

COUNCIL DECISION

of 25 January 1999

adopting a specific programme for research, technological development and demonstration
on a user-friendly information society (1998 to 2002)

(1999/168/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⁽¹⁾,Having regard to the opinion of the European Parliament⁽²⁾,Having regard to the opinion of the Economic and Social Committee⁽³⁾,

(1) Whereas by Decision No 182/1999/EC⁽⁴⁾, the European Parliament and the Council adopted the fifth framework programme of the European Community (hereinafter referred to as the fifth framework programme) for research, technological development and demonstration (hereinafter referred to as RTD) activities for the period 1998 to 2002 setting out the general outlines and scientific and technological objectives of the activities to be carried out in the field of user-friendly information society;

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

(3) Whereas, in accordance with Article 4(2) of Decision No 1110/94/EC of the European

Parliament and of the Council of 26 April 1994 concerning the fourth framework programme of the European Community activities in the field of research, technological development and demonstration (1994 to 1998)⁽⁵⁾ and Article 4(2) of the Council Decisions on the specific programmes implementing the fourth framework programme, the Commission has arranged for an external assessment to be conducted which it has transmitted to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions together with its conclusions and comments;

(4) Whereas, in accordance with Article 130j of the Treaty, Council Decision 1999/65/EC of 22 December 1998 concerning the rules for the participation of undertakings, research centres and universities and for the dissemination of research results for the implementation of the fifth framework programme of the European Community (1998 to 2002)⁽⁶⁾ (hereinafter referred to as 'the rules for participation and dissemination') applies to this specific programme; whereas these rules allow the participation of the Joint Research Centre in the indirect actions covered by this specific programme;

(5) Whereas, for the purpose of implementing this programme, in addition to cooperation covered by the Agreement on the European Economic Area or by an Association Agreement, it may be appropriate to engage in international cooperation activities, in particular on the basis of Article 130m of the Treaty, with third countries or international organisations;

(6) Whereas implementation of this programme will also comprise activities and mechanisms aimed at stimulating, disseminating and exploiting RTD results, in particular *vis-à-vis* small and medium-sized enterprises (SMEs), and activities to stimulate the mobility and training of researchers;

⁽¹⁾ OJ C 260, 18.8.1998, p. 16.

⁽²⁾ Opinion delivered on 15 December 1998 (not yet published in the Official Journal).

⁽³⁾ OJ C 407, 28.12.1998, p. 123.

⁽⁴⁾ OJ L 26, 1.2.1999, p. 1.

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

⁽⁶⁾ OJ L 26, 1.2.1999, p. 46.

- (7) Whereas it is important that the scientific, industrial and user communities should contribute substantially to the definition of activities to be undertaken and should be involved, as appropriate, in the implementation of this programme;
- (8) Whereas research activities under the fifth framework programme should also be geared towards innovation in order to contribute, *inter alia*, to the objectives of the first action plan for innovation;
- (9) Whereas special emphasis should be placed on encouraging the participation of SMEs;
- (10) Whereas the equal opportunities policy of the Community must be taken into account in the implementation of this programme;
- (11) Whereas efficient and transparent management contributes to a more effective and user-friendly programme;
- (12) Whereas administrative expenditure should be included in the Community budget in a transparent fashion;
- (13) Whereas the implementation of this programme should be monitored with a view to adapting it, where appropriate, to scientific and technological developments; whereas in due course there should also be an assessment of progress with the programme by independent experts;
- (14) Whereas the Scientific and Technical Research Committee has been consulted on the scientific and technological content of the specific programmes,

HAS ADOPTED THIS DECISION:

Article 1

In accordance with Article 3(1) of the fifth framework programme, the specific programme on a user-friendly information society; (hereinafter referred to as the specific programme) is adopted for the period from 25 January 1999 to 31 December 2002.

Article 2

1. In accordance with Annex III to the fifth framework programme, the amount deemed necessary for carrying out the specific programme is EUR 3 600 million, including a maximum of 7,5 % for the Commission's administrative expenditure.

An indicative breakdown of this amount is given in Annex I.

2. Of the amount in paragraph 1

— EUR 857 million is for the period 1998 to 1999,

and

— EUR 2 743 million is for the period 2000 to 2002.

In the case referred to in Article 2(1)(c) of the fifth framework programme, the Council shall adapt the latter figure in accordance with Article 2(1)(c), second indent of the fifth framework programme. Pending a decision by the Council, this specific programme shall not be implemented beyond the provision of the first indent.

3. The budgetary authority shall, in compliance with the scientific and technological objectives and priorities laid down in this Decision, set the appropriations for each financial year taking into account the availability of resources within the multiannual financial perspective.

Article 3

1. The general outlines, the scientific and technological objectives and the priorities for the specific programme are set out in Annex II. They are consistent with the principles and the three categories of selection criteria indicated in Annex I to the fifth framework programme.

2. In accordance with these principles and criteria the selection criteria indicated in Article 10 of the rules for participation and dissemination shall be applied for the selection of the RTD activities to be carried out.

In addition, any participation of industrial entities in industrially-orientated shared-cost actions should, as a general rule, be appropriate to the nature and purpose of the activity.

All these criteria shall be complied with in the implementation of the programme, including the work programme referred to in Article 5(1), although they may be weighted differently.

3. The rules for participation and dissemination shall apply to the specific programme.

4. The detailed rules for financial participation by the Community in the specific programme are those referred to in Article 4 of the fifth framework programme.

The indirect RTD actions under the specific programme are defined in Annexes II and IV to the fifth framework programme.

Specific rules for implementing the programme are set out in Annex III to this Decision.

Article 4

In the light of the criteria referred to in Article 3, and the scientific and technological objectives and priorities set out in Annex II, the Commission:

- (a) shall monitor, with appropriate assistance from independent external experts, the implementation of the specific programme and, where appropriate, submit proposals to Council for adapting it, in accordance with Article 5(1) of the fifth framework programme;
- (b) shall arrange for the external assessment provided for in Article 5(2) of the fifth framework programme to be conducted concerning the activities carried out in the fields covered by the specific programme.

Article 5

1. The Commission shall draw up a work programme specifying:

- (a) in greater detail, the objectives and RTD priorities of Annex II;
- (b) the indicative timetable for the implementation of the specific programme;
- (c) the coordination arrangements set out in Annex III and arrangements to secure the objectives, related to innovation and the participation of SMEs, of the third activity of the fifth framework programme;

(d) where necessary, the selection criteria and the arrangements for applying them for each type of indirect RTD action.

2. The work programme shall take account of relevant interests, in particular the scientific, industrial and user communities. It shall serve as a basis for implementing the indirect RTD actions according to the procedures set out in the rules for participation and dissemination.

3. The work programme shall be updated where appropriate and be made available by the Commission to all interested parties in a user-friendly form, including in electronic form.

Article 6

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

2. The procedure laid down in Article 7 shall apply for the adoption of the following measures:

- the drawing-up and updating of the work programme referred to in Article 5(1), including regarding the content of calls for proposals,
- approval of RTD actions proposed for funding, including participation by entities from third countries, where the estimated amount of the Community contribution under this programme is equal to or more than EUR 1,5 million,
- the drawing-up of the terms of reference for the external assessment provided for in Article 5(2) of the fifth framework programme,
- any adjustment to the indicative breakdown of the amount as set out in Annex I.

Article 7

1. The Commission shall be assisted by a programme committee (hereinafter referred to as 'the committee') composed of representatives of the Member States and chaired by the representative of the Commission.

2. In the cases referred to in Article 6(2), the representative of the Commission shall submit to the committee a draft of measures to be taken. The committee shall deliver its opinion on the draft

measures referred to above within a time limit which the Chairman may lay down according to the urgency of the matter. The opinion shall be delivered by the majority laid down in Article 148(2) of the Treaty in the case of decisions which the Council is required to adopt on a proposal from the Commission. The votes of the representatives of the Member States within the committee shall be weighted in the manner set out in that Article. The Chairman shall not vote.

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

(b) 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.

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

4. The Commission shall regularly inform the committee of the overall progress of the

implementation of the specific programme, and shall in particular provide it with information about the progress of all RTD actions funded under this programme.

Article 8

In accordance with Article 5(4) of the fifth framework programme, the Commission shall regularly inform the Council and the European Parliament of the overall progress of the implementation of the programme, including on the participation of SMEs and the simplification of administrative procedures.

Article 9

This Decision is addressed to the Member States.

Done at Brussels, 25 January 1999.

For the Council
The President
J. FISCHER

ANNEX I

INDICATIVE BREAKDOWN OF THE AMOUNT DEEMED NECESSARY

(million EUR)

Type of activity	Amount
(a) Key actions	
(i) Systems and services for the citizen	646
(ii) New methods of work and electronic commerce	547
(iii) Multimedia content and tools	564
(iv) Essential technologies and infrastructures	1 363
(b) Research and technological development activities of a generic nature: Future and emerging technologies	319
(c) Support for research infrastructures: Research networking	161
Total	3 600 ⁽¹⁾

⁽¹⁾ Of which at least 10 % for cross-programme themes, and a minimum of 2 % for integrated application platforms.

ANNEX II

THE GENERAL OUTLINES, THE SCIENTIFIC AND TECHNOLOGICAL OBJECTIVES AND THE PRIORITIES

INTRODUCTION

We are undergoing a fundamental transformation: from an industrial society to the information society. Information society technologies increasingly pervade all industrial and societal activities and are accelerating the globalisation of economies, in particular by providing SMEs with new ways to access to the global marketplace, and societies.

Europe's industrial competitiveness, its jobs, its quality of life and the sustainability of growth depend on it being at the leading edge of the development and take-up of information society technologies. Also, by enabling communities in remote and rural areas to overcome isolation and to compete in the global economy, information society technologies contribute to cohesion in the European Union.

At the same time, the technologies underpinning the development of the information society are in rapid evolution. Advances in information processing and communications are opening up exciting new possibilities. There is a shift from stand-alone systems to networked information and processes. Digitalisation is resulting in the convergence of information processing, communications and media. Content is of increasing significance. However, the increasing diversity and complexity of systems is also presenting new challenges for their development and use.

It will not be possible to realise the full potential of the information society in Europe with only today's technologies and applications. Key requirements such as usability, dependability, interoperability and, above all, affordability are far from being sufficiently met for the broad deployment of information society technologies (i.e. information and communication technologies, systems, applications and services) in all areas. Continuous efforts are required, in research, technological development, demonstration and technology take-up. These efforts must, in all activities, tackle the universal issues such as access, ease of use, cost-effectiveness and interoperability and standardisation. They should also address the socioeconomic impact of the activities, in particular the social changes brought about by the introduction and more widespread use of new information and communications technologies including their effect on different population groups, with particular attention to their effect on women and young people. Tackling the issues of access and ease of use in this context shall be an important priority.

Strategic objectives of the programme

The strategic objective of the information society technologies (IST) programme is to realise the benefits of the information society for Europe both by accelerating its emergence and by ensuring that the needs of individuals and enterprises are met.

The programme has four interrelated specific objectives, which both focus the technology developments and enable the close articulation between research and policy needed for a coherent and inclusive information society. For the private individual the objective is to meet the needs and expectations of European citizens for high-quality, affordable general interest services. Addressing the requirements and concerns of Europe's enterprises, workers and consumers the objective is to enable both individuals and organisations to innovate and be more effective and efficient in their work and business, while at the same time improving the quality of the individual's working life. Multimedia content is central to the information society; the objective here is to confirm Europe as a leading force in this field and enable it to realise the potential of its creativity and culture. For the essential technologies and infrastructures that form the building blocks of the information society the objective is to drive their development, enhance their applicability and accelerate their take up in Europe.

Novelty of the approach. Community-funded research in information and communication technologies and applications is integral to the overall strategy of the European Union for the information society, which was defined by the action plan 'Europe's way towards the information society' and revised in the action plan adopted in November 1996. The information society technologies (IST) programme introduces a new approach to the information society theme of the framework programme.

Integration. The context, rationale and objectives of the IST programme necessitate a single and integrated programme which reflects the convergence of technologies and media and of industries and markets, together with the increasing significance of content, and responds to the need to integrate research and development and take-up actions. To this effect, this programme consists of a set of four key actions centred on the four specific objectives and a specific activity on longer-term or higher-risk research on future and emerging technologies. These activities complement each other and are derived by grouping together the technologies, systems, applications and services and the research and development and take-up actions with the greatest affinity or interdependence. Each activity has its own specific focus and priorities, however, the key issues of usability, interoperability, dependability and affordability will be addressed ubiquitously throughout the programme. In doing so, each key action will, as appropriate, have a balance of the complete range of RTD activities from basic research to demonstration and take-up actions.

Cross-programme themes. The coordination and integration of the activities through a single work programme allows a 'theme' that cuts across the programme (e.g. interfaces, mobility or satellite-related activities) to be addressed in a coherent manner in more than one activity, each concentrating on and contributing from its particular perspective. Clustering and concertation will be used to focus, coordinate and integrate activities. Work, spanning the programme, will be undertaken on integrated application platforms to provide seamless interaction between citizens, businesses and administrations by realising coherent groups of public and private services customised to users' requirements, these will be demonstrated and assessed in 'digital sites', encompassing cities or regions, paving the way to 'digital communities' in urban, rural, remote and ultraperipheral areas, and will be appropriately coordinated with other key actions, for example 'The city of tomorrow and cultural heritage', and initiatives in the Structural Funds. It will build on activities from all parts of this programme.

Flexibility. The technological scope of the activities provides the flexibility to refocus over time, through the single rolling work programme (defined in consultation with the key actors), to respond to changes in industrial and societal needs and the technological context.

Socioeconomic needs. A vast range of goods, services and processes are being transformed through the integration and use of information society technologies. Work will target the quantitative and qualitative benefits that information society technologies offer in all industrial and societal activities, from more competitive methods of working and doing business to higher-quality, lower-cost general interest services or new forms of leisure and entertainment. It will take account of the info-ethical implications, of the necessity to remove discriminating factors, such as gender bias, to ensure ease of access and use, and of the ageing population and of the need to contribute to increasing resource efficiency and reducing environmental impact. Socioeconomic research, together with the results of other Community initiatives that identify needs for information society technologies, such as regional programmes, will be integrated throughout the programme, to support the take-up of information society technologies, and into its management. As too will be work on statistics, which are central to the information society and for which information society technologies offer new ways to attain the highest standards of quality and the widest and most rapid and accessible dissemination. Particular attention will be paid to ensuring that the 'innovation dimension' is actively addressed, and to stimulating and supporting the participation of SMEs, so as to contribute to the effective take-up of research results for economic and societal benefit.

European added-value. Realising the full potential of the information society requires technologies, infrastructures, applications and services, accessible and usable by anyone, anywhere, anytime, whether it be for business or individual use. Collaborative research and technological development is needed to create both the critical efforts and the interoperability necessary to ensure this in Europe. Pan-European research is also needed to ensure that content, together with its creation and use, properly reflects and exploits the EU's cultural diversity and many languages.

European competitiveness. Information society technologies are integrated in or support products and processes in all sectors of the economy. To be competitive in the global marketplace Europe needs to master both the supply and use of information society technologies. To this end, to accelerate the realisation of knowledge as innovation, this programme integrates actions to stimulate the take-up of information society technologies with the research and technological development to ensure that the conditions and requirements for their use can be met. In addition to demonstrations and trials, these include actions to stimulate the development and diffusion of the skills necessary to take-up research and development results (such as validations, assessments, awareness building, first-user actions and best-practice initiatives) and consensus building and standardisation activities.

LINKS AND COMPLEMENTARITY WITH THE OTHER PROGRAMMES

Articulation with the other thematic programmes is based on concentrating the activities concerned with the development, demonstration and take-up of information society technologies in this programme and concentrating their deployment (domain-specific integration research as well as use) in specific domains in the other thematic programmes. The nature of information society technologies requires close coordination with other programmes and relevant policy initiatives in areas where their deployment plays a critical role. Particular attention will be paid to the programmes covering manufacturing, transport, the environment and healthcare. In the case of satellite-related activities, these will be coordinated with related activities in other programmes and initiatives in the context of the Commission's Space Coordination Group. In accordance with Article 6 of the European Parliament and Council Decision on the fifth framework programme, the utmost respect will be ensured for human rights and fundamental ethical principles in all the activities under the specific programme.

Reflecting the global nature of the information society, international cooperation will play a major role in the development and take-up of information society technologies. This will be reflected in the participation in and operation of this programme, including support for international initiatives such as IMS (intelligent manufacturing systems), and in its linkages with the programme on confirming the international role of Community research addressing support for organisations from third countries.

Specific activities to facilitate the participation of organisations from third countries and to maintain links with European-trained specialists in third countries will also be used in addressing the international dimension of the programme. Where appropriate, work will complement and be coordinated with that in the COST framework. Innovation activities integrated throughout the programme will provide a focus for the promotion of the deployment and use of results stemming from this programme and help ensure complementarity with and interface to innovation activities carried out within the programme 'Promotion of innovation and encouragement of SME participation'. In addition, links at the programme level with Eureka, trans-European network actions and other Community instruments will be used to promote appropriate routes and mechanisms for the further take-up and the deployment of results. Links with the programme on promotion of innovation and encouragement of SME participation will complement the actions to reinforce the effective participation of SMEs (such as exploratory awards) that are integrated in this programme.

Improving the know-how, skills and qualifications of European researchers and the understanding of the socioeconomic impact of research in the fields covered by this programme is essential to ensure sufficient availability of appropriate expertise and to establish tangible and lasting impacts. Training and socioeconomic research will therefore form an integral part of this programme, complemented by appropriate links with the horizontal programme 'Improving the human research potential and the socioeconomic knowledge base' and European Social Fund initiatives. Training activities will include support to fellowships, which will take the form of 'Marie Curie' fellowships following the definitions and rules set out in the horizontal programme. This programme's work on research networking will interface with the horizontal programme's support for access to large computing facilities and with the 'support for research infrastructures' activities of the other thematic programmes.

Full use will be made of the possibilities offered by COST and Eureka, and by cooperation with international organisations, to foster synergy between actions and projects in this programme and nationally funded research activities. In the case of cooperation with Eureka, projects corresponding to themes of common interest with the framework programme may be developed in the context of the key actions, in conformity with the selection criteria and procedures of the framework programme.

(a) KEY ACTIONS

(i) Systems and services for the citizen

Objectives and RTD priorities

The aim of this work is to foster the creation of the next generation of user-friendly, dependable, cost-effective and interoperable general interest services, meeting user demands for flexible access, for everybody, from anywhere, at any time. Work, including the associated education and training, encompasses RTD addressing the whole of the key action, as well as specific RTD in the following fields: health, special needs, including ageing and disability, administrations, environment, and transport and tourism. Certain of the ubiquitous issues addressed throughout the whole of this programme will be taken up further in order to pay due consideration to the needs and expectations of the typical users in this key action, in particular the usability and acceptability of new services, including the security and privacy of information and the socioeconomic and ethical aspects.

— *Health*

Work will cover new generation computerised clinical systems, advanced telemedicine services and health network applications to support health professionals, continuity of care and health-service management, and intelligent systems allowing citizens to assume greater participation and responsibility for their own health.

RTD priorities: professional healthcare: systems enhancing the ability of healthcare professionals, for prevention, diagnosis, care and rehabilitation, such as intelligent systems for non-invasive diagnosis and therapy, intelligent medical assistants, and advanced medical imaging; advanced telemedicine applications; 'virtual healthcare facilities' offering single-point-of-entry services; high-speed secure networks and applications for linking emergency services, hospitals, laboratories, pharmacies, primary care and social centres and the home for continuity of care; health service workflow management and re-engineering; new generation electronic health records and cards for sophisticated health-data objects; personal health systems: affordable and user-friendly systems for personal health monitoring and fixed or portable prevention systems, including advanced and affordable sensors, transducers and micro-systems; personal medical advisors for supervision of prevention and treatment; tele-systems and applications for supporting care in all contexts; user-friendly and certified information systems for supporting health education and health awareness for citizens; the work will be complemented by take-up actions including validations and assessments, together with first-user actions and other best-practice initiatives,

— *Persons with special needs, including the disabled and the elderly*

Work will address person/system interfaces and adaptive and assistive systems to overcome problems caused by environmental barriers and by physical or intellectual impairments, as well as intelligent systems and services to support autonomous living, social integration and participation in the information society.

RTD priorities: 'design-for-all' products, systems and services, including improved participatory design methods, multimodal terminals and universal interfaces; adaptive systems: communication tools for persons with special requirements, mobility support devices, both at home or in the wider environment, robotics control systems; multimedia applications for supporting daily living and social integration at home, work, education, transport, leisure, etc., social support and intervention networks, new methods of service delivery; take-up: a key aspect will be validations and demonstrations,

— *Administrations*

Work will focus on multimedia systems and services addressing the specific needs of all types of administrations (e.g. Community, national, regional, local), in particular to support the widening

and deepening of the EU, and offering interactive services to citizens and/or making them available at natural meeting-points for people, especially in remote and rural areas. Attention will be paid to improving effectiveness and internal efficiency.

RTD priorities: technologies and systems for on-line support for the democratic process and for improved, distance- and language-independent, easy to use and affordable access to information and services, in order to support one-stop service access and transaction handling for citizens and businesses; multilingual personalised services and intelligent multifunctional systems facilitating interaction between citizens and administrations, including the development of virtual fora (public hearings, opinion polling, etc.); systems and tools for enabling statistics to play their role in enhancing the transparency and accessibility of administrations and for promoting multimedia data interchange between administrations; the innovative applications to support the adaptation of administrations to the information and processing systems needs of Community policies; take-up: best practice and other take-up measures will be a priority,

— *Environment*

Work will focus on new generation monitoring, forecasting and decision-support systems and services, addressing both external and internal environments, for administrations, industries and the public, together with advanced systems and services for the identification, assessment, monitoring and prevention of risks, and for the management and mitigation of emergencies, both natural and man-made (including anti-personnel landmines).

RTD priorities: monitoring, forecasting and decision support: intelligent information systems on air/water/soil quality and for monitoring and management of natural resources; advanced systems for water/air/sea/soil/waste pollution monitoring, prevention and warning; low-cost distributed surveillance systems; high-performance systems and advanced tools for environmental data fusion, data mining and modelling, including geo-referenced data; integrated information tools and support systems for sustainable development and to improve ecological and resource efficiency; risks and emergencies: advanced management systems exploiting satellite imagery, remote sensing, sensor systems, real-time systems, and communication networks; take-up: a key aspect will be validations and demonstrations,

— *Transport and tourism*

Work will address IST development, validation and demonstration of intelligent infrastructure and vehicle systems for the management of all modes of transport, including for intermodal operations and 'mobility chains' for freight and passengers, for safety and operational efficiency in all modes, supporting, *inter alia*, actions in 'Promoting competitive and sustainable growth', as well as for information, mobility and tourism related systems and services.

RTD priorities: surveillance, positioning and guidance systems and the necessary enhancement of terrestrial and satellite communication and positioning infrastructures, fixed, on-board and portable interactive multimedia devices, and tele-payment systems, in particular for traffic and demand management, collective and individual transport, fleet and freight operations supporting the whole logistics chain, and user information; new traffic control systems with advanced interfaces, simulation and prediction tools, including systems for managing large-scale events and crises; on-board human-centred systems, including links with complementary telematics systems, for safety and efficiency, including vision enhancement, driver impairment watch, obstacle detection and advanced warning, crash-avoidance, and systems ensuring compliance with regulations (e.g. speed limits); telematic systems for intelligent vehicle operations in all modes of transport; on-board 'info-mobility' services, including 'infotainment'; multimedia personalised information systems for the transport and tourism sectors, including telereservation and telepayment, systems and services addressing weather, leisure and tourism; decision support systems for increased efficiency and planning in the tourism sector; virtual mobility services; take-up: assessment of economic and technical viability, qualification actions, together with best practice actions.

(ii) New methods of work and electronic commerce

Objectives and RTD priorities

The aim of this work is to develop information society technologies to enable European workers and enterprises, in particular SMEs, to increase their competitiveness in the global marketplace, while at the same time improving the quality of the individual's working life, through the use of information society technologies to provide the flexibility to be free from many existing constraints on both working methods and organisation, including those imposed by distance and time. Specific attention will be paid to the social implications of new working methods, in particular their impact on equal opportunities and quality of life. It covers both the development and the trading of goods and services, in particular in the electronic marketplace, and takes into account the different requirements and capabilities of the individual worker, consumer and of businesses and organisations, and includes the related training. Considerations of the global context, in particular the rapid evolution of the marketplace, and socioeconomic factors will guide the work, and the objective will be to develop and demonstrate world-best work and business practices, exploiting European strengths such as electronic payments, smart cards, mobile systems, software for business process modelling and enterprise management and consumer protection.

— *Flexible, mobile and remote working methods and tools*

Work will focus on enabling, validating and demonstrating competitive, flexible and human-centred work methods and organisation, including in administrations and non-profit organisations, by means of an integrated approach to the combination of business process and work organisation, human resource management, and information society technologies, informed by socioeconomic and legal requirements analysis and considerations of the global context and actual business practice. It will address the needs of workers, enterprises and consumers alike. Best-practice pilots and scaleable demonstrations, together with dissemination actions to stimulate broad experimentation, and adoption will be major features of the work.

RTD priorities: work methods: telework and networked cooperative working; mobile working; simulation- and virtual-reality-based methods, for both individual and collaborative working; entrepreneurship and portfolio working; organisation: integrating new or re-engineered work methods and structures in all sectors, including administrations, taking into account existing practices; agile, extended, virtual enterprises and networks of individuals; management and integration of workflow; organisational methodologies, including connected intelligence, benchmarking and scenario planning; transformation methods and change and risk management; socioeconomic issues (including the necessary statistical methods and tools): analysis of change; human resources and training; human factors, usability, health effects and ergonomics and safety in the workplace; implications for and coherence with the legal and regulatory framework; the work will be complemented by take-up actions including validations and assessments, together with first-user actions and other best-practice initiatives,

— *Management systems for suppliers and consumers*

Work will focus on seamless end-to-end support, covering both tangible and intangible products, for electronic trading and distributed virtual enterprises and marketplaces. It will cover applications or systems for interactions within and between consumers, individual entrepreneurs, businesses and administrations. It will address both business and work processes covering the full value chain and the information society technologies needed to support them.

RTD priorities: information society technologies systems to address processes in development, including: life-cycle support, design, engineering, manufacturing and maintenance, logistics and distribution management, quality control, productivity measurement; systems to address processes in marketing and sales, including: customer interaction, negotiation and contracting, mass customisation, packaging and trading; systems to address processes in financial management, incorporating support for the euro, including: ordering, billing and payment, accounting and taxation; public and private procurement; systems to address processes in management, including: decision support and planning; virtual and real marketplace management systems; systems for

on-line business information search and management, including directories and catalogues; systems to address consumer processes, including: product and service selection and purchase; systems for supporting the protection of consumers' rights; take-up: best practice and other take-up measures; work will be complemented by validation and assessment in trials, and by concertation measures to contribute to standards,

— *Information and network security and other confidence-building technologies*

Work will focus on technologies to boost trust and confidence in the information infrastructure, and in its services and information resources, as being reliable, efficient and user-friendly for new methods of work and doing business. This includes protecting information integrity, managing intellectual property rights, enhancing privacy and techniques for combating computer crime, complementing the work carried out in the key action 'Essential technologies and infrastructures'.

RTD priorities: electronic signature, certification and authentication techniques; representation of product data; prevention of fraud and misrepresentation of goods; electronic IPR management technologies; privacy enhancing technologies, including those avoiding the improper collection, recording and disclosure of personal and business data; secure electronic transactions and payments, including anonymous ones and integrating next-generation smart-cards; critical systems management and reliable next generation electronic commerce infrastructures; support for the development of and conformance to the legal and regulatory framework; technologies to generate confidence in meaningfully managing vast amounts of data by businesses and consumers, including user customisation; take-up: technology assessment, trials, demonstrators for building confidence and concertation for ensuring interoperability and contributing to internationally recognised standards.

(iii) **Multimedia content and tools**

Objectives and RTD priorities

The aim of this work is to improve the functionality, usability and acceptability of future information products and services to enable linguistic and cultural diversity and contribute to the valorisation and exploitation of Europe's cultural patrimony, to stimulate creativity, and to enhance education and training systems for lifelong learning. Work will cover new models, methods, technologies and systems for creating, processing, managing, networking, accessing and exploiting digital content, including audiovisual content. An important research dimension will be new socioeconomic and technological models for representing information, knowledge and know-how. The work will address both applications-oriented research, focusing on publishing, audiovisual, culture and education and training and generic research in language and content technologies for all applications areas, and will include validation, take-up, concertation and standards.

— *Interactive electronic publishing and digital heritage and cultural content*

For interactive electronic publishing, work will focus on new publishing and media paradigms for both commercial and private use (including the evolution of the world wide web). It will address future publishing systems able to handle new combinations of content and to provide users with new levels of interaction and control, and cover new forms of content such as virtual objects, in multiuser environments, or immersive, animated content. Three fast-evolving application areas will be addressed: knowledge publishing, in particular for scientific and business content; lifestyle publishing, in particular for news, entertainment and information for the citizen; and geographic and statistical information, including related socioeconomic information, particularly where complex information needs new presentation forms for the non-specialist user. The work on digital heritage and cultural content will aim to improve access to cultural patrimony, facilitate its

valorisation and stimulate cultural development by expanding the key contribution of libraries, museums and archives to the emerging 'culture economy', including economic, scientific and technological development. Actions will particularly address new digital processes and cover business and economic models, especially those which stimulate new partnerships through networking and new services for the citizen.

RTD priorities:

- for interactive electronic publishing: generating creative content through advanced tele-collaborative real-time authoring and design systems and skills development (for example for 3D or virtual reality design and conceptual modelling); systems for the generation and reuse of content from different media; collaborative creative expression and publishing; managing digital content by supporting distributed and networked content; processing large sets of data in innovative ways (e.g. visualisation, scenario development or spatial analysis); devising new metrics for valuing information assets; personalising content delivery (via push or pull technologies), by cost-effective content packaging, advertising and transactions, customer profiling and individualised design and presentation (in a manner that respects the user's right to privacy); exploring the limits between domain-specific and domain-independent content; the work will be complemented by take-up actions including validations and assessments, together with first-user actions and other best-practice initiatives,
- for digital heritage and cultural content: integrated and improved access to heterogeneous distributed and networked collections and repositories and the information they hold, in digital and traditional form (e.g. library holdings, museum exhibition material, public archive contents, multimedia art or sound archives, digital film collections and digital cinematic distribution networks); improving the functionalities of large-scale repositories of content by providing rich and powerful interactive features and advanced management and copyright techniques; preservation of and access to valuable multimedia content from multiple sources, covering electronic materials and electronic surrogates of fragile physical objects; take-up: a key aspect will be validations and demonstrations,
- *Education and training*

Work will aim at providing the EU with a blueprint for a seamless and cost-effective implementation of advanced technologies for enhancing both education and training systems. This work will focus on the common needs of different teaching and learning processes, on new approaches to lifelong learning, and on innovative ways of integrating multimedia pedagogic material.

RTD priorities: improving the learning process through more autonomous and more individualised learning: work will include local learner support, peer learning, remote tutoring, curriculum/course design systems, and accreditation systems; developing higher quality learning material by improving the quality of the content itself, the embedded pedagogical or didactic approaches, and the adaptability to learner needs: work will address new instructional design tools, learner modelling techniques, modelling methods for knowledge transfer, including connected intelligence, as well as learning ergonomics, and will cover content ranging from simple hypermedia to advanced simulations; broadening access to learning resources and services for all: work will address common platforms allowing full access to services across heterogeneous networks, including harmonised identification and retrieval of knowledge resources; and take-up actions,

- *Human language technologies*

Work will focus on advanced human language technologies enabling cost-effective interchanges across language and culture, natural interfaces to digital services and more intuitive assimilation and use of multimedia content. Work will address written and spoken language technologies and their use in key sectors such as corporate and commercial publishing, education and training, cultural heritage, global business and electronic commerce, public services and utilities, and special-needs groups. Work will also include the development of electronic language resources in standard and re-usable formats.

RTD priorities: adding multilinguality to systems at all stages of the information cycle, including content generation and maintenance in multiple languages, localisation of software and content, automated translation and interpretation, and computer-assisted language training; enhancing the natural interactivity and usability of systems where multimodal dialogues, understanding of messages and communicative acts, unconstrained language input-output and keyboard-less operation can greatly improve applications; enabling active assimilation and use of digital content, where work will apply language-processing models, tools and techniques for deep information analysis and metadata generation, knowledge extraction, classification and summarisation of the meaning embodied in the content, including intelligent language-based assistants; the work will be complemented by take-up actions including validations and assessments, together with first-user actions and other best-practice initiatives,

— *Information access, filtering, analysis and handling*

Work will focus on advanced technologies for the management of information content to empower the user to select, receive and manipulate (in a manner that respects the user's right to privacy) only that information required when faced with an ever increasing range of heterogeneous sources. Improvements in the key functionalities of large-scale multimedia asset management systems (including the evolution of the world wide web) will support the cost effective delivery of information services and their usage.

RTD priorities: mastering information: rich descriptive models of digital information content, covering all media types and supporting all human senses, in addition to spatial and temporal aspects; associated tools to enable users to develop information profiles, possibly based on vague concepts and enabled via personalised agents; radically new cognitive relations between the system and users via individualised metaphors or visualisation techniques; information management systems: new organisation and management methods for multimedia information sources: work will explore advanced techniques for data warehousing integrating access control mechanisms, quality assurance, integrity control and technical protection of multimedia 'fragments'; information categorisation, labelling and filtering enabling selective information retrieval (including navigation and search based on non-textual information) and filtering (including for the control of illegal and harmful content); take-up: first-user and other take-up measures; work will be complemented by validation and assessment in trials, and by concertation measures to contribute to standards.

(iv) **Essential technologies and infrastructures**

Objectives and RTD priorities

The aim of this work is to promote excellence in the technologies which are crucial to the information society, to accelerate their take-up and broaden their fields of application. The work will address the convergence of information processing, communications and networking technologies and infrastructures. The focus will be on technologies and infrastructures common to several applications, while those specific to one application only would be addressed in the context of that application in other parts of the framework programme.

— *Technologies for and management of information processing, communications and networks, including broadband, together with their implementation, interoperability and application*

The work will focus on the development and convergence of information processing, telecommunications and broadcast network and system technologies.

RTD priorities: concurrent systems: technologies and tools for the sharing and interactive use of remote resources and concurrent activities in geographically dispersed locations, in the context of heterogeneous hardware and software architectures and systems; real-time systems handling large volumes of data; basic technologies and tools supporting real-time embedded systems applications, related work should actively contribute to, or adhere to, standards; broadband telecommunications

networks: reliable high capacity terabit optical transmission; a major effort in photonic technologies for end-to-end optical transparency in core and access networks; technologies and architectures, including specifically all-optical networks: topological and functional layout, switching and routing, operation and management; technologies for network integration (notably for the convergence of fixed and mobile, including satellite, networks) and new service independent architectures and systems, to ensure all users have affordable access to broadband multimedia nomadic services; interoperability and interworking of networks particularly at the network management and service levels, to increase capacity, flexibility and functionality and to promote the introduction of competition and new intelligent network services (including the evolution of the Internet); generic service methodologies and tools capable of handling the increased network complexity, new architectures and the requirements for end-to-end 'quality of service', and network dependability and security; take-up: measures to promote and transfer best practice, for concertation to contribute to standards, and to test and validate technologies and services in field trials,

— *Technologies and engineering for software, systems and services, including high-quality statistics*

Work will centre around the development, deployment, operation and evolution of software-intensive systems embedded in goods and services as well as facilitating production and enterprise processes, including technologies and tools for testing and validation at all stages.

RTD priorities: software and systems engineering: work will focus on dependable, survivable and scaleable systems and address the reduction of the development cycle and costs; the use and further development, as required, of reliable methods and tools will be a central issue; software modularity, in particular the integration of custom and off-the-shelf components into systems, will be a key aspect; service engineering will address the integration of heterogeneous platforms and networks and the increasing complexity and sophistication of the new services and their creation and provision, the objective will be to develop technologies and tools for rapid, customised and cost-effective service creation, deployment, provision and management that provide for an open information and communications service infrastructure, with the necessary reliability, security and quality of service; software technologies work will foster knowledge-based methods and tools, which increase the usability as well as the capability of systems and the intelligence in the network, this includes the timely collection, production, dissemination and communication of high-quality information (including statistical and management information); take-up: best practice and other take-up measures will be a priority; work will be complemented by the validation and assessment of technologies, systems and services in field trials, and by concertation measures to contribute to standards,

— *Real-time and large-scale simulation and visualisation technologies*

Work will address the development and integration of advanced simulation and visualisation technologies and environments in all applications. Work will include distributed simulations and shared virtual environments.

RTD priorities: simulation and visualisation: work on simulation environments will include pre-processing, advanced post-processing (including visualisation and virtual reality) and tools for the validation of simulation with experimental and archival data; tools to support the integration of simulation in industrial and business processes will be a priority; technologies and tools for distributed simulations with emphasis on support for the interoperability of heterogeneous software and hardware systems; shared virtual environments scaleable over large networks; population with autonomous agents and visualisation, such as through avatars; the work will be complemented by take-up actions including validations and assessments, together with first-user actions and other best-practice initiatives,

— *Mobile and personal communications and systems, including satellite-related systems and services*

Work will target the move to an integrated seamless network that ensures global personal connectivity and enables access to wireless multimedia communications and services by anyone, from anywhere, at any time, with capabilities, quality and performance comparable to those of fixed network services.

RTD priorities: work will focus on the development and evolution of new generations of affordable terrestrial and satellite broadband wireless architectures, systems and technologies, exploiting new spectrum frontiers, for both private and public environments, supporting advanced services and maximising spectral efficiency and network performance; addressing full coverage through a multiplicity of radio systems deployed in a multilayer, multidimension cell architecture; service mobility and terminal roaming across terrestrial and satellite wireless and wired networks will be a priority; software reconfigurable networks, systems and terminals, to facilitate improved network planning, interoperability and interworking; miniaturised, low-cost, low-power mobile and portable communication terminals (both hardware and software aspects); technologies, services and applications supporting interactive mobile and personal multimedia services, with regional or global coverage and integrated where appropriate with terrestrial and satellite navigation services; take-up: a key aspect will be validations and demonstrations of broadband interactive mobile multimedia technologies and services; a major effort will be dedicated to technology assessment and concertation measures to contribute to standards,

— *Interfaces making use of the various senses*

Work will address the provision of intuitive ways to capture, deliver and interact with systems. Work will include the development and integration of advanced sensor, actuator and display technologies.

RTD priorities: multimodal, multisensory interfaces and novel tools and devices, validation and assessment will be central to this work; technologies including image and auditory scene processing, understanding and synthesis will be developed and integrated to provide new solutions for the work and leisure/entertainment environments; the work will facilitate the introduction of technologies such as augmented and virtual reality; the development and integration of a range of advanced display technologies for professional and consumer applications will be addressed; emphasis will be given to the development of low-cost and low-power interfaces, as well as the use of new flexible materials for portable and mobile subsystems; included are issues such as user adaptability, knowledge on the health effects, user interaction modelling and profiling; take-up will be stimulated, in particular, by first-user actions,

— *Peripherals, sub-systems and microsystems*

Work will address the need for advanced intelligent (computing and communications) network peripherals which can have multiple functionality yet remain user-friendly. Work on subsystems will cover the building blocks of information processing and communications systems and networks. Work on intelligent microsystems will, in this context, cover miniaturised systems comprising sensing and/or actuating with processing functions, and normally combining two or more of electrical, mechanical, optical, chemical, organic, biological, magnetic or other properties, integrated onto a single chip or a multichip hybrid.

RTD priorities: integration, low-power consumption and miniaturisation will be the drivers for technology development for peripherals and terminals, integrating advanced display technologies, as well as software and hardware modules for content capture, storage and manipulation; the development of advanced mass storage methodologies is a key requisite; subsystems: in addition to basic building blocks a major focus will be home systems; microsystems work will be concentrated on facilitating the broader application of intelligent microsystems, primarily for the medical, biochemical, environmental, automotive and aerospace applications, as well as their use in measurement and control systems or subsystems; the primary aim is to transfer competence from research to industrial use and to facilitate access to existing technologies for prototyping and small volume production; the integration of optical interconnects into microelectronic subsystems and microsystems for high-performance applications (e.g. electro-optical circuit boards); the work will be supported through measures complementing those in 'Promoting competitive and sustainable development' addressing the manufacturability of intelligent microsystems and the associated assembly, interconnect, packaging, materials and equipment technologies, together with support for the appropriate design and simulation activities; take-up: the work will be complemented by concertation for coordination and to contribute to standards, and in particular for microsystems by first-user actions,

— *Microelectronics*

Work will address materials, equipment, processes, design and test methodologies and tools which enable the development of electronic components, their packaging, interconnection and

application. The approach will be system-oriented and application-driven, and will aim at reinforcing strengths and exploiting technological opportunities drawing on appropriate microelectronic technology solutions best filling generic application requirements.

RTD priorities: application and hardware/software co-design methods and tools; the key technology requirements will be addressed through support for semiconductor materials and equipment development and assessment, packaging and interconnect technology, notably for the most advanced generations; the focus will be on broadening applicability through the development of cost-effective active and passive silicon, silicon-based, or compound semiconductor components and subsystems for applications with generic characteristics, in particular mobility (low power, high frequency wireless communications), high complexity/high performance systems, systems resistant to hostile environments in terms of reliability and endurance, measurement and control; the development, integration or customisation of advanced signal and data processing functions into subsystems together with their associated memory and input/output functions will be a priority, together with macrocells and support tools for classes of applications; optical technologies: new optical sources, optoelectronic integrated circuits, active and passive optical components and devices at new wavelengths, including optoelectronic devices based on organic compounds; take-up: promotion of application and design competencies will be addressed in thematic clusters; a major effort will be devoted to technology assessment, first-user and other best-practice measures.

(b) RESEARCH AND TECHNOLOGICAL DEVELOPMENT ACTIVITIES OF A GENERIC NATURE

FUTURE AND EMERGING TECHNOLOGIES

This specific activity on future and emerging technologies will cover research that is of a longer-term nature or involves particularly high risks — compensated by the promise of major advances and the potential for industrial and societal impact. Such research will typically be either transdisciplinary or in an emerging discipline. It will reinforce the link and flow of ideas, initiatives and people between academia and industry in the EU. This activity complements the domain-specific work integrated in each of the key actions.

To ensure a seamless coverage of the information society technologies the door needs to be kept open to any new idea with a potential industrial or societal impact, in the bottom-up fashion. This openness will need to be reinforced in specific areas with highly focused well-coordinated proactive initiatives of a strategic nature. Flexibility is essential just as is an appropriate balance between proactive initiatives which need careful, but rapid, planning on the one hand and, on the other hand, openness to new highly promising ideas as they arise.

The open domain

By definition the topics addressed cannot be prescribed. Project proposals could include, in a non-prescriptive way, knowledge technologies (covering technologies for the representation, creation and handling of knowledge), technologies for computation- or bandwidth-intensive applications, future devices and circuits (including those based on nano, quantum, photonic or bio-electronic effects and technologies for very large scale integration), and ultra-complex systems (such as ultra-high performance computers and super-intelligent networks).

Proactive initiatives

Complementing the open domain, a number of proactive initiatives having a strategic perspective and addressing areas of substantial future growth, where close coordination across different projects is necessary, will be defined in the course of the execution of the programme. The definition of topics will be based on their potential for long-term industrial and societal impact (including employment through 'start-ups'), on the opportunity offered by scientific advances or a combination of both. The planning of the proactive initiatives will need to make allowance for the necessity to be able to react rapidly if windows of opportunity present themselves unexpectedly through scientific advances.

Initiatives will each consist of a set of autonomous but closely coordinated and appropriately networked projects. The networked nature of the initiative could be reinforced with some central research facilities when these provide economies of scale to the participants of multiple projects. For example, experimental shared nano-fabrication facilities, model spaces or communities for experiments in the areas of interfaces or virtual reality, and so forth.

The actual choices will be made at appropriate times through consultations with the research community, following the setting of an agenda that draws on a very broad body of scientific and technological opinion. In this context, advance knowledge will be sought through a combination of a series of strategic workshops, aimed towards setting trends and research targets, and a technology-watch activity, to be carried out in close cooperation with other actors in the field, including the JRC's Institute for Prospective Technological Studies and the Scientific and Technological Options Assessment Unit of the European Parliament where appropriate.

(c) SUPPORT FOR RESEARCH INFRASTRUCTURES

RESEARCH NETWORKING

Broadband interconnection of national research and education networks

The objective is to facilitate the supply of trans-European broadband interconnections between national research, education and training networks at capacities and of a quality matching the aggregated need of Europe's academic and industrial researchers and to keep the resulting network at the forefront of the state of the art. This implies an upgrading of the existing capacity of 34 Mbits/s via 622 Mbits/s to several gigabits/s, including support for different levels of 'Quality of service' and the necessary connectivity to third countries, in the context of the global evolution of the Internet. Upgrading the network will proceed in line with proven demand. The aim is to facilitate effective European collaborative research, education and training activities (including the creation of 'virtual laboratories' and 'virtual institutes'), enabled by the deployment of state of the art Internet-based applications within the academic and industrial research communities. This work will support research in all fields and therefore the whole framework programme.

Advanced European experimental testbeds

The objective is the integration of leading-edge collaborative research and development, demonstration and take-up activities, from all key actions in this programme, addressing future generations of communication technologies, protocols, services and distributed applications. This experimental interconnection of the testbeds of individual operators, industries, universities and research facilities in Europe (together with necessary connections to third countries) will provide a practical basis for collaborative research efforts (e.g. in photonic networks, service configuration protocols or mobile broadband services). It will also lead to the early availability of the most advanced infrastructure of all types, which will in turn allow for early experiments with advanced applications (e.g. remote high-volume data visualisation, meta-computing or networked immersive virtual reality) requiring very high bandwidth or new services. It will also enable Europe to play a leading role in defining, standardising and validating the next generations of network protocols (including those for the Internet) and other emerging broadband services. It will contribute to the long-term interoperability and seamlessness of advanced network infrastructures, services and applications.

ANNEX III

SPECIFIC RULES FOR IMPLEMENTING THE PROGRAMME

The specific programme will be implemented through the indirect RTD actions as provided for in Annexes II and IV to the fifth framework programme. In addition, the following rules specific to this programme will apply:

1. Accompanying measures

The accompanying measures will comprise in particular:

- take-up measures, including trials, best practice actions, first user actions, assessment and qualification actions and other actions aimed at stimulating broad take-up, particularly in SMEs, and encouraging innovation,
- measures in support of standardisation and other measures aimed at usability, interoperability and dependability of information and communication technologies, systems applications and services,
- measures in support of the interconnection of research infrastructures and other installations needed for RTD,
- studies in support of the specific programme, including the preparation of future activities,
- exchanges of information, conferences, seminars, workshops or other scientific and technical meetings and the management of clustered RTD activities,
- recourse to external expertise, including access to scientific databases, in particular for the purposes of the monitoring of the specific programme provided for in Article 5(1) of the fifth framework programme, the external assessment provided for in Article 5(2) of the fifth framework programme and the evaluation of indirect RTD actions and the monitoring of their implementation,
- analyses of the socioeconomic consequences associated with information society technology developments,
- dissemination, information and communication activities, including scientific publications, activities for the exploitation of results and the transfer of technologies, encouragement of innovation financing and assistance with the protection of intellectual property,
- training schemes related to RTD activities covered by the specific programme other than Marie Curie fellowships,
- support for schemes to provide information and assistance for research players, including SMEs,
- recourse to external expertise in setting up and providing access to information, assistance and research and innovation promoting services and networks.

In line with Annex IV to the fifth framework programme, the Community contribution for the measures set out under the first indent above, and which are not the subject of procurement, may be up to 100% of the eligible costs. However, on the basis of the principle of sound and efficient financial management, the Community financial contribution may be limited, for certain actions or measures, to 100% or less of those cost categories deemed necessary or appropriate for achieving the specific objectives of the action.

2. Coordination arrangements

The Commission will endeavour to ensure complementarity between the indirect RTD actions under the programme, in particular by grouping them around a common objective, and to avoid duplication, while respecting the legitimate interests of proposers of indirect RTD actions.

As far as possible, coordination will also be ensured between actions under the specific programme and those carried out in:

- other specific programmes implementing the fifth framework programme,
- the research and training programmes implementing Council Decision 1999/64/Euratom of 22 December 1998 concerning the fifth framework programme of the European Atomic Energy Community (Euratom) for research and training activities (1998 to 2002)⁽¹⁾,
- other European research frameworks including Eureka and COST,
- other Community research-related instruments.

It will comprise:

- (i) the identification of common themes or priorities, resulting in particular in:
 - the exchange of information,
 - the carrying out of work decided on jointly, entailing in particular the joint initiation of one of the procedures referred to in Article 9 of the rules for participation and dissemination;
- (ii) the reassignment of proposals for indirect RTD actions between specific programmes or between a specific programme and a research and training programme.

⁽¹⁾ OJ L 26, 1.2.1999, p. 34.