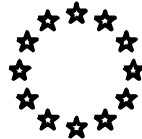


**2000**

**EXTERNAL MONITORING REPORT  
ON THE  
SPECIFIC PROGRAMME  
FOR  
RESEARCH AND TECHNOLOGICAL  
DEVELOPMENT**



**IN THE FIELD OF  
COMPETITIVE AND SUSTAINABLE  
GROWTH**

**MAY 2001**

*This report is part of the series of the external annual monitoring reports prepared for the EC Framework Programme and the Euratom Framework Programme, and their constituent Specific Programmes.*

*The Commission has over the years been placing increasing emphasis on the evaluation of Community R&D activities. As part of the process of continuous improvement, a new programme monitoring scheme has been introduced in 1995. The new scheme involves independent external monitoring experts and a timely response by the Commission Services to the recommendations produced by the experts. The new scheme thereby provides the basis of a quick response mechanism to programme developments and should give advice on key issues.*

*This report is the second covering the Fifth Framework Programme; the report also highlights progress in relation to ongoing activities under the Fourth Framework Programme. The report should help reinforce establishment of best practices, identify and correct weaknesses in programme implementation, and facilitate future multi-annual programme evaluation.*

*The report consists of three parts:*

**Part A:** *External monitoring report prepared by the following independent external experts:*

**U. Barberis**  
**M. De Vriès**  
**G. Gafni (Rapporteur)**  
**Y. Roman**  
**M. Salve**  
**D.-R. Schmitt (Chair)**

**Part B:** *Responses of the Programme Management to the external monitoring report.*

**Part C:** *Information provided to the experts by the Programme*

**PART A:**

**Report of the external Monitoring Panel**

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# 1. EXECUTIVE SUMMARY

The Fifth Framework Programme (FP5) operated during 2000 in the second year of its implementation. The total budget allocated for all Growth calls open in 2000 was around 1000 M€. One of the main features of FP5 is its problem-solving approach which is reflected in the different Key Actions, Generic Activities, and Support for Research Infrastructure. In December 2000, the work programme has been modified in order to make use of inputs from previous calls, and in conformity with the Programme Road Map.

The overall indication is that the programme implementation made good progress in the year 2000 and that the activities of the management addressed the required objectives well. Calls for proposals have been on time and evaluations were found to work appropriately and fairly. The participation of various groups seems to be balanced. The number of participants in the Programme has increased in 2000, including a fair proportion of Small and Medium Enterprises (SMEs) and participants from the Accession Countries. During the first 2 years of Growth, participants from 11 non-EU candidate countries were eligible as partners in the research projects.

In 2000 significant budgets were allocated for the funding of fairly large projects which contribute to the creation of the European Research Area (ERA) including Targeted Research Actions (TRA) Technology Platforms(TP), Critical Technology Projects (CTP), and Infrastructures. Some large projects have been funded, whereas others failed in the evaluation.

It is observed that most GROWTH projects have a strong European dimension and could not have been carried out on a national level. However, data show that the number of participants per proposal is in the range of 10 which raises the question of benefits and shortcomings of big consortia.

The panel's recommendations include suggestions to improve the real time internal co-ordination at the Commission between different Programmes and DGs and the external co-ordination to other European level and National Programmes. Despite evidence of an outstanding devotion to duty of Commission personnel, staffing levels sufficient to execute the workload imposed and to manage the Programme remain a concern, especially for the scientific and technical project follow-up. Also, delays in final contract signing after a successful negotiation phase are too long, particularly for SMEs. The priorities for setting the balance between bottom-up and policy driven approach are still controversial, however the balance seems up to now to be fair although more bottom-up maybe desirable in the future to maintain excellence in basic science and in order to keep a readiness to face unforeseen situations.

## 2. INTRODUCTION

The Fifth Framework Programme (FP5) defines the European Union's strategic priorities for Research, Technological Development and Demonstration activities for the period 1998-2002. The Programme on Competitive and Sustainable Growth in FP5, so called "Growth", is devoted to materials, manufacturing, vehicle and transport system industries and in particular to transport policy support. In 2000 Growth was in its second year of implementation. The total budget allocated for the Growth calls open in 2000 was around M€ 1000. However, many of the proposals submitted in the 2000 calls will only be funded early 2001. One of the main features of FP5 thematic Specific Programmes is the problem-solving approach. Growth is also dedicated to supporting other EU policies that enable inter alia competitive and sustainable development.

The Programme structure consists of three major types of research activities: Key Actions (KA), Generic Activities or Technologies (GA) and Support for Research Infrastructures. Strategic objectives and priorities for the implementation of FP5 in 2000 were developed along two major lines: fulfilling of budgetary commitments, as required by the Council and the European Parliament, and including more problem-solving actions within the Specific Programmes themselves.

Table 1 summarises the research activities of Growth and the allocated budgets (including the open and the dedicated calls) for year 2000.

Research activity	Title	2 <sup>nd</sup> call (M€)	3 <sup>rd</sup> call (M€)
KA1	Innovative products, processes and organisation	180	70
KA2	Sustainable mobility and inter-modality	25	102
KA3	Land transport and marine technologies	100	2
KA4	New perspectives in Aeronautics	200	5
MAT	Materials and Steel	80	80
M&T	Measurement and Testing	10 (10)*	1 (11)*
Infrast.	Support for infrastructures	( 8)*	(10)*
<b>TOTAL</b>		<b>595 (18)*</b>	<b>260 (21)*</b>
<i>Open Calls</i>	SME actions (Exploratory Award, Craft)	200	
	Accompanying Measures	28	
	Marie-Curie Fellowship	12	
	IMS (common call with IST)	35	

\* Additional budgets allocated to Dedicated Calls

Open Calls: Budget allocation for the whole duration of the Programme (estimated budget in 2000 appr. M€ 110)

**Table 1:** Growth research activities and funding budget

According to FP5 decision art.5 and to Growth decision art.4, the European Commission engaged a panel of independent external experts to perform the annual 2000 monitoring exercise of the Growth Programme. The panel's mandate was to focus on the following issues:

- programme implementation and progress including participation of Accession Countries
- significant results, preliminary evidence of impact and European Added Value (EAV) including European Policies
- contribution to the issues of the European Research Area (ERA)
- follow up of the recommendations from the previous monitoring exercise(s) and recommendations for 2001.

To fulfil its tasks, the panel met in Brussels on 6 meetings. The panel interviewed DG Research and DG TREN Head of Units (HoU) and Project Officers, external proposal evaluators, project co-ordinators, External Advisory Group (EAG) members, Programme Committee (PC) members, National Contact Points (NCP) and IRC (Innovation Relay Centre) officials; they have been interviewed or addressed personally or by written questionnaires. The panel has taken also information from official and internal studies, from reports of the 1999 monitoring panels and from data provided by the Commission, including core indicators and statistics from calls. Some statistical information was available only in March 2001. The present report will provide observations, conclusions and recommendations resulting from the panel activities mentioned above. The panel was working according to a "methodology matrix" which it developed. For information this is added in the annex. Additional significant information can be found in Part C of the report.

The panel is indebted to the Growth Programme staff, Programme Committee and Advisory Group members, external evaluators, project co-ordinators and National Contact Points (NCP) who kindly provided their proficient support.

### **3. ANALYSIS OF THE PROGRAMME EXECUTION AND PROGRESS**

#### ***3.1 IMPLEMENTATION AND PROGRESS, INCLUDING PARTICIPATION OF ACCESSION COUNTRIES.***

The overall indication is that the programme implementation made good progress and that the calls for proposals have been published on time. The number of participants has increased in 2000, including a fair proportion of Small and Medium sized Enterprises (SMEs) and participants from the Accession Countries. In December 2000 the Work Programme has been modified in accordance with the provision of the road map and with lessons from previous calls and with PC and EAG inputs. The Work Programme, which is very large, can be considered valid and in most cases well understood. Thematic Networks (TN) are better understood in 2000 and their number increased. However, the Research Community is not fully aware of what EU policies actually are, and their relative weight. The Information Package provides an explanation of these issues to proposers. More attention to socio-economic aspects should be encouraged in this Information. The relations between Commission officials, programme committee members and proposers have maintained at a high level or even have been improved. Nevertheless co-ordination between DG Research, DG TREN, DG INFSOC and DG External Relations has to be improved. More co-ordination is required also with COST, Eureka and other RTD organisations to be beneficial.

#### **LARGE PROJECTS**

In FP5 significant budgets were allocated for the funding of big projects: Targeted Research Actions (TRA), Technology Platforms (TP), Critical Technologies Projects (CTP). The big projects are intended to provide stability, critical mass and the possibility of performing long-term, strategic activities. TPs shall also play an important role toward ERA goals by networking between the industrial sectors and the research centres as well as attracting the small member states and SMEs. It is too early, to consider about the results of the large projects as most of these started only recently; others have not been approved even after resubmission. This shows the strong independence of the evaluation experts. On the other hand it must be mentioned that the big projects reduce FP5's flexibility and make it less adjustable to new research area and emerging technologies. In this sense the panel may explain the decreasing industrial participation in RTD projects, mainly when the trend affects more SMEs than big enterprises. Critical Technology Projects (CTP) are more medium/long term and innovation-oriented. This means that a balance between RTD projects, TPs and CTPs should be maintained and regularly monitored as an imbalance will decrease the Programme's flexibility. In any case, small as well as large projects must be kept eligible in a well discussed balance in the future.

#### **FLEXIBILITY**

It should be mentioned that the programme management has succeeded in reacting fast to unexpected events like the Erika wreck, a severe UK railway accident crash, tunnel fires, doping and food toxicology problems by launching new RTD actions. For Galileo, complementary studies were launched when the first results related to Public-Private Partnership appeared not to be satisfactory.

#### **TIME TO CONTRACT**

The time from proposal to contract is still too long. Information to the co-ordinators of RTD projects not retained was supplied earlier than before (i.e. the time to the "Quick No" has been

improved). Also negotiations on retained RTD projects start a few weeks after the evaluations in most cases, however exceptions apply. This is an acceptable time. However, the formal selection procedure after agreement on any technical and financial issues reached between proposers and Commission staff takes a few months which is not considered necessary. It was reported to the panel from different sources that the main shortcomings are still in the handling of SME-specific actions. Many reasons for this are given, among which the most significant are the complex contract forms to be submitted by SMEs (a drastic simplification of these forms was decided on towards the end of 2000), and the complex eligibility rules in CRAFT projects which sometimes compel SMEs to revise deeply their costs and requested funding during the negotiation phase.

## PROPOSAL EVALUATION

During the year 2000 several proposal evaluation exercises took place in Brussels. The evaluations have been observed by independent experts and have been documented in two reports. The reports came to the conclusion that the overall conduct of the evaluation was fair, democratic and transparent and according to the rules provided. The quality of the process and execution is very high. The fairness and impartiality is particularly the result of the personal integrity of the EC staff and independent evaluators. The evaluation procedure is a well defined process. It seems to be bureaucratic and difficult at first, but the result is a transparent process. Commission staff and experts expressed their opinion that the procedure is relatively simple to handle once it has been gone through. However, some more precise details and harmonisation of the evaluation instructions maybe necessary.

Most recommendations made in the first observation report of June 2000 have been implemented or are still in progress of being followed up. It is still recommended to improve the evaluation guidelines, also from the point of view of harmonising their implementation between the different units. One example is given with respect to detailed quantification when re-evaluations of proposals in extended panel discussions should take place. It should be stated more clearly that awarding the final marks in the evaluation report is rather more a result of the consensus discussion than of mathematical averaging. In addition, the possibility of improving the tools for selection of the experts (database) should be considered. Further harmonisation of the procedures should be ensured, and the co-ordination unit should have a larger degree of control in this regard. There is still some wish expressed by the experts to increase the daily allowances (which are regarded as too low i.e. for the peak seasons) and to improve working conditions (crowding, climatic conditions in summer, better e-mail access to communicate with home offices). A complete remote evaluation might promote participation of women and of busy entrepreneurs who cannot spend a full week in Brussels.

In general, it was mentioned that the evaluation procedure is of the highest standards, the quality of which is probably not matched by any other country or community in the world.

## EXTERNAL ADVISORY GROUPS (EAG), HIGH LEVEL EXPERTS GROUPS (HLEG)

EAGs and the HLEGs, created in FP 5 seem to be running better, after an initial task definition phase. They have been positively involved in the programme implementation and monitoring. The panel considered several papers produced by the groups and found them to be precise, well balanced contributions towards the discussion on ERA. However, planned inter KA - EAG meetings and interaction did not take place although a great potential might have been expected for achieving synergy of their work. EAG/HLEG official objectives and responsibilities still remain unclear as does their role of communications with the Programme Committee. This becomes visible as members feel they have too limited impact, especially on the next FP preparation , and they require a better contact with the Programme Committee.

The panel considers that this should be improved to make more use of their welcomed work output.

#### ACCESSION COUNTRIES

During the first 2 years of FP5, eleven non-EU, candidate countries were admitted as partners in the research programmes with EU funding: Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic, and Slovenia. Agreements with Malta and Turkey should enter into force during 2001. Most impressive is the participation of Poland, Czech Republic and Hungary; together they represent more than 60% of the total number of participants from Associated States. The next group includes Slovenia, Slovak Republic and Romania, which represent 27%. The Baltic countries as well as the less industrialised countries are participating in only a few projects. More than 1500 entities from the 11 countries monitored in this report participated in Growth proposals and the average success rate was 27.7%, close to the average of the member states of 33%, demonstrating a good integration into FP5 activities. The participation of accession countries is significant in KA1 (35% of participants), GA1 (28%) and KA2 (18%). Their participation in KA3, KA4 and GA2 is very limited which can be explained by the required special technologies not yet developed in these countries. However, this is an argument to promote their participation in these actions also. The main difficulty is finding partners; special measures have to be taken to facilitate their participation in consortia. Representatives of Accession countries proposed to introduce the possibility of joining running projects. The feasibility of this suggestion is questionable, but some kind of solution in this direction (e.g. travel funds for joining as observers) could be discussed.

#### USE OF INFORMATION TECHNOLOGIES

The contents and quality of the web-based real-time Programme information in CORDIS have been developed considerably during the last three years. Success has been achieved with regard to the implementation of the international system for partner search, and the use of e-mail and other communication methods to support the activities of the Programme Committee. However, the database in CORDIS called "results" does in most cases not contain the real project outcomes. So it is impossible for someone to check if research planned is already executed. For better dissemination of results this should be improved.

The e-Europe action plan launched by EC in December 1999 and adopted at European Council in Feira calls for the exploitation of ITC (Information and Communication Technologies) resources in the context of the FP5 specific programmes.

The electronic submission of proposals was reported as working, but Protool is widely used only – as quasi standard – for writing proposals. The information provided states that the electronic submission should work and bugs should have been removed. However, proposers, at any rate, think that the electronic submission of proposals is still inefficient; less than 5% of the proposals were submitted electronically. There are reports that in the period shortly before deadlines access to Commission servers in order to submit the proposals was difficult due to increased traffic and demands. Since a well functioning electronic proposal system would be strongly welcomed it is strongly recommended that such a system be encouraged vis-à-vis coordinators as well as inside the Commission.

#### STATISTICAL DATA

The Table 2 Growth Data Status 2000 gives an overview of the breakdown by KA and GA of significant Growth figures: Officers workload, numbers of Technology Platforms (TP), Critical Technology Projects (CT), Thematic Networks (TN), Concerted Actions (CA), Craft

projects, Virtual Institutes (VI), Marie Curie grants, Accompanying Measures (AM), TM (Take-up Measures), EAG and PC meetings. The absence of take-up measures, the absence of Craft in KA2, the very small number of CAs (while CA objectives are quite appropriate for developing synergy between projects in different Growth KAs and FP5 Programmes as well as between national and with FP5 running projects), the success of TNs, and the heavy responsibility on project officers' shoulders should be noted.

## PROJECT MONITORING

Due to the greater and numerous tasks and objectives assigned to the relatively small number of staff of the same unit, monitoring of the running projects together with the related subsidiary programme activities become more and more difficult. Officers are in charge of too many and/or too large projects. Together with the preparation of the calls, launching and evaluation, the contract negotiations and the ongoing project follow up, they have to foster international co-operation, results exploitation, training activities, inside and outside EC co-ordination, to take care of more new participating Member States and Accession Countries whose interests and features are quite different. In addition they have to comply with stricter administrative rules and procedures. This situation may, in some cases, result in insufficient technical monitoring.

(see table 2)

## COORDINATION

The establishment of effective co-ordination and co-operation remains an important issue. For example, the important subject of transport is dealt within different programmes and DGs (Growth KA 2,3,4 , IST, EEST, DG Research , DG TREN, DG INFSOC and DG External Relation). DG TREN officers have no real time access to some of the data-bases of DG Research which makes it sometimes rather complicated to get the information they need for processing projects. Thus, in general, the communication tools among the DGs should be improved.

FP5 decisions and Council resolutions have required co-ordination and co-operation of FP5 activities with other European related programmes: COST, Eureka, Intelligent Manufacturing Systems (IMS), Technical Assistance to the Commonwealth of Independent States (TACIS), Mediterranean Actions (MEDA), International Association for the Promotion of Co-operation with Scientists from the New Independent States of the former Soviet Union (INTAS), and Poland-Hungary Assistance to Restructuring Economy (PHARE). Thus these requirements and their implementation should be taken into consideration i.e. by: ex post clustering of Eureka and Growth projects; involving COST actions into appropriate Growth Thematic Networks (e. g. COST Transport actions could put in relation to KA1, KA3, KA4, and even GA M&T thematic networks). Effective and efficient co-ordination in the IMS frame was carried out in the last FP4 IMT call for proposals for car and aeronautics manufacturing (namely concurrent engineering). However, in the call for proposals for IMS, procedures for the separate evaluation of the non-EU co-signatory could be speeded up by better international co-ordination.

ACTIVITY	KA1	KA2	KA3	KA4	Materials (*)	M&T + Infrastructure	TOTAL
Number of project officers	19	18	7A + 1B (**)	9	13	11	<b>78</b>
Average number of PTA per project officer	1 (only foTr Craft)	-	-	-	2	1 in total (only for CRAFT)	<b>NR</b>
Average number of projects per project officer	40	17	46	27	40	35 + 4 being negotiated	<b>average35</b>
Average EU funding per project officer	50 - 60 M€	25 - 30 M€	53 M€	82 M€	48 M€	18 M€	<b>average47 M€</b>
Average total cost of projects per project officer	100 M€	40 - 45 M€	98 M€	153 M€	83 M€	29 M€	<b>average102 M€</b>
Average total number of participants per project officer	400	150	320	400	360	280	<b>308</b>
Number of Technology Platforms	-	-	4	6	-	-	<b>10</b>
Number of Clusters (ex-post)	6	5	12	50	4	-	<b>77</b>
Number of Targeted Research Actions	5	3	-	-	-	-	<b>8</b>
Number of Thematic Networks	60	35	15	18	34	23 (not including V.I.)	<b>162</b>
Number of Concerted Actions	-	-	-	-	-	2	<b>0</b>
Number of CRAFT projects	210	-	24 + 44	35	135	37	<b>485</b>
Number of Virtual institutes (V.I.)	-	-	-1	-	-	5	<b>6</b>
Number of Marie Curie grants	16	4	10 + 4	11	21	3	<b>199</b>
Number of Accompanying measures	23	5	5 + 3	18	32	29	<b>115</b>
Number of Take-up Measures	-	-	-	-	-	-	<b>0</b>
Number of E.A.G. meetings (1999 - 2000)	5	5 / year	11	13	= KA 1	6	<b>40</b>
Number of Programme Committee Meetings	6						<b>6</b>

(\*) "Materials" includes the (very few) steel-related projects submitted under the IMT and Growth calls for proposals. The projects managed by the sector "steel" are essentially funded through the ECSC treaty (independent of the Framework / Growth Programme).

(\*\*) 7 scientific officers + 1 administrative officer (looking after 44 Craft projects, 4 grants and 3 accompanying measures). NRF : Non Relevant

**Table 2:** Growth data status 2000

### **3.1.1 Implementation of KA1: “Innovative Products, Processes and Organisation”**

Concerning the FP4 IMT (Industrial and Materials Technologies programme) projects related to KA1 and completed in the year 2000, it has to be stressed that many of them may be considered to be success stories.

From the high number of proposals evaluated in 2000 and the acceptable rate of retained ones it is evident that most participants now have a good understanding of the main objectives of KA1; however 40% of the proposals received concerning TRA “product services” were out of scope. The related part of the new work programme issued in December 2000 clarifies the goal targeted for the next calls. It must be noted that “services oriented” areas are also attracting innovative SMEs as partners as well as co-ordinators and that most of them are less familiar with “EU FP language” than big firms. This remark is general and applies to other Growth KA/GA as well. It is aimed at encouraging more attention to be paid to tailoring wording to the targeted proposer population; this recommendation may be extended from language to procedures.

Due to the extended research areas and larger-than-average expected projects in the last calls, the number of partners per RTD project has increased (9-10 at present) with an average EC funding of about 2 M€. The SMEs are well represented and constitute over 20% of the participants. The significant participation of SMEs is due both to the high number of Craft projects accepted (40% of the proposals) and to their interest, not only in short-term projects, but also in longer RTD projects in which 1-2 SMEs participate in each consortium. From the data of the June 2000 call, it is obvious that the trend is positive. The large number (60) of Thematic networks is also to be noted; it reflects the importance of the enabling disciplines which have to be considered and integrated in any material or manufacturing RTD activities, and that are the foundation KA1 areas. However a considerable amount of proposals did not address the specific parts of the work programme. This is due to the fact that many proposers did not appreciate the importance of the difference between the project approach of FP4 IMT (Industrial and Materials Technologies) programme and the mandatory problem solving approach required by FP5 KA1, and they continued to submit the same type of projects they were used to. The panel took note of some AM addressing relevant socio-economic issues, a rather new concern in the traditional scope of KA1, and of a quantified survey of ongoing activities in intelligent materials, nanotechnologies, and production methods simultaneously with a mapping exercise to identify European networks related to nanotechnology.

### **3.1.2 Implementation of KA2: “Sustainable Mobility and Intermodality”**

The most relevant topics for 2001, in line with the priorities of the Common Transport Policies (CTP) have been identified; among other outcomes GALILEO, SMART RAIL targeted actions, and the joint Growth/EESD call CIVITAS have to be stressed.

The quality of proposals is good because the policy oriented requirements are specified in an additional information document provided for each call. The percentage of accepted proposals has decreased slightly (37% in 1999, 35% in 2000). The evaluation reports on 283 research projects show that for 75 % of projects there is a clear indication of practicable outputs with a high socio-economic impact. There is also a high number of specific Accompanying Measures proposed and retained in KA2.

The average funding per project is 2 M€ and the number of partners per project has decreased from 9.7 in 1999 to 7 in 2000. This deviation from the general tendency is partly due to a decrease in industrial participation. GALILEO aside, only 30% of participants are from industrial companies, the lowest rate among all Growth KAs and GAs. Beyond the very

special nature of Support of Common Transport Policy, the programme management should analyse the reason and take appropriate measures. Also 30% of the participants are governmental organisations (national, regional and local authorities) that are the users of the transport policy oriented research of KA2. The communication from the Commission concerning 2000 annual report for Research and Technological activities reported – for the signed contracts related to budget 1999 and KA2 – a SME rate evaluated as 22.4% in participations (11.5% for SMEs of enterprise sector), whilst the most updated core indicators for the contracts signed in 2000 point out only 5.9% in KA2 number of participations for SMEs involved in the enterprise sector. Furthermore there are many SMEs involved in innovative transport technologies, but no CRAFT project was retained in KA2, maybe because, different from e.g. KA1 which is industrial oriented, KA2 is policy oriented. However, the reasons for this result must be examined in more detail.

The running GALILEO programme is a kind of “*super-cluster*” encompassing several Growth FP 4 and FP 5 projects, TEN (TransEuropean Network) projects, and the European Space Agency (ESA) GalileoSat project. The main assigned goal of that cluster was to allow the Council by the end of 2000 to decide to launch the “validation and development phase” (2001 – 2005) of an European positioning and dating system aiming at full operating capability in 2008 at the latest”. During year 2000 the projects reached concrete and significant outcomes: the technical results permitted to preserve the future of GNSS development at the 2000 WRC (World Radio-Frequency Conference) in Istanbul and, as early beginnings of an “European space policy”, allowed the EC – ESA agreement on a joint space strategy dated 16.11.2000 (the two first substantial programmes of that strategy being Galileo and GMES standing or Global Monitoring for Environment and Security). The main assigned goal had to be postponed until the “Council Resolution on Galileo” adopted on 5 April 2001 in Luxembourg, after industry involvement and steering management to be settled have been clarified and after it was agreed to improve the existing Cost Benefit Analysis. The Panel felt that the feasibility of such “Mega” strategic projects within the frame of an RTD programme should be discussed.

### **3.1.3 Implementation of KA3: “Land Transport and Marine Technologies”**

At the end of the 1<sup>st</sup> call, it became evident that several topics of the work programme were not covered by proposals for the TPs and for some of the CTs; an awareness campaign was started to fill the thematic gaps which resulted in an increased number of addressed proposals for the 2<sup>nd</sup> call. The average number of participants in RTD projects was 8 and the average funding per project, 2.5 M€. The references to LINK and PREDIT (UK and French national programmes related to land transport) has to be noted although there are no indications that any reference was made to the similar German programme “Mobilität”. An interesting coherent mapping methodology was undertaken by the KA3 management; it is aiming at fostering a global sustainable approach in the design of sustainable mobility systems for land and marine transport, including intermodality. The panel also noted an effort to promote CRAFT among industry concerned by KA3 (e.g. ETISMA as well as two promotion forums respectively dedicated to maritime dedicated networks and to automotive RTD under the auspices of EUCAR (organisation for co-ordination of car industry RTD). The relative high number of clusters has to be emphasised as well as a good co-operation with KA4 for noise related activities ,also with KA2 for road and mobility system concepts in safety topics, and also the fact that the sole Concerted Action selected in 2000 calls is related to KA3.

### **3.1.4 Implementation of KA4: “New Perspectives in Aeronautics”**

KA4 aims at quantitative objectives to be achieved within an 8 to 10 year period. One of the major goals was the implementation of Technology Platforms and the development of a long term vision for the future Framework Programmes. It seems that these goals have been achieved. To that end both medium and long term CT projects and short term integration and validation TPs were successfully implemented. The proposal success rate of the Aeronautics Key Action is high (about 33 %) due to high degree of understanding of needs on all levels. However, the number of retained proposals related to interdisciplinary topics was fairly low. It was questioned whether the application of the same rules for evaluation of very small and very big projects is appropriate. This topic needs further discussion.

The average number of partners per contracted project has gone up very slightly from 12.3 in 1999 to 13 in 2000. There is no change in the percentage of industrial companies (45 %) and other participants. The average funding per project is 7M€. The KA4 budget is well balanced between development of critical technologies (50%) and integration and validation of technologies (50%).

The participation rate of SMEs was only 8.1 % in 1999 and 4.3 % in 2000; their technological capability and links with the big companies should be improved by special measures. About 40% of the enterprises having participated to KA4 are coming not from the few big member states where there is as large aeronautics industry. These enterprises, however, receive only 28% of the funding. The situation has to be addressed for countries not so well represented as regards the European dimension of the Programme Discussion on “juste retour” makes no sense here, however A high participation rate is considered as one of the most important indicators of FP success.

However as the large size Aeronautical TPs are seen as beneficial, the need for a balance must be taken into consideration. Programme Committee (PC) and External Advisory Group (EAG) members, as well as representatives of research centres, expressed the opinion that the large size of aeronautics TPs does not leave enough room for more innovative, long term RTD projects. This statement has to be discussed in detail; a policy is required to find the right balance between TPs, which of course have some subsidising, but a less innovative, character, and RTD projects which aim at innovation for the next 20 years.

### **3.1.5 Implementation of GA1: “Materials and Steel”**

#### **“Materials and their technologies for production and transformations” / “New and improved materials and productions technologies in the steel field”**

There are still several steel projects running in the Growth programme ; three contracts are still in negotiation and new projects can result from the ongoing call; Although the European Coal and Steel Community (ECSC) Treaty will cease to exist, the Council has established a Coal and Steel Research Fund to ensure the continuation of this research activity. It has to be noted that outside the Growth Programme there are still a number of ECSC projects underway which are managed by the Steel sector of the Materials and Steel unit.

The generic activity MAT accounts for the lowest percentage (23 %) in the RTD proposals accepted/evaluated in 2000 although the quality of proposals, judging by marks indicated, is high. The nature of the specific long term research in this GA and related problems with regard to sufficiently describing the socio-economic dimension, and the tendency not to address the scope of the call maybe a reason for the low success rate. The low number of retained projects is also due to the limited amount of available budget in comparison with the requested contribution leading during the last call to the need of a constitution of a reserve list

of 7 conditional retained proposals. CRAFT projects are very much in demand in GA-MAT and the level of the proposals is very satisfactory. In terms of shared cost actions, MAT scored the highest ratio of CRAFT/RTD projects selected for financing in 2000. The budget allocated to Craft in Growth is 212 M€, of which 150 M€ are earmarked by KA1 and MAT. However there is a risk that this amount would not be sufficient if too many proposals were presented during the last three batches (October 2001, January 2002, April 2002). It is also observed a natural trend to long-term more risky research, leading to radical innovation in different sectors, presenting potential for breakthroughs and providing the combination of different disciplines.

The Thematic Networks are favoured in MAT as the subsidiarity principle is evident in this activity. Beyond that, the research on materials is a classic interdisciplinary activity involving different competencies found in different countries, including in the Accession Countries. 28% of participants from the Accession Countries took part in MAT. Following the agreement with NSF a strong participation of US partners either universities and industries is noted.

The panel noted the very high rate of success (80 %) of the Accompanying Measures and that GA1 selected in year 2000 a higher number of Marie Curie Training and Fellowships in Growth. However, like for KA1, no Concerted Actions and no INCO proposals could be selected for funding in the GA1 field

### **3.1.6 Implementation of GA2: “Measurements and Testing”**

As the calls have been clearly targeted to quite specific topics, the proposers addressed the objectives very well. The result was high success rates, which varied in the different domains from 30 % up to 70 % with an average above 40 %. Participation of SMEs was fair, at 12 % . However, the budget limitations were such that many standardisation and Certified Reference Materials (CRM) topics evaluated positively, could not be published. There are indications that Measurements and Testing is undervalued because its impact is not directly seen. However this is an important action contributing quality of RTD results, to standardisation, and the ERA requirements. Progress with regard to metrology is also required because of the proliferation of accelerated technology applications and subsequent fraud development. But if KA stakeholders agree with this statement they should then consider that standards issue related to KA projects have to be dealt with within KA framework. The panel is of the opinion that there is no valuable RTD without metrology at the upper level.

The panel observed as for GA1 a very high success rate (70 %) of the AM proposed in 2000, and a low number of Marie Curie Training Fellowships, and again the impossibility to fund Concerted Actions

### **3.1.7 Implementation of Support to Research Infrastructure**

Information activities such as the organisation of the workshop on Virtual Institutes have resulted in an increased number of expressions of interest and better quality proposals. The contract for the first virtual institute (and up to now singular), EVIMAR, has been negotiated (EVIMAR supports the marine industry research with regard to policy, potential and infrastructure).

The Expressions of interest / dedicated call mechanism seems to work best for projects in support of policies, but less well for competitive issues (for example in the field of materials research); the mandatory expression of interest limits interest on the part of industrial partners due to a fear of dissemination of their ideas for new technologies e.g. also for use in

competing proposals. Interviews conducted by the panel show that more virtual institute proposals, covering competitive and rapidly developing areas, would be submitted if virtual institutes were incorporated in periodic calls.

## **Conclusions**

The percentage of RTD projects retained for funding in 2000 was lower than in 1999. The average EU funding per RTD accepted project is 2.2 M€ both in 1999 and in 2000. There was enough budget available to fund all recommended projects (except some in GA 1 Materials). However, for many standardisation and CRMs topics the budget limitations were such, that dedicated call topics could not be published. Some co-ordinators of projects find that reductions in funding requested by evaluators often result in less coherent and less efficient projects. The increased number of received proposals is evidence of an increased ability in writing the proposals; on the other hand, the low percentage of accepted proposals might mean a strict evaluation and selection resulting in a significant improvement in the quality of the accepted proposals.

The average rate of approval of RTD projects is about 30 %, whilst for CRAFT projects it is about 40%, and for Exploratory Awards is more than 40%. There is a tremendous rise in the number of proposals received on Thematic Networks showing an increased interest in this activity; more than 40 % were approved. Compared to 1999 core indicators, in the contracts signed in 2000, the presence of SMEs has substantially decreased mainly in KA2; there is a slight increase in the Craft projects since SMEs are driven towards actions, activities and consortia specially conceived for their participation. In Craft more traditional SMEs are attracted – even if we can see an increase of participation of high tech SMEs. They are mainly stimulated through a network of national and regional contact persons, as well as by the RTD performers (which in Craft act as subcontractors, can ask for market prices, and are paid at 100%).

The number of demonstration projects (35% EC funding) is low compared to the R&T projects (50% EC funding), i.e. in 2000 there have been 9 of these projects out of a total of 367. The perception is that proposers prefer the research projects because of the higher EC funding.

## **3.2 SIGNIFICANT RESULTS AND IMPACT**

### **3.2.1 Preliminary evidence of impact**

Specific evidence of impact can be observed in projects that have finished between 5 and 8 years ago; thus it is too early to make a real assessment on the impact of FP5 projects. However, results of finished FP 4 and running FP 5 projects have been presented to the panel. It is in the position to forward the opinion that in any Key or Generic Action there is strong evidence of scientific and technological successful projects. Anyway some preliminary considerations could be made on general issues concerning the impact of Community research.

EU officers are of the common opinion, shared by the project co-ordinators, that an impact of Growth projects is expected, in industrial modernisation, eco-efficient production, better resource consumption as well as quality of life and social needs. This opinion is based on the final reports on the finished projects (mainly FP4 Crafts and RTD projects), on the mid-term assessments of the running FP5 project and on the positive trend in the evaluation of proposals (proposals are achieving higher PQIs in the socio-economic items more specific to FP5.) Due to the problem solving approach, FP5 decision-makers do expect a better and faster

impact. The interdisciplinary and international approach are also indications of expected impact. RTD projects aim at mixing different technical and social disciplines and are contributing to the creation of a new generation of researchers able to consider the different aspects of their research activity, to develop Networks and to run trans-European projects complementary to the National programs. In the last 2 years people involved in the EU projects have understood that many modern technological challenges can be solved only by synergy; they are more open minded and eager to co-operate.

SMEs agree to be co-ordinated by larger organisations in CRAFT projects and, at the same time, take technical responsibility as co-ordinators of bigger RTD projects.

Benefits and drawbacks of large consortia are detected in impact studies. Many researchers expressed their view that benefits such as complementary skills have been brought to the consortia. However, the organisation and administration of these large groups are difficult.

### **3.2.2 European Added Value (EAV)**

Most Growth projects have a strong European dimension. Many projects are strategically important for EU Industry and Society; some projects could not have been carried out in a national context. Examples are GALILEO or the Aeronautics KA as well as the KA3 support to shipbuilding innovation Technology Platforms which reach the necessary size to compete successfully against USA or Far-East supremacies. The main difficulties with regard to achieving EAV relate to the lack of consensus regarding the definition and measurement of this concept. EAV and EU policies are still not well understood. However, an increased number of participants try to address the EAV in their proposals; one indication could be (but is not necessarily) the increased number of participants in projects (in some cases beyond 10). In the 1<sup>st</sup> Call in 1999, quite a large number of proposals have failed because the EAV and the new spirit of the FP5 was not understood.

On the other hand big firms are now global and it is becoming more and more difficult to make the European impact clear and beneficial in the context of competition with the US and the Far East. SMEs are also operating in global markets but their basis of operation is in Europe. In that sense, they strengthen European competitiveness and their greatest benefit through FP5 and Growth projects as far as EAV is concerned is the change in their co-operation models and their subsequent opening market perspectives. Unfortunately they lack aggressiveness and resources to protect of their Intellectual Property Rights and have to be sustained and encouraged. There is a problem with regard to the participation of small countries in KA4-aeronautics projects. Their participation should be facilitated.

### **3.3 CONTRIBUTION TO THE IMPLEMENTATION OF THE EUROPEAN RESEARCH AREA (ERA)**

The ERA initiative is intended to enhance the scientific and technological competitiveness of the EU.

The target of the ERA is to solve scientific and technical problems on the European level through a common approach to research. It encourages very innovative research, big projects (10 - 100 M€) and networking.

The main issues relating to ERA are the integration, reinforcement, and structuring of European RTD by promoting synergy between:

- Different sources of funding and other support measures
- RTD in support of EU policies.

- Centres of Excellence
- European RTD infrastructures
- More abundant and more mobile human resources

As already has been mentioned, the concepts published by the EAG/HLEG are a good basis for discussing steps towards ERA.

The implementation of the ERA can be reinforced by launching schemes for basic research in universities, research institutes and long term research in the industrial sector. The last call for generic technologies of materials (i.e. nanomaterials) is a typical example of ERA in the Growth Programme.

Virtual Institutes at present run well only for themes of great social and economic relevance (waste, transport, environmental studies, etc.). There are indications that the expressions of interest/dedicated call mechanism is not well suited for all Virtual Institutes themes since it does not function well in competitive areas. To increase the number of proposals in the competitive area, it must be possible for them to be eligible without previous expressions of interest.

In 2000 many National Research Centres joined the projects of FP5. In their country they are vehicles for trans-nationality and “critical mass” and should be encouraged to develop more synergy. However often Centres of excellence develop around research infrastructures. They compete with each other and no proposals to network research infrastructure capacity to the benefit of FP5 projects were submitted. And, instead of fostering synergy among them Centres of excellence rather tend to look for EU and national funding for improving their own infrastructure or for building new infrastructure. Attention has to be paid to duplication and to over capacity of expensive research infrastructure due to the lack of co-ordination.

There has been observed also a shift towards an increased participation of high tech SMEs. About 50% of them are technology developers from the manufacturing as well as from the software or R&D sectors. Other high-tech SMEs belong to opto-electronics, biomaterials, machine tools, software houses etc. All of them are really involved in the core research activities covered by the projects and are less involved as end-user/technology validation roles: This points the way to an increasingly active role for SMEs within the initiatives of the European Research Area.

*Specific Growth actions/activities related to the ERA are discussed briefly below.*

### **3.3.1 Thematic Networks (TN)**

In 2000 the number of TNs has increased considerably in the whole Programme. In total, there are about 185 TNs running. These networks are intended to co-ordinate and disseminate activities of projects financed at EU or National level as well as to facilitate the link between research and policy makers. This strategy is fully in line with the ERA concept applied to the transport RTD sector.

### **3.3.2 Co-operation between industry and public institutions**

There is good collaboration between universities, public research centres, and industries in KA1 and GA1. In FP5 and particularly in the year 2000, the collaboration between the mentioned ones, including policy makers, in different countries, became stronger especially in KA2, KA3 and KA4, due to the large consortia and big projects. There are good expectations for the future since the Commission in its 4<sup>th</sup> call is fostering larger RTD actions for these activities including all stakeholders with an interest in the implementation and demonstration

of social impact. The level of SME participation in some Key Actions is still unsatisfactory and a continuous effort to support them is required.

### **3.3.3 Large projects and consortia**

The increased average number of partners in the consortia is contributing to the “problem solving” approach, forcing the use of synergy in research infrastructures and providing different market insights. However, in large consortia methodological differences among the partners are inevitable and sometimes they cause delays and problems. Furthermore SMEs are not always attracted by the large projects due to their long term objectives. Hence benefits and shortcomings of large consortia need detailed analysis.

### **3.3.4 Links to national programmes**

There are few indications of cross-fertilisation of Growth with various national programmes and initiatives. Some national programmes are nowadays designed as umbrellas of various action lines and instruments, which are in many ways making use of Growth or other FP5 programmes in their execution as a complementary dimension. Some of the national programmes are more related to basic research and it is felt that the “problem solving approach” fits very well with the national programmes. This may not be the case in larger countries, which also carry out a lot of applied research at the national level. The ERA perspective in FP5 is crucial for aeronautics and for shipbuilding for maintaining competitiveness. It has to be mentioned that there is a huge indirect support from the US government to US aviation manufacturers, and from Korea and Japan to their shipbuilding industries.

A stronger co-ordination with Eureka projects may be a link between Growth and national programmes.

However, the European Programme must not be a research programme replacing national programmes. It should focus on research which cannot be carried-out at the national level. Besides, there must be no gaps. This means that there must be no important or “key” areas covered neither by the EU programmes nor by National programmes.

### **3.3.5 Standardisation**

A European Research area implies also a high European quality level of standardisation and the Measurement and Testing Generic Activity is a good example for an appropriate instrument to bring a clear ERA dimension. As already emphasised, the panel's opinion is that no RTD valuable outcomes are to be expected without advanced metrology in all KAs and activities, even in other Programmes like IST. This is an important part for the development of ERA and a pre-condition for efficient national programmes. Recognising the importance of standardisation, the Commission launched in 2000 two dedicated calls on M&T. However, the panel feels that Measurement and Testing is undervalued and recommends stronger commitments in the future.

### **3.3.6 Other**

Growth is contributing positively to the other EU policies (environment, employment, health, social-economic cohesion etc.).

### 3.4 FOLLOWING UP OF RECOMMENDATION FROM THE PREVIOUS MONITORING EXERCISE

The panel considered the set of recommendations from the 1999 external monitoring report on Growth. The panel welcomed a status report on the implementation of these recommendations that the Programme officials made available. All recommendations were dealt with in this status report. A summary of the status of implementation of recommendations is given in the following Table 3.

**Table 3:** Status of implementation of recommendations from 1999 monitoring

Table 3.1: Recommendations concerning Programme Implementation

No.	Recommendation	Implemented in 2000, Comments from this panel
1	Distribution of best practice for in-house procedures.	Y/C; Efforts have been made, but have to be continued, especially to check the implementation in units, e.g. of the evaluation process.
2	Tools to terminate improperly running projects.	Y; More audit and control mechanisms are being set up. Possibility has to be kept in mind.
3	Harmonisation and better definition of External Advisory Groups and High Level Experts Groups Status, checking of membership (KA2, GA2).	Y/C; In practice EAG and HLEG fulfil the same role. Harmonisation and status definition out of scope of Programme management. Members complain about their limited impact. Membership already did change due to incorporation of Accession country members. In some groups end-users are not well represented.
4	Promote effective electronic proposal submission.	N; Electronic submission was made effective. However, most proposers have no confidence in it: From 31.02.00 – 31.10.00 only 4% of proposals were submitted electronically. Promoting of system still necessary.
5	Reduce bureaucracy, decrease amount of paperwork for proposers, evaluators, co-ordinators.	Y/C; Started (i.e. application form for evaluators, acceptance of fax signatures in proposals). Efforts have to be continued.
6	Accelerate “Quick No” procedure	Y; time to information reduced considerably.
7	More priority to science and technology, to long-term missions, implement more risky decision policy in terms of proposals	Y/C; Effort done within scope of Council decision. However, it remains a concern.
8	Keep for FP6 same structure as for FP5.	N.A.; Panel’s feeling is, that the Programme now is well understood, anyway considerable changes for the next Programme may occur due to changing concepts.

9	Analyse SME participation in running projects.	Y; It is done as well by the Central unit and the Growth management as well as within contracts of impact evaluation. Results will be available in 2002. Internal analysis will lead to new procedures for the new FP.
10	Monitor benefits and shortcomings of too large consortia.	Y/C; Subject is continuously discussed by management. Some aspects have been addressed, but no detailed analysis is available.
11	Promote reports of projects, even if failed.	Y/C; It is already required by model contracts. Panel feels that it is not obvious or common sense that a failure is quite acceptable and may bring valuable lesson. "Success stories" maybe determined by the low risk
12	Improve rules for socio-economic impact evaluation, better communication of criteria to proposers, keep socio-economic and science/technology evaluation separate.	?; Commission considers the criteria as well defined and better understood by proposers.
13	Communicate that technology policy and structural policy are no longer mixed.	Y; Commission makes efforts to clarify the selection criteria and let proposers know on request that there are no hidden criteria.
14	Use pre-proposal checks for redirecting proposers to other activities.	Y; Has already been done where appropriate.
15	Improve administrative and financial handling.	Y/C; Has improved so far. However there are still cases in which the time period between proposal submission and signed contract is up to one year. Problem is formal selection phase after finished negotiations on scientific/technical level. Due to the trend of bigger projects further problems may arise.

Y yes/done

N no/not implemented

C implementation was done well as possible within constraints, efforts have to be continued

? degree of implementation cannot be judged so far

N.A. not applicable within scope of Programme or Programme Management

Table 3.2: Recommendations concerning Monitoring

1	Improve contact between Panel and EAGs and PC, arrange joint meetings.	Y; The 1999 monitoring report was presented to the Programme Committee, which was highly appreciated. Further contacts are up to the panel, Panel members are now welcome to meetings.
2	Re-recruit two panel members from the previous year	Y; Re-recruitment of one members is already implemented. More persons are not considered as adequate.
3	Improve administrative and financial handling	?; Administrative handling was improved.
4	Provide uniform instructions to panel	Y; Definition of deliverables is clear.
5	Start working of panel only if core data are available after a fixed deadline.	C; Informatics system available to staff do not enable them to quickly provide an overall view of the status of proposals from all calls. From the initial figures the Panel received, no success rates could be calculated. Implementation may be difficult as this would delay significantly start of monitoring. However a later deadline for the draft report would improve situation.

Y yes/done

N no/not implemented

C implementation was done well as possible within constraints, efforts have to be continued

? degree of implementation cannot be judged so far

N.A. not applicable within scope of Programme or Programme Management

As a general conclusion it can be stated that the programme management has succeeded in implementing most of the 1999 monitoring recommendations where they have been in the scope of the Programme management. It has to be mentioned that not all recommendations were precise enough to be followed exactly and hence the follow up has to take this into consideration. It became evident that most procedures have been harmonised in the Programme but that their implementation is handled different in different units. This became apparent on e. g. the implementation of the proposal evaluation and also the tools used for project monitoring.

## **4. MAJOR TRENDS, CONCLUSIONS AND RECOMMENDATIONS**

### **4.1 GENERAL OBSERVATIONS**

Having looked in detail at the implementation of “Competitive and Sustainable Growth” in FP5 for the year 2000 and the reports covering 1999 and the devoted resources as well as the existing rules and constraints, the Panel comes to the conclusion that the Growth Programme:

- Is progressing satisfactorily and achieving high performance levels
- Responds to the stakeholders’ demand and is well implemented
- Is understaffed for assuming an efficient scientific and technical management with regard to the stakes involved
- Needs internal and external co-ordination improvements

Significant results have been achieved in all Key and Generic Actions from finished FP 4 projects and evidence is given that good impact is to be expected from FP 5 projects.

Concerning the future of the programme, there are still discussions on the appropriate balance between the FP4 project approach and the FP5 problem solving approach. Whereas in FP5 a good mixture is observed by a lot of parties (industries, public authorities), others (research institutes and several EAG/HLEG members from industry) see the risk of losing scientific and technology excellence in the future. The panel has come to the conclusion that the best balance between policy driven and bottom-up approach has not yet been found as the subject is still debated controversially. For some subjects the problem solving approach is feasible but in general it maybe too limiting; in addition it requires more internal programme co-ordination. The bottom-up approach is more flexible on changing demands. In order to be successful in the modern competitive world, fast reactions are required and the policy driven approach cannot fulfil this condition. The panel thinks also that the policy driven approach would focus too much on applied research to the detriment of basic research needed to make European industry ready to face world wide competition. It should be kept in mind that public funds should be invested in projects responding to technology gaps and entailing risk. For the realisation of non-risky applications, the private sector should invest on the basis of commercial profitability for in the mid term as well as for the long term.

It became also evident that in general there are existing the same procedures for the whole Framework Programme, however for each specific Programme there does exist a different annex which specifies the implementation of procedures e.g. for proposal evaluation. It is surprising that the implementation of procedures for the different Programmes varies, i.e. the “anonymity rule” for the first step of proposal evaluation is not foreseen in all Programmes. This is a matter to be discussed on the level of the FP monitoring panel.

## **4.2 RECOMMENDATIONS CONCERNING PROGRAMME IMPLEMENTATION**

This paragraph contains a grouped list of specific recommendations. The panel's opinion is that out of these the following major actions have to be taken:

- **Higher Priority to Science and Technology**
- **Improve Staffing Situation considering Number and Importance of Tasks**
- **Enhance internal and external Co-ordination, in particular to improve Impact on ERA and FP6 including EAG/HLEG input**
- **Easy Access and Procedures for SMEs**

### **General**

1. There are indications that due to the policy driven approach, a loss of scientific and technological excellence in Europe may occur in the future. Thus it is recommended, to give a higher priority to science, technology, and innovation excellence during the evaluation process. Thus checking and appropriate changing of thresholds for the technical and socio-economic evaluations results is recommended.
2. Continue monitoring of benefits and shortcomings of large consortia (i.e. with more than about 10 participants).
3. Very small and very large projects (TP, TRA) are evaluated according to the same procedures. Thus it is proposed to investigate possible streamlining of procedures taking the size and specific objectives of projects into account.
4. As the technological demands may change rapidly during an FP, fast reactions during a running Programme, including those based on recommendations of EAG/HLEGs should be made possible.

### **Management**

5. In order to improve real time efficiency, it is recommended that direct access is to be given to the DG RTD data bases (evaluation experts, etc.) for DG TREN officers.
6. The panel noted a very high workload for Commission staff and recommends reducing the workload in order to improve project monitoring. A maximum of around 20 projects per officer is acceptable for a suitable management and scientific or technological follow-up. Some tasks of an administrative nature can be sub-contracted. Decentralisation on a national level could also be one solution especially for actions which are not of a strategic nature (Craft, training, administrative matters). Nevertheless, in order to respect the programme objectives, it is necessary to retain at EU headquarters the central technical co-ordination and the monitoring follow up of RTD projects and Thematic Networks.
7. Start action to promote electronic submission of proposals addressed to co-ordinators as well as inside the Commission.

8. Check the possibility of using the video conference tool in the evaluation process (consensus meeting) for projects jointly carried out with the USA, Canada and other non-European countries.

### **Co-ordination**

9. FP5 decisions and Council resolutions required co-ordination with the Technical Assistance to the Commonwealth of Independent States (TACIS), Mediterranean Actions (MEDA), and International Association for the promotion of co-operation with scientists from the New Independent States of the former Soviet Union (INTAS), and with Poland-Hungary Assistance to Restructuring Economy Programme (PHARE). It is recommended to check the co-operation of Growth units within the mentioned requirements. FP5 decisions also require, co-operation between Growth, Eureka and COST. Thus it is recommended to investigate the following possible actions: ex post clustering of Eureka and Growth projects; inclusion of COST actions into appropriate Growth Thematic Networks (e. g. Cost Transport actions could fit into KA1, KA3, KA4, and GA M&T Thematic Networks).

### **EAG**

10. The role, status and tasks of the EAGs and HLEG still remain to be precisely defined. Their recommendations have only limited impact due do to the assigned tasks. Thus the panel recommends a revision of the EAG/HLEG mandate. The EAGs have brought in 2000 important contributions to ERA and should play an active role in the planning of FP5. The panel encourages meetings between EAGs and co-ordination between EAGs and PC.
11. As high level experts from the industrial sector have a good understanding of feasible solutions, their representation should be checked, i.e. in policy oriented EAGs. Check also the representation of end users and of the Accession Countries in the EAG/HLEGs.

### **Accession Countries**

12. Check the implementation of special measures to stimulate participation of Accession Countries, for example actions for partners search by allocation of specific travel budgets. Check the evaluation procedures for proposals in terms of compliance with the needs of applicants from the candidate countries.

### **SME**

13. In order to increase SME participation procedures for SMEs should be further simplified. The Craft scheme should be maintained and simplified in next Programme. Assure that questions for application are applicant-friendly and simple to answer (e. g. the issues of EAV and ERA).

## **Specific Key Actions**

14. Transport research related activities appear to be spread over a lot of different KAs and units in FP5. As transport is one of the most important problems in Europe, a better co-ordination and visibility or concentration of all activities in one unit is required.
15. The panel's opinion is that advanced metrology is mandatory for valuable RTD outcomes and that it is an important part of the development of the ERA. Thus an enhancement of the status of Measurement and Testing is recommended, especially in the future Programme.
16. Standards implementation plays an important role, in GA2 as well as within individual KA projects. Thus it would be advisable to include in the scope of Accompanying Measures specific measures for standards preparation.
17. If the GALILEO European initiative continues, for the definition and validation phase it should be necessary to urge a clear mandate to a powerful EC-MS management board and to require from a single duty holder a total system management approach.

### **4.3 RECOMMENDATIONS CONCERNING MONITORING**

1. Since core indicators for a year are final only next year, the monitoring and discussion of calls should be focused only on those of the respective year which are closed and for which the data are available.
2. Provide to the monitoring panel on the first meeting unified instructions for the required structure of the report which should be addressed in the verbal presentation as well as in the distributed papers. After first panel meetings, check together with the panel the deliverables mentioned in the contract/annex/instructions expected either for panel as for the Commission.
3. Taking into account the tough time schedule in interpreting the data the panel has been confronted with, the following scheme is being suggested for a future calendar year based monitoring schedule:
  - Starting time: end of November
  - Programme study, interviews, attendance as observers, analysis of core indicators
  - Updating statistics, indicators: end of February
  - Delivering of final report: end of April.

## **5. ANNEX: TOOLS USED BY THE PANEL**

**Panel's methodology matrix** (see next page)

### **General guideline for interviews with Commission Officers used by panel members**

Issues for monitoring Competitive and sustainable Growth specific programme implementation

**1)**

- Progress towards programme objectives
- Achieving annual targets
- Appropriateness of resources in relation to objectives and priorities

**2)**

- Programme management and co-ordination
- Co-ordination with other programmes
- Highlighting improvements
- Examples of good practice

**3)**

- Participation of Accession Countries

**4)**

- Significant results
- Preliminary evidence of impact

**5) E A V and E U P**

- European Added Value
- Contribution to other EU policies

**6)**

- Contribution to the issues of the ERA (European Research Area)

**7)**

- Follow-up of recommendations from previous monitoring exercise

**8)**

- Further recommendations

## Panel's methodology matrix

Info Sources	General GROWTH assessment	Specific study items per panel member via tailored questions					
		Impact	ERA	EAV	SME	Follow-up 1999	Accession Countries
		Yvette Roman	Michel de Vriès	Margarita Salve	Ubaldo Barberis	Dirk-Roger Schmitt	Gabriela Gafni
EC Officers	Oral interviews of HoUs by teams of 2 members following questionnaire 1		oral interview			oral interview	email or phone
Proj. Co-ordinators	Questionnaire 3 via email	email or phone		email or phone	email or phone		email or phone
EAG	Questionnaire 2 via email		email or phone			email or phone	
NCP	Each panel members phones own national NCP + optional other countries			email or phone	email or phone		email or phone
IRC	Each panel members phones own national IRC + optional other countries			email or phone	email or phone		
PTA	Free oral interviews	phone					
PC	Questionnaire 2 via email		phone	oral interview		email or phone	
Documents	Read and analyse all documents	Impact Study	ERA brochure	Read	Read	Read	Read
Other							Accession EC officers by phone
Workload							
Panel meetings 5 days i.e. 25%	12 days (i.e. 60%)	3 days (i.e. 15%)					

### Notes:

- Questionnaire 1: The new questionnaire based upon panel discussions Dec 15 (Gabriella)  
 Questionnaire 2: A new questionnaire based upon the 1999 monitoring report (part 2) (Dirk)  
 Questionnaire 3: A new questionnaire based upon the 1999 monitoring report (part 3) (Ubaldo)

**QUESTIONNAIRE ON CONTRIBUTION OF "COMPETITIVE AND SUSTAINABLE" RTD  
ACTIONS TO ERA  
EUROPEAN RESEARCH AREA**

**Please give your opinion and/or comments on and examples of best RTD actions of the programme that contribute or could contribute to European Research Area :**

- ☒ Share cost projects,
  
- ☒ Thematic Networks
  
- ☒ Concerted Actions
  
- ☒ Participation and/or co-ordination to national, European multinational programme and/or RTD projects, give examples
  
- ☒ Support to and/or networking European research Infrastructure
  
- ☒ Contribution to large data bases
  
- ☒ Other

What would you suggest to improve the contribution to ERA of the programme and of future programme of the same kind

**KEY QUESTIONS TO MEMBERS OF EXTERNAL ADVISORY GROUPS AND PROGRAMME COMMITTEE:**

1. Please outline 3 major goals already achieved as well as identified shortcomings in the execution of the programme.

2. Please Comment on :

- How do you see EAG/PC role to co-ordinate Growth with other national and multinational RTD Programmes?
  
- Importance of FP5 in regard to your national RTD actions?
  
- Are the support and networking of European Research Infrastructures appropriate in respect to the Programme objectives?

3. What are the best actions to be taken for fast implementation of the European Research Area (ERA)? What has been and is being done?

4. For the next programme : what is your suggestion for balancing the problem solving approach of the FP5 and the project approach of FP4 and the ERA approach?

5. Comment on possible problems concerning FP5 policy driven approach and dissemination of results versus intellectual property rights.

6. Your suggestion to increase participation of SMEs (if considered as too low).

7. Which major problem is to be solved until the end of the programme?

8. For which questions and to whom should the monitoring panel ask in the future?

## Questionnaire sent to the Coordinators of running projects

- 1) Please give an evaluation of the difficulties you face in preparing a proposal (indicators: 1 “quite easy”, 2 “with some difficulties”, 3 “medium difficulties”, 4 “difficult”, 5 “very difficult”)
  - a) respect of the deadline
  - b) cooperation among partners
  - c) definition of common objectives
  - d) search for a well balanced consortium
  - e) sharing of fundings
  - f) abstract criteria from guidelines
- 2) How much are you satisfied with the Commission’s financial management of your contract(s)? (give an evaluation from 1 “minimum” to 5 “maximum”) [skip to 4) in case your answer is 4 or 5]
- 3) Give an evaluation of the following items covering the Commission’s financial management of your contract(s) (from 1 “satisfactory” to 5 “highly unsatisfactory”)
  - a) bureaucracy
  - b) cuttings underwent during renegotiation
  - c) practical problems derived from partners organizations, often supported by the coordinator
  - d) particular defaults or understanding of imposed contracted terms
- 4) According to your experience, do you consider renegotiation as an obliged step? (from 1 “never” to 5 “always”)
- 5) In the negotiation contract how much does the Commission value, in your opinion, the following items? (from 1 “unimportant” to 5 “very important”)
  - a) technical addresses
  - b) organizational addresses
  - c) redefinition of objectives
  - d) economic addresses
  - e) further support actions promoting clustering or thematic networks
- 6) Is the coordinating task you have in the project sufficiently supported by the Commission’s officials? ( from 1 “neglected” to 5 “strongly supported”) [skip to 8) in case your answer is 4 or 5]
- 7) Give an evaluation of the following items concerning the Commission cooperation towards your coordinating tasks (from 1 “good cooperation” to 5 “bad cooperation”)
  - a) in time devoted to your problems
  - b) in giving more flexibility to your project
  - c) in attributing to your responsibility corrective actions over your partners and/or the project achievements
  - d) in giving information about important events and news concerning the facts affecting the project
- 8) Value in terms of difficulties the following items in the life of your project (from 1 “no problem” to 5 “great difficulties”)
  - a) bureaucratic Commission monitoring
  - b) partner requests for redistribution of funding
  - c) partner turnover
  - d) lack of cohesion in common objectives for the different partners
  - e) proposal aiming at too ambitious targets
- 9) Do you feel more a bureaucrat than a technician?

(from 1 “mere bureaucrat” to 5 “mere technician”)

- 10) There is a feeling that passing from FP4 to FP5 the average composition of projects has grown in financial as well as in partner number. It looks like a single project may evolve from a cooperative work towards an industrial research networking.  
(please refer from 1 “minimum” to 5 “maximum” whether)
  - a) is this problem of any significance?
  - b) Is the industrial coordinator ready to this task?
  - c) could it be more useful to appoint a research centre as a coordinator?
- 11) Has the transition from FP4 to FP5 given you any specific problems?  
(please refer from 1 “no problem” to 5 “many problems”)
- 12) Where is more adequate the sustainability and competitiveness of your project(s) results?  
(please refer from 1 “poor sustainability and competitiveness” to 5 “great sustainability and competitiveness”)
  - a) economic aspects
  - b) social aspects
  - c) environmental aspects
- 13) Do you feel that the progress of your project(s) is properly monitored by the Commission?  
(from 1 “badly” to 5 “very well”)
- 14) Do your project(s) in the Growth Programme foster mobility of researchers from industry to University and viceversa?  
(from 1 “poor exchange” to 5 “frequent exchange”)
- 15) The SMEs participating to your project(s) are careful to the European Added Value or consider their problems locally?  
(from 1 “are slightly careful” to 5 “are very careful”)
- 16) Is the Thematic Network more efficient in short term or in medium-long term projects?  
(from 1 “very short term” to 5 “very long term”)
- 17) What are the most significant events of a real dissemination?  
(from 1 “poor significant” to 5 “highly significant”)
  - a) there are more proposals and firms applying for already funded specific themes
  - b) there are requests for demonstration actions
  - c) there are many seminars attended by a great number of participants
  - d) partners really use common manufacturing methods, testing, technology knowledge
- 18) In the monitoring of your results how does the Commission value the following items?  
(from 1 “slight importance” to 5 “great importance”)
  - a) cooperation among different nations and different partners
  - b) sustainability of the innovative products
  - c) social purposes
  - d) scientific and technological development

**PART B:**

**Responses of the Programme Management to the  
external Monitoring Report**

## Responses of the Programme Management to the recommendations of the Monitoring Panel

The Commission services would like to thank all members of the 2000 Monitoring Panels for their dedicated work and the efforts invested in this complex task. Some of the recommendations included in the monitoring reports address issues of relevance to all specific programmes. Such issues are discussed from the Framework Programme viewpoint in the responses to the recommendations of the Framework Programme.

The following comments represent the responses of the relevant Directorates General to the recommendations regarding the specific programme *Competitive and Sustainable Growth*.

	<b>Recommendation</b>	<b>Commission Services' Response</b>	<b>Target date for implementation / progress</b>
1	There are indications that due to the policy driven approach, a loss of scientific and technological excellence in Europe may occur in the future. Thus it is recommended, to give a higher priority to science, technology, and innovation excellence during the evaluation process. Thus checking and appropriate changing of thresholds for the technical and socio-economic evaluations results is recommended.	Technological excellence has always been and still is an essential element in the evaluation of proposals. In the largest part of the present programme, scientific-technical and socio-economic criteria have the same weight and thresholds. For the longer term generic research in materials, the threshold for technical excellence and innovative character is set higher than that for the other criteria. The programme management considers that this policy suits best the objectives of the programme.	No modification of the weights or thresholds of the various evaluation criteria is planned for the few calls for proposals remaining in this programme.
2	Continue monitoring of benefits and shortcomings of large consortia (i.e. with more than about 10 participants).	The contractors in charge of the evaluation and impact assessment of finished projects will be asked to examine the correlation between size of the consortium and success and impact of the project	A first report will be available by December 2001, a second one by April 2002.
3	Very small and very large projects (TP, TRA) are evaluated according to the same procedures. Thus it is proposed to investigate possible streamlining of procedures taking the size and specific objectives of projects into account.	The present evaluation procedure is equally applicable in its main lines to projects of any size. The evaluation of the large TP projects (in the Aeronautics key action) has included specific measures to take in consideration the importance and size of such projects. These measures included the establishment of ad-hoc experts groups for each TP proposal as well as greater number of experts and longer time devoted to the evaluation of each proposal. With a view to the 6 <sup>th</sup> Framework Programme, the Commission is examining the need to adjust the evaluation procedure to the specific characteristics of the large project proposals.	No modification of the evaluation method is planned for the few calls for proposals remaining in this programme.

	<b>Recommendation</b>	<b>Commission Services' Response</b>	<b>Target date for implementation / progress</b>
4	As the technological demands may change rapidly during an Framework Programme, fast reactions during a running Programme, including those based on recommendations of EAG/HLEGs should be made possible	This is regularly done, and further modifications for the remainder of the programme remain possible in case of urgent need.	No scope for further changes at this stage
5	In order to improve real time efficiency, it is recommended that direct access is to be given to the DG RTD data bases (evaluation experts, etc.) for DG TREN officers.	Since February 2001, DG TREN officers requesting so receive direct access to the relevant DG Research databases and to the Growth Intranet.	Done before the panel's report was finalised.
6	The panel noted a very high work load for Commission staff and recommends reducing the workload in order to improve project monitoring. A maximum of around 20 projects per officer is acceptable for a suitable management and scientific or technological follow-up. Some tasks of an administrative nature can be sub-contracted. Decentralisation on a national level could also be one solution especially for actions which are not of a strategic nature (Craft, training, administrative matters). Nevertheless, in order to respect the programme objectives, it is necessary to retain at EU headquarters the central technical co-ordination and the monitoring follow up of RTD projects and Thematic Networks.	Activity based management (ABM; allocation of human resources where they are most needed) is being installed as part of the Commission reform. However, efforts are also going into the development of the European Research Area, and no increase in staffing level is expected (the latter can not be decided by the programme management, nor by the Commission alone), so ABM will not solve the workload issue. Some degree of externalisation is therefore envisaged through the engagement of Project Technical Assistants (PTA). It will remain the prime responsibility of the programme management that an efficient execution of the Programme budget is maintained.	The procedure to enable contracting of PTA's is running. Contracts are expected to be in place by January 2002.
7	Start action to promote electronic submission of proposals addressed to co-ordinators as well as inside the Commission.	In the call closing in May 2001, 74 proposals have been submitted electronically. This represents only 8 %, so electronic submission is still not popular, but it does demonstrate that the system works and that proposers do find out sufficiently easily how it works.	FP5: Further action in this programme is not considered as a priority, progress is expected to take place for FP6.

	<b>Recommendation</b>	<b>Commission Services' Response</b>	<b>Target date for implementation / progress</b>
8	Check the possibility of using the video conference tool in the evaluation process (consensus meeting) for projects jointly carried out with the USA, Canada and other non-European countries.	Videoconferencing is planned as a working tool during the co-ordination activities with NSF (USA), and might be extended where needed. However, its use in the co-ordinated evaluation of proposals is not considered for reasons of principle (independent evaluations and decisions on the basis of independent criteria and funding rules) as well as practice (e.g. confidentiality guarantees).	Joint evaluations of project proposals are not planned.
9	The fifth Framework Programme decisions and Council resolutions required co-ordination with the Technical Assistance to the Commonwealth of Independent States (TACIS), Mediterranean Actions (MEDA), and International Association for the promotion of co-operation with scientists from the New Independent States of the former Soviet Union (INTAS), and with Poland-Hungary Assistance to Restructuring Economy Programme (PHARE). It is recommended to check the co-operation of Growth units within the mentioned requirements. The fifth Framework Programme decisions also require, co-operation between Growth, Eureka and COST. Thus it is recommended to investigate the following possible actions: ex post clustering of Eureka and Growth projects; inclusion of COST actions into appropriate Growth Thematic Networks (e.g. Cost Transport actions could fit into KA1, KA3, KA4, and GA M&T Thematic Networks).	Inter-programme co-ordination is already assured through the Group of Directors, which includes COST input. Ex-post clustering is encouraged within the Programme, also with projects of other international co-operation schemes. Some Thematic Networks include indeed projects from other initiatives (e.g. Eureka). The programme management is not in favour of force-fitting projects of various international co-operation schemes into common structures when there is from the projects' side no desire to be co-ordinated.	No specific additional measures are planned.

	<b>Recommendation</b>	<b>Commission Services' Response</b>	<b>Target date for implementation / progress</b>
10	The role, status and tasks of the EAGs and HLEG still remain to be precisely defined. Their recommendations have only limited impact due do to the assigned tasks. Thus the panel recommends a revision of the EAG/HLEG mandate. The EAGs have brought in 2000 important contributions to ERA and should play an active role in the planning of the sixth Framework Programme. The panel encourages meetings between EAGs and co-ordination between EAGs and PC.	The role of the EAGs and the HLEG is clearly defined in their terms of reference and is well understood. EAGs and HLEG are communicating with each other and with the Programme Committee. Their input to the Programme has been widely appreciated and their position in the preparation of the New Framework Programme is taken into account. They are, however, advisory panels appointed by the Commission, and it is not within the Programme management's powers to revise their mandate so as to increase their impact.	No such action can be undertaken.
11	As high level experts from the industrial sector have a good understanding of feasible solutions, their representation should be checked, i.e. in policy oriented EAGs. Check also the representation of end users and of the Accession Countries in the EAG/HLEGs.	The composition of the EAG / HLEG is periodically checked and adapted. Balance between RTD performers and users is considered in this. Members from Associated States were added in 2000.	No further measures are deemed necessary.
12	Check the implementation of special measures to stimulate participation of Accession Countries, for example actions for partners search by allocation of specific travel budgets. Check the evaluation procedures for proposals in terms of compliance with the needs of applicants from the candidate countries.	Awareness campaigns, National Contacts Point (NCP) meetings and focussed workshops have already contributed to a significant, if uneven, participation in the programme. A partners search service is functioning through the NCP. As a further measure, an additional call for proposals, allowing for the addition of NAS partners to ongoing projects, is being prepared.	This call for proposals has been published in September 2001, see <a href="http://www.cordis.lu/growth/calls/calls.htm">http://www.cordis.lu/growth/calls/calls.htm</a>  The evaluation of proposals is scheduled for February 2002
13	In order to increase SME participation procedures for SMEs should be further simplified. The Craft scheme should be maintained and simplified in next Programme. Assure that questions for application are applicant-friendly and simple to answer (e. g. the issues of EAV and ERA).	SME activity in the Growth programme is already very significant, with the majority of SME participants entering via CRAFT projects. The CRAFT contract preparation forms have recently been simplified. A new procedure of "quick information letters" to proposers immediately after evaluation has contributed to speeding up the feed-back process.	In FP6, further work on simplification will be undertaken

	<b>Recommendation</b>	<b>Commission Services' Response</b>	<b>Target date for implementation / progress</b>
14	Transport research related activities appear to be spread over a lot of different KAs and units in the fifth Framework Programme. As transport is one of the most important problems in Europe, a better co-ordination and visibility or concentration of all activities in one unit is required.	<p>The programme deals with transport policy making issues as well as with industrially driven RTD needs of the different transport sectors. Both the use of the results and the management requirements differ substantially. The programme management does therefore not perceive a need to concentrate both types of activity into one unit (and does, as a matter of fact, not perceive a lack of visibility). Co-ordination between the policy-driven and the industrially-driven activities is taking place at operational level (through dedicated co-ordinating structures such as the one on Road Transport) and is effective (the policy services are consulted on priorities and informed on achievements).</p> <p>However, in the next Framework Programme, an integrated approach has been taken with a definition of the objective “sustainable surface transport”.</p>	<p>No merger or other form of "concentration" is planned in the current programme.</p> <p>Integrated approach foreseen in FP6.</p>
15	The panel's opinion is that advanced metrology is mandatory for valuable RTD outcomes and that it is an important part of the development of the ERA. Thus an enhancement of the status of Measurement and Testing is recommended, especially in the future Programme.	The programme management welcomes this recommendation as it is well aware of the importance of the M&T research, also for the development of the European Research Area.	The present proposals for the new programme foresee that M&T issues are implicitly covered within the various priority areas.
16	Standards implementation plays an important role, in GA2 as well as within individual KA projects. Thus it would be advisable to include in the scope of Accompanying Measures specific measures for standards preparation.	The actual preparation of written standards is covered by Commission mandates when these are needed for European legislation. The programme management considers that the voluntary standards preparation (aiming at inter-operability and cost efficiency) should remain the task of independent standardisation bodies.	No such extension of the scope of accompanying measures is planned.

	<b>Recommendation</b>	<b>Commission Services' Response</b>	<b>Target date for implementation / progress</b>
17	If the GALILEO European initiative continues, for the definition and validation phase it should be necessary to urge a clear mandate to a powerful EC-MS management board and to require from a single duty holder a total system management approach.	The Commission issued in June 2001 a proposal for a "Joint Undertaking" (J.U.) to manage the development and validation phase of GALILEO (COM(2001) 336 final), - these statutes are being discussed at Transport Working Group and COREPER level, - the Transport Council in October provided comments on three points concerning the J.U. - the European Parliament is being consulted (advise) on the statutes.  It is expected that the statutes will be approved by a Council Resolution on December 6. We intend to set up the J.U. early 2002.	2002
18	Since core indicators for a year are final only next year, the monitoring and discussion of calls should be focused only on those of the respective year which are closed and for which the data are available.		
19	Provide to the monitoring panel on the first meeting unified instructions for the required structure of the report which should be addressed in the verbal presentation as well as in the distributed papers. After first panel meetings, check together with the panel the deliverables mentioned in the contract/annex/instructions expected either for panel as for the Commission.	The Commission is aware of constraints over the timetable for monitoring. Council Decisions currently require an annual, i.e. calendar year, exercise. This, as the Panel experienced, produces difficulties in providing accurate data at the end of the year, particularly when Calls for proposals have just closed. The procedure and timetable for annual monitoring has been reviewed within the Interservice Group for Monitoring and Evaluation.	As a result, improved arrangements were in place by November 2001, when the Monitoring 2001 panels started working:  • The timetable has been revised taking into account the policy-making cycle, and  • a "self assessment" package is supplied to the panels at the start of their work; statistics will be updated end February.
20	Taking into account the tough time schedule in interpreting the data the panel has been confronted with, the following scheme is being suggested for a future calendar year based monitoring schedule: – Starting time: end of November – Programme study, interviews, attendance as observers, analysis of core indicators – Updating statistics, indicators: end of February – Delivering of final report: end of April.		

**PART C:**

**Information provided to the external Monitoring Panel  
by the Programme Management**

## Key statistical data for 2000

Note: "Proposals evaluated / accepted for negotiation in 2000" includes projects which will have been selected early 2001 - "Proposals selected in 2000" includes proposals which have been evaluated late 1999

Type of project	Activity	Number of proposals			EC funding in Mio €
		evaluated	accepted for negotiation	selected	
RTD (periodic + dedicated calls)	KA1	462	118	110	208,74
	KA2	103	44	16	34,48
	KA3	157	51	62	114,34
	KA4	107	35	41	209,15
	MAT	427	101	52	91,51
	M-T	103	55	37	33,15
	SubTotal	1359	404	318	691,37
Cooperative Research ("CRAFT")	KA1	138	54	35	15,73
	KA2	2	0	0	0,00
	KA3	24	7	2	1,39
	KA4	10	5	1	0,95
	MAT	67	29	18	8,72
	M-T	25	11	3	1,33
	SubTotal	266	106	59	28,11
Exploratory Awards ("Craft step 1")	KA1	232	93	59	1,31
	KA2	12	2	0	0,00
	KA3	40	17	13	0,29
	KA4	13	10	3	0,07
	MAT	96	41	24	0,52
	M-T	35	22	6	0,13
	SubTotal	428	185	105	2,32
Thematic Networks	KA1	41	20	4	5,40
	KA2	23	13	8	11,00
	KA3	7	2	0	0,00
	KA4	4	3	1	1,39
	MAT	12	6	2	1,31
	M-T	5	3	1	0,53
	INF	30	11	6	6,81
	SubTotal	122	58	22	26,44
Concerted Actions	KA1	4	1	0	0,00
	KA2	2	2	0	0,00
	KA3	1	1	1	1,52
	MAT	1	1	0	0,00
	M-T	3	1	0	0,00
	SubTotal	11	6	1	1,52
Accompanying Measures	KA1	28	11	8	1,91
	KA2	53	20	6	10,78
	KA3	6	3	1	0,13
	KA4	8	5	8	1,60
	MAT	11	5	8	0,56
	M-T	10	5	7	0,37
	Horizontal	5	1	1	0,83
	SubTotal	121	50	39	16,17

Type of project	Activity	Number of proposals			EC funding in Mio €
		evaluated	accepted for negotiation	selected	
Marie-Curie Fellowships	KA1	17	11	17	2,32
	KA2	3	3	0	0,00
	KA3	6	6	4	0,59
	KA4	3	1	4	0,85
	MAT	11	7	20	3,34
	M-T	4	3	1	0,05
	SubTotal	44	31	46	7,16
INCO B.	KA1	6	3	0	0,00
	MAT	5	1	0	0,00
	M-T	1	0	0	0,00
	SubTotal	12	4	0	0,00
<b>TOTAL</b>		<b>2363</b>	<b>844</b>	<b>590</b>	<b>773,09</b>

#### Number of participations by type of organization and activity in contracts signed in 2000

	Enterprise sector	Of which SME	Higher education establishments	Research centres	Non research public sector	Non research private non profit	Not specified + other	Total
Key action 1	489	242	157	185	20	8	224	1083
Key action 2	57	12	31	68	26	7	13	202
Key action 3	282	59	125	170	24	15	37	653
Key action 4	331	37	164	189	28	3	35	750
Material	308	115	166	221	20	6	76	797
Meas. & Test.	112	41	65	133	9	4	28	351
Infrastructures	0	0	0	0	0	0	20	20
<b>TOTAL</b>	<b>1579</b>	<b>506</b>	<b>708</b>	<b>966</b>	<b>127</b>	<b>43</b>	<b>406</b>	<b>3856</b>

#### Number of participations in contracts signed in 2000 by country

EU		EEA		Other associated countries	
Belgium	155	Iceland	4	Israel	20
Denmark	70	Liechtenstein	1	Switzerland	53
Germany	737	Norway	58		
Greece	124	<b>Applicant countries</b>		<b>Non associated countries</b>	
Spain	258	Bulgaria	1	Rest of the World	5
France	573	Czech Republic	25		
Ireland	55	Estonia	0		
Italy	405	Cyprus	2		
Luxembourg	5	Latvia	4		
The Netherlands	239	Lithuania	4		
Austria	92	Hungary	15		
Portugal	70	Poland	31		
Finland	98	Rumania	7		
Sweden	188	Slovakia	10		
United Kingdom	532	Slovenia	15		