

# COMMISSION OF THE EUROPEAN COMMUNITIES

VOLUME II

COM(94) 548 final  
Brussels, 05.12.1994

ANNEX :  
only exists in English

## COMMUNICATION FROM THE COMMISSION TO THE COUNCIL, THE EUROPEAN PARLIAMENT AND THE ECONOMIC AND SOCIAL COMMITTEE

concerning the mid-term review of the action on the dissemination and  
exploitation of knowledge resulting from the specific programmes  
of RTD of the Community  
(VALUE II)

-----

# VALUE II Programme

## ● *Mid-Term Review* ●

25 May 1994

Report prepared by a Review Panel at the request of the European Commission's Directorate General XIII : Telecommunications, Information Market and Exploitation of Research.

# VALUE II Programme

## ● *Mid-Term Review* ●

---

A mid-term review of the Community's Centralised Action for the Dissemination and Exploitation of Knowledge Resulting from the Specific Programmes of Research and Technological Development (VALUE II).

REVIEW PANEL:

K.P. Friebe (Chairman)

Mr. P. Cordsen

Dr. L. Crespo

Prof. T. Durand

Prof. N. Gangas

Prof. A. Mathis

Ir. A. Vyverman

EDITORIAL SUPPORT:

Mrs. M. Victor

25 May 1994

Report prepared at the request of the European Commission's Directorate General XIII : Telecommunications, Information Market and Exploitation of Research.

## **ACKNOWLEDGEMENTS**

The VALUE Review Panel would like to express their sincere appreciation to all those interviewed throughout the Commission and elsewhere. The assistance of the VALUE Team, particularly Dr. Albert Strub, Director of DG XIII-1), Mr. Jean-Nöel Durvy, and Mr. Constant Gitzinger, is gratefully acknowledged. The views and recommendations contained in the report are, however, the responsibility of the authors alone.

## CONTENTS

	<u>Page No.</u>
<b>ACKNOWLEDGEMENTS</b>	
<b>I. EXECUTIVE SUMMARY</b>	<b>1</b>
<b>II. BACKGROUND TO THE MID-TERM REVIEW OF VALUE II</b>	<b>8</b>
1. The Review Mandate	8
2. The Review Approach and Criteria	8
<b>III. STRATEGIC AND POLICY ISSUES CONCERNING VALUE</b>	<b>11</b>
1. Strategic Perspective	11
2. Strategic Constraints	13
3. Strategy and Policy Issues	14
<b>IV. INTRODUCTION : THE VALUE II PROGRAMME</b>	<b>19</b>
1. VALUE II Background and Objectives	19
2. Overview of Activities and Expenditure	20
<b>V. REVIEW OF INTERFACE I : RESEARCH - INDUSTRY</b>	<b>24</b>
1. Introduction	24
2. Action Line I.1a : Value Relay Centres Network	25
3. Action Line I.1b : Basic Service (Cordis/Publications)	31
4. Action Line I.2 : Utilisation of Results	36
5. Action Line I.3 : Legal Protection of Results	41
6. Action Line I.4 : Promotional Activities	43
<b>VI. REVIEW OF INTERFACES II AND III : RESEARCH - SCIENTIFIC COMMUNITY, AND RESEARCH - SOCIETY</b>	<b>45</b>
1. Overall Comments	45
2. Findings	46
3. Recommendations	46

## ANNEXES

Annex I	The Council Decision of 29 April, 1992
Annex II	Review Terms of Reference
Annex III	Acronyms and Abbreviations

## I. EXECUTIVE SUMMARY

---

### VALUE IN CONTEXT

Economic development in the whole of Europe will depend greatly in future on the application of well-defined R & D strategies, the promotion of successful innovations and the availability of appropriate technologies. These will be a pre-requisite to creating jobs and ensuring the well-being of all European citizens. R & D and the promotion of innovation are therefore essential activities in fulfilling these aims.

The RTD culture is fairly well-established in Europe : EC-funded RTD currently represents about 5% of all R & D conducted within the European Union. In contrast, however, the culture of utilising the results of this RTD, i.e. the exploitation and dissemination of the outcome of RTD, is not that widespread. The VALUE Programme, which should play a decisive role in promoting the utilisation of RTD and hence in aiding the dynamic economic development of Europe in future, has a budget allocation of only 1% of all EC-funded RTD - far too small to have any real impact.

VALUE I (1989-1993) and VALUE II (1992-1994) were pilot programmes during the Second and Third RTD Framework Programmes. They made it possible to design relevant methodologies and tools to help transform R & D results into real economic activities.

A global policy to ensure these essential activities should now be formulated, adopting a broader strategic vision to include a far greater effort and political commitment. A major initiative, targeted at the promotion of innovation for which the funding would be clearly distinct from the funding of R & D and thus from the Fourth Framework Programme, should be considered in the medium term.

In the meantime, the specific programmes should be invited to work closer with VALUE in order to improve the effectiveness of the promotion of RTD results. In addition, VALUE should concentrate more on SMEs via a more "demand pull" or "bottom-up" approach. Indeed, VALUE's main task is to design appropriate processes to assist SMEs solve the technical problems that they face by calling upon the technical capabilities of R & D labs, wherever these are located in Europe.

## STRATEGIC PERSPECTIVES

1. The major issue behind VALUE concerns the very nature of the results of RTD programmes, given the overall objective of promoting innovation throughout Europe. Conventional wisdom assumes that RTD yields results which may be directly or indirectly exploitable through some adaptation and development processes. However, this is unfortunately seldom the case. It must be recognised clearly that RTD programmes essentially contribute to strengthening the "existing knowledge base" in the teams conducting the work. Making the best use of RTD results thus primarily means exploiting the enriched "existing knowledge base" in order to solve problems encountered throughout the many loops of the innovation processes taking place within and among companies and R & D centres.
2. Both VALUE I and VALUE II were designed with a big agenda without adequate political and financial support. It must be emphasised that the exploitation of RTD results, technology transfer and more generally the promotion of innovation are essential to European economic competitiveness and as such require significant funding, not just a small percent of RTD budgets.
3. VALUE may be considered a back-up initiative, should the participants of an RTD programme not exploit their results in the usual way. However, little or no attention was paid in VALUE to "upstream" or "ex ante" integration of business perspectives into the RTD programmes, i.e. before the RTD project was funded and launched. Is it normal or inevitable that over 50% of RTD projects fall in the "Candidates for Value" category while only about 20% lead to "Autonomous" exploitation by the consortia which conducted the RTD?
4. VALUE fulfils a function which is directly related to other existing activities.
  - National policies, methodologies and tools exist to promote technology transfer and innovation within most countries and at regional level. This includes exploitation of publicly funded R & D.
  - SPRINT aims at promoting "cross-border" technology transfer and innovation.
  - VALUE addresses community funded RTD only.

VALUE might thus have been designed around existing tools stemming from national or SPRINT initiatives, as a communication action towards:

- existing technology transfer agents and their networks;
- existing value added networks of information providers;
- the management team of the specific programmes (ESPRIT, BRITE-EURAM, ...) in the Commission.

The integration of SPRINT and VALUE into a single programme should strengthen the effectiveness of both the VALUE and SPRINT initiatives. More co-operation

between the specific programmes and VALUE would be appropriate.

5. VRCs were created as a decentralised tool for VALUE. They offer a unique opportunity to promote innovation and technology transfer towards SMEs, adopting a bottom-up approach and taking into account the diversity of national and regional cultures encountered in Europe. VRCs should thus be both strengthened and optimised. Along these lines, an in-depth evaluation of the VRCs is recommended.
6. VALUE should be extended to include not only Community funded RTD results but also relevant technologies requiring transfer/exploitation throughout the multiple and complex loops of the innovation process. This would therefore require VALUE to deal also with all other types of RTD results e.g. nationally funded.
7. SMEs should be a definite priority for Community programmes and especially for the promotion of exploitation via the VALUE Programme. VRCs have an important role to play in this process. The Panel recommends that the Commission halt the continual creation of new offices, guichets or similar entities. Decentralisation is clearly appropriate but without co-ordination it leads to wasteful overlaps and duplication.
8. The VALUE approach, initially created in a "technology push" type of mode, should become more demand-oriented or "market pull" based. From that perspective, the concepts behind the experiment currently under way between VALUE and the Structural Funds to satisfy SME needs would seem appropriate. This clearly relates to the "ex ante-upstream" type of reasoning mentioned above.
9. VALUE has been involved directly in exploitation projects covering activities such as marketing studies, business plans, search for industrial partners, tests under industrial conditions, prototyping, patent support, licensing, participation in exhibitions, etc. Shouldn't VALUE's role focus on organising/integrating/promoting/linking, helping to match needs and skills, working more as a catalyst and designer of processes than as a direct player?

Undertaking specific projects may, however, be useful to:

- demonstrate the exploitation mechanisms as well as utilise outstanding R & D results in Member States or Community regions having little experience in exploitation/insufficient pertinent national schemes;
  - serve as examples of concrete outputs of the VALUE Programme whenever an illustration is required by the public (displaying function);
  - keep the VALUE team up-to-date with respect to the difficulties of real life innovation processes;
  - analyse across these projects, to learn from such experiments.
10. How do VALUE/SPRINT/the Fourth Framework Programme/Structural Funds relate to one another from the above viewpoint? More specifically, should not VALUE and VALUE/SPRINT be related increasingly to the structural initiatives of DG XVI, or even to the Industrial Policy of DG III or the SME actions of DG XXIII? The current



pilot initiatives, e.g. with DG XVI, hint clearly in this direction.

11. From such a perspective, the purely administrative funding approach adopted recently of 1% of the specific RTD programmes supposedly devoted to dissemination activities may only be effective if co-ordinated by VALUE.
12. There is a clear need, in parallel to the RTD action, to develop an effective strategy for the promotion of innovation, technology transfer and the exploitation and dissemination of RTD results and knowledge.

## PROMOTIONAL ACTIVITIES

13. Under this action line scientific information arising from Community RTD activities was disseminated by means of publications, information sheets and articles.
14. The FLAIR-FLOW project, a co-ordinated action supported jointly by VALUE and FLAIR, was particularly effective in aiding dissemination of results from European Food R & D. Dissemination took place using various means, the most important being the one-page technical documents in layman's language which were widely circulated.
15. Other important activities under this action were the publication of "Innovation & Technology Transfer News-Letter", "Euro-abstract Catalogues" and "CORDIS Update".
16. Horizontal activities which proved very helpful are the RTD Help Desk and the establishment of Cooperation Network, representing a very good synergistic initiative between VALUE and other EC initiatives and funding sources, e.g., regional funds handled by DG XVI.

## UTILISATION OF RESULTS

17. Exploitation of results is a major action, lying at the heart of the VALUE Programme. 84 projects out of 373 proposals were selected for financial support of actions such as marketing studies, business plans, search for industrial partners, tests under industrial conditions, prototyping, patent support, licensing, participation in exhibitions, etc. Around 40% of the contracts are concluded with SME companies.
18. Although exploitation is a lengthy process, it is clear by now that a substantial proportion of the projects essentially supported during VALUE I could lead to significant results in the near future. The various instruments of assistance available enable VALUE to accommodate better proposers' needs.
19. The source of the VALUE exploitation scheme is only a fraction of what is produced in the individual Member States of the European Union. The exploitation action therefore should not be limited to Community RTD alone but should be expanded to

include all available European RTD results.

20. In order for VALUE to have a major impact on the exploitation of RTD results, the budget needs to be of a different order to magnitude. However, even then, collaboration should be sought with national and international exploitation schemes and potential financing bodies (DG XVI, DG XXIII, EUREKA, CRAFT, national and regional supporting organisations, etc.).
21. The delay caused by the Commission procedures for selection and conclusion of project proposals is too long, hence inefficient and needs to be reviewed in future.

## **METHODS AND TOOLS**

### **Value Relay Centres**

22. The network of VALUE Relay Centres is an interesting initiative that might become the necessary bridge between the European specific RTD programmes and users' needs, especially those of SMEs. It could have important synergistic effects with the national RTD programmes and could act as a transnational European platform for effective dissemination and cross-fertilisation of RTD efforts.
23. Its short operational history indicates a non-homogeneous situation among the different VRCs, some already producing good results while others appearing to lack clear action plans. A revision of the current situation is recommended in order to improve the performance of VRCs in some countries.

### **Cordis**

24. CORDIS is now in its full pilot operational phase and is quite a well known EC initiative, valued by RTD people within the EC and abroad. Together with its success emerges also the need for further improvements, e.g. higher speed in data collection, continuous data updating, more coherent abstracting of primary information in order to obtain more accurate record characterisation (e.g. SIC codes) and better data quality and consistency.
25. These improvements in data presentation and consistency in both on-line and off-line CORDIS products, combined with the VALUE Management Team policy to utilise new technological options, present an opportunity for CORDIS to become very attractive also to users inexperienced with on-line searches and to satisfy simultaneously the increasing demand for well-presented, easily accessible and manageable information. Multi-media CD-ROMs and Context Driven Applications are examples of future technological options within the reach of CORDIS.
26. The recently launched software interface "Watch-CORDIS" demonstrates the above VALUE team policy. The merits of this new product could be enhanced significantly by enabling access through it to the CORDIS CD-ROM data as well.

27. Much should be done in training intermediaries and end users in using CORDIS fully. A better training policy and practice is needed, given that promotion and training should be envisaged as complementary push-pull activities.
28. Publication of sub-sets of CORDIS data should not be considered an indispensable but redundant system. In fact, there is a need for re-formulating the strategy for CORDIS publications from the viewpoint of their actual usefulness and promotion of CORDIS and its products.
29. Promotion of CORDIS should be increased but within an overall marketing strategy. Such a strategy should be formulated before the end of VALUE II, so as to provide a clear direction for CORDIS promotion during the next Framework Programme.
30. The usefulness of CORDIS would be increased greatly by substantially upgrading the content and quality of information on the RTD programmes, RTD projects and other pertinent databases and by incorporating additional EC documentation, e.g. synopses of submitted RTD proposals, abstracts of European Parliament papers dealing with RTD and more general issues of science and technology. Such an upgrading would give it an EC-encyclopaedic character which would have many multi-faceted beneficial effects across the EC.
31. CORDIS is already accessible via several Wide Area Networks, while there is also interest by intermediary organisations in distributing electronically sub-sets of CORDIS. However, before using new options for a more dynamic penetration of CORDIS by distributing sub-sets of CORDIS to other hosts, or even relocating CORDIS from ECHO, a multitude of major policy and technical issues require clarification.
32. In conclusion, a clear overall CORDIS strategy is urgently required, particularly given the limited funds envisaged for VALUE and SPRINT initiatives within the Third Activity of the next Framework Programme. This is needed not only for optimising the service but also for securing its future. The issue of decentralisation or commercialisation of CORDIS should be the cardinal consideration in such a strategy.

### Legal Protection of Results

33. Because of its importance and relatively low cost, the protection of RTD results is an essential part of the VALUE scheme. Patent evaluation of all JRC and some selected Framework Programme research results is executed by the VALUE patent team. Drafting of patent claims, writing patent specifications and patent filing applications are undertaken by professional patent lawyers.
34. Very few patents until now have been granted on patent applications under VALUE. 72 cases have been filed, essentially from BRITE/EURAM and the Life Sciences programmes. Exploitation of RTD results takes years and although no patents taken by the Commission under the VALUE programme have yet been commercialised, several cases of exploitation are under way.

35. The work of the VALUE patent team could be improved through greater involvement by the programme project officers and RTD project partners.

## **INTERFACES II AND III**

36. The activities of Interfaces II and III are new to VALUE and could have a significant impact. However, the importance attached to them by the Commission is insufficient with respect to the magnitude of the tasks involved.
37. *The Commission's strategic approach and planning have benefited the implementation of the actions.* Nevertheless, a clear administrative identity is required urgently for the management team of these tasks, to facilitate its work in approaching the target groups and in developing their activities, not only outside but inside the Commission.
38. Since there is a general lack of awareness about the new issues (Research-Scientific Community/Research-Society Interfaces), the Commission should place greater emphasis on promoting these through campaigns aimed at target groups in the Commission itself as well as in the Member States.

This could involve synergy with Interface I activities, e.g. using VALUE Relay Centres as "distribution networks" for various Interfaces II and III activities.

39. The Commission should consider merging Interfaces II and III, directing more effort and resources, particularly human resources, towards Interface III, "Research-Society" actions.

## II. BACKGROUND TO THE MID-TERM REVIEW OF VALUE II

---

### 1. THE REVIEW MANDATE

On 29 April, 1992 the European Council adopted the Decision (See Annex I) on the Centralised Action or VALUE II for the dissemination and exploitation of knowledge resulting from the specific programmes of research and technological development of the Community.

According to Article 4, paragraph 1 of the Council Decision, "*in the course of the second year of the implementation of the action, the Commission shall review it and shall send a report on the results of its Review to the European Parliament, the Council and the Economic and Social Committee; the report shall be accompanied, where necessary, by proposals for amendment of the action*". In accordance with these statements, the VALUE Programme Committee established the methods and terms of reference for conducting a mid-term review of VALUE II (see Annex II). The requirements include that:

- the Panel will review the extent to which the results achieved contribute to the objectives of the Centralised Action (VALUE II) and to that of the Third Framework Programme;
- this Panel will also assess the efficiency and the effectiveness with which the programme has been managed and promoted.

The Mid-Term Review reference period is May 1992 - April 1994.

### 2. THE REVIEW APPROACH AND CRITERIA

The present Mid-Term Review as well as the Final Evaluation of VALUE I have been conducted at the same time and by the same Panel of independent experts. This fact necessitated common review criteria and provided a better view of the continuity of actions across these programmes. These criteria, presented briefly below, as well as the comments given in the next section on strategic issues, have been incorporated also in the final Evaluation of VALUE I, to form a conceptual bridge between the two reports. This may assist the reader to assess limitations and achievements of both programmes and to deduce what would be needed for devising more effective EC activities to facilitate the utilisation of RTD results.

The approach followed by the Panel included steps such as:

- review of pertinent EC documentation and activity reports;
- interviews with members of the VALUE Management Team, managers of the VALUE Relay Centres (VRCs) and leaders of a few VALUE demonstration projects; and

- extensive discussions in four plenary meetings as well as in several meetings of the working groups that focused on each particular action line of the programme.

With respect to the global review criteria employed, it is to be noted that:

- No quantitative assessment of VALUE-type activities was undertaken as this would be highly unreliable for at least three principal reasons:
  - the promotion of RTD results and the facilitation of their utilisation are complex social processes characterised by "relaxation" times ranging from several years to a few decades. The "life time" of VALUE I, like that of its successor VALUE II, however, is only 3 or 4 years;
  - general experience shows that the probability of successful exploitation of research results is very low, thus requiring quite a large number of RTD results to achieve a statistically meaningful number of "successes", i.e. the placement of products in the markets;
  - the real potential resulting from Community RTD programme lies in the competence, expertise, capabilities and new knowledge created, reinforced or developed by the RTD projects in the R & D teams which conducted the work.

This competence development represents a much greater potential than any directly or indirectly exploitable research results expected to stem from the projects.

Exploitation and transfer of RTD results is always welcome and useful but tends to be the exception rather than the rule. The main challenge is in connecting the relevant skills of researchers and scientists to demand needs.

In fact a separate qualitative assessment of the results in each RTD sector would be similarly unrewarding.

- Consequently and in view of the pilot character and catalytic role of both VALUE Programmes, their overall performance can be reviewed only from such perspectives as, e.g.:
  - were the initiatives designed by the Commission sound and in line with the mandates for this programme?
  - did the VALUE Management Team develop, within the given budgetary and other operational constraints, a coherent workplan of activities for demonstrating new tools and mechanisms facilitating critical stages in the utilisation of scientific and technological knowledge in the EC?

- did these tools and mechanisms prove operative or adequate, even in the limited areas and contexts in which they were tested?
- is the experience from the VALUE exercise useful for designing better EC programmes and activities with a view to exploitation of RTD results?

Finally, the criteria employed for reviewing specific activities were mainly:

- how well an activity was prepared and implemented in proportion to the means available; and
- how useful that activity was for the end users or in relation to the aims targeted.

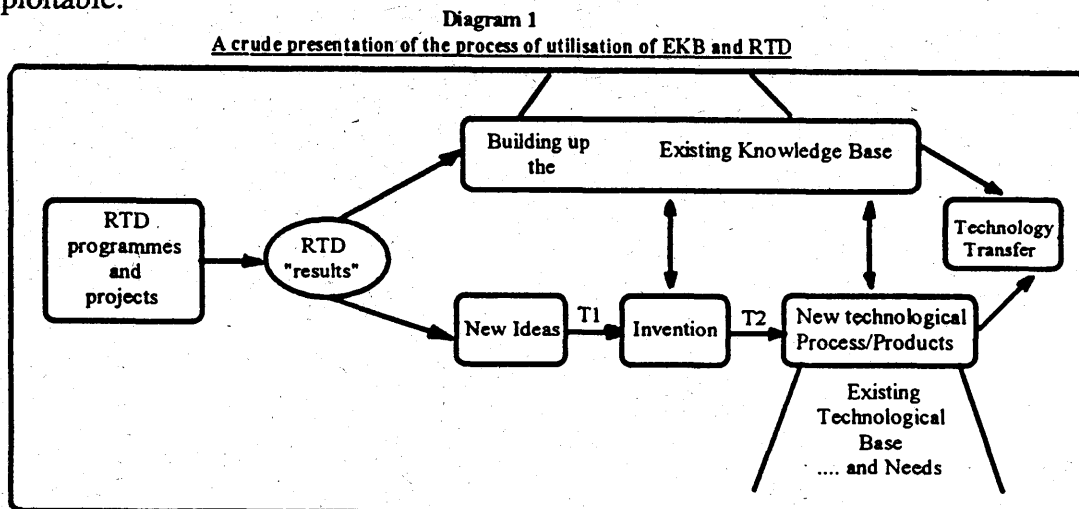
Since the definition of the programme was strictly formulated and rather detailed, the Panel considered it useful and necessary to discuss the strategy behind the programme even though this meant enlarging the scope of the evaluation of VALUE.

### III. STRATEGIC AND POLICY ISSUES CONCERNING VALUE

#### 1. STRATEGIC PERSPECTIVE

In order to evaluate this programme, as well as VALUE II, the strategic goals of these programmes need to be viewed from the perspective of the overall process of utilisation of RTD and of the Existing Knowledge Base (EKB)<sup>(1)</sup>, i.e. of RTD results, scientific and technological competence and technical skills. Such a perspective will also illuminate more clearly the differences in the goals of VALUE and SPRINT. Such a differentiation is needed for the purposes of this Review, since these programmes overlap to a certain extent and in the forthcoming Fourth Framework Programme both will be implemented under the same scheme, i.e. the Third Activity.

In a crude approximation, this process is depicted in the diagram below as a synthesis of EKB and of additional RTD activity in order to transform an idea into an invention and finally into a novel technological process or product that is industrially exploitable.



- In the above diagram, T1 denotes:

the transformation of an idea into an invention by utilising the EKB and carrying out additional research and development

while T2 denotes:

the transformation of an invention into a novel exploitable technological process or product by utilising the EKB and carrying out additional research and development

<sup>(1)</sup> Scientific and technological competence as well as technical skills that built up over a very long period of time. The exploitation potential of EKB is increasing rapidly nowadays since RTD and technology feed into it continuously primary knowledge and technical means.



It is clear that feedback loops and additional loops operate among all the blocks. Furthermore, the above transformations are influenced by assessments of economic parameters and marketing requirements, which are not shown in this diagram. Therefore, the above simplified presentation of the process of utilisation of EKB and RTD is rarely valid.

In these transformations, technological uncertainty diminishes while costs increase significantly as one moves away from the left side of the diagram. Both these trends are due mainly to the following facts:

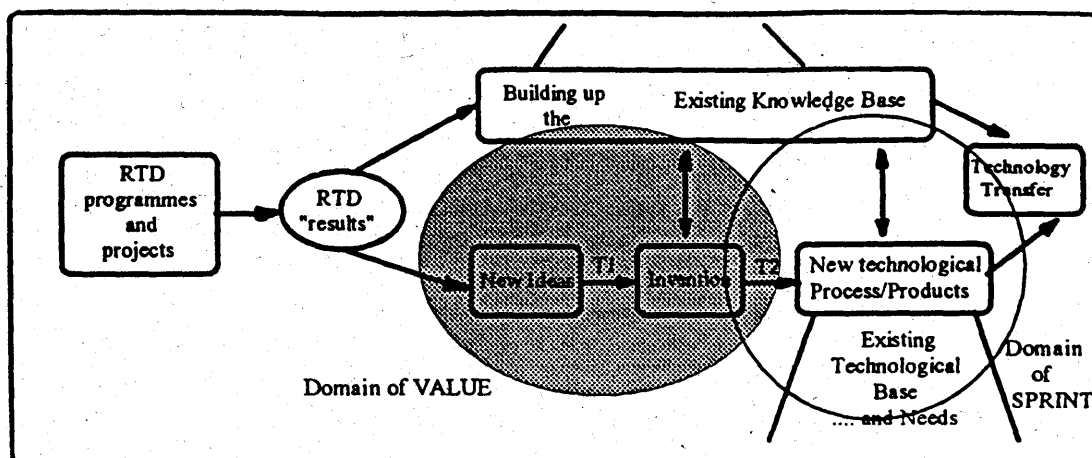
- the exploitation potential of an idea or of a research result can never be estimated immediately with great confidence;
- the demonstration of an invention is a synthesis of the EKB and of a multitude of additional RTD results that have to be achieved;
- the exploitation of an idea or invention does not cease with the development of one particular industrial process or product. For a considerable time after the operation of the novel process or the launch of the first product, market forces and new RTD results create the conditions for recognising new uses for the original idea or invention;
- market and general public reactions to a novel product or technological process is in many cases unpredictable. This response depends in a quite complicated way not only on economic conditions but also on real or perceived needs as well as on ideas prevailing in the public consciousness about science and technology and their social role.

Within the limits of the above illustration of the utilisation process, the main aims of VALUE are to assist the transformations T1 and T2. Within the same format, SPRINT targets the promotion of innovation by transfer of technology, i.e. it seeks to help:

- primarily, diffusion of a novel technology; and
- secondarily, the facilitation of T2 transformation.

Thus, the second main target of VALUE overlaps with the target of SPRINT. Since only VALUE addresses the first transformation, it is obvious that this programme should focus in particular on its first main target and complement SPRINT in the second main target.

Diagram 2  
Main targets of programmes VALUE and SPRINT



This process of utilisation of RTD and EKB is characterised by deleterious complexity, due also to underlying economic and other social phenomena. This complexity requires both a top-down and bottom-up approach in the rationale, strategy and implementation of these programmes. For VALUE in particular a bottom-up approach is necessary since the ambiguities in RTD work are many and the technological success rate is very small. In addition, the diversity in the RTD infrastructure in the Member States and the time-dependence of this infrastructure make a bottom-up approach indispensable for achieving the goals of VALUE.

In view of the above-mentioned features of the utilisation process, and of the importance of VALUE as a catalyst of the whole process and of the limited means made available to both VALUE programmes, their role could be only that of a "designer", "demonstrator" and "co-ordinator" of EC activities, shaping and test-modelling tools and mechanisms to facilitate the utilisation of research results. Although such instruments are to some extent present in technologically advanced Member States, the role of VALUE is to release the synergy hidden in the EU by advancing pertinent cross-border collaborations for increasing the industrial competitiveness of the Community and its cohesion.

## 2. STRATEGIC CONSTRAINTS

-Against the above background, it is clear that the Council Decision about VALUE I reveals mainly a mono-directional, top-down rationale. This is based on the hypothesis that technology push is the only primary driving force in the utilisation process. In this hypothesis, market trends, users' needs and public perceptions of the goals of European society are all considered secondary, weak forces.

Thus, this programme had a priori a strategic handicap. The Council Decision implicitly provided, however, for tools that could serve a bottom-up approach. These tools are the Relay Centres mentioned in action line 1.4 and the measures foreseen in action line 1.5 "utilisation of results"<sup>(2)</sup>. However, a true bottom-up, complementing the top-down, strategy is absent from in the Council Decision.

<sup>(2)</sup> The corresponding action lines in VALUE II are I.1a and I.2, respectively.

Furthermore, VALUE I included strategic goals that were at the time novel for the EC and the Commission. In addition, the programme objectives were very ambitious, since they addressed all EC RTD activities and specified several diverse activities. The objectives of Subprogramme II exemplify this diversity. Thus, the efforts were ex ante fragmented. The resources allocated were, however, very modest with respect both to the goal and to the corresponding needs in the EC. These needs cover a spectrum starting from the diffusion of information on Community RTD programmes and results, via awareness and advice on how to valorise research results, etc. and ending with the introduction of a pan-European electronic communication praxis.

Finally, an additional crucial factor for programme implementation was the limited management freedom granted to the Commission by the Council Decision (see section IV). The design and management of such a multi-faceted and exploratory programme as VALUE ought to be very flexible.

The launch of VALUE I created expectations, therefore, that could not be fulfilled because of such initial constraints.

In view of the above, there was not much room for the Commission, and in particular for the VALUE Management Team, either to re-design the programme strategy, or to develop a strategy based also on a bottom-up approach, or to focus only on a few of the action lines stipulated in the Council Decision, in order to become more effective. Hence the VALUE Management Team aimed primarily at the management of a pre-defined programme i.e. utilising as best as possible the quite modest resources in order to achieve an optimum and smooth programme implementation through the labyrinth of EC modalities and of specific national needs.

In the opinion of the Panel, as will be detailed in the rest of this Evaluation, the management strategy followed has proved to be operative and successful.

Conversely, the context of the VALUE Programme and its constraints raise major strategic and policy questions, as addressed in the next paragraphs.

### 3. STRATEGY AND POLICY ISSUES

- Both VALUE I and VALUE II represent big agendas without adequate financial support.

It must be emphasised that exploitation of RTD results, technology transfer and more generally the promotion of innovation are essential to European economic competitiveness and as such require significant funding, not just a small percent of RTD budgets.

RTD is one thing; proving that some results in terms of competence or new ideas may work is another thing; putting such competence or creative ideas to work through industrialisation is yet a third thing. All three are essential.

At present VALUE is only able to demonstrate partially the second of these activities through specific case studies.

- When exploratory pilot programmes such as VALUE are launched, there should be greater flexibility in their use of the resources available. The strict pre-definition of the budget allocated for each action line obviously limited optimisation of the programme by the VALUE Management Team and Co-ordination Committee.
- VALUE may be regarded as a back-up initiative, should the participants of an RTD programme not exploit their results in the usual way.

However, little or no attention was paid in VALUE to "upstream" or "ex ante" integration of business perspectives into the RTD programmes, i.e. before the RTD project was funded and launched. Is it normal or inevitable that over 50% of RTD projects fall in the "Candidates for Value" category while only about 20% lead to "Autonomous" exploitation by the consortia which conducted the RTD?

It has to be taken into account, however, that VALUE and more specifically VALUE I was designed at a time and in an overall context where "technology push" stemming from "pre-competitive" R & D projects was still the dominant viewpoint. In addition, the Second Framework Programme essentially promoted scientific consortia. It was not until the Third Framework Programme that potential users of RTD project results were more systematically associated with the consortia.

- VALUE fulfils a function which is directly related to other existing activities.
  - National policies, methodologies and tools exist to promote technology transfer and innovation within most countries and at regional level. This includes exploitation of publicly funded R & D;
  - SPRINT aims at promoting "cross-border" technology transfer and innovation;
  - VALUE addresses Community funded RTD only.
- VALUE might thus have been designed around existing tools stemming from national or SPRINT initiatives, as a communication action towards:
  - existing technology transfer agents and their networks,
  - existing value added networks of information providers,
  - the management team for the specific programmes (ESPRIT, BRITE EURAM,...) in the Commission.

The integration of SPRINT and VALUE into a single programme as foreseen by the Fourth Framework Programme is thus positive and should strengthen the effectiveness of both the VALUE and SPRINT initiatives.

- Similarly, more co-operation between the specific programmes and VALUE would be appropriate, especially for upstream activities.

More attention should be devoted to clarifying property rights matters among partners before RTD projects are launched, with the specific objective of facilitating subsequent valorisation and avoiding its obstruction by any of the partners.

In addition, exploitation can be promoted more readily if progress is monitored in real time.

Systematic screening following project termination is useful but not as efficient. Information coming from the projects should be processed immediately in a format compatible with CORDIS's architecture and structure. A one-page summary in the CORDIS format at least mid-term and at the end of each project should be mandatory for the contractors in order to facilitate the acquisition and thus the dissemination of appropriate information through CORDIS.

Specific programme officers could help a great deal in such real time monitoring and appropriate processing of information. They could clearly rely more on VRCs to conduct part of this work and effect some form of quality control/purification of the data as well as to add value to the information provided.

It should be emphasised that the way information is processed currently within the specific programmes leads to very high costs for CORDIS in gathering and restructuring data. In addition, for the same reasons, the resulting database quality is not always wholly satisfactory. The corresponding savings in the CORDIS budget could be directed to other action lines.

Similarly, the Panel recommends that users should pay for the VALUE database services: the financial survival of CORDIS, its maintenance and future development all point to this necessity.

- The VRCs need to be positioned clearly with respect to existing SPRINT networks in charge of technology transfer and the promotion of innovation at the Community or national level.

The tools used by VRCs should draw upon experience from existing packages but adapted to specific needs and should include a stronger conceptual approach related to the innovation processes, seen from not just the purely technical perspective.

In addition there is a need for these tools to include a clear combination of a European integrating spirit and a recognition of the need to adapt the technology transfer and innovation processes to local and national characteristics. The Panel recommends promotion of personnel exchanges among VRCs to build confidence in Europe among younger staff.

- Along similar lines, VALUE should be extended to include not only Community funded RTD results but also relevant technologies requiring transfer/exploitation throughout the multiple and complex loops of the innovation process. This would therefore require VALUE to deal also with all other types of RTD results e.g. nationally funded.

Moreover, it would be appropriate to encourage national governments and public bodies progressively to adopt the CORDIS format and organisation of information.

- SMEs should be a definite priority for such activities. VRCs have an important role to play in helping to exploit the potential of Community RTD towards SMEs.

However, the approach to SMEs by the operators of various programmes should be organised as far as possible in such a way as to avoid multiplication of channels of information and support.

The Panel recommends that the Commission halt the continual creation of new offices, guichets and similar entities. Decentralisation is clearly appropriate but without co-ordination it leads to wasteful overlaps and duplication.

Experimentation conducted by some VRCs to set up a dialogue with SMEs through technical co-operative organisations proved very useful. The Panel recommends that such an approach be promoted.

- The VALUE approach, initially created in a "technology push" type of mode, should become more demand-oriented or "market pull" based. From that perspective, the concepts behind the experiment currently under way between VALUE and the Structural Funds to satisfy SME needs would seem appropriate. This clearly relates to the "ex ante - upstream" line of reasoning mentioned above.
- Along the KLINE & ROSENBERG (1986) chain-link model of innovation, the major issue for VALUE would be to link SMEs with a specific technological problem to a source of adequate competence in a laboratory which was funded by the Commission - or elsewhere. This clearly relates to Diagram 1 presented earlier in this section.

Of course exploitation and transfer of RTD results is always welcome and useful but tends to be the exception rather than the rule. The art is in connecting the relevant skills of researchers and scientists - wherever they are - to demand needs.

This again points to the integration of VALUE and SPRINT activities as a means of strengthening both initiatives.

- VALUE has been directly involved in exploitation projects covering activities such as marketing studies, business plans, search for industrial partners, tests under industrial conditions, prototyping, patent support, licensing, participation

in exhibitions, etc. Shouldn't VALUE's role focus on organising/integrating/promoting/linking, helping to match needs and skills, working more as a catalyst and designer of processes than as a direct player?

Undertaking specific projects may, however, be useful to:

- demonstrate the exploitation mechanisms as well as utilise outstanding R & D results in Member States or Community regions having little experience in exploitation/insufficient pertinent national schemes;
  - serve as examples of concrete outputs of the VALUE Programme whenever an illustration is required by the public (displaying function);
  - keep the VALUE team up-to-date with respect to the difficulties of real life innovation processes;
  - analyse across these projects, to learn from such experiments.
- How do VALUE/SPRINT/the Fourth Framework Programme/Structural Funds relate to one another from the above viewpoint?

More specifically, should not VALUE and VALUE/SPRINT be related increasingly to the structural initiatives of DG XVI or even to the Industrial Policy of DG III or the SME actions of DG XXIII? The current pilot initiatives, e.g. with DG XVI, hint clearly in this direction.

- From such a perspective, the purely administrative funding approach adopted recently of 1% of the specific RTD programmes supposedly devoted to dissemination activities may only be effective if co-ordinated by VALUE. Furthermore, it could be potentially counter-productive because it would not take account of programme-specific needs (cost, duration, barriers, etc.) and, above all, the multidisciplinary/multitechnological nature of innovation.
- Beyond RTD activities, there is clearly a need for activities to promote innovation, technology transfer and the exploitation and dissemination of RTD results and knowledge.

Past experimentation and pilot stages should now lead to the explicit formulation of a global policy securing these essential activities into a larger strategic vision.

A major initiative, for which the funding would be clearly distinct from the funding of R & D and thus the Fourth Framework Programme and targeted at the promotion of innovation, should be considered in the medium-term.

This recommendation thus clearly goes beyond the scope of VALUE.

## IV. INTRODUCTION : THE VALUE II PROGRAMME

---

### 1. VALUE II - BACKGROUND AND OBJECTIVES

The VALUE II Programme or "the Centralised Action for the dissemination and exploitation of knowledge resulting from the specific programmes of research and technological development (RTD) of the Community" was started in May 1992 during the Third Framework Programme and is scheduled to end in December 1994 during the initial stages of the Fourth Framework Programme.

The Third Framework Programme envisaged that the measures for disseminating knowledge and results arising from the specific and supplementary programmes shall be implemented, on the one hand, by these programmes themselves and, on the other hand, by means of the Centralised Action. The general aim of this Action is to give specific added value to the whole range of Community RTD activities which are the subject of the Third Framework programme (1990-1994), co-ordinating and supplementing the measures taken under the specific RTD programmes. More specifically, the main objective is to promote the dissemination, utilisation and exploitation of research results of EC RTD activities with a view to attaining the declared aim of the Framework Programme. Exploitation in the sense of producing and marketing new products is not part of the VALUE II objectives.

The Council Decision (see Annex 1) for the Centralised Action or VALUE II was adopted on 29 April 1992 and allocated to this programme a budget of 57 MECU. Later, by the Decision 93/167/ Euratom, EEC, of 15 March 1993, this amount was revised to 66 MECU. Thus, the funds allocated for VALUE II are higher than those for VALUE I, but they still represent only a small fraction (1%) of the total budget for the whole Third Framework Programme. Therefore VALUE II was given inadequate means for promoting to any great extent RTD results or for facilitating effectively their utilisation across the EU.

VALUE II provided continuity for the measures carried out during 1989-1993 under Subprogramme I of VALUE I and also introduced new topics of strategic importance for promoting the utilisation of knowledge. These new topics focused on:

- the interdisciplinarity of research; and
- the repercussions of RTD activities and of their results on society as a whole.

More particularly, the Council Decision specified that the Centralised Action should be implemented:

- in accordance with the principles of Horizontality, Complementarity and Subsidiarity; and
- along three Interfaces; those of "Research-Industry", "Research-Scientific Community" and "Research-Society".



The objectives set for each of these Interfaces can be summarised as follows:

- Interface I, "Research-Industry", for improving the international competitiveness of Europe's industry in accordance with the provisions of the EC Treaty by means of specific projects designed to maximise the impact of Community RTD activities on industry as a whole.
- Interface II, "Research-Scientific Community", for contributing to an interdisciplinary reflection on research, its methods, problems and impact.
- Interface III, "Research-Society", for identifying and studying the social impact of the new scientific and technological knowledge acquired as a result of Community activities as well as for providing information to the public with the aim of ensuring that changes in the contemporary approach to science are compatible with developments in society.

It is clear that the overall budget of VALUE II is very modest in relation to its objectives. The funds allocated to Interfaces II and III, in particular, were not adequate for launching any substantial field initiative. Thus, like its predecessor programme, VALUE II created expectations that were impossible to fulfil.

With respect to procedural matters, a limited management freedom was granted to the Commission<sup>(1)</sup> by the Council Decision. According to Article 5 of this Decision, the Commission is responsible for the implementation of the programme, while Articles 6 and 7 stipulate that a Committee of representatives of the Member States assists the Commission with programme implementation by delivering opinion on the measures proposed by the latter. The mechanisms for the utilisation of RTD results and for technology transfer differ, however, among the Member States. The Commission and the Committee obviously had to take into account this diversity.

Finally, the measures of VALUE had to comply also with the legal and contractual conditions governing Community RTD projects. About 90% of these are carried out under shared-costs contracts and therefore the contractors are the owners of the results and are responsible for exploiting these or otherwise. Only JRC results are owned by the Community.

## 2. OVERVIEW OF ACTIVITIES AND EXPENDITURE

The following tables depict the main activities carried out per action line of the programme, and their corresponding costs.

Within the above-mentioned operational and budgetary limits and with the consent of the Committee of national representatives as well as with assistance from experts' opinions, the VALUE Management Team devised a workprogramme and formulated an operational approach for all three Interfaces of VALUE II. Table 1

---

<sup>(1)</sup> The new term "European Commission" is not used in this Review so as to avoid confusion with the term "European Communities" (EC).

below indicates the main activities within Interface I and the funds spent until 1 January 1994.

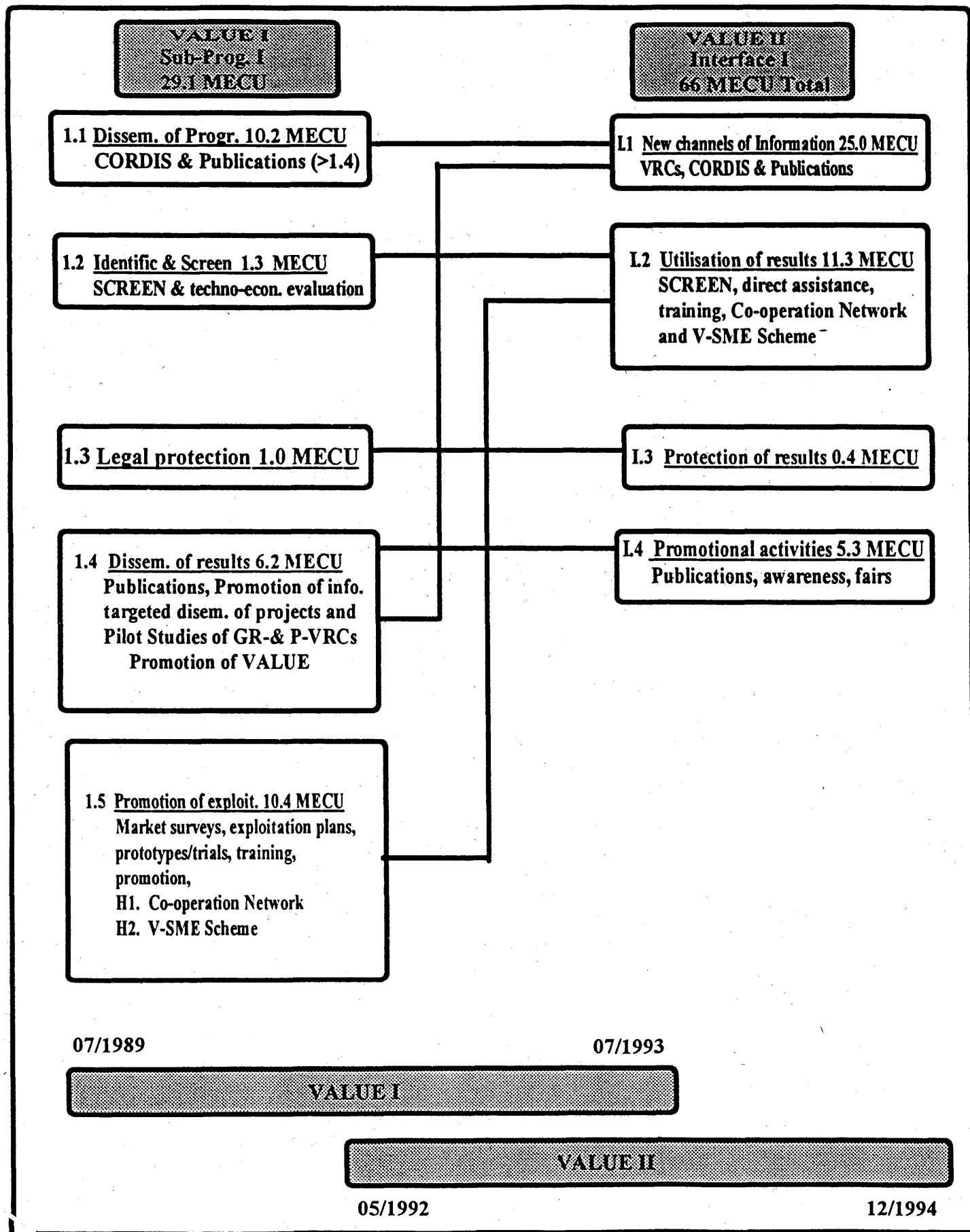
Table 1

LINES OF ACTION OF INTERFACE I		Cost (MECU)
I.1a	VALUE Relay Centres	13.4
I.1b	CORDIS and publications for dissemination	11.6
I.2	Utilisation of results	11.1
I.3	Protection of results	0.4
I.4	Promotional activities	5.3
Total Expenditure until January 1994 >		41.8
Above expenditure as percentage of budget >		75

The connections between the activities within Interface I of VALUE II and those in Subprogramme I of VALUE I are illustrated in the following diagram.

# Diagram 1

**Correlation between the main action lines of Programmes  
VALUE I/Subprogrammme I and VALUE II/Interface I  
( VALUE II action line budgets indicated are those spent by January 1994 only)**



The following two Tables depict the main activities within Interfaces II and III and the corresponding estimated expenditures to around March/April 1994.

Table 2

ACTIVITIES WITHIN INTERFACE II		Cost (MECU)
1	Studies, surveys, evaluations	0.6
2	Promotion, awareness, seminars, etc.	0.4
3	Directories, databases, documents	0.05
Total Expenditure until April 1994 >		1.05
Above expenditure as percentage of budget >		37

Table 3

ACTIVITIES WITHIN INTERFACE III		Cost (MECU)
1	Studies, surveys, evaluations	0.4
2	Promotion, awareness, seminars, etc.	0.3
3	Directories, databases, documents	0.05
4	Contribution to TA within the EC	0.3
Total Expenditure until April 1994 >		1.05
Above expenditure as percentage of budget >		41

## V. REVIEW OF INTERFACE I : RESEARCH - INDUSTRY

---

### 1. INTRODUCTION

In this section the Panel records its views and relevant comments on the initiatives undertaken overall and within each activity of Interface I of the VALUE II Programme. These comments encompass global issues relating to these activities following a detailed examination of the various initiatives involved.

The Council Decision for VALUE II, as in the case of its predecessor VALUE I, specified several diverse activities. Within the limitations outlined earlier of the Council Decision, the operational approach of the VALUE Management Team for Interface I was based principally on the experience gained from the activities already launched in VALUE I. In fact, the Council Decision of VALUE II stipulated practically the same action lines as in VALUE I (see Diagram 1 in previous section).

Therefore, the upgrading of these activities was the main goal of this approach and indeed, as shown earlier, the efforts focused on:

- the setting up of the VRCs, i.e. action line I.1a;
- the direct facilitation of the utilisation of RTD results; i.e. action line I.2;
- the upgrading of CORDIS and dissemination in general, i.e. action line I.1b; and
- promotional activities, i.e. action line I.4.

In the case of Interfaces II and III, the operational approach comprised an initial diagnostic phase and a follow-up phase of pilot activities. The work programme devised for the first phase included a few studies in order to:

- gain an overview of pertinent current practice within the EC, the USA and Japan; and
- obtain suggestions for pilot activities.

This work programme foresaw that during the follow-up phase pilot activities would be launched with a view to creating tools that could be useful later in the EC initiative during the Fourth Framework Programme, addressing issues similar to those of these two Interfaces.

The Panel notes that in the case of Interfaces II and III, the Commission followed an effective methodology for forging a coherent operational approach and work programme.

## 2. ACTION LINE I. 1a : VALUE RELAY CENTRES NETWORK

### 2.1 Overall Comments

The VALUE Relay Centres (VRCs) represent, in principle, a very interesting and innovative tool for contributing together with other VALUE and specific programme actions to the dissemination and exploitation of Community RTD results.

Among the whole range of VALUE activities it is the VRCs which have the closest contacts with the potential users of results in terms of both geography and requirements and may constitute for many SMEs the sole or main contact point not only with the VALUE Programme but also with the complete Framework Programme of the European Union.

Therefore, the role that the VRCs could play is of great importance not only in terms of image but also and especially in terms of their ability to act as a bridge between SMEs' technological needs and the research efforts of the European programmes and, potentially, of the national ones as well.

VRCs are hence a horizontal network for all Community Programmes, necessitating their interactive participation and co-operation in order to achieve project objectives.

Furthermore, once this VRC network is well established and integrated with the SMEs innovation process, VRCs could play a certain monitoring and feedback role on behalf of the Commission, through independent staff attached to the management units of the specific programmes, since we found it was very important to have on-going assessment of the real potential for application of the European research efforts.

VRCs may also play a significant role in the less technologically advanced countries, where the SME innovation environment is poor, to aid assessment of the national science and technology programmes and thus obtain maximum synergy with the European programmes. Since industry in these regions lacks the maturity to participate fully in research programmes but can benefit from RTD results, VRCs can help by disseminating transnational results.

Conceptually, VRCs constitute a significant step forward in the decentralisation process. They can act much more efficiently than the centralised units of the Commission, promoting innovation awareness among SMEs and filtering to them those European technological achievements which could prove useful for their own needs.

In this respect, extending their technological remit to include results other than those derived from European projects (national or international) would certainly improve the performance of the VRCs.

The Panel members have visited a large number of VRCs in their own country and abroad but a specific evaluation on the overall performance is, at such an initial stage, almost impossible. For example, some VRCs just started a few months ago; and while it is relatively easy to obtain information on partnering roles, which in most

cases have been carried out very well, the valorisation of existing RTD results is a long-term and difficult activity.

The reasons for this diversity stem from differences relating to:

- the country or region: the existing technological situation, innovation awareness, amount and quality of available technological promotion agents;
- the selected organisation, where the VRC is placed: previous experience, on-going similar activities, ranking of VALUE goals within their own priorities;
- the people: specifically contracted or existing staff, devoted full-time or sharing activities, young or professionally qualified people;
- the philosophy and approach in achieving the VALUE objectives.

It is clear, therefore, that each VRC not only faces differing demands but the initial expertise of each VRC host organisation is also non-homogenous. Although such plurality of requirements and diversity of expertise are positive features each VRC host should define in future its strategy and methodology within an overall organisational business plan as well, complementary to its actual workplan. Some VRCs have already executed such well-defined plans but others need to do so urgently, given their almost one year of operation.

## **2.2 Operational Aspects**

The concept and size of VRCs are basically different from those of other existing networks. VRCs are focused clearly on RTD activities and have the potential to achieve a real networking operational system. Advantage must be taken of this singular opportunity, although the VALUE/SPRINT merger provides additional possibilities for exploiting synergies with some of the most active SPRINT networks as well as with other SPRINT initiatives (venture capital fora, technology transfer days, etc.) with which VRCs could be associated.

The work of the most dynamic VRCs in their first year is encouraging, having yielded some good results and proven the idea's merit. As a result of the existence of a local interface between European RTD programmes and projects and local organisations interested in them, many companies, mainly SMEs, all over Europe have contacted the VRCs. After all, the Relay Centres know the local companies, have direct links with them, talk their language and apply a pro-active approach to their work.

Transnational technical assistance processes, road shows for bringing Community results to companies in small villages, dissemination of technological opportunities through existing national sectorial organisations, promotion of direct technology transfer projects to the less advanced regions using structural funds from DG XVI, etc. are good examples of VRC activities to date.

Nevertheless, not all the initially nominated VRCs performed well during this period and therefore an in-depth evaluation and eventually the substitution of some of them will be recommended.

One of the most important and challenging aspects of the VRC system is its networking character. Real networking will occur only with the active participation of the VRCs themselves and this needs to improve. The VRC central unit must act as a catalyst for this process by supporting joint actions between Relay Centres from different countries.

In general terms, the VRCs should be mainly project-oriented, endeavouring to create an environment of co-operation with and assistance to the SMEs in the region. Simultaneously, they must also provide a continuous service to local companies, acting as a help-desk for European technological programmes at local level.

The VALUE central unit should stimulate the work of the network and provide support upon request from the VRCs while controlling and co-ordinating the budget and overall operation.

During discussions with VRCs the phrase "less paper and more information" was often mentioned. Some VRCs stated that the evaluation forms and some dissemination sheets provide little added value, hence an assessment of this process would be useful. VRCs need "real time information" which can come only from the project officers and the specific programmes following the RTD contracts. The VALUE mandate is to establish and manage the network but information supply is a joint effort which needs to be improved.

The role of CORDIS as supplier of information is very important. Currently VRCs use 20% of CORDIS connection time and have proved to be frequent users of the system at local level, often following a demand-pull approach, referring to CORDIS to satisfy local company needs.

However, VRCs found a significant amount of out-of-date addresses and other facts about the research centres and companies in their regions. Therefore, a simplified method for communicating with CORDIS to avoid such errors should be implemented.

During this initial VRC operating phase the specific programmes had little motivation in supplying VRCs with technological results. Moreover, the VALUE central unit screening activities became fully operational only very recently. These could be the reasons why the results that the VRCs aimed to exploit were probably not the best that the specific programmes could supply.

On the other hand, VRCs are placed in a very difficult position given both the pre-competitive character to date of Community research and the usual channels of exploitation of good results through consortia.

Once relevant projects have been identified and VRCs have assisted transnational exploitation of results, they require as a final step the necessary funding schemes. The absence of a supportive financial environment for promoting innovation, particularly within VALUE for exploitation projects, has been a major drawback, inhibiting larger scale results.



## 2.3 Organisational Aspects

In many cases, mainly due to the nomination procedure followed, the VRCs created were centred on national or regional technological official institutions. This can have certain advantages, enabling them to offer potential users a whole package of support measures which can be applicable to the RTD projects with which the VRCs are working and allowing the limited assistance from VALUE to complement national measures.

However, this can become a disadvantage if the institutions aim to do everything by themselves, ignoring other technology agencies that could be in some cases potentially more suitable for certain actions.

In this respect, thorough consideration should be given to a merger between VALUE and SPRINT in order to obtain as efficient a co-operation as possible with those SPRINT networks that are likely to continue operating in future.

Another potential danger of being centred on an official organisation is the danger of being marginalised, with VALUE support being used as an external financial source to supplement the organisation's own activities, which is clearly against the subsidiarity principle.

The VRCs' structures are, in most cases, rather generalist while the SMEs want to discuss their problems with people who understand the opportunities and situations of their own activity sector.

The first set of VRCs was established using a nomination procedure which took into account the current national situation and problems rather than professional criteria. As a result of this situation some drawbacks have been identified during the initial operating period and the VALUE Management Committee needs to enable the VALUE central unit to revise and implement the changes required to improve operation of the system.

In order to accelerate dissemination and exploitation of results, some kind of incentives could be offered to those centres which achieve better results or which modify and adapt their methodologies to enable them to deal more dynamically with changing industrial and technological situations.

It could be interesting also to establish a VRC within regional technological organisations for a pre-determined period of time and then move it to another one provided that the contacts and activities in the first can be sustained.

The number of VRCs should not be rigidly determined and should allow for a certain amount of mobility and change. Nevertheless, if networking is one of the main goals the numbers should not be much greater than exist currently.

## 2.4 Conclusions

If the European Union considers that valorisation of research results and an interface between user needs and research programmes is important for Europe's future, then

something like the VRC system must exist. The Commission should recognise the high strategic value of this already existing VRC network.

It is also important that this new VRC tool is established in places where, through the complementarity and subsidiarity principles, the synergies with existing organisations allow for maximum operational efficiency, provided that VALUE goals are given sufficient attention and priority.

The whole concept of VRCs, if it proves successful in the medium-term, may contribute to demonstrating the efficiency of decentralised actions, regionally oriented and therefore closer to user needs.

In view of the direct connections between most VRCs and the national science and technology programmes of the Member States and in view of the current limited number of centres which can still be managed in a co-ordinated way, real networking among all of them is possible and would provide distinctive, qualitative value to this new VRC tool.

The networking character might become one of the most important assets of the VALUE Programme in the medium-term and could increase not only the performance of the system in terms of concrete deals concerning exploitation of results but also and more especially lead to greater indirect effects which may be difficult to measure but easy to identify and appreciate.

Despite the efforts invested, few results can be expected from a top-down basic procedure based on the pre-competitive results of Community specific programmes, so the trend towards a more balanced situation between offer-push and demand-pull, undertaken by some VRCs, are to be highly commended and should be followed by other VRCs.

## **2.5 Recommendations**

The VRCs' role and objectives need to be adapted to existing financial resources and therefore an increase in funds will ensure more ambitious results. Hence the compulsory contribution by the specific programmes of 1% for dissemination and exploitation might optimise results if totally or partly channelled through the VRC system. This will also have the benefit of integrating more closely the specific programmes with the VRCs' work.

In order to achieve their goals better and be consistent with the decentralised approach VRCs should have a higher degree of autonomy, giving them the responsibility over decisions concerning VALUE assistance to local proposals such as feasibility awards, etc.

To strengthen the networking structure among all the VRCs cross-training of VRC personnel in other centres is highly recommended. This should last a minimum of three months and should be based on preference, not reciprocity. Such personnel should be fully integrated from the very beginning within the current activities of the host VRC, which at the same time would have some of its own personnel working in another VRC.

Clear instructions should be given to the more centralisation-oriented VRCs, recommending them to co-operate with other existing agents such as sectorial organisations which could amplify greatly the VRCs' actions.

The existing two-way communication procedures between the VALUE central unit and the VRCs must be improved although the supply of information to the VRCs should be the joint responsibility of all the Commission services involved in RTD programmes.

Closer contact, if requested, between the officials responsible for the specific projects during the development period and the VALUE central unit or directly with the VRCs is necessary in order to obtain real time information. Otherwise parts of the results become obsolete even before start-up of the exploitation activities.

VRCs must become a kind of technological agent and must be allowed to work with a whole range of European or even non-European technologies, not only those arising from the specific Framework Programme projects, in order to increase the penetration of new technologies among European SMEs.

Full-time dedicated personnel must be compulsory; procedures to train VRC personnel must be defined and implemented by the VALUE central unit; job profiles regarding personnel experience and background must be established.

The Panel highly recommends a detailed evaluation by external experts of each one of the VRCs, not later than the end of 1994. For such an evaluation a set of evaluation criteria, specific to each VRC, needs to be defined in order to take into account the differences in the overall conditions and the corresponding goals and business plans to be accomplished in the near future for each one of these units. Continuous monitoring during the initial years might be advisable.

The VRCs which were not producing satisfactory results according to the specific goals and methodologies originally presented to, and approved by VALUE must be substituted. The procedure and the requirements for selection of the new centres must be studied carefully. A call for proposals (open or restricted?) asking for a business plan and methodologies to be applied must be evaluated also by the independent experts who would report according to professional criteria any final decision to VALUE.

### 3. ACTION LINE I. 1b : BASIC SERVICE : COMMUNITY RESEARCH AND DEVELOPMENT INFORMATION SERVICE (CORDIS)

#### 3.1 Findings

CORDIS was launched in 1990 on an experimental basis under VALUE I and currently presents the only provider of a unique collection of correlated information on Community RTD activities and results (for details see final evaluation of programme VALUE I). Currently, there are about 6,300 users of CORDIS who retrieve information from 105,000 records, organised in eight databases. Although CORDIS has not been intensively promoted during VALUE I<sup>(1)</sup>, the number of users increased since 1992 at the rate of about 500 users/per month. This steady increase is most probably due to the fact that currently CORDIS is now the only provider of a unique collection of correlated information on EC RTD matters. This collection was recognised as having the potential of being very valuable to many categories of users for obtaining information on basic EC RTD initiatives, projects, results and acronyms, as well as on organisations seeking partners for RTD activities, on EC policy documents, etc.

Today, mid-term of VALUE II, one can safely say that CORDIS is a EC product that is esteemed by its users and its existence is quite well known within the scientific and technological community. In fact, a "Users' Survey Study" conducted between late 1991 and early 1992 as well as a "Marketing Study" that followed showed that CORDIS was, even at that early stage, well accepted. However, the recommendations of these studies influenced CORDIS upgrading only during VALUE II, i.e. following considerable delay.

A solid, although approximate, assessment of the importance of CORDIS can be obtained by comparing operational features of this Service with those of ECHO which offers, in addition to CORDIS, many more databases with diverse information on Community and other issues.

**Table 3.1**  
(Data of February 1994)

Operational Feature	CORDIS	ECHO	CORDIS/ECHO (%)
Number of databases	8	33	24
Number of Host access	73252	260571	28
Connect hours	10470	46506	23

---

<sup>(1)</sup> The Panel that conducted the Mid-Term Evaluation of VALUE I recommended that *"the current external promotion of CORDIS aimed at attracting new users should be suspended at this point in time until the necessary improvements have been effected"* (February 1992).

Thus, the usage of CORDIS and ECHO is roughly proportional to the number of their databases. However, the fact that CORDIS contains very specialised information emphasises the significance of this Service. This significance emerges clearly also from the data in Table 3.2 given below:

**Table 3.2**  
(Data of February 1994)

Users' Environment	%
Administration	9
Research	18
Industry	23
Education	16
EC	10
Network Focal Points	14
Other	10

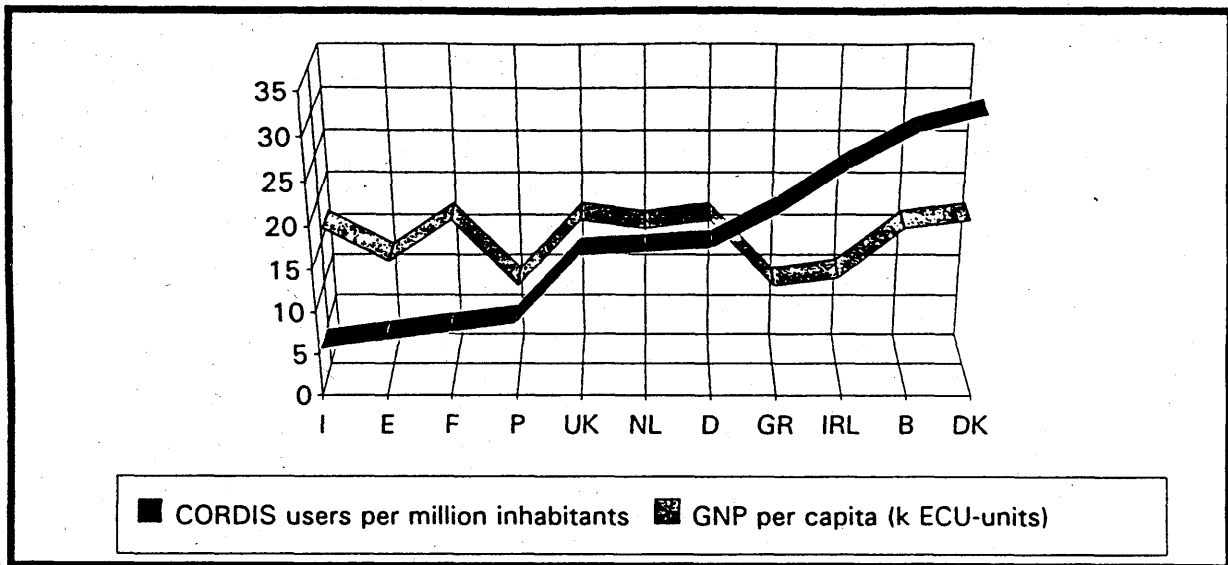
Users' Category	%
Intermediaries	14
End users, directly	86

The figures above indicate that most CORDIS users are from universities and other research institutions as well as from industry i.e. CORDIS has indeed attracted the users targeted primarily by VALUE.

The diagram shown overleaf corroborates the importance of CORDIS as an EC tool for promoting RTD activities and facilitating the utilisation of RTD results.

**Diagram 3.3**

**Number of CORDIS users per million inhabitants and GNP per capita for the various Member States<sup>(2)</sup>**



The above diagram indicates clearly that CORDIS usage is almost independent of GNP per capita. CORDIS penetration seems to be controlled by other factors, probably linked to effectiveness of national structures in disseminating information on EC RTD programmes and results. Such GNP - independence emphasises the strategic importance of CORDIS as a "wide-band" EC tool for disseminating information on RTD across the European Union.

During VALUE II, the objective of the Value Management Team has been to upgrade CORDIS from its experimental phase under VALUE I to a full operating pilot phase. The databases have been enriched further, new CORDIS off-line products are being developed and the overall quality of the Service is improving. The strategy behind these developments was formulated on the basis also of a "Users' Survey Study" delivered in early 1992 and a "Marketing Study" that followed.

<sup>(2)</sup> Luxembourg (with a GNP per capita equal to 19.23 k ECU) is not shown in the diagram, since it scores 240 users per million of inhabitants. This huge value falls outside the scale used and might be due also to the fact that CORDIS is based in this Member State.

According to the opinion of the Panel, CORDIS has already entered the aforementioned pilot phase and is nowadays a rather well known EC initiative that is esteemed by RTD people within the EU and abroad. These results led to the substantial improvement in the quality of data and in the overall operation of the service. These improvements are mainly connected with the:

- collection of information (operation of a CORDIS Data Collection Unit in Brussels); and
- database production (development of a Common Production System).

Together with the success emerges also the need for further improvements, e.g. increased speed for data collection, more uniform abstracting in order to obtain more accurate record characterisation (e.g. SIC codes) as well as more homogeneous records content.

### 3.2 Conclusions and Recommendations

Against this background, the Panel makes the following more specific comments and recommendations:

- Much better data presentation and consistency in both on-line and off-line CORDIS products has already been accomplished. This improvement, combined with the VALUE Management Team policy to utilise new technological options, provides CORDIS with an opportunity to become very attractive also to those users who are inexperienced with on-line searches and, at the same time, to satisfy the increasing demand for well-presented, easily accessible and manageable information. Multimedia CD-ROMs and Context Driven Applications are examples of future technological options within the reach of CORDIS.
- The recently launched software interface "Watch-CORDIS" bears out this VALUE Management Team policy. The performance of the Data Version of this interface provides convincing proof that Watch-CORDIS can be a success, because it frees both experienced and inexperienced users from the tedious steps of on-line connection and from the need to memorise field names, commands, etc. It also provides for the first time a platform for a better management of the information downloaded from the databases. The merits of this new product could be enhanced significantly by enabling access through it to the CORDIS CD-ROM data as well.
- Much should be done in training intermediaries and end-users in obtaining the most out of CORDIS. A better training policy and practice is needed, particularly now that the availability of user-friendly products, i.e. CD-ROM and Watch-CORDIS are expected to minimise the need for merely technical training (CCL commands, etc). Training, therefore, should from now on focus on issues such as database structure and content, methods for designing a query, links between databases, tips for retrieving "hidden" information, etc. It is also to be noted that promotion of and training for CORDIS should be envisaged as a twin push-pull activity which is of critical importance for

maintaining a continuous penetration of CORDIS within its target groups and for keeping alive the interest of the Service's users.

- Sub-sets of CORDIS data are printed in various forms, e.g. "CORDIS focus", catalogues of research projects, of acronyms, etc. These publications assist the dissemination of Community RTD data as well as the promotion of VALUE and CORDIS itself. However, publications should not be envisaged as an indispensable but redundant system for the data in a database. For example, Acronyms publication is useful because it is handy in everyday work. In contrast, the "Catalogue of Research Projects in the Third Framework Programme" exemplifies a rather unnecessary duplication. Therefore, there is a need for reformulating the strategy for CORDIS publications with a view to their real usefulness and to promoting CORDIS and its products.
- For increased promotion of CORDIS greater use should be made of techno-economic journals, pertinent professional or sectorial associations, networks of research and industrial societies, organisations of public interest as "distribution channels" for CORDIS products and for VALUE activities in general. Obviously the VALUE Relay Centres could play also a major role in such pro-active promotion. These suggestions and the current promotional activities should be formulated as a marketing strategy before the end of VALUE II in order to provide a coherent lead for the promotion of CORDIS during the next Framework Programme.
- Obviously, CORDIS could be best promoted by itself if it would develop into a practical encyclopaedic reference source for information on Community RTD activities overall. It would increase greatly the usefulness of CORDIS if both the content and quality of information on the RTD-programmes, RTD-projects and other pertinent databases would be substantially upgraded and additional EC documentation would be included, e.g. synopses of submitted RTD proposals, abstracts of European Parliament papers dealing with RTD and more general issues of science and technology. Such an upgrading of CORDIS would render to it the character of an EC-encyclopaedia, a feature that would have many multi-faceted, beneficiary effects across the EU.
- An obvious additional step in expanding the CORDIS databases is the incorporation also of national RTD programmes, projects and results. The simple idea of collecting and recording such data by the CORDIS team would demand funds that are far beyond those which are presently available or foreseeable under Activity 3 of the Fourth Framework Programme. It would also derail this very good EC Service, would be a waste of EC resources and would also be against the principle of subsidiarity. The approach under consideration by the CORDIS team is realistic and proposes the creation of a new CORDIS database that would provide reference data for national sources of information on RTD matters within each Member State.
- CORDIS is already accessible via several Wide Area Networks, e.g. EuroNet, Internet, PSTN, PSDN. There is also interest by intermediary organisations in distributing electronically sub-sets of CORDIS. These facts create new options for a more dynamic penetration of information on Community RTD



in research and industrial organisations. However, before distributing sub-sets of CORDIS to other hosts, or even relocating CORDIS from ECHO, a multitude of major policy and technical issues should be addressed.

- In conclusion, in view of the aforementioned comments and the limited funds foreseen for VALUE and SPRINT initiatives within the Third Activity of the next Framework Programme, there is an urgent need for devising an overall CORDIS strategy. This is required not only for optimising the Service but also for securing its future. The issue of decentralisation or commercialisation of CORDIS should be the cardinal parameter in devising such a strategy since on this depend, obviously, strategic perspectives of all other issues e.g. extent of data coverage, future CORDIS products and their marketing, publications complementing the electronic data, etc.

#### 4. ACTION LINE I.2 : UTILISATION OF RESULTS

##### 4.1 Review of the Activities

This is the second major line of action of VALUE II. It is the continuation of the work started during VALUE I, comprising activities of immediate importance to the main objective of this programme, i.e. to facilitate the exploitation of Community RTD results. There are three main types of promotional activities:

- VALUE II support to projects aiming at the valorisation of such results;
- practical training activities on the issue of exploitation of results and technology transfer;
- presentation of the action line at conferences and of VALUE II project results at exhibitions and other public events.

The importance of this activity is clear, considering that:

- although exploitation is expected (as foreseen in the contracts) to be executed by the industrial RTD project partners in the first place, this is not always the case, for various reasons;
- a large part of the RTD projects are executed by R & D centres and universities which are not set up for own exploitation;
- industrial partners in general exploit only part of the RTD results (if at all), while the actual potential may be much higher and could occur in sectors other than those researched (spin-offs), resulting in partial or nil exploitation. Given the large number of RTD projects, much more could be exploited.

Moreover, it should be noted that RTD programmes may not lead directly to exploitable results but do help to build and reinforce competence among the RTD

partners. This competence may in time be used advantageously in various innovation processes.

Promotion of exploitation in the VALUE II Programme is executed mainly through the financing of projects following calls for proposals. The procedure of call and evaluation is similar to that practised in DG XII and DG XIII, with some slight differences. The criteria for selection are very detailed and require an abstract to be made of the technological area concerned. This is advisable since the value of the individual exploitation should take precedence over that of the technical area alone. The time delay between the calls for proposals and the start of the projects is of the order of 9-10 months, as in VALUE I, which is far too long in a highly competitive field where product lifetimes are generally short.

As in VALUE I, exploitation projects cover different activities (marketing studies, business plans, search for industrial partners, tests under industrial conditions, prototyping, patent support, licensing, participation in exhibitions, etc.) and as such make it possible to apply a whole series of instruments.

Two calls were launched during VALUE II for a total of 7.4 MECU, giving rise to 373 proposals of which only 84 will be funded, or 1 out of 4 to 5 proposals. Compared with VALUE I, this is a severe reduction in success rate (over two times less) which can only be explained by the low budget available relative to the high demand. As in VALUE I, proposals come essentially from ESPRIT, BRITE/EURAM and the Life Sciences. Life Science research projects are further away from the market and hence there are more requests for exploitation projects from the R & D centres. Taking into account the decreased budget, no further calls will be published during VALUE II.

Similarly to VALUE I, the individual budgets range from a few k ECU for preparatory expert work to several hundreds of k ECU for prototyping, according to estimated needs and means. Compared to the money available for Community RTD projects, the financial support available for individual exploitation actions is very limited (about 4% of the corresponding RTD project) and can cover only a part of what is really required. There is considerable imbalance between the amounts allocated by the Commission for RTD and that allocated for valorisation, since it is well known that exploitation and industrialisation are several times more expensive than R & D. 42% of the exploitation projects involve SME companies.

Due to budgetary reasons no technology exchange awards for SMEs were launched during VALUE II.

Training for RTD partners covered the same 5 areas as in VALUE I:

- how to prepare a technology business plan;
- fundamentals of technology marketing;
- the VALUE software technology template;
- the technology venture capital training initiative;
- from the idea to the product.

It was continued and still meets a real need for increasing awareness about several of

the aspects and stages involved in exploitation and technology transfer processes. The training schemes were evolved and presented in 22 seminars in 9 different Member States over the period 1991 (1 training), 1992 (10 trainings) and 1993 (10 trainings).

During 1989 - 1993, the VALUE team also participated in 23 international exhibitions all over the European Union with an EC stand showing VALUE exploitation projects by the RTD participants. Since 1990, VALUE participates in 4 exhibitions per year.

## 4.2 Findings

Although exploitation is a lengthy process, it is clear from the analysis of a sample of exploitation projects supported by VALUE I and II that a significant proportion of the projects in the near future could lead to important exploitable results in Europe which could have been lost without VALUE. Examples are an AIDS vaccine, based on research results from BAP, a workstation for an integrated biomedical laboratory for cervical cancer screening, based on research results from AIM, a full remote and hands-free access control system, based on research results from ESPRIT. It also indicates good judgement in selection of proposals and good management by the VALUE team. The use of the various instruments available to VALUE gives an opportunity to conform better to the needs of proposers. However, sufficient care should be exercised with respect to support for large companies and possible overlaps with national support schemes.

In view of the limited resources placed at the disposal of VALUE no large scale direct impact on exploitation of Community research could be expected; another order of magnitude would be necessary to achieve such an impact. Although many promising exploitation projects were executed, the first phase of this action line should be considered as an exploration of tools to stimulate and promote the exploitation of results. In this respect, VALUE generated valuable instruments which could be successfully applied in the valorisation scheme.

Valorisation requirements vary depending on the different types of RTD actors.

Exploitation by industrial companies participating in Community, national or regional RTD projects generally means that they make use of existing instruments in the first place. Financial support in most countries can be found for companies wishing to develop further their own basic research results towards mature marketable products, processes or services. Often companies would perform such further development and exploitation using their own means; in such cases, VALUE intervention is of course not necessary.

R & D centres and universities are generally not equipped to exploit research results themselves and need additional assistance (marketing studies, business plans, search for industrial partners, tests under industrial conditions, prototyping, patent support, licensing, participation in exhibitions, etc.) in order to make their developments more attractive to industrial companies, especially when transnational transfers are involved. This also holds for companies willing to transfer trans-sectorially the know-how they have developed although their numbers should not be over-estimated. The transnational type of activity is not covered normally by specific national government aid and can be an interesting path to innovation. Because of the transnational/trans-

sectorial aspect and because of the lack of existing schemes at the national level, support from VALUE and SPRINT is to be highly recommended here.

In the case of international collaboration between companies, R & D centres and universities from different countries for the development of mature marketable products, processes and services, financial aid, essentially for prototyping and testing under industrial conditions, can be found also through the EUREKA system or in some cases via the CRAFT programme (essentially for SMEs). However, not all participating governments are inclined to finance their own universities or R & D centres in EUREKA without at least a partial exploitation in their own country. There is no support for most instances of cross-border financing (e.g. financing a university in another country) and VALUE could play an important role in such cases.

The fact that VALUE exists should not be an excuse for the financing of RTD projects by the EC through the specific programmes without serious guarantees on exploitation whenever industry participates. As valorisation through the non-industrial RTD partners concerns actions which are to a large extent different from those undertaken in Community RTD programmes and necessitate a specific approach and skills, it is best to execute such valorisation using appropriate tools.

### 4.3 Conclusions and Recommendations

In order for VALUE to have a major direct impact on the exploitation of basic and fundamental R & D in Europe, budgets allocated need to be of a different order of magnitude. Nevertheless, even if more money were available, VALUE would still need to increase its endeavours, particularly in the area of collaboration with national/regional and international exploitation schemes and financial bodies. In such an approach, VALUE should co-operate with initiatives in existing schemes, like the near-to-the-market EUREKA action, the CRAFT programme, and actions from DG XVI (regional funds)<sup>(1)</sup> and DG XXIII, all of which would help to extend the valorisation operation. EUREKA projects are often executed in several phases, mostly starting with a definition phase, which covers among other things market research, patent search, exploitation plan, etc.

---

<sup>(1)</sup> VALUE started in Autumn 1993 a pilot project in two objectives 1 regions where the VALUE Relay Centres are active and SMEs require new technology. The two projects concern the EXTRAMADURA and the APULIA regions. In both cases it is a new concept for promoting the uptake of Community RTD results by SMEs. The common rationale behind the pilot projects is the enhancement of technology absorption by the SMEs, providing them with a full service concept, from the new technology to the innovation product. The engineering and the technology adaption is performed using local structures, i.e. laboratories and universities. The assessments of the technologies and the search for viable RTD results are performed by the VALUE Relay Centres, supported by the VALUE service and experts with a proven expertise in the relevant fields. The SMEs are normally in traditional industries that need a durable technology push in order to become more competitive.

Action line 1.2 lies at the heart of the VALUE Programme. What is now included in the VALUE exploitation scheme is only a fraction of the R & D results produced in the individual Member States. Exploitation should not be limited solely to the Community R & D results available but should be extended to all European RTD (for an exploiting company it is totally irrelevant where the RTD results come from). VALUE should in future concentrate on cross-border valorisation of selected RTD results, of whatever origin, while individual states should support transfer of technology and know-how in their own country.

The VALUE action should also focus more on universities and R & D centres and call upon the national schemes to finance companies where no transnationality is involved. Emphasis should be on the transfer of technology from developer to user (preferably an SME) and should not, or only to a much lesser extent, aim to help companies already involved (and thus committed and convinced) in the RTD project.

It is also important that VALUE continues to explore and develop in multi-national and multi-lateral directions the valorisation mechanisms and to transfer its findings to valorisation bodies in the Member States. Therefore, a certain number of valorisation projects should be initiated, each with a budget sufficient to cover all the relevant aspects of valorisation. The importance of such projects is presented clearly in section III, paragraph 3 (strategic and policy issues).

The delay caused by the Commission's procedures is of the order of several months. This is too long since a quick response is of the utmost importance. It will be necessary to evolve new schemes e.g. creation of more or less independent agencies, in order to improve efficiency.

With regard to the Community RTD programmes, the following recommendations for valorisation could be helpful:

- In Community RTD projects, due to imbalance among consortia members, non-industrial partners sometimes have no other choice than to accept the industrial partners' conditions with respect to ownership of RTD results. This could hamper future exploitation of the results.
- The RTD programmes can improve preparations which could lead to better innovation:
  - they should instruct the contractors to report regularly on RTD results according to a fixed format which can be used immediately in the CORDIS RTD Results database;
  - on completion of a project the partners should inform the Commission about their exploitation and patenting activities, as well as about any other relevant opportunities that they do not wish to exploit themselves.

## 5. ACTION LINE I. 3 : LEGAL PROTECTION OF RESULTS

### 5.1 Findings

With this action line the Commission had as its main objective:

- the patenting of Commission owned RTD results stemming from JRC research; and
- the patenting of results stemming from Commission RTD Programmes, where the contractor is the owner and where the partners are not capable or not willing to take out patents. For budgetary reasons the latter case is most common with R & D centres and SMEs.

In practice, the VALUE II activities are a continuation of those in VALUE I and there is little distinction between the two programmes in respect of protection of results. The findings, conclusions and recommendations remain, therefore, the same.

The patent evaluation - estimating whether a given invention is likely to be patentable or not - is executed by the patent staff. About 20 to 30% of the time is spent on JRC research. Due to growing activity under VALUE, however, this percentage is declining in favour of Community RTD projects.

All scientific reports from the framework programmes projects (3,000 to 5,000 per year) are screened for possible patentable results. 20 to 50 potentially patentable inventions are selected from these and in about 50% of these cases a patent application is filed.

Drafting of the patent claims, writing a patent specification, filing a patent application, etc. is carried out by professional patent lawyers. These services may be paid partly by the Commission, partly by the authors. The standard way of financing patents stemming from the framework programmes is for the Commission to cover the first application through a grant - no reimbursement takes place.

Increasingly the Commission bears all costs relating to patenting in the countries necessary for a period of 3-5 years. The user rights are formally transferred to the Commission and, if the patent subsequently results in any production, the client pays back a fee to the Commission until a 130% payback has taken place and then all rights are transferred to the client.

The total portfolio of patents handled by the Patent Section and stemming from all client types amounts to approximately 2,400. All these patents have to be surveyed and in each case follow-up deadlines etc. must be kept. The portfolio is revised each year and 20 to 30% of the patents are abandoned as a result of this revision.

Very few patents have until now been granted on patent applications falling under VALUE (both I and II). A total of 72 cases have been filed, of which 33 in the name of the contractor and 39 in the name of the Community. They are spread in the following way over the different programmes and the JRCs: BRITE/EURAM 48%,

Life Sciences (ECLAIR, BRIDGE, BAP) 29%; JRC 18%, ESPRIT 5%.

Since exploitation takes several years, no patents taken by the Commission under the VALUE (I and II) Programme have yet been commercialised. In several cases, however, exploitation is under way.

The Patent Team is also involved in the training of RTD partners towards a better awareness of legal protection of results and its importance.

## **5.2 Conclusions**

Patenting of RTD work is of the highest importance to protect ownership of results and hence make valorisation of research results possible.

The Patent Section's management of legal protection of RTD results within VALUE is totally acceptable and leaves little room for comment.

The cost of the patenting activity is relatively low compared to its importance and therefore is considered an ideal tool in the valorisation scheme of the VALUE programme.

## **5.3 Recommendations**

Because of its specific character, it is clear that legal protection of results is a typical VALUE action.

RTD project participants' awareness of the importance of patenting could have a significant impact on European researchers' attitudes and should therefore continue.

The work of the Patent Section could be improved by a greater involvement on the part of the project officers and the RTD partners. It would be advisable to make consortia members aware about patent matters at the beginning of a project. This would improve awareness about patenting, facilitate screening and a patent strategy could be established at an earlier stage.

Patenting should be a major item in RTD projects progress reports where indications should be given of the partners' own ideas about possible patenting. In addition, as there is no information on what happens after a project is completed, it may be helpful to oblige project participants to report back to the Commission on this matter.

## 6. ACTION LINE 1.4 : PROMOTIONAL ACTIVITIES

The objective of this action line was to disseminate as widely as possible all scientific information arising from Community RTD activity which does not require protection by patents or copyright in order to stimulate both the exploitation of this information by industry and its utilisation by the research community.

Action line 1.4 encompassed three main areas of activity:

### Promotion of information:

- Publication of brochures, sectoral and general catalogues, etc. that were distributed at fairs and other awareness events as well as to multipliers.
- A very important initiative has been the operation of the VALUE-information-press-service (Vips) assisting journalists specialising in scientific and technical issues. About 500 science journalists receive each month about 10 one-page information sheets (not press-releases) on RTD results. Around 70 articles have appeared in various special journals since the launch of this dissemination campaign in 1992.
- The FLAIR-FLOW project, which was initiated during VALUE I, is a co-ordinated action for dissemination of results from the European Food R & D jointly supported by VALUE and FLAIR. Dissemination has taken place through various channels, the most important being one-page technical documents in layman's language distributed through numerous direct mailings and more than 1000 published articles in trade journals, etc. and the organisation of more than 50 FLAIR-FLOW workshops.

### Targeted dissemination through publications:

- "Innovation & Technology Transfer Newsletter", addressed to industrial and research partners, consultants on technology transfer, information brokers, professional organisations, etc.
- "CORDIS Update", addressed to intermediaries and multipliers.
- "Euro-abstract Catalogues", addressed in particular to information scientists and librarians.

### Horizontal activities:

- operation of an RTD Help Desk for responding to queries by the public concerning Community research activities; deals with around 25 queries per day.
- establishment of the Cooperation Network, which represents a very good synergistic initiative between VALUE and other EC activities and funding sources, e.g., Regional Funds handled by DG XVI. The Network was set up to support jointly the valorisation of RTD-results projects and thus enabled the



pursuit of additional valorisation activities which would not have been possible otherwise due to VALUE's limited budget.

## VI. REVIEW OF INTERFACE II : RESEARCH - SCIENTIFIC COMMUNITY, AND INTERFACE III : RESEARCH - SOCIETY

---

### 1. OVERALL COMMENTS

Interfaces II and III are new to the VALUE Programme, having been introduced only in VALUE II and addressing new issues:

- the way science and technology are inter-penetrating each other (Interface II);
- the public perception of, and demand for the utilisation of existing and future scientific and technological knowledge (Interface III).

Only a very few of the new issues, e.g., technology assessment, had been pursued previously in EC programmes, notably FAST.

Actions under Interfaces II and III clearly serve long-term objectives and promote RTD results in a much broader context than actions under Interface I. This fact complicates any attempt to assess in detail the activities carried out under these Interfaces so soon after their introduction. Therefore, this review has focused on the way in which activities have been conceived, planned and implemented.

The target groups within these new Interfaces differ from those of VALUE I as well as of Interface I of VALUE II. The main categories are:

- politicians and policy makers generally,
- managers of research policy planning bodies,
- decision makers within RTD organisations, managers of RTD programmes, and
- the general public.

The Commission adopted a strategic approach in launching the Interfaces II and III activities. Prior to any activity an internal Task Force and an ad hoc Think Tank group of external experts were established. The latter assisted the Task Force in formulating an overall strategy and a corresponding operational plan for each Interface. The plan envisaged an initial diagnostic phase followed by a pilot phase for the activities.

The diagnostic phase, almost completed, comprised several studies on, and reviews of the current situation and views on the issues addressed by both these new Interfaces.

The pilot phase foresees initiatives such as workshops, training seminars, networks, etc., formulated on the basis of the diagnostic phase results. Some of these pilot initiatives have been launched already but the remainder could unfold during the next Framework Programme.

## 2. FINDINGS

The strategic approach and planning followed by the Commission in the case of Interfaces II and III has been of benefit to the actions. There seems to be a clear line of thought through all these various initiatives. The overall approach also provides a good example of how to initiate new activities.

The activities of Interfaces II and III are new and they could have a high impact. However, in spite of the clear mandate of the Council, the importance accorded to them by Commission officials within the programme appears to be insufficient, taking into account the scale of Interfaces II and III which derives from the fact that:

- the issues are new to the EC; and
- most members of the Interfaces target group do not realise their direct or indirect involvement in the process of increasing the wealth of society via the utilisation of scientific and technological knowledge.

There seems to be a general lack of awareness about these issues, even within the Commission.

It would appear that demand is greater for activities within Interface III than within Interface II.

## 3. RECOMMENDATIONS

A clear administrative identity is required urgently for the management team of these tasks, to facilitate its work in approaching the target groups and in developing their activities not only outside but inside of the Commission.

The Commission should place greater emphasis on awareness and promotion of Interfaces II and III issues. Such a campaign should target groups in the Commission itself as well as in the Member States. This could involve, therefore, synergy with Interface I activities, e.g. using VALUE Relay Centres as a "distribution network" for dissemination of information and activities on themes within Interfaces II and III.

Better and closer contacts should be established with representatives of the target groups, e.g. policy and decision makers, RTD planning bodies, pertinent associations and organisations extending across the general public, politicians, etc. and at an appropriate and operative level.

The Commission should consider merging Interfaces II and III and directing more effort and resources, particularly human resources, towards the Interface III, "Research-Society" actions.

# ANNEXES

**ANNEX I**

**VALUE II**

**Council Decision**

**29 April 1992**

## II

*(Acts whose publication is not obligatory)*

## COUNCIL

## COUNCIL DECISION

of 29 April 1992

on the dissemination and exploitation of knowledge resulting from the specific programmes of research and technological development of the Community

(92/272/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 130q (2) thereof,

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

In cooperation with the European Parliament (2),

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

Whereas Article 130g (c) of the Treaty states that the Community, complementing the activities carried out in the Member States, is to carry out activities for the dissemination and optimization of the results of activities in Community research, technological development and demonstration;

Whereas the second paragraph of Article 130k of the Treaty stipulates that the Council shall define the detailed arrangements for the dissemination of knowledge resulting from the specific programmes;

Whereas the Treaty establishing the European Coal and Steel Community stipulates that the Commission is to carry

out activities in the coal and steel sector which do not form part of the Framework Programme for research and technological development, the results of which must be disseminated and used by means of suitable separate activities, using the resources of the ECSC 'operating budget';

Whereas, by its Decision 90/221/Euratom, EEC (4), the Council adopted a third Framework Programme for Community activities in the field of research and technological development (1990 to 1994), specifying, *inter alia*, the activities to be pursued for developing the scientific knowledge and technical know-how needed by the Community and providing that the detailed arrangements for the dissemination of the knowledge gained, in particular the definition and the implementation of the centralized action, should be the subject of a Council Decision;

Whereas, pursuant to Article 4 and Annex I of Decision 90/221/Euratom, EEC, the amount deemed necessary for the whole Framework Programme includes an amount of ECU 57 million for the exploitation and dissemination of knowledge resulting from the specific R & D programmes;

Whereas the Euratom Treaty contains detailed provisions for the dissemination of information which apply, *inter alia*, to nuclear research programmes;

(1) OJ No C 53, 28. 2. 1991, p. 39.

(2) OJ No C 13, 20. 1. 1992, p. 75; and Decision of 8 April 1992 (not yet published in the Official Journal).

(3) OJ No C 119, 31. 12. 1991, p. 90.

(4) OJ No L 117, 8. 5. 1990, p. 28.

Whereas the decisions relating to the research and training programmes in the fields of controlled thermonuclear fusion (1990-1994) and nuclear fission safety (1990-1994), together with the activities undertaken by the Joint Research Centre in the field of nuclear research, envisage that the amount estimated as necessary as the contribution of these programmes to the present centralized action for the dissemination and exploitation of results is ECU 6,57 million;

Whereas the dissemination of knowledge and exploitation of results should be dealt with in a coherent manner;

Whereas it is necessary to ensure the coherence of schemes for disseminating the knowledge resulting from specific programmes in the Framework Programme; whereas such coherence must be based on general rules which guarantee the protection of the legitimate interests of the public and private contracting parties and of the rights linked to the obtaining and exploitation of the results, as well as their exploitation in conformity with the Community's interests, in particular with respect to its economic and social cohesion;

Whereas, in order to improve the insertion of Community research into a broader context and to optimize the utilization of the knowledge which results from it, it is important that the centralized action should both intensify its emphasis on the research-industry interface and widen its scope to the research-science and research-society interfaces;

Whereas it is desirable to cooperate with existing networks for the dissemination and the promotion of innovation and to encourage new networks where these do not exist;

Whereas links with complementary mechanisms for downstream exploitation should also be developed, in particular with the Eureka initiative;

Whereas, in the context of this action, an assessment should be made of the economic and social impact as well as of any eventual technological risks;

Whereas basic research in the field of the dissemination and exploitation of R & D knowledge must be encouraged throughout the Community;

Whereas, in addition to the specific programme concerning human resources and mobility, it is necessary to encourage the training of research workers in the context of this action

Whereas Decision 90/221/Euratom, EEC provides that a particular aim of Community research must be to strengthen the scientific and technological basis of European industry and to encourage it to become more competitive at international level; whereas it also provides that Community action is justified where research contributes, *inter alia*, to the strengthening of the economic and social cohesion of the Community and to the promotion of its overall harmonious development, while being consistent with the pursuit of scientific and technical excellence; whereas the present action is looked upon as contributing to the achievement of these objectives;

Whereas small and medium-sized enterprises (SMEs) should be involved to the maximum extent possible in this action; whereas account should be taken of their special requirements, without prejudice to the scientific and technical quality of the programme;

Whereas, in accordance with Article 130g of the Treaty, the Community's activities aimed at strengthening the scientific and technological basis of European industry and encouraging it to become more competitive include promoting cooperation on research and technological development with third countries and international organizations; whereas such cooperation may prove particularly beneficial for the development of this action;

Whereas the Scientific and Technical Research Committee (Crest) has delivered its opinion,

HAS ADOPTED THIS DECISION:

#### Article 1

1. The dissemination and exploitation of knowledge shall be carried out as part of the specific programmes and by means of a centralized action.
2. The centralized action, as defined in Annex I, shall ensure overall coordination and coherence in the field covered by the Framework Programme. It is adopted for the period running from 29 April 1992 to 31 December 1994.

#### Article 2

1. The amount of Community expenditure deriving from the levies on the funds estimated as necessary for the execution of the specific programmes, with a view to the implementation of the centralized action established by this Decision, is estimated at ECU 57 million, including expenditure on staff and administration amounting to ECU 9 million.

2. An indicative allocation of funds is set out in Annex II.

3. If the Council takes a decision pursuant to Article 1 (4) of Decision 90/221/Euratom, EEC, this Decision shall be adapted accordingly.

#### Article 3

Detailed rules for the implementation of the programme and the amount of the Community's financial contribution are set out in Annex III.

#### Article 4

1. In the course of the second year of the implementation of the action, the Commission shall review it and send a report on the results of its review to the European Parliament, the Council and the Economic and Social Committee; the report shall be accompanied, where necessary, by proposals for amendment of the action.

2. At the end of the action, an evaluation of the results achieved shall be conducted for the Commission by a Group of independent experts. The Group's report, together with the Commission's comments, shall be submitted to the European Parliament, the Council and the Economic and Social Committee.

3. The reports referred to in paragraphs 1 and 2 shall be established having regard to the objectives set out in Annex I to this Decision and in accordance with Article 2 (4) of Decision 90/221/Euratom, EEC.

#### Article 5

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

2. A work programme shall be drawn up in accordance with the aims set out in Annex I and updated where necessary. It shall set out the detailed objectives and types of projects to be undertaken, and the financial arrangements to be made for them. The Commission shall make calls for proposals for projects on the basis of the work programme.

#### Article 6

For the execution of this action, insofar as it relates to the specific programmes based on Article 130q (2) of the Treaty, the Commission shall be assisted by a committee composed of the representatives of the Member States and

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

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

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

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

#### Article 7

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

- the preparation and updating of the work programme referred to in Article 5 (2),
- the contents of the calls for proposals,
- the assessment of the projects proposed and the estimated amount of the Community's contribution to them, where this amount exceeds ECU 150 000,
- departures from the general rules set out in Annex III,
- any adaptation of the indicative breakdown of the amount set out in Annex II,
- the measures to be undertaken to evaluate the action,
- measures for implementing the rules laid down in Article 8.

2. Where, pursuant to the third indent of paragraph 1, the amount of the Community contribution is less than equal to, ECU 150 000, the Commission shall inform the committee of the projects and concerted actions and of the outcome of their assessment. The Commission shall inform the committee of the implementation of the accompanying measures referred to in Annex III.



*Article 8*

For the execution of this action, insofar as it relates to the dissemination and exploitation of knowledge resulting from the specific programmes based on Article 130a (2) of the Treaty, hereinafter referred to as 'knowledge', the following rules, while respecting pre-existing rights, shall apply:

- (a) the knowledge resulting from work undertaken directly or the cost of which is wholly supported by the Community shall in principle be the property of the Community.

The knowledge resulting from work under a shared-cost contract shall be the property of the contractors who carry out the work. They shall agree between themselves on particular arrangements for such ownership;

- (b) knowledge which could be used in an industrial or commercial application, if its nature justifies such a measure, shall be protected in any appropriate form to the extent required in the light of the interests of the Community and its co-contractors and in accordance with any applicable legislation or convention;
- (c) the Community and its co-contractors shall be required to exploit the knowledge in their possession, or have it exploited, in conformity with the Community's interests and taking full account of the objective of strengthening the international competitiveness of European industry and the economic and social cohesion in the Community;
- (d) knowledge belonging to the Community shall be made available to its co-contractors and to interested third parties established in the Community who undertake to exploit it, or have it exploited, in conformity with

the Community's interests. Such provision of knowledge may be subject to appropriate conditions, particularly concerning the payment of fees.

All contractors shall make the knowledge in their possession, together with any information necessary for its use, available to the co-contractors and to interested third parties under contractually defined conditions, provided that the interests of the Community and the legitimate interests of its co-contractors are safeguarded;

- (e) the Commission shall ensure that knowledge suitable for dissemination according to the contractual terms is disseminated or published either by the Commission itself or by its co-contractors, without any restriction other than those imposed by the need to safeguard intellectual and industrial property, confidentiality or legitimate commercial interests.

The Commission shall lay down the arrangements for implementing the rules laid down in the first subparagraph of this Article, in accordance with the procedure described in Article 6.

*Article 9*

This Decision is addressed to the Member States.

Done at Luxembourg, 29 April 1992.

*For the Council*

*The President*

Luis VALENTE DE OLIVEIRA

## ANNEX I

## OBJECTIVES AND TECHNICAL CONTENT

The general aim of the centralized action for the dissemination and exploitation of knowledge resulting from Community research activities, carried out under this action, is to give specific added value to the R & D activities which are the subject of the third Framework Programme for 1990 to 1994. On the one hand, it provides the necessary continuity for some of the measures carried out under the Value programme; on the other, it introduces new topics concerned particularly with the repercussions of research and technological development activities and their results on society as a whole.

This centralized action is to be conducted in accordance with the following guiding principles:

## (a) Horizontality

Measures to publish and utilize research results must apply to the whole range of Community R & D activities, covered by the Community Framework Programme, irrespective of the nature of programmes, the persons involved and the administrative authorities responsible. This criterion will be implemented through coordination and liaison between RTD specific programmes and the centralized action.

## (b) Internal complementarity

The centralized action will coordinate and supplement the measures taken under the specific RTD programmes. It will also concentrate on activities requiring special infrastructure and skills (computerized information systems, a network of 'relay stations', etc.) or special capabilities for transferring know-how to fields of activity in other disciplines.

## (c) Subsidiarity

The centralized action will build on the synergies between decentralized (public and private) and Community R & D activities and is designed, in conjunction with other Community measures and in cooperation with the national and regional authorities responsible, to establish a coherent mechanism for the utilization and transfer of the technologies and the know-how obtained from research and technological development, using, wherever possible, the existing structures in Member States.

As far as the content of the present action is concerned, those measures already launched to forge closer links between research and industry will be supplemented by other new measures designed to forge closer links between research and society and between research and the scientific community. These are measures which reflect the new scientific and technological objectives and constraints set by society and its institutions, and the increasing interest in the interdisciplinary approach to research and technological development activities. At this stage, and now that its activities are more developed, this centralized action will incorporate these new topics into its conceptual and operational framework.

Detailed objectives for the centralized action, including measurable targets and milestones, will be described in workplans, which will be submitted annually to the committee.

## 1. RESEARCH-INDUSTRY INTERFACE

The aim is to help to improve the international competitiveness of Europe's industry in accordance with the provisions of the Treaty by means of specific projects designed to maximize the impact of Community R & D activities on industry as a whole.

For this purpose, the networks and partnerships between companies and laboratories from the different countries which result from the Community R & D programmes constitute an important element of the mechanism set up for the dissemination and exploitation of their results.

It is up to companies - first and foremost, to make good use of the results and to protect these results as necessary. Cooperation between universities and industry is encouraged within the framework of specific

protect their findings in certain cases where, for example, they lack the necessary expertise and are unable to obtain this through the usual national and commercial channels, and at the same time help them to exploit and promote such findings. The following measures are proposed:

### 1.1. New channels of information

#### (a) Network of relay centres

A network of relay centres will be set up to promote the dissemination and exploitation of Community R & D results, while taking into account, and building on, the existing structures in Member States designed for the same purpose. The relay centres will have special access to Community information, under the control of the Commission, and will have as their main task the tailoring and interpretation of this information to local needs, especially in relation to companies, particularly SMEs, universities and research institutes. The specific needs of the more peripheral and least-favoured areas of the Community will also be taken into account.

While giving full consideration to local needs and circumstances, the following activities, *inter alia*, may be undertaken by the relay centres:

- the dissemination of information on Community programmes and calls for proposals,
- identification of opportunities for participation in Community R & D programmes, and general guidance to candidates in the preparation of proposals,
- facilitating the interpretation and dissemination of Community programme results for target audiences and local firms,
- promotion of the exploitation of the research results with potentially interested enterprises,
- assistance to organizations which have produced results in the identification of exploitation opportunities at a European level and market research possibilities,
- providing information on specialized agencies dealing with intellectual property and legal protection of results,
- providing information on possibilities for financial support.

Competent national authorities and the scientific, technical and industrial community will help the Commission to select the relay centres in the Member States and to define their specific tasks.

The relay centres will, at the outset, analyse current practice on dissemination and exploitation, identify new approaches, where necessary, and formulate a Plan of Action with specific targets.

#### 1.1. (b) Basic Service

A user-friendly computerized information service called Cordis will become available in 1992. After 1992, and depending on the results of a detailed evaluation, the aim of the centralized action will be to update and expand the Cordis information service. The service could provide new functions and continue to expand using new sources of information, harmonize and/or integrate databases, use electronic storage devices (CD-ROM and video discs) and develop user-friendly systems for electronic data exchange in cooperation with related Community programmes.

The development of computerized methods does not exclude the use of more traditional methods such as the publication of bulletins and bibliographies which will provide wider access to information services.

### 1.2. Utilization of results

This activity, which was already started in the Value programme, should be extended to the new fields covered by the Framework Programme and developed in line with the results that become available in the years ahead. This means utilizing the research and development results of which the Community is the owner and, where needed, helping to utilize the results of research and development projects undertaken on a third-party basis. In the latter case, the aim will be to help contractors who do not have sufficient expertise, in particular the universities, research institutes and SMEs, to take advantage of the results of their research and development work and to help them to use the Community R & D results made available.

The work to be undertaken could take different forms, depending on each specific case, as follows:

- identifying, controlling and appraising the results of research in order to develop and target utilization plans,
- finding licensees, including for the JRC and, more generally, parties interested in utilizing results,
- providing adequate financing support for studies or tests and experimental developments

This work will be carried out with the help of outside experts and competent organizations in the Member States.

### 1.3. Protection of results

The protection of results belonging to the Community and management of the patents portfolio that it holds will be continued, as in the past, through systematic examination of the final reports and results obtained by the JRC. The activities described below, which have already been started in the Value programme, will be developed more intensively by the centralized action:

Those universities, research centres and SMEs which do not have access to patenting expertise will, on request, be provided with aid by the centralized action. It will supply expertise on patents and financial support limited to the costs of searches for prior claims to novelty and first patent applications.

Public awareness campaigns may also be organized on the importance of protection results for the research scientists participating in community R & D programmes.

### 1.4. Promotional activities

Promotion on the results could take the following form:

- financial support for organizations making an active contribution to the promotion of results and, in general, for organizations within a transnational network set up in order to facilitate, promote and coordinate access to Community programmes,
- organization of seminars, conferences and other means of communication, including in association with the respective bodies in the Member States and, in particular, with the 'relay centres',
- attendance of trade fairs.

Specific activities are planned to provide economic and social cohesion in regions where dissemination and utilization structures do not exist or are still in their infancy.

## II. INTERFACE BETWEEN RESEARCH AND THE SCIENTIFIC COMMUNITY

The objective of the activities under this heading is to contribute to interdisciplinary reflection in relation to research, its methods, problems and impact. Such activities will be structured around the following four areas:

### II.1. General context of research

The aim is to study the constraints and/or opportunities for the dissemination and exploitation of R & D activities applying the disciplines of law, political sciences, social and human sciences. Examples of topics to be considered could be:

- history and comparative analysis of public and private research structures,
- aspects of civil and public law, mainly in respect of intellectual property rights,
- international rules on scientific and technological information.

### II.2. Communication of research

The objective is to improve the communication of research towards its various users, by obtaining a better understanding of communication patterns. Disciplines of a sociocultural nature will play an important role in those studies. Therefore, findings in certain disciplines such as logic, semantics, epistemology and cognitive sciences will be applied to the analysis and development of the

### II.3. Economics of research

Macroeconomic instruments and business sciences must be used to determine the optimum use of resources to be channelled into research as part of general economic development objectives and company objectives. Taking account also of studies conducted in other contexts, the cost/benefit aspects of the cycle of research and development, and the economic obstacles to its exploitation, will be examined, in particular with a view to main optimal use of the financial resources allocated under the third Framework Programme.

### II.4. Management of research

The overall objective is to promote knowledge of best practice in the management of R & D in order to contribute to better exploitation of results. Management studies will help with the organization of research and laboratory management. They can make a contribution to project management, administrative procedures and methods of management. Particular attention will be paid to subjects relating to decentralized management and making more efficient use of human resources in the departments which manage research. Comparative studies will be conducted on the different management models used by universities and industrial research institutes.

## III. INTERFACE BETWEEN RESEARCH AND SOCIETY

This heading covers measures designed to identify and study the impact on society of the new scientific and technological knowledge, acquired as a result of Community activities, especially where the interaction between science and technology, on the one hand, and society, on the other, is particularly critical. The aim is to spread scientific know-how widely through Europe in order to seek to ensure that changes in the contemporary approach to science are compatible with developments in society.

To this end, it should take its place in an efficient interactive process consisting of the following stages: research, research results, public perception and reaction, assessment of social impact, modification of research activities where necessary. In order to ensure that this procedure works effectively, close links will have to be forged across the board with the specific study programmes developed prior to the policy-making process. Wherever possible, activities will be based on the work of, and executed in close coordination with, existing organizations in the Member States. The centralized action will be in three parts.

### III.1. Contribution to assessment of the social impact of science and technology

In conjunction with the more specific activities provided for in the individual specific programmes and with the activities of the Monitor programme, more general 'technology assessment' schemes will be developed. Those areas which will be specially monitored and studied are not only those which relate to the exploitation of new technologies affecting health, safety and the environment, but also ethical and legal questions relating to the exploitation of results.

### III.2. Communication with the public

The centralized action will make use of channels of communication, particularly the mass media, to provide information for the public, building on existing structures in Member States. Where appropriate, use could be made of the relay centres mentioned under I.1. (a).

### III.3. Analysing public demand and new requirements

In conjunction with other programmes concerned, including the Monitor programmes (1), the centralized action will provide studies and surveys designed to identify the latest social needs, through its direct contact with actual or potential users of the knowledge resulting from R & D programmes.

## ANNEX II

## INDICATIVE BREAKDOWN OF EXPENDITURE

	(ECU million)
I. Research-industry interface	50
II. Research-scientific community interface	4
III. Research-society interface	3
	57 (*)

(\*) Including expenditure on staff amounting to ECU 4 million and administrative expenditure totalling ECU 5 million.

The breakdown between different areas does not exclude the possibility that projects could cover several areas.

## ANNEX III

## RULES FOR IMPLEMENTING THE ACTION

1. The Commission will implement the action on the basis of the scientific and technical content described in Annex I. It will apply the accumulated experience and best practice of both European and international experts in this field.
2. The rules for implementing the action, referred to in Article 3, comprise projects, concerted actions and accompanying measures. Selection of projects must take account of the criteria listed in Annex III to Decision 90/221/Euratom, EEC and of the objectives set out in Annex I to this programme.

— Projects

The projects will be the subject of shared-cost contracts and Community financial participation which will not normally be more than 50 %. Universities and other research centres participating in shared-cost projects will have the option of requesting, for each project, either 50 % funding of total expenditure or 100 % funding of the additional marginal costs.

Shared-cost projects must, as a general rule, be carried out by participants established in the Community, for example universities, research organizations and industrial firms, including small and medium-sized enterprises. Contracts relating to shared-cost projects must as a general rule be concluded following a selection procedure based on calls for proposals published in the *Official Journal of the European Communities*.

— Concerted actions

Concerted actions consist of action by the Community to coordinate the individual activities carried out in the Member States. They may benefit from funding of up to 100 % of coordinating expenditure.

— Accompanying measures

The accompanying measures referred to in Article 7 will in particular be implemented through:

- the organization of seminars, workshops and scientific conferences;
- internal coordination through the creation of integrating groups;
- independent scientific and strategic evaluation of the operation of the projects and the action;
- contribution to studies and enquiries.

**ANNEX II**

**Review**

**Terms of Reference**



## MID TERM REVIEW OF THE CENTRALIZED ACTION (VALUE II)

The Council Decision of 29 April 1992 on the dissemination and exploitation of knowledge resulting from the specific programmes of research and technological development of the Community, foresees in Article 4, paragraph one that "in the course of the second year of the implementation of the action, a review of it by the Commission and foresees that a report on the results of this review be sent to the European Parliament, the Council and the Economic and Social Committee".

Due to the fact that VALUE II is in part a continuation of the VALUE I programme, and that the final evaluation of VALUE I takes place during the same period, the Commission services suggest that the same panel of independent experts evaluating VALUE I be asked to review VALUE II activities.

In compliance with Article 7, paragraph 1, sixth indent of the aforesaid Council Decision, Committee opinion is asked on this suggestion.

The proposed terms of reference for the mid-term review of Value II are attached (Annex I).

The Composition of the panel is also attached (Annex II).

## **Terms of reference of the mid-term review of the Centralized Action (VALUE II).**

In accordance with Article 4, paragraph 1 of the Council decision <sup>1</sup>, the Commission is to review the action and send a report on the results of its review to the European parliament, the Council and the Economic and Social Committee. This report is to be accompanied, where necessary, by proposals for amendment of the action.

To conduct this mid-term review, the Commission services will be assisted by the same group of independent experts who are evaluating the VALUE I programme, hereafter referred to as the panel.

The panel will review the extent to which the results achieved contribute to the objectives of the Centralized Action (VALUE II) and that of the third Framework Programme (1990-1994)<sup>2</sup> notably through:

- strengthening the scientific and technological base of European industry (including (SMEs) so that it can become more competitive internationally;
- contributing to the dissemination and exploitation of results of the Community RTD activities (towards SMEs in particular) thus demonstrating the added value of those RTD results;
- contributing to the implementation of the internal market and to the economic and social cohesion of the Community;
- complementarity of the action in comparison with those of the Member States, particularly concerning the setting up of a network of relay centres.

The panel will also assess the efficiency and effectiveness with which the programme has been managed and promoted.

---

<sup>1</sup>Official Journal of the European Communities. No. L141. 29/04/92. pp 1-10

<sup>2</sup>Official Journal of the European Communities. No. L117. 09/05/90. p 28

This evaluation will take into account for each type of activity, the results achieved and their relation to the human and financial resources allocated to it. The new activities of VALUE II (Relay Centres, interfaces I and II) will be reviewed more in depth.. Qualitative or quantitative indicators will be used whenever possible.

The final evaluation of the Value I programme and the conclusions of the global evaluation of the second framework programme, which in particular deals with the dissemination and exploitation will also constitute important input for the work of the panel.

The panel is invited to make recommendations to the Commission.

**ANNEX III**

**Acronyms and**

**Abbreviations**

## ACRONYMS AND ABBREVIATIONS

BRITE	Basic Research in Industrial Technologies for Europe
CCITT	Comité Consultatif International de Téléphonie et Télégraphie
CORDIS	Community R & D Information Service
COSINE	Cooperation for Open Systems Interconnection Networking in Europe
CRAFT	Cooperative Research Action for Technology
CRO	Cooperative Research Organisation
DG	Directorate-General
DG XII	DG for Science, Research and Development
DG XIII	DG for Telecommunications, Information Industries and Innovation
DG XVI	DG for Regional Policy
DG XVIII	DG for Credit and Investment
DG XXIII	DG for Enterprise, Trade, Tourism and "Economie Sociale"
EC	European Community
ECU	European Currency Unit
EFTA	European Free Trade Association
ESPRIT	European Strategic Programme for Research and Development in Information Technology
EU	European Union
EURAM	European Research on Advanced Materials
EUREKA	Europe "a la carte" Cooperation in Advanced Technologies
Gbit/s	Giga ( $10^9$ ) bits per second
HEPnet	High Energy Physics network
IPR	Intellectual Property Rights
ISO	International Organisation for Standardisation
JRC	Joint Research Centre

kbit/s	Kilo (10 <sup>3</sup> ) bits per second
Mbit/s	Mega (10 <sup>6</sup> ) bits per second
MECU	Million ECU
OJ	Official Journal (of the European Communities)
OSI	Open Systems Interconnection
R & D	Research and Development
RACE	Research in Advanced Communications in Europe
RARE	Research Associés pour la Recherche Européenne
RTD	Research and Technological Development
SCREEN	Internal (confidential) DG XIII database on RTD projects
SME	Small and Medium-sized Enterprise
SPRINT	Strategic Programme for Innovation and Technology Transfer
STRIDE	Science and Technology for Regional Innovation and Development
TCP	Transmission Control Protocol
VALUE I	Community Programme for the Dissemination and Utilisation of Scientific and Technological Research Results
VALUE II	Community Programme of Centralised Action for the Dissemination and Exploitation of Knowledge Resulting from the Specific Programmes of Research and Technological Development
VRC	Value Relay Centre

ISSN 0254-1475

COM(94) 548 Vol.II

# DOCUMENTS

EN

15

---

Catalogue number : CB-CO-94-609-EN-C

ISBN 92-77-83384-X

---

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

60 bis