the same time as in other leading competitor countries ⁽¹⁾.

The technology and system development will support broadband services, including videophones, teleworking, multimedia and social care. It will cover customer premises networks, public networks and corporate networks, from basic technology development through to pilot implementation of advanced services.

It will involve a phase of user-led definition activities to outline the network services and the network infrastructure essential to support advanced applications. The activities will include a thorough analysis of usage planning, system design, implementation, management and supervision issues. The different technology and economic options will be mapped with network topologies and architectures. This will be followed by a second phase, developing the missing elements and integrating them with the results of R&D in the other areas. It will cover all the networking issues required for high-speed communications (protocols, routing and congestion management). The ATM (Asynchronous Transfer Model) technologies developed in RACE will be a starting point, but they will be extended to higher speeds and capacities.

In a third phase, interconnection trials and demonstrations will be supported. They will promote the use of reliable, high quality and secure broadband network services and stimulate timely and coordinated infrastructure deployment. These activities will also nurture progress towards the resolution of trans-border regulatory issues. The trials will be used to evaluate network management and operation, reliability and flexibility parameters. They will form a comprehensive test infrastructure based on the interconnection of islands and support a wide range of advanced applications and services. Throughout, the various technologies will be aligned with evolving user requirements to raise user-acceptability.

4. *Mobility and personal communication networks*

The objective will be to accommodate the foreseeable demand for personal communications beyond the year 2000 and to permit the European industry to retain its leadership position in this area.

⁽¹⁾ This task will be carried out in close cooperation with related work in the Telematics Programme.

The dominant aspect of future telecommunication networks will be their capability to provide a wide range of telecommunication services to an ever-increasing number of mobile users. It is expected that future requirements for personal communications will reach unprecedented levels, and the demand for a 'Personal Communications Space' will require radically new, expanded and spectrum-efficient networks, infrastructures and equipment.

The work will focus on operational trials and on the technological aspects of integrated fixed and mobile broadband networks that have a direct bearing on the provisions of enhanced personal communication services.

The trials will validate the wireless subsystem and network components in a variety of environments (office, residential and factory). It will demonstrate cost-effective applications and services in such environments, validate the integration of different networks and services, and prove interface effectiveness. It will also involve the development and proving of maintenance procedures, reliability testing and end-to-end quality-of-service management. The work contributes to development of common specifications and standards, as well as to the identification of new market opportunities.

The work will specifically address the following two main areas:

For mobile broadband systems and services, technological developments will concern miniaturization, component integration and packaging techniques for low-power portable transceivers, for transmission, reception, display and local processing of multimedia information. Broadband radio technologies will be developed for cost-effective transmission/reception of interactive and distributive multimedia information over wireless networks, including satellite and local area networks, with optimum use of the frequency spectrum. Advanced electrical/optical technologies will be used to permit 'radio-over-fibre' and the development of novel mobile network architectures using low power distribution points and base stations. Novel multiple-access techniques will be developed, together with associated coding and compression technologies, to meet the requirements for the reliable and secure transfer of very large volumes of information at speeds commensurate with those of fixed broadband networks. Critical technologies will be developed for integrated satellite and terrestrial networks; signalling and transmission protocols will be developed, and assessments will be made of their capacity and coverage requirements, as well as high hyper frequency propagation and active antenna technologies. Standardization will be supported through contributions to the development of common functional specifications for the integration/interworking of mobile broadband networks (land- and satellite-based) with fixed networks.

To develop the concept of a 'Personal Communications Space', advanced technologies will be investigated for personal authentication, security and privacy through the use of voice recognition schemes and/or personal smart cards. Advanced broadband integrated network management techniques will be developed for location/registration management and subscriber database management. Man/machine interfaces and common operational procedures will be developed for personalized service profiles, service and network access, call connection, service control and billing.

5. Intelligence in networks and service engineering

The objective is to develop technology for flexible and real-time management of communication assets, reflecting the requirements of users, service providers and network operators for solutions which can evolve organically with user needs, market evolution and technology changes, and to match the capabilities in other leading competitor countries.

The specific aim of the work on intelligence in networks is to equip the communications networks with the build-in features required for real-time communications management, including networks, services and user access.

The R&D on service engineering will advance the concepts of modular standardization of service components and building blocks, as a basis for cheaper, quicker and more responsive development of services. Modular standardization is the basis for reusability and sharing of assets. It is also the prerequisite for future-proof investments as it decouples the technology from the functions and its integration in the realization of a given service or application.

This work will therefore contribute to the fast and flexible introduction of new services in advanced broadband networks, and effective network management and service deployment in a diverse and competitive communication environment. The expected impact will be to speed up new service provision

by at least one order of magnitude, thereby creating early market opportunities for new services. For the user, the impact of service engineering will be the ability to have more control over the services and communication media used: to combine voice, data and video in the form needed at a given time.

The software and system development will be carried out in the context of application trials, involving end users, service providers and network operators. It will involve the development, assessment and validation of architectures, methods and tools, the integration of service components, and network and service management techniques. Self-learning and self-healing management systems for 'adaptable networks' will be developed and tested.

Work on the reduction of the service development cycle will focus on the whole provisioning cycle, from the identification of needs to the creation and deployment of services in the network. Particular attention will be given to transparent and reliable service introduction in real operational environments. The work will involve the development and testing of new service concepts which take advantage of increased bandwidth and intelligence in networks and increased mobility of users. Application programming interfaces will be developed and their validity tested. The work will take account of the heterogeneity of networks, migration to integrated networks, user mobility, the evolution of reusable service components, and resource-hungry services, such as Virtual Presence. Techniques will be developed for rapid service conformance testing.

Work on service engineering will address new needs in an environment characterized by a rapidly growing diversity. The work will involve development of common functional specifications and codes of practice for integrated service engineering. Work on service creation environments will involve development of organizational frameworks and technologies for reuse of service components. Work on user issues will involve development of technologies and systems to increase user control of services, their integration, and use of resources; ergonomic research on use of services, and techniques for adaptive user-service interaction.

The work will be carried out in conjunction with that in area 6 on communications system safety, and security aspects of access to resources. Functional specifications and codes of practice arising from this work will support the standardization process.

6. Quality, security and safety of communications services and systems

The objective is to investigate and develop technologies for economically viable and operationally satisfactory solutions to requirements for services and systems that are of high quality, secure and safe. There will be close cooperation with SOGIS and other relevant bodies.

Quality of service, security and safety are closely related. Easy to use, reliable and maintainable solutions must be developed, within which security is one essential component. Information services require positive attention to the protection of information assets, both directly through the technology employed (functionality) and indirectly through the quality of the system design, development and operation (assurance).

The work will concern the public unclassified domain. It will therefore be relevant to most business sectors, public administrations and the public at large. It will be concerned with traditional requirements for integrity and reliability of communications (relating to the certainty that the information is as intended) and confidentiality (or privacy), as well as other features, such as non-repudiation (whether or not the originator is whom he claims, or that the addressee cannot subsequently deny receipt) and electronic signatures. This set of features, once publicly available, will allow the business community to perform most of their transactions electronically. In the area of confidentiality, it is recognized that solutions are required that are compatible with national security and the maintenance of public order.

The strong common links between quality of service, security and safety implies the development of a constant technical approach. Trustworthiness implies both secure and safe networks and services. The work will concentrate on technology developments to improve quality of service, security and safety throughout distributed information systems, paying particular attention to cost-performance. It will explore built-in early warning and fault/risk reporting techniques, as well as flexible response mechanisms. These will be developed, where appropriate, as a means of protecting public network-based services and applications against interference and loss of availability.

For better quality of service, technology development is a prerequisite for improved usability and reliability in multimedia and distributive services. The R&D will address new architectures for delivery of safe and secure broadband services. For secure communications, R&D will address the flexible

management of security in an open, worldwide network and service environment. For enhanced safety, technology development will be related to fail-safe mechanisms, self-healing and self-repairing networks and services.

The work will complement that in other areas of this programme and in other specific programmes and will include investigations, demonstrations, experiments and trials of integrated systems. The results will include Common Functional Specifications, Codes of Practice and contributions to standardization.

Horizontal actions:

Consensus development and concertation of national and regional activities for stimulation and promotion of broadband infrastructure and service development.

These actions, which will bring together work in each of the six areas, will include concertation between RTD projects, concertation with European standardization and strategic planning bodies ⁽¹⁾, coordination with, as well as collaboration in appropriate cases, with COST and Eureka activities, and coordination with actions funded under the ERDF, EIB, EIF and Cohesion and Structural Funds. Concerted actions and accompanying measures will focus on social and economic impacts of advanced communications. These actions will highlight opportunities for rebalancing of investments in both the public and private sectors between telecommunications and transport for energy saving and environmental protection. They will involve the identification and definition of advanced services for Europe-wide deployment, as well as their impact assessment. Special actions will be taken to increase the awareness of the advantages derived from the availability of new services.

Special actions in international cooperation

Most business activities are worldwide, and telecommunications must therefore operate globally. The mergers that are going on in major industries, including telecommunications, emphasize this global dimension. Special actions to support international cooperation will focus on applications development and network management, and will be limited to areas of clear mutual and balanced interest. Particular attention will be given to synergies with the National Information Infrastructure initiative in the USA and with similar activities in Japan.

These actions will also provide a framework for stronger cooperation with initiatives in Eastern and Central Europe, as well as with the new Independent States of the ex-Soviet Union, including those funded under the Phare and Tacis programmes, and initiatives financed by the EBRD. At a time when Eastern and Central Europe is going through a very critical reconstruction, support for advanced communication experiments based on 'appropriate' technology, linking organizations in Eastern and Western Europe, will help speed up transfer of know-how, stimulate indigenous economic development and open up new opportunities for European businesses. Special measures will also be taken to facilitate the exchange of scientists and researchers between Eastern and Western Europe in the framework of some R&D projects and trials.

Special actions for dissemination and exploitation of results and for professional training in advanced communications technologies and service management

These actions will include the organization of summer schools, seminars, workshops and support for selected international conferences. Provision will also be made for professional exchanges of scientists between the Member States of the Community, for limited periods of research in the projects.

An increased effort will be made to stimulate the effective exploitation of emerging technologies and services through a programme of public demonstrations and exhibitions.

⁽¹⁾ ETSI, CEN/Cenelec, Eurescom and ETNO.

ANNEX II

INDICATIVE BREAKDOWN OF THE AMOUNT DEEMED NECESSARY

Area	million ecus
1. Interactive digital multimedia services	162
2. Photonic technologies	104
3. High-speed networking	75
4. Mobility and personal communications networks	115
5. Intelligence in networks and service engineering	100
6. Quality, security and safety of communication services and systems	43
Horizontal actions	31 ⁽¹⁾
Total	630 ⁽²⁾

⁽¹⁾ Of which:

- ECU 9 million for coordination and concertation activities (including special actions in international cooperation);
- ECU 22 million for preparatory, accompanying and support measures, including ECU 6 million for the dissemination and optimization of results.

⁽²⁾ Of which:

- a maximum of 6,3 % for staff and administrative expenditure;
- 3,3 % for operational support to concerted actions, concertation networks and interconnection of trials;
- 10 % for basic research to be carried out in Area 2 (Photonic technologies);
- up to 10 % for activities in respect of SMEs.

This breakdown does not exclude the fact that a project could relate to several areas.

ANNEX III

SPECIFIC RULES FOR IMPLEMENTING THE PROGRAMME

1. The programme will be implemented in the context of trials of advanced communication applications which will best contribute to reinforcement of competitiveness and to the development of employment in the Community. The work programme for research and technology development will be adapted in the light of the specific requirements of the trials.
2. The programme will be executed through indirect action, whereby the Community makes a financial contribution to RTD activities carried out by third parties or by JRC institutes in association with third parties:
 - (a) Shared-cost actions: RTD projects carried out by undertakings, research centres and universities; creation of consortia for integrated projects with a common objective will be stimulated.

Community funding will normally not exceed 50% of the cost of the project, with progressively lower participation the nearer the project is to the market place. Those universities and other similar institutions which do not have analytical budget accountancy will be reimbursed on the basis of 100% of the additional costs.

- (b) Measures appropriate for this specific programme:
 - technology-use stimulation, to encourage and facilitate participation of SMEs in collaborative RTD activities (up to one-third of total participation) by granting awards for carrying out the exploratory phase of an RTD activity, including the search for partners, during a period of up to four months. The award will be granted following the selection of an outline proposal. It will cover up to 75% of the cost of the exploratory phase, without exceeding ECU 22 500 per successful applicant SME. Following an initial call, proposals may be submitted at any time;
 - measures in support of standardization, and measures aimed at the establishment of usage protocols of general value to the objectives of the programme;
 - financial support for interconnection of infrastructures and installations necessary for trials and coordinated actions (reinforced coordination actions), and as identified by the participants in projects.

The Community participation may cover up to 100% of the costs of these measures.

- (c) Preparatory, accompanying and support measures, such as:
 - studies in support of this programme and in preparation of future activities;
 - support for exchanges of information, conferences, seminars, workshops, or other scientific or technical meetings including intersectoral or multidisciplinary coordination meetings;
 - use of external expertise, including access to scientific databases;
 - scientific publications and activities for the dissemination, promotion and exploitation of results, in coordination with the activities carried out within the third action; the factors liable to encourage use of results will be taken into account from the outset and throughout the duration of RTD projects, the partners in which will constitute a key network for diffusion and exploitation of results;
 - analysis of possible socio-economic consequences and technological risks associated with the programme, which will also contribute to the programme 'Targeted Socio-economic Research';
 - training actions related to research covered by the programme in order to stimulate technology transfer and enhance employment skills;
 - independent evaluation of the management and execution of the programme and of the implementation of the activities;

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- measures in support of the operation of networks for increasing awareness and providing decentralized assistance to SMEs in coordination with the Euromanagement auditing activity of RTD.

The Community participation may cover up to 100 % of the costs of these measures.

- (d) Concerted actions consisting of the coordination, notably through 'concertation networks', of RTD projects in the programme and those already financed by public authorities or private bodies. Concerted actions may also serve as the necessary coordination for the operation of common interest groups which, through shared-cost RTD projects (cf. 2 (a)), bring together around the same technological or industrial objective, manufacturers, network operators, service providers, users, universities and research centres.

The Community participation may cover up to 100 % of the costs of the concertation.
