



EUROPEAN
COMMISSION

Community research

A photograph of a pond filled with lily pads and yellow iris flowers. The water is dark blue, and the lily pads are green. The yellow irises are in the foreground, some in bloom and some as buds. The background is a light blue sky.

Report of Activities (2001-2004)

European Research Advisory Board

Contact:

Marina ZANCHI, Commission Liaison
European Research Advisory Board
European Commission
Office SDME 6/71
B-1049 Brussels
Fax: +32-2-2984686
E-mail: marina.zanchi@cec.eu.int
Secretariat: evelyne.ruttens@cec.eu.int
Web address: http://europa.eu.int/comm/research/eurab/index_en.html

LEGAL NOTICE

Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use which might be made of the following information.

The views expressed in this publication are the sole responsibility of the author and do not necessarily reflect the views of the European Commission.

A great deal of additional information on the European Union is available on the Internet.

It can be accessed through the Europa server (<http://europa.eu.int>).

Cataloguing data can be found at the end of this publication.

Luxembourg: Office for Official Publications of the European Communities, 2004

ISBN 92-894-7820-9

© European Communities, 2004

Reproduction is authorised provided the source is acknowledged.

Printed in Belgium

Foreword

“The unique feature of EURAB’s experience has been the close collaborative patterns which emerged between members coming from academia and from industry.”



The European Research Advisory Board (EURAB) began its work of advising the European Commission on the design and implementation of EU RTD policy in November 2001. EURAB’s main focus is to help shape, support and implement the European Research Area (ERA). It consists of forty-five members of whom half come from academia and half from industry, with five having been nominated by the Commission. EURAB’s Bureau consists of eight members, assisted by its Scientific Secretary and the secretariat provided by the European Commission.

There is unanimous consensus that the challenges posed by the ERA can only be met through close co-operation between academia and industry, that the enlarged Europe is an added resource for the European Research Area, and that the social sciences and humanities must have their place within ERA as well.

While insisting on its independence, EURAB is equally committed to working closely with the Commission services. The aim is to produce results as expediently and efficiently as possible in the form of useful, if sometimes provocative, recommendations. Towards this end, Working Groups and Task Forces have been established to examine issues either raised by the Commission or by EURAB itself. After thorough discussion, which often includes consultation with the Commission services, each Working Group or Task Force prepares a set of recommendations that are submitted to the Plenary where the final decision is taken. Subsequently, the recommendations are forwarded to the European Commissioner for Research.

This report covers the first three years of EURAB’s existence and coincides with its first mandate coming to its end. It reflects EURAB’s discussions and strategic advice and makes the recommendations available to a wider public of interested colleagues, decision-makers, other advisory bodies and anyone who follows, with either scepticism or enthusiasm, the various strategies to turn the ERA from vision into reality.

Any method of work is only as good as the spirit in which it is carried out, the clarity of its stated objectives, the timeliness of the issue at stake and of the delivery of advice, and, last but not least, the quality of those whose collective knowledge, expertise and links to the relevant wider communities are being brought together. EURAB’s members have exhibited an astonishing spirit of teamwork: within the Working Groups or Task Forces themselves, between the various groups, between the different temperaments and outlooks from academia and industry, and through the willingness to listen to the arguments and experience from the Commission services. The collective voice, through which EURAB makes itself heard, has evolved by drawing upon the respective strengths of its individual members, their commitment and extensive expertise. The pressure to work within the time limits determined by the issues being tackled has been accepted cheerfully, as it is obviously a precondition for potential impact of the advice.

The unique feature of EURAB’s experience has been the close collaborative patterns which emerged between members coming from academia and from industry, and all Working Groups

have always carefully attempted to achieve a good mixture of the relevant expertise and experience. Within the Plenary meetings, mutual respect has also characterised the discussions. Through a productive learning process, EURAB has consistently striven to come up with strategic recommendations which are targeted at whom they address (mainly, but not exclusively the Commission) and which reflect both academic and industrial perspectives. The overall objective is to confront what we see as one of the most urgent challenges for ERA: to promote research and innovation in Europe in the overall context of global competitiveness .

Within the various national contexts, there has been growing interest in EURAB's work. EURAB members have been asked to present EURAB's views and recommendations in national and international fora. We will endeavour to continue in our efforts to make EURAB visible throughout Europe.

EURAB continues to receive responses from the Commission concerning the uptake of its advice. This dialogue should become a continuous one. In the future, EURAB will concentrate on consolidating its recommendations in a joint effort to turn ERA into a European success story and to assist in the shaping of the next Framework Programme. In June 2004, with half of its members renewed, EURAB 2 was constituted. It has a solid base to build upon and high ambitions for the next three-year period.



Helga Nowotny
Chair of EURAB

EURAB BACKGROUND DOCUMENTS

1. Commission Decision of 27 June 2001 on establishing the European Research Advisory Board (<http://europa.eu.int/comm/research/eurab/pdf/eurab.pdf>)
2. Commission Decision on the nomination of the members of the European Research Advisory Board, dated 1 August 2001 (http://europa.eu.int/eur-lex/pri/en/oj/dat/2001/c_268/c_26820010922en00020004.pdf)
3. EURAB, Rules of Procedure (<http://europa.eu.int/comm/research/eurab/procedure-rules.html>)

Table of Contents

Foreword

A. Summary of Recommendations 2001-2004

1. Evaluation of Proposals (April 2002)	6
2. European Research Area – the Future (September 2002)	7
3. Some Issues Affecting the Future of University Research in the ERA (November 2002)	7
4. European Research Council (November 2002)	8
5. Improving Innovation (November 2002)	8
6. Increasing the Attractiveness of Science, Engineering and Technology Careers (November 2002)	9
7. Boosting Joint Investment in Research: Towards 3% of GDP (December 2002)	10
8. Enlargement and the ERA (January 2003)	11
9. Research Infrastructures (October 2003)	12
10. European Research Council – a possible implementation model (October 2003)	13
11. Bureau Recommendations following visit to Washington D.C. (December 2003)	14
12. ERA and the Social Sciences and Humanities (January 2004)	16
13. European Technology Platforms (January 2004)	17
14. Interdisciplinarity in Research (April 2004)	19
15. Evaluation: Proposals and Mid-Term Programme Evaluation (April 2004)	21
16. SMEs and the ERA (May 2004)	23
17. The Descartes Prize (May 2004)	24
18. Structural Funds and the Research Component (May 2004)	25

B. Commissioned Study

1. US Defence R&D Spending: Impacts Analysis (January 2004)	28
---	----

C. Lessons learned (October 2003)

Summary based on inputs from Working Group (WG) Chairs and Rapporteurs as of October 2003	30
--	----

D. EURAB 1 and its Bureau: Membership

1. EURAB 1 Members and its Bureau	34
-----------------------------------	----

E. List of Working Groups, Task Forces, Workshop Groups

1. Working Groups	36
2. Task Forces	38
3. Workshop Groups	39

F. Meetings in 2001-2004	42
--------------------------	----

A.

Summary of Recommendations 2001-2004⁽¹⁾

1. Evaluation of Proposals (April 2002)
2. European Research Area – the Future (September 2002)
3. Some Issues Affecting the Future of University Research in the ERA (November 2002)
4. European Research Council (November 2002)
5. Improving Innovation (November 2002)
6. Increasing the Attractiveness of Science, Engineering and Technology Careers (November 2002)
7. Boosting Joint Investment in Research: Towards 3% of GDP (December 2002)
8. Enlargement and the ERA (January 2003)
9. Research Infrastructures (October 2003)
10. European Research Council – a possible implementation model (October 2003)
11. Bureau Recommendations following visit to Washington D.C. (December 2003)
12. ERA and the Social Sciences and Humanities (January 2004)
13. European Technology Platforms (January 2004)
14. Interdisciplinarity in Research (April 2004)
15. Evaluation: Proposals and Mid-Term Programme Evaluation (April 2004)
16. SMEs and the ERA (May 2004)
17. The Descartes Prize (May 2004)
18. Structural Funds and the Research Component (May 2004)

I. Evaluation of Proposals (April 2002)

Recommendations

1. Call for expressions of interest

- The proposal to refine the Work Programme for the new instruments through a call for expressions of interest was endorsed.
- The Specific Programmes should be followed by expert panels, similar to the Expert Advisory Groups in FP-5, who would have responsibility for assessing the response to the Calls for Expressions of Interest.

2. Evaluation procedure

- The principle of 2-step procedures for the evaluation of proposals was endorsed. This may apply both to stairways of excellence and to the new instruments and include the option of an oral presentation in the case of integrated projects or networks of excellence. The first step requirements must be very precisely described.
- The procedures for each instrument must be simple and clearly described.
- Anonymity of proposals should be dropped, since it is considered impossible to evaluate the feasibility of a proposal without taking into account the S&T record of the proposers.
- The procedure should be decentralised as much as possible with evaluators working at home. One principal evaluator should be nominated per proposal to prepare a draft summary. Only the consensus discussions would require that evaluators should meet in Brussels. Electronic distribution of proposals to evaluators should guarantee confidentiality.
- Especially for the new instruments, selected projects should be continuously monitored *ex post* by a small group including at least one of those who evaluated the project.

3. Evaluation criteria

- The criteria should be clearly and simply described.
- S&T excellence must be the top criterion for evaluation as long as the research topic is relevant for the objective of the programme.
- High risk proposals with potential for high gain should be encouraged.
- The difference between basic/exploratory and applied research proposals should be recognised by applying different weightings to the evaluation criteria in each case (particularly relevant for 'stairways of excellence'). Innovation should be included as an evaluation criterion in applied research proposals. Proposers should be able to indicate whether

their proposal should be judged as basic/exploratory or applied.

- Policy objectives and the European dimension of the problem should be clearly spelled out in the Work Programme.
- European added value has always been very difficult for evaluators to comprehend and judge. Proposals should indicate why the project must be carried out at European level in order to succeed and indicate how the complementarity between partners, the innovation and the market need (as appropriate) will enable it to succeed.
- Dissemination of results is essential. Where proposals claim to have potential applications, clear indications must be given how the target audience will be reached. On the other hand, for research proposals generally, the intention to publish in a high-level journal – or to patent – should be a *sine qua non* condition (not an evaluation criterion).
- Outreach activities to bring science to the broader public should be required for the bigger projects.

4. Evaluators

- A new database of evaluators should be constructed based on names proposed by the following sources: national and European university, research and industrial organisations, the Commission services and those submitting research proposals. Individual applications could also be considered. In addition to information on the expert's qualifications, the database should indicate who proposed them, and the instrument which the person is most suitable to evaluate.
- Particular attention should be paid to the use of non-European evaluators in sectors where they are competitors to Europe: the consortia submitting the proposals should be asked to agree.
- Each evaluation panel should be chaired by a very experienced person, who should work with the Commission to identify the panel members. The panels should be balanced regarding industry, academia, country and gender.
- Anonymity of evaluators should be dropped, to ensure a sense of responsibility.
- Proposers should be able to indicate, with reasons, who they do not want to evaluate their proposal.
- Evaluators must sign a form guaranteeing absence of conflict of interest.
- Evaluation of European projects should be seen and promoted as a prestigious task.

2. European Research Area – the Future

(September 2002)¹

The European Research Area must maximise our potential through new discovery, innovation and education to provide Europe's citizens with worldwide scientific leadership

EURAB strongly believes that if the ERA is to significantly contribute to the political objectives set out by the European Council in Lisbon (2000) and Barcelona (2002), and thereby achieve world leadership, European research has to base its activities on three pillars: discovery, innovation and education. This calls for radical reform. If these three elements are boosted, with new structures and adequate levels of investment, and interact properly, EURAB is convinced that Europe can meet the political objectives.

To develop such a leading role Europe needs a research system which acknowledges both science, driven by the intellectual independence of scientists to explore, question and challenge accepted views and concepts, and innovation, in pursuit of economical and social goals, and as a tool for the development of technologies that meet the needs of a knowledge based economy. Discovery and innovation are intimately related, and strength in one is dependent on strength in

the other. Both research and innovation are dependent on a robust education system which must underpin the European Research Area.

European and national research efforts need to secure synergetic effects wherever possible and avoid unnecessary duplication, and must develop ways to support scientific research at a level of quality and diversification that goes beyond what most national initiatives can achieve separately.

To make it effective Europe needs a system that is based on its strengths, such as diversity, and needs to reinforce its capacity for discovery and innovation through scientific challenges, competition, co-ordination of national efforts, promotion of joint ventures and partnerships, particularly between academia and industry. This should result in a system open and attractive to talent from everywhere in the world.

EURAB is conscious that the future of ERA, as we see it, will need new structures to cope with different mandates as compared with today's situation and that therefore a modification of the Treaty of Union will be needed.

3. Some Issues Affecting the Future of University Research in the ERA (November 2002)

Recommendations

1. In an effort to understand the true cost of research, EURAB recommends that concerted efforts are made to stimulate the use of simple, transparent and comparable accounting systems in universities across Europe. As a first step, EURAB urges the European Commission to support benchmarking initiatives in this area via the setting up of a joint task force with a body such as the European Universities Association (EUA).
2. As a means of promoting research excellence, EURAB proposes that new mechanisms to stimulate competition are explored and evaluated by Member States across the EU. In particular, EURAB proposes that the feasibility of a competitive scheme co-financed by the European Commission and Member States in which research teams compete for additional funds

is explored and evaluated via trial competitions in specific science and technology areas.

3. In order to improve the mobility of researchers within the EU, EURAB urges the European Commission to provide a prioritised list of potential barriers and problems which the Council should be then be asked to resolve as soon as possible.
4. EURAB is convinced that valuable lessons could be learned from a comparative study of Member States' attempts to improve the career prospects for researchers, including efforts at an early stage to attract young people into the world of science.
5. EURAB also considers that there is scope for experimentation with schemes similar to that already proposed for a European competition for additional research funds.

¹ The date of submission in parentheses.

4. European Research Council (November 2002)

Recommendations

EURAB urges appropriate agencies and institutions within the EU, at both national and European level, to establish a European Research Council. This should be done after in depth debate (including with Europe's scientific research community) and careful planning, and as a significant new contribution to the development of the ERA. It should be adequately resourced, to promote and support excellence in fundamental scientific research through European-wide competition based on the following guiding principles:

- Coverage of fundamental research in all aspects of science, including engineering, the humanities and the social sciences
- Independent scientific decision-making based on rigorous and transparent peer review processes (no '*juste retour*') and with *ex post* evaluation of projects
- Openness to proposals from individuals and groups without constraint on size or composition
- Accountability to a representative governance structure.

5. Improving Innovation (November 2002)

Recommendations

1. It is proposed that the Commission establish a Working Party from industry and academia, along with legal and patents expertise, charged with the creation of pragmatic models for intellectual property rights for industry/university relations in Europe. It is suggested that the European Industrial Research Management Association (EIRMA) and the European University Association (EUA) be the main participants.
2. Efforts should be increased to achieve the creation of a Community Patent.
3. It is proposed that existing national tax reduction schemes, for industries which place research contracts in universities and other research organisations, be extended to cover such contracts in other European countries.
4. It is proposed that a Small Business Innovation Research Programme (SBIR)-like mechanism, such as

that employed in public funding in the USA be possible through Integrated Projects of FP6.

5. It is proposed that an SBIR-like mechanism be introduced into National Programmes. This may require a change of rules for state aid.
6. It is proposed that the Commission establish mechanisms to facilitate one-to-one collaborations between industry and universities or government research organisations. This is particularly important for SMEs. It is important that these one-to-one relationships have a strong European dimension.
7. It is recommended that more structural funds be made available on a regional basis for innovation activities.
8. It is recommended to extend the Networks of Excellence in FP6 to cover also "Leading Technology Institutes" (LTIs).

6. Increasing the Attractiveness of Science, Engineering and Technology Careers (November 2002)

Recommendations

1. The Public Awareness of Science

- All EU research proposals should contain a sum for appropriate dissemination of results.
- A coherent Framework Programme publications policy for the dissemination of the results of EU funded research projects to the public, Parliament and Council should be drawn up. An analysis of the possibilities of a “European Scientific Press Agency” should be undertaken. The Alphagalileo News Service should be strengthened and extended to all Member States.

2. Primary and Secondary Schools

- Innovative, hands-on science education should be introduced into all Europe’s primary schools. Creative Science Teaching modules should be introduced into the formal training period of all primary school teachers.
- Concerted efforts should be made to mainstream science, engineering and technology curriculum and teaching innovation into secondary school systems.
- All organisations – universities, companies, research funders and government agencies – should strengthen their practical commitment to supporting the development of school science, engineering and technology education.
- A review of innovative career and pay systems for science, engineering and technology teachers should be undertaken, with a view to supporting Member States in developing a high-status and high-pay profession.
- DG Research should strengthen their work with DG Education and Culture to encourage recruitment to Scientific and Technical Studies. A Joint Action Plan, with clear milestones, should be published and progress reported in the DG Research Annual Report.

3. The Training and Careers of Researchers

- Examine current best practices in opening up of science, engineering and technology undergraduate courses to interdisciplinary influences, to research experience, to industrial interaction, and to a clearer

indication of the variety of career paths open to such students. Support such change in universities.

- Examine the most progressive training structures for doctoral researchers and support their diffusion into the Member States.
- Examine progressive employment and human resource development practices in academic doctoral and postdoctoral labour markets and support their diffusion through EU and Member States’ research funding policies.
- EU funding mechanisms should provide for a number of larger “Principal Investigator” contracts to support the move of the very best young researchers towards independence.
- Member State research training and employment positions should be opened up to competition at a global level.
- Examine the mechanisms of research mobility between industry and academia and diffuse the most effective mechanisms, using research funding within the Framework Programme.
- Expand research training to support the EU move to invest 3% of GDP in R&D by 2010.
- Highlight the entrepreneurial research careers and start-up companies which have developed from EU research.

4. The Gender Dimension

- Develop consistent gender-disaggregated information. Increase transparency in research recruitment and promotion processes. Gender-proof research employment and training policies and practices. Mainstream into all EU research activities and funding mechanisms.

5. Reporting on Progress

- DG Research should publish an Annual Report on the state of Europe’s science, engineering and technology human resources and associated policy issues.
- Include a section on “Improving the Attractiveness of Science, Engineering and Technology Careers” in DG Research’s Annual Report.

7. Boosting Joint Investment in Research: Towards 3% of GDP (December 2002)

Recommendations

European Research Advisory Board position on “Boosting Joint Investment in R&D” is focused on developing three key areas:

- A Supportive Environment for Industrial R&D (Recommendation 1 & 2),
- A Coherent R&D Policy Approach across Europe (Recommendation 3 & 4), and
- A Strong and Vibrant Public Research Sector (Recommendation 5)

1. A Legislative and Regulatory Environment attractive for Private R&D Investment

- The creation of a forward looking, but stable regulatory environment to encourage industrial research investment.
- The reduction of barriers to market development: inappropriate standards, regulations and legislative requirements, which slow or prevent access of newly developed products and services to markets across the EU.
- The Commission should invite Member States to an analysis of “The Legislative and Regulatory Environment – Barriers to R&D Investment”. An EU Action Plan for a stable and R&D friendly legislative and regulatory environment should then be drawn up and implemented.

2. Financial instruments for the Promotion of Private R&D Investment

- The Commission should engage Member States in an analysis of direct, indirect and background financial instruments for the promotion of R&D. Appropriate and effective measures to enhance investment should then be implemented with Commission support. A growth-oriented environment is needed.
- Where national tax credits are now given to companies to encourage R&D contracts in research institutes, such schemes could be extended to R&D undertaken by institutes in any EU Member State.

3. The Coordination of Research Policies across the EU

- Individual Member States should set realistic and viable R&D investment targets to support their own development ambitions.
- Member States, on a periodic basis, should submit their research programme priorities, financial instruments, budget distribution and R&D investment targets to The Competitiveness Council for discussion and advice.

4. Coherence between Research and Related Policies

- Reorient existing EC and Member State budget expenditures towards areas, such as education and research including all sectors – exploratory, applied research and demonstration activities – which will provide for future economic and employment growth, and away from traditional, status quo spending patterns of allocating major resources to areas such as agriculture or coal.
- Develop regional policy which similarly moves resources to areas of economic growth and supports associated R&D investment.
- As policies are generated in other areas (e.g. transport, health, energy, environment), an assessment of their implications for R&D policy should be made. The R&D implications of specific laws, regulations and directives – positive and negative – should be clearly signalled to the research community in industry and academia. The Commission should initiate the development of such mechanisms in Member States as well as in the Commission itself.

5. Supportive Actions for Public Research and Human Resources

- The Commission should initiate with Member States
- Within the overall 1% of GDP goal for EU public research investment, the setting of realistic and viable targets for individual Member States. Within this budget, increased investment in discovery-oriented research is needed, as the foundation stone of knowledge creation for innovation.
- Strengthening the education role of universities to overcome the potential bottlenecks in various disciplines needed for technological research and innovation and the opening up of EU research positions to non-EU researchers.
- Increasing levels and efficiency of university and public research institutes’ cooperation with industry – including public-private partnerships.

8. Enlargement and the ERA (January 2003)

Recommendations

1. National Research Policies and the ERA

1.1 Development and implementation of national R&D policies

The European Commission should continue to use benchmarking, mapping, innovation scoreboards and other methods to monitor and evaluate national R&D policies in collaboration with R&D policy experts from the Member States and Candidate Countries to implement the best practices and to identify key development areas in the individual Candidate Countries.

1.2 Funding for R&D – the 3% Target

The Commission should insist that the Candidate Countries include R&D and innovation into their national development programmes and increase national spending on R&D and innovation so that a European average level of 3.0% of GDP can be reached by 2010.

1.3 Institutional Structures

The Commission should encourage the governments in the Candidate Countries to form advisory and co-ordinating bodies in R&D from competent representatives of relevant actors in society, which would advise the government on the development and co-ordination of national science and technology policy. The Commission should also encourage the governments in the Candidate Countries to establish a research funding system which distributes funds on a competitive basis with the use of international peer review.

1.4 Infrastructures and Resources for Research and Development

The Commission should specifically encourage governments of Candidate Countries to use structural funds attributed to them to build research infrastructures, to strengthen creative innovation environments and to improve co-operation between industry, SMEs and research institutions.

1.5 International Co-operation

The Commission should help governments of the Candidate Countries to develop R&D links towards broader and deeper forms of international collaboration between funding agencies, research institutes and industry. Facilities and skills of IT use should be improved to create electronic research networks.

2. Human Resources

2.1 Professional Research Careers and Researcher Training

- The Commission should initiate and support a programme of international Ph.D. training with top-level research, for example, with existing centres and networks of excellence, as one form of strengthening the ERA.
- Senior scientists in the Candidate Countries should be offered further scientific training by organising temporary (6-12 months) researcher positions in corresponding academic departments, laboratories, research institutions and business companies R&D departments in current Member States.

2.2 Researcher Mobility

The Commission should further develop EU mobility schemes by offering incentives in order to increase researcher mobility from the Member States to the Candidate Countries.

2.3 Research Administration and Programme Management

The Commission and the governments of the Candidate Countries should identify the lack of qualified human resources in research administration and programme management as a priority and allocate funds to their education, training and twinning.

3. Participation and Funding Instruments in EU Framework Programmes

- The Commission should make every effort to ensure that the excellent research centres and all excellent research in the Candidate Countries are better known in the Member States, to facilitate their participation.
- The Commission should identify an adequate number of qualified experts from the Candidate Countries who will take part in evaluation of applications submitted, the annual monitoring and the ex-post evaluation of programmes.
- In order to be able to take corrective measures (if needed) on the participation of the Candidate Countries in FP6 the Commission should set up a targeted data and indicators mechanism to enhance the impact of monitoring and an ex-post evaluation system.

4. Collaboration between Research and Industry

- The Commission should, in co-operation with national governments, develop measures to identify and to eliminate obstacles to the use of the CCs research competence by companies, with a special regard to SMEs, operating in the CCs as well as

anywhere in Europe. Twinning could be one possibility for effective collaboration between academic and industrial units.

- The Commission should encourage national governments to initiate and support science parks and use benchmarking for their international evaluation.

9. Research Infrastructures (RI) (October 2003)

Recommendations

1. Decisions on future research infrastructures must be based on knowledge, needs and strategy.

- An inventory survey of *all* existing large and medium-sized RIs, including those which are operated at a purely national level, should be compiled periodically by the Commission.
- Likewise, a periodic survey of the RI needs of the research community in Europe should be conducted, i.e. a bottom-up 'pull' action.
- A periodic survey of new scientific-technological opportunities for new RIs, including forthcoming project proposals, should be conducted, i.e. a 'push' action.
- For evaluation and assessment of existing facilities and forthcoming proposals, a science-driven advisory scheme must be established, capable of and recognised as producing independent science-driven advice from a European perspective and with an encompassing scientific scope.

2. The decision process for large research infrastructures must ensure that scientific recommendations are heard and that, once taken, decisions are implemented.

- To ensure coordinated decisions on research infrastructures, a 'strategic body' with appropriate authority is needed. ESFRI (European Science Forum on Research infrastructures) could evolve into this

important instrument in the decision process, provided that it is given the necessary authority and operational resources to fulfil its remit.

- Furthermore, to ensure that decisions are based on sound and comprehensive advice, ESFRI should be expanded to include not only representatives from all present and incoming Member States, but should also involve relevant actors possessing the necessary scientific and operational expertise in Europe (e.g. from the EIROforum and the ESF), as well as representatives from European industry.
- To ensure a coordinated approach at the political level, ESFRI (or the 'strategic body') should report to the European (Competitiveness) Council.

3. Funding and organisation schemes for new infrastructures, i.e. for their development and operation, must be adequate to master the full timescales involved.

- ESFRI should seek to develop advanced European models and instruments for the variable-geometry realisation of RI.
- The Commission should monitor how and how much funding is dispensed under FP6 in support of research infrastructures, both relative to FP5 and to the future needs of European science.
- The Commission should initiate a study of the feasibility of financing models involving loan-based funding or public/private partnerships (EIB, etc.).

- The Commission and Member States should make Structural Funds available to support research infrastructure investments on a cost-sharing basis.
- Certain infrastructures, which can be shared by most or all scientific disciplines and organisations (such as Géant and the Grid), should be funded by the Commission.

- When setting priorities, those fields where Europe is or might be in a worldwide leading position should be given significant consideration while, at the same time, enabling the development of new and emerging fields of research.

10. European Research Council (ERC) – a possible implementation model (October 2003)

Recommendations

- EURAB reiterates its recommendation for the establishment of a European Research Council to promote European-level competition and funding of investigator-led research at the forefront of science.
- EURAB expects the ERC to be the catalyst for rapid scientific progress in Europe and to be an essential part of the development of the ERA within the triad of education – research – innovation. It provides added value to the European research system and will be expected to bring a number of benefits.
- The ERC will operate as a funding agency and will not have responsibility for managing and executing research (see para. 2).
- EURAB recommends that there has to be a strong political commitment (at both European and national levels) to the launch of an ERC, so enabling a pragmatic implementation to take place, and the establishment of the ERC as a priority in future overall EU budget setting.
- The ERC should aim to support and develop European research leadership on the global stage and, eventually, become one of the more significant research funding agencies worldwide. The ERC, in addressing its responsibilities, must give emphasis to new integrative approaches and avoid an overly cautious response. It should also address

issues relating to research infrastructures, the individual researcher (at both junior and senior levels), collaboration and coordination, and must address science education.

- The ERC has to be open to the whole research community, academia, national research organisations, and those funded through private trusts, and must include scientists from industry.
- New funding has to be both substantial from the outset and come from EU resources so as to establish a strong ERC as an essential complement to the Framework Programme and national organisations in realising the ERA and European Council objectives. Additional national contributions, contributions from the Framework Programme and, possibly, from other sources, such as private foundations/trusts and the private sector in general, should also be included.
- It is recommended that, as a matter of urgency, further work is carried out by appropriate European-based science bodies to develop examples of possible actions, plan overall financing over the next ten years, and outline schemes for implementation in order to provide a full supporting case for the political launch of the ERC in 2004.

11. Bureau Recommendations following visit to Washington D.C. (December 2003)

Dear Commissioner, cher M. Busquin,

Following the visit undertaken by members of the EURAB Bureau to Washington, D.C. in October 2003, we would like to share our impressions with you and bring forward suggestions that might prove useful for implementing ERA.

Our visit was initiated by Mr. Achilleas Mitsos who invited us to follow up his previous contacts and to engage in an exchange of views with high-level scientific advisory bodies and federal agencies in Washington, D.C. In preparation for our visit we drew up a list of questions which were sent in advance to the persons who had agreed to see us, indicating the main interests of our visit. The EU Delegation in Washington, D.C., in particular Ms. Mary Kavanagh, provided us with excellent logistic support and helped to prepare our visit in an exemplary way. The programme of our visit and the list of EURAB participants is attached for your information. Copies of the material we have received for our American counterparts are available through the Commission EURAB Secretariat.

1. One overriding impression we received is the flexibility of approaching research goals and the concomitant importance attached to management. Given the overall mission-orientation of the federal R&D system, efficiency manifests itself in how the goals are reached through an impressive flexibility. Since the mission is expressed in very general terms, this allows (and invites) basic research is conducted problematically alongside research co-operation with industry.

The contrast to our European ways is striking: we seem to put all of our imagination into inventing rules for management. They suppress all initiatives that call for management fitting the objectives and not the reverse. We also cling in Europe to in many practical respects obsolete distinction between basic and applied research. We should not be surprised to find that the general climate for university-industry co-operation is much more favourable in the US than in Europe, where research is still seen as belonging into two different boxes.

A stronger emphasis on priority setting, which presupposes clarity of goals and objectives, is warranted on European level. This should be accompanied by greater emphasis on management skills, including the recruitment of good programme managers, and coupling their enhanced responsibility with giving them greater flexibility in research management.

The advantage of a broader mission-orientation, which allows both basic and strategic research to flourish together, should be explored. The general conditions for university-industry co-operation needs to be improved.

2. Despite the overall mission-orientation, there exists a great diversity of mission-oriented agencies that fund and perform research and their respective 'agency cultures'. This diversity also translates into a diversity of management styles and mechanisms. Our impression is that such diversity and differentiation is good for the scientific community who have learned which doors to knock on, depending on the objectives and volume of their proposals. By contrast, Europe faces the problem of fragmentation, rather than productive diversity and differentiation.

In order to move from fragmentation with its frequent insufficiencies and imbalances towards a more healthy system of diversity and competition, goals and differences in management style must be clearly spelled out and communicated. The scientific community must move closer towards embracing competition in research funding.

3. Shortly before our visit, NIH announced the results of its new 'Road Map'. This is an impressive achievement, both in the way it had been set up by drawing into the consultation process an excellent mixture of both 'internal' and 'external' voices, visions and expertise (involving 300 representatives of the US biomedical leaders from academia, government and the private sector). Again, this was accomplished by giving the persons in charge of managing the process a lot of freedom, while keeping the objective - to define a compelling, limited set of priorities that can be acted on and are essential to accelerate progress across the spectrum of the institute missions - in clear sight.

Both the process of setting compelling, but limited priorities which must be addressed by the agency as a whole, and the results obtained deserve further detailed study in view of their transferability to other fields and different forms of organisation.

4. We were greatly impressed by the way the famous DARPA model has been transferred and implemented inside the science and technology activities of the newly founded Department of Homeland Security (HSARPA). The guiding principle of utmost flexibility in management with firm and clear priorities extends across a large and varied spectrum, ranging from single individuals as inventors, to setting up a variety of collaborations across

federal, university and private labs, founding or finding small firms to come up with a product, to having the federal government develop a prototype. One particular strength of the DARPA model is the coupling of strategic research to basic research, achieved through highly ambitious projects.

We would like to suggest that the DARPA model be explored seriously as a possible mechanism to fund research in Europe.

5. We were also positively impressed by the skilled way in which initiatives are proposed and acted upon by US policy-makers. This may be expressed by saying that there seems to exist an enormous amount of determination and self-confidence. This contrasts unfavourably with the often-heard lament of 'Europe lagging behind'. Closely related to this self-confidence and determination is a strong belief that leadership matters. It is firmly embedded in the system.

It is important not to confuse rhetoric and facts. Nevertheless, a sense of greater self-confidence and cautious optimism is known to favour better performance. This applies also to research organisations and firms. We suggest that efforts should be undertaken to highlight greater awareness of Europe's achievements (and not only its weaknesses) and to stimulate stronger identification with European objectives and goals in science, technology and culture. Care must be taken, and mechanisms put into place, to cultivate the idea of leadership on all levels of organisation.

6. Excellence prevails in all funding activities. This also means that excellence is not a unitary or abstract concept, but is defined in accordance with objectives and differences in fields of R&D activities.

If and when excellence in research through competition (e.g. setting up an ERC for basic research) becomes a political reality, this is a lesson to be heard. We recommend studying more closely the different mechanisms through which excellence is obtained in different funding agencies (including the private sector) and in different fields of research.

7. In general, we found an openness for transatlantic research collaboration, albeit with a careful drawing of lines. Such collaboration is wanted, but mainly in fields with no competitive spin-offs or wherever there is no promise of (short- or medium-term) wealth creation. **We believe that the reluctance to bring potential**

competition on board should be taken into account when proposing such collaboration. On the other hand, there is much to be gained from transatlantic co-operation in large international programmes or even projects if the terms of working together are carefully negotiated.

8. We raised the question of how the tightened security regulations affect student enrolment from abroad. Although there is concern (more on the side of universities than on the side of the administration), it is too early to say how future students who have not yet enrolled will be affected. Our overall impression however was that confidence in the US remaining the most attractive place to study abroad prevails.

It would be an illusion to believe that foreign students who are currently deterred from studying in the US would flock to Europe en masse. Other means must be taken to increase the attractiveness of studying in Europe. A stronger and concerted effort to internationalise universities in Europe is needed.

9. We noticed a growing concern among universities that the increased focus on IPR/patents may limit the universities' capability of using patented research tools (research exemption). We also received clear warnings that setting up university IPR/transfer offices are likely to succeed only if a number of stringent requirements are met.

We advise further study of these issues and diffusion of the results to universities and the private sector in Europe.

During the meeting with Dr. Marburger, Chief Scientific Adviser to the President, we extended an invitation to him to visit Brussels and speak before the EURAB Plenary Meeting on June 15th. This invitation, if the date is also convenient for other visits, would need to be followed up.

Cher M. Busquin, this short summary of our impressions, personal as they necessarily are, and of our further suggestions for action in Europe, cannot capture the richness of information we obtained during our two-day visit. Nevertheless, we hope that they convey the main thrust of what can be learned from our US colleagues and counterparts in science policy – not in order to be imitated, but in allowing Europe to become more aware of its strengths. These include Europe's diversity which needs to be harnessed to clear objectives – and then followed up with both, determination and flexibility.

Professor Helga Nowotny

12. ERA and the Social Sciences and Humanities (January 2004)

Recommendations

EURAB recommendations are targeted towards the European Commission. It is hoped that these recommendations will have some impact on the preparation of the remaining “calls for proposals” under Framework Programme 6 (FP6), although the principal thrust of EURAB’s recommendations looks towards FP7. Their purpose is to seek an appropriate framework in which to develop a European policy towards the social sciences and humanities in the context of building the European Research Area. The recommendations are grouped under four headings ranging from the strategic to the operational, as follows:

1. Strategic SSH themes “in their own right” that have high “European- added value” in structuring the European Research Area

- Social Sciences and Humanities research activities “in their own right” should command a more prominent place in future Framework Programmes in addressing social, economic and political issues and challenges facing the further construction of the European Union and its relations with the rest of the world. Research themes should be concerned with the interactive and multi-level character of Europeanisation and the transformation of modern societies beyond culturally integrated nation states. Examples are given of high “European added value” topic areas in relation to “democracy” and “European cultural heritage” as pointers towards how FP6 Priority 7 might be built upon in future, but SSH researchers are best placed to formulate a more exhaustive range of topics, scientific models and approaches.

2. SSH research infrastructure requirements and needs

- Future work programmes and calls for proposals in the FP6 programme ‘Support for Research Infrastructures: Structuring the European Research Area’, should make specific reference to the inclusion of the social sciences and the humanities within its remit, and measures should be taken by the European Commission to enhance its ‘visibility’ among the SSH research communities. The term “research infrastructure” should be allowed the widest possible definition to cover the breadth of SSH disciplines, and an expert ‘task force’ should be established to develop this (or the task could be given to ESFRI (European Strategy Forum on Research Infrastructures)).

3. Measures to strengthen the “socio-economic dimension” in main FP RTD (Research and Technological Development) themes

- The “socio-economic dimension” of the main FP RTD science and technology programmes should be expanded beyond the present emphasis on ex-post analysis of “social and economic impacts of science and technology” and “foresight” assessments to the full integration of socio-economic research components in the work programmes and calls for proposals.
- The European Commission should undertake an analysis of the number and range of SSH disciplinary experts involved in successful proposals to the first calls for proposals of FP6 Thematic Priorities 1 to 6 where socio-economic dimensions were emphasised. The purpose of the analysis would be to measure the extent of actual as opposed to simply rhetorical reference to the importance of the socio-economic dimension of the research projects.
- The European Commission should increase SSH expert participation in both the design stage (Advisory Groups) of the work programmes and in the evaluation process of FP6 Thematic Priorities 1 to 6, as well as in future FPs.
- All aspects of “Science and Society” interactions and perspectives (introduced as a separate component in FP6) should become a “horizontal issue” applicable across all FP RTD programmes, and hence become embedded in EU project coverage in a similar way to those parts addressing gender and ethical issues.

4. Operational advice on “Instruments and Procedures” to improve the position and involvement of SSH researchers in Framework Programmes and in building the European Research Area

- In addition to the new IP (Integrated Project) and NOE (Network of Excellence) instruments, the European Commission should review the option of retaining smaller funding instruments to support projects in SSH fields.
- The European Commission should take the initiative to organise a consultative conference involving both national and international funding bodies for humanities research and research community representatives, to tackle the question of how to structure most effectively the contribution of the humanities to “problem-orientated research” in the European Research Area.

- The European Commission should consider the creation of a new instrument, tentatively named here “SSH Research Innovation Spaces”, where both early career and established researchers from across the breadth of SSH disciplines and national institutional

backgrounds (university and non-university) have the opportunity to co-operate for a limited period (up to two years) to explore innovative research directions and to widen their perspectives.

13. European Technology Platforms (January 2004)

Conclusions and Recommendations

1. A European Technology Platform

A European Technology Platform is, in reality, a European innovation initiative which is mission-oriented to solve a major European challenge/need/problem. It draws together the main stakeholders – industrialists, governments, legislators, politicians as well as researchers – from across Europe – even globally – who, by working together, can provide the solutions.

- In the first phase, through discussions and consultations, the members of the platform develop a vision and a strategy for solving the challenge and then work up an operational action plan – a process we have called developing the road map.
- In the second phase, the platform will oversee and coordinate the action lines of the road map. The time horizon on implementing a road map may well be in the order of a decade or more – platforms will tackle major European/global challenges – other instruments can tackle short-term, fire-fighting issues.

2. Five guiding principles

We see five guiding principles for European Technology Platforms, which should guide the Commission services and potential participants. Platforms should be:

- **A response to major European challenges:** The platforms are mission-oriented and address *major* European economic-environmental-technical-social challenges. They are not short-term, problem-solving devices.
- **A strategic European initiative:** Platforms should be set up *only* when there is a well-defined, European strategic need for such an instrument, and European added value can be clearly justified.

- **Politically highly visible:** To affect change across national, industrial and technological boundaries, platforms must create strong political support and be highly visible at a European, even a global level.
- **Industry led:** To be effective, platforms must be driven by actors from the applications/problem end of the innovation process.
- **Well planned and executed:** There must be a road map with a longer-term vision, a sound strategy for achieving this vision, and a detailed action plan for carrying out the necessary activities.

3. An evaluation checklist for Commission services

Our recommendations take the five guiding principles and turn them into a practical checklist which the Commission services might employ in the evaluation of proposed platforms.

A major European challenge:

The proposed platform must

- Address a major, pan-European challenge – they are mission-oriented. The challenge must be: 1) European and/or global; 2) economically significant in scale; and 3) longer term – dealing with day-to-day problems will devalue the specificity of our approach.
- Address, in an integrated way, the economic/technical/environmental/ social challenge – including social science research, as appropriate.

A strategic European response:

The proposed platform must

- Have clear strategic reasons for its establishment. It must, of course, be set up through an open and transparent process.

- Offer significant European added value. Only those challenges which can be addressed easier, faster, or cheaper at European level, or need a certain critical mass, should be considered.
- Not become misused. Not all Europe's innovation problems can be tackled by such platforms. They are not the answer to everything. If they simply become the 'fashion of the year', they will lose their value and industry will refuse to participate.

Politically highly visible:

The proposed platform must be

- Broad enough in the challenge it addresses and involvement of stakeholders to both attract and create political support from Member States, their politicians and industrialists. This breadth is also essential for easy and successful communication.
- Focused enough, however, to solve concrete problems effectively. The challenge/mission must be tightly defined. The groups of stakeholders must be sufficiently homogeneous to have a common goal.

Industry led:

The proposed platform must

- Be proposed in a bottom-up fashion, incorporating the essential stakeholders from the innovation process. If support from these groups is lacking, no platform should be launched.
- Have a clear leadership coming from those with the power and responsibility for market entry – i.e. industrialists, regulators and users.

Well planned and executed:

Platforms should have

- A longer-term vision related to the specific challenge.
- A coherent, dynamic strategy for overcoming the challenge.
- A sufficiently detailed, practical action plan for moving Europe beyond the identified barriers to innovation.

4. Setting up European Technology Platforms

In this section, we indicate how the Commission and potential stakeholders might operationalise the concept of European Technology Platforms.

Phase	Actions
1. Proposal	<ul style="list-style-type: none"> • <i>Commission:</i> Inform Member States and industry about European Technology Platforms, their objectives, principles and basic criteria of operation.

	<ul style="list-style-type: none"> • <i>Industrialists/Regulators:</i> Industrialists, regulators and other stakeholders should then come together to propose – and justify – the setting up of a platform.
2. Preparatory	<ul style="list-style-type: none"> • <i>Commission and proposers:</i> Joint review and development of the proposal, in line with the principles (Section 3.1) of such a European innovation initiative. Here, the initial decisions on key platform stakeholders and leadership, as well as preliminary platform structures, must be taken. • <i>Commission:</i> Decision (yes/no) on setting up of platform – including a support budget (secretariat/communications/planning/writing road map).
3. First year	<ul style="list-style-type: none"> • <i>Stakeholders:</i> Broad consultation to define the road map (vision/strategy/action plan), arriving at a wide consensus among all stakeholders on solutions and priorities. • <i>Commission and secretariat:</i> Support platform and the entire high-level group of stakeholders involved as necessary – including marketing/information/dissemination activities.
4. Implementation	<ul style="list-style-type: none"> • <i>Stakeholders:</i> Formal commitment of entire group to road map. • <i>Commission and stakeholders:</i> Launch priority actions, seeking financial resources from appropriate sources (governments, industry, Structural Funds, Framework Programme, European Investment Bank as well as other banks and financial institutions), including public-private partnerships as necessary.
5. Review	<ul style="list-style-type: none"> • <i>Commission:</i> A brief, independent, annual review to comment on achievement of tasks might be useful to press for progress and action. Certainly, by the end of Year 2, a review should decide if the platform is effective and should continue.

A European Technology Platform

INPUTS	PLATFORM ACTIVITIES	OUTPUTS	BENEFITS
Financial: <ul style="list-style-type: none"> • Framework Programmes • European Investment Bank • Commercial banks • Structural Funds • Industrial investment • Member State and regional investment 	Phase I: <ul style="list-style-type: none"> • Development of road map – vision, strategy and action plan Phase II: <ul style="list-style-type: none"> • Oversight/ supervision of implementation of action plan by industry, government and researchers 	<ul style="list-style-type: none"> • Focused research initiatives • Coherent and stable legislation and standards • Consistent EU and Member State policies • Education and training programmes • Political/market initiatives • Etc. 	<ul style="list-style-type: none"> • New products and services • Industrial competitiveness • Integrated EU markets • Improved employment prospects • Better trade prospects
Non-financial: <ul style="list-style-type: none"> • High-level people • Organisational and time commitments • Political effort • Etc. 			

14. Interdisciplinarity in Research (April 2004)

Recommendations

1. Avoiding unnecessary administrative barriers to interdisciplinary research

- Ensure that any future EU expert group/advisory board/working group systems, which are developed, do not create barriers to interdisciplinary research. Equally, in setting up internal administrative programme divisions and the definition of work programmes, care should be taken not to create barriers to interdisciplinary research.
- In the development of the Thematic Priority ('vertical') work programmes: 1) balance the need for highly targeted 'calls for proposals' with the need for interdisciplinary research, and 2) investigate the need for cross-priority and cross-action line calls for proposals. In the 'horizontal', less-discipline defined calls for proposals, ensure that evaluation panel composition and procedures move to a 'broad discipline' approach.
- In working with universities, encourage the examination of discipline-based, departmental and faculty

divisions and associated employment procedures to ensure that they are not an unnecessary barrier to interdisciplinary research, and that the means and facilities for such research can be guaranteed. Interdisciplinary research expressly includes the Social Sciences and Humanities.

2. Improving interdisciplinary training

- Consider establishing, in conjunction with Member State authorities, a high-level, EU doctoral programme in new, emerging areas, which cross discipline boundaries. Examine the NSF IGERT programme as a model.
- Review recent developments in industry-based and industry-related doctoral training. Transfer good practices to develop FP6 programmes including, in particular, the Marie Curie programmes.
- In working with universities, develop programmes which encourage departments to provide the opportunity for undergraduates to take credit modules

outside their own speciality and, in their final year, to participate in multidisciplinary project teams.

- In working with universities, encourage them, individually or as a local network, to develop graduate school structures which, when required, can more easily span traditional disciplinary divisions in research training.

3. A policy for interdisciplinary research centres

- Undertake an examination of good practice and success factors in ‘virtual laboratories’ and ‘virtual research centres’, paying particular attention to their use in: 1) the development of interdisciplinary research, and 2) Networks of Excellence.
- Before co-funding the setting up of new interdisciplinary research centres, balance their costs and benefits against the funding of the reform/extension of existing traditional disciplinary structures.
- In co-funding a new interdisciplinary research centre in a university, ensure that the centre has made provision for its integration with the teaching and research activities of the traditional disciplinary departments.

4. Developing shared research facilities

- When co-funding major research infrastructure and facilities, ensure structures and procedures are in place to permit the appropriate, intra-and inter-institutional access to such facilities. When appropriate, such core facilities should be encouraged to develop interdisciplinary training provision.

- Examine the possibility of extending the practices (particularly interdisciplinarity activities) developed in “Access to Research Infrastructures” to appropriate Thematic Priorities for use in Integrated Projects and Networks of Excellence.

5. Funding and managing interdisciplinary research

- Ensure robust and transparent mechanisms are in place for reviewing both: 1) the interdisciplinary elements of discipline-focused proposals, and 2) fully interdisciplinary proposals. This may include flexibility in the allocation of projects to discipline-based panels with cross-referencing and joint evaluation.
- Ensure that the structuring of work programme budgets does not discriminate against interdisciplinary projects.
- Increase the budget of the NEST Programme to €500 million.
- Ensure that the SINAPSE eNetwork includes a forum for the promotion of interdisciplinary research, the dissemination of good practices, and the identification of emerging new fields.
- Review the mechanisms used by EU and non-EU research funding agencies to design, evaluate and manage interdisciplinary research. Publish an analysis of good practices/useful guidelines, and incorporate findings into EU research programmes.

15. Evaluation: Proposals and Mid-Term Programme Evaluation (April 2004)

Recommendations

1. General recommendations for evaluation:

- **Excellence as a criterion:** EURAB recommends that scientific excellence should be the major criterion for the selection of proposals for research projects. It is further recommended that optimal funding of excellent proposals be ensured through retaining the flexibility to move programme budgets between topic areas following the evaluation process.
- **Ensuring a quality evaluator database:** The quality of evaluations is mainly dependent on the evaluators involved. Therefore, EURAB strongly supports initiatives which will enhance the range and quality of expertise available for evaluation purposes. Excellent Research Centres should be encouraged and assisted to ensure (a) that their personnel make themselves available for this purpose, and (b) that they also nominate experts in other organisations who would be competent evaluators. In addition, the identity of the broad panel of evaluators used should be disclosed (without relating an individual evaluator to a particular project).
- **Dissemination plans for basic/applied project proposals:** EURAB recommends that a distinction should be made between basic and applied research projects with regard to the need for dissemination plans in proposals. In basic research, publication in relevant and peer-reviewed journals should be the only required means of dissemination of outputs. For applied research, the current requirement for a plan that will ensure dissemination to relevant potential users should apply.

2. Mid-term programme evaluation:

- Both quantitative and qualitative indicators are required to capture the diversity and complexity of the programmes and instruments used. It is fully appreciated that qualitative indicators may have quantitative aspects, and vice versa. It is accepted that these indicators will vary in importance depending on whether Networks of Excellence or Integrated Projects are being considered. Taking account of these qualifications (for both mid-term and final evaluations) the following indicators are recommended:

– *Suggested quantitative indicators: mid-term evaluation*

Number of: IPs and NoEs with scores above threshold
 Researchers/countries/disciplines involved

Companies/SMEs involved
 Joint publications (abstracts/proceedings)
 Ph.D. students in training in the consortium
 Shared facilities and resources
 Staff exchanges per total no. of researchers
 Patent submissions

Percentage of: Proposals above threshold that were funded
 Use of shared facilities by other participants
 Budget used in project administration
 Budget retained in the project account
 Private investment so far

– *Suggested qualitative indicators: mid-term evaluation*

- Real participation and role of key players of high reputation
- Are joint research plans being made for a future period?
- Joint standards and methodology (progress, intent, etc.)
- Extent to which network has been structured
 - Regular meetings
 - Consortium agreements
- Submissions to journals with top 20% impact factor ratings in relevant field
- Base for new legislation
- Image/advertising/participation in technical workshops
- Views of participants re: management, etc.
- Activities aimed at developing public interest in science
- Gender disaggregated data

3. Indicators of success for final evaluation of FP6

For the final evaluation of the research results of the Integrated Projects and Networks of Excellence, the following set of indicators of 'Success of New Instruments' is recommended. The qualifications noted in section 2 also apply here. Of course, the final evaluation should absolutely take into account the targets as defined at the beginning of the project.

- Suggested quantitative indicators: final evaluation

Number of: Companies/SMEs still actively involved
Joint publications and proceedings
Newly trained Ph.D. students
Shared facilities
Staff exchanges per total no. of researchers
Patents and patent submissions

Percentage of: Use of facilities by other participants
Budget used in project administration
Private investment so far
Increasing market share/new/income
New business
Success in leveraging additional funding

- Suggested qualitative indicators: final evaluation

- Involvement of key players of high reputation
- Joint research and development plans
- Joint plans for continuation of collaboration and activities to develop same
- Degree of clustering with other networks
- Joint standards and methodology
- Publications in journals with top 20% impact factor ratings in relevant field
- Bases for new legislation
- Image development/advertising/participation in technical workshops
- Teaching, training and framework development
- Activities aimed at developing public interest in science
- Gender disaggregated data

4. EU/US collaboration on evaluation

EURAB recommends that the identification of evaluation criteria and methodologies be included as a topic for discussion in the current round of S&T collaboration meetings between EU and US.

16. SMEs and the ERA (May 2004)

Recommendations

1. Achieving the 15% FP spending target for SMEs

- The new instruments are not suited to the needs of the vast majority of SMEs.
- It seems doubtful that the FP6 15% SME target can be achieved.
- The Commission should increase FP6 spending on CRAFT and Collective Research to at least €1 billion.

2. SME-specific measures: Co-operative and Collective Research

- The budget for Co-operative and Collective Research should be substantially increased to at least €1 billion.
- More management resources should be allocated to Co-operative and Collective Research to allow them to function in a more SME-responsive and -adapted manner.
- The CRAFT Exploratory Award Scheme should be reintroduced. It is especially needed in the enlargement countries.
- Open calls for proposals and two-step proposal procedures should be introduced. Payment facilities should be improved.
- Requirements with regard to the number of participating SMEs and research institutions should be relaxed.
- The scope for improving the management of CRAFT, and for funding smaller and shorter projects, by enhanced co-operation with the Member States and use of the Structural Fund method, should be explored.

3. High-growth SMEs: a future policy priority

- High-growth-potential SMEs should be a prime focus of future European policy.
- The principal criteria for supporting SMEs should be business/innovation criteria, not criteria related to scientific excellence.
- Action is required to stimulate seed and venture capital in Europe.

4. SBIR-like support mechanisms (already proposed by EURAB Working Group 5)

- The Commission should take the initiative to engage in an active exploration with the Member States of the scope for instituting SBIR-like (United States' Small Business Innovation Research Programme) mechanisms at national level.

- The Commission should seek to introduce SBIR-like mechanisms into its own practices and those of relevant European agencies (e.g. Environment Agency, Food Safety Authority, Aviation Safety Agency) and of the Joint Research Centre.
- Insofar as the current rules permit only multi-partner projects, the Commission should actively seek to change the rules so as to accommodate an SBIR-like mechanism.

5. Raising SMEs' absorption capacity

- SMEs should be helped to be more innovative, for example through pilot projects and through idea competitions with implementation awards.
- SME implementation awards are needed to help transform innovative ideas into products and services ready for market.

6. Facilitate the supply of qualified staff to support innovation in SMEs

- Upgrade the Marie Curie mobility programmes to support postgraduates, Ph.D. students, engineers, and technicians carrying out innovation and R&D projects for SMEs.
- Staff-cost grants are needed to allow SMEs to hire qualified staff, on a time-limited basis, for undertaking innovation projects.

7. Improve knowledge- and technology transfer between research and SMEs

- Establish enterprise-oriented technology transfer units which are familiar with specific SME problems.
- The funding of innovation consultants is an important measure to support SMEs efficiently at an early stage in R&D projects, as well as to accelerate the diffusion of R&D results.
- Universities and other research organisations should be encouraged to open up their research programmes to SMEs through the award of financial incentives, including payment by participating SMEs according to "distance from market".

17. The Descartes Prize (May 2004)

EURAB strongly encourages the development of the Descartes Prize and its recognition by the scientific community and the general public both in the EU and worldwide. The following recommendations aim at increasing the establishment of the Descartes Prize as a major scientific prize while strengthening the valorisation of the prize and its impact among the general public.

Recommendations

1. The originality of the prize resides in its rewarding a **team** of research groups from various EU countries for scientific and technological achievements resulting from collaborative research. Therefore, EURAB recommends that in all coverage, in particular on the Commission website, in press releases, and during the award ceremony, the **emphasis be put on all members of each team** and not only on the spokesperson.

2. EURAB recommends that the **nomination procedure no longer relies on self-nomination**. Rather, nominations for the prize should be signed and introduced to the European Commission, for instance by deans or department heads of universities, or directors of corporate research centres, or academies, all other eligibility rules remaining the same. Nominations of female scientists should be encouraged.

3. EURAB recommends **removing the Oscar-like presentation of the award ceremony**. The laureates and finalists should be made known in advance (two to three months ahead of the date of the award ceremony); a press release should be ready at the time of the announcement to detail the impact of the respective achievements for the general public.

4. EURAB recommends that **videos of the laureates and finalists be widely distributed among all television networks in the Member States and worldwide**. The videos should be made in such a way as to catch the interest of the public in general, and of students in high schools in particular.

5. EURAB recommends **broadening the composition and duties of the Grand Jury**, taking into account the modifications in the nomination procedure outlined in recommendation number 2. The composition of the

Grand Jury should be as distinguished and diverse as possible. The duties should encompass choosing not only the laureates but the finalists, too, from a list proposed by the thematic panels.

6. EURAB recommends that **the award ceremony be a most prestigious event**. A High Representative (preferably the Head of State) of the Member State in which the ceremony is being held and the Commissioner for Research should both be present. The press conference after the ceremony should target journalists not only from the Member States but from all over the world.

7. EURAB recommends that the laureates and finalists (all chosen by the Grand Jury according to recommendation number 5) be invited to the award ceremony. While the focus of the ceremony will naturally be on the laureates, the finalists should be recognised as well with a diploma or medal. Booths displaying the achievements of the laureates and finalists should be accessible to the press.

NB: Recognising both the laureates and finalists ensures a maximum media coverage across the EU.

8. EURAB recommends **organising high-level scientific events around the award ceremony**. For instance:

- The laureates should tour the major universities of the country hosting the award ceremony for two or three days prior to or just after the ceremony.
- A prestigious symposium could be held before the award ceremony with the laureates and other top scientists.
- There could also be an event dedicated to research policy questions in which the laureates discuss issues of topical interest with policy-makers.

9. EURAB recommends that, **in order to prevent any confusion, the new prize in communication science does not carry the name of Descartes**. The title 'Descartes Prize' should, in the eyes of both the scientific community and the general public, be exclusively associated with an award for excellence in scientific collaborative research.

EURAB is looking forward to working with the Commission and the Grand Jury in shaping the Descartes Prize as a truly unique award.

18. Structural Funds and the Research Component (May 2004)

Recommendations

EURAB¹ wishes to make a number of recommendations here. These must be seen as a suggestion to the Commission with the understanding that the latter will also attempt to make sure that appropriate actions are adopted at the level of the Member States and regions, since they are about to play a major role in terms of planning and realising RTDI actions in the context of the Structural Funds.

To increase synergies with research and innovation policies, the Structural Funds should focus on the following priority issues (which also comply with the three new Objectives foreseen for the period 2007-2013 – see Annex):

- **Support for grass-roots R&D infrastructure (university laboratories, equipment, instruments, etc.); new infrastructure may include buildings, science and technology parks, instrumentation** (renewal of existing instrumentation at universities and academia deserves, in particular, appropriate considerations), **databases** (publicly available databases on research and development results, accessible to business [especially SMEs] and academia, would be extremely valuable), **libraries**, etc. Creating large-scale regional infrastructures would be an important element in increasing cohesion within the ERA, especially in the new Member States.
- **Support for regional high-speed data networks** between (and within) research establishments, including the business sector as well, covering the well-known “last mile” issue. Connecting campuses, universities and research centres with GEANT and its future extensions would be a formidable challenge. This process will also add value to already formed or future Networks of Excellence in the context of the EU’s Sixth RTD Framework Programme (2002-2006).

- **Support for participation rights to access existing large European RTD infrastructure:** This would be particularly significant for the new Member States. Full-rights participation in some cases requires contributing to the cost of the existing infrastructures (“to buy the share”). It is thus strongly recommended that these one-time down payments should be supported from the Structural Funds.
- **Strengthening, diversifying, and exploring systematically combined support schemes** (different EU funds, national and regional funding, for example, focusing on regional incubators for technology-based firms).
- **Support for creating one-stop-shops for the regions (especially in new Objective 1 areas):** The Structural Funds could support one-stop-shops (Technology Extension Centres) for each region, building on existing organisations. These centres would provide a range of advanced services to businesses around RTDI themes, as well as access to relevant EU support available, EU networks and expertise.
- **Support for transnational/trans-regional co-operation that proves to be instrumental** in the field of research and innovation, as past experience has shown (e.g. RIS/RITTS, INTERREG, Innovative Actions, recent DG RTD Pilot Action on ‘Regions of Knowledge’², etc.)
- **Getting the legislation right for the New Structural Funds:** it will be extremely important to translate the will and political orientations into a concrete set of regulations that will govern the next phase of EU Structural policies. Throughout the whole process, the role of regional governments (in particular with respect to research and innovation issues inside the new Operational Programmes) has to be strengthened.

¹ To establish coherence with the existing structures, the Working Group had initially considered proposing the creation of a new fund within the New Structural Funds, under the title: “European Regional Research Investment Fund” (ERRIF), an analogue of ERDF, using new resources. The ERRIF would provide support for the creation of infrastructure, and productive job-creating investment in research and development; it should be adequate to cover about half of the required annual growth rate in research investments. The objective of ERRIF would be to support and promote capital investments, but without covering direct research costs, in line with the opinion expressed by the Committee of the Regions.

Creating a new fund under the Structural Funds would not, in principle, be impossible since there have been similar cases in the past: for example, the Cohesion Fund which focuses its action entirely on environment- and transport-related projects in the four Cohesion Countries is a good analogy. However, in operational terms it seems quite unrealistic to come up with a new fund at a time when the Commission has been trying hard to streamline existing funds and simplify existing procedures.

² <http://www.cordis.lu/era/knowreg.htm>

- **Minimum thresholds for investment in R&D could be set at regional level (for Operational Programmes).** Based on the current levels of investment in R&D in the Operational Programmes' overall budgets (approx. 17% for current Objective 1 and Objective 2 regions), EURAB recommends raising this to 30% for both types of region. Appropriate considerations have to be made for those regions that will be hit by the so-call 'statistical effect'.

- **Specific support for SMEs at regional level could take the form of a CRAFT-like measure to help small businesses access better R&D support for their own needs.** The SF could identify local R&D performers that could strengthen response to the R&D needs of local SMEs and provide the necessary resources.
- **Achieve better interaction between the EU RTD Framework Programme and the Structural Funds** in terms of synergies and complementarities. Duplication of effort should also be avoided to optimise resources.

B. Commissioned Study

1. US Defence R&D Spending: Impacts Analysis (January 2004)

I. US Defence R&D Spending: Impacts Analysis (January 2004)

EURAB commissioned a study on US Defence R&D Spending, which was delivered in January 2004.

The entire text is available on the EURAB website:
http://www.europa.eu.int/comm/research/eurab/index_en.html

This study is set against the background of the dramatic increases in the US budget for defence and security-related R&D announced in recent years. This has rightly prompted renewed concerns within Europe about the potential implications of such spending for the relative position of European defence and commercial industries, and the European science base in transatlantic competition and co-operation. In addition, there is an increasing recognition that the large and growing gap between US and European spending on defence and security-related R&D has implications for European aspirations in a number of policy areas, including the desire to increase R&D spending to 3 percent of GDP and Europe's aspirations towards the European Security and Defence Policy (ESDP) within the Common Foreign and Security Policy (CFSP).

The defence (and homeland security) mission is the principle driver of increases in the US defence R&D budget. These increases are the product of a very different strategic outlook and threat perception on the part of the United States when compared to Europe, as well as a very different view of the role of technology in future war-fighting and peace-keeping missions (the so-called "transformation" of the military). R&D related to homeland security and anti-terrorism is of growing importance within US defence R&D spending.

Differences in the organisation of defence R&D mean that the synergies between defence and civil research in the United States are far ahead of the situation in Europe. There are further US efforts to promote the synergies that emerge from dual technologies whilst defence-related research has historically been excluded from the European Union Framework Programme. Differences in the mode of funding between the US and much of Europe place European defence contractors at a disadvantage in international competition and co-operation. In the US, government typically funds the full cost of development and reimburses contractors for cost of private R&D work. In Europe, co-funding of R&D is more typical.

There are examples of "spin-offs" from defence R&D but the focus on such spin-off products or technologies masks the reality of a more rich and complex defence-civil relationship in US. Not only are there "spin-offs" from defence R&D but defence R&D spending impacts on the university science base and training of graduate scientists and engineers. Defence R&D can create new markets and reduce business risks through early acquisition of new technology by technically sophisticated users. Defence R&D can also be an important source of early-stage seed funding for US technology companies. Such effects are likely to grow as dual technologies become increasingly important and the US seeks to leverage technologies from "non-traditional" (civil) sources.

C. Lessons learned (October 2003)

Summary based on inputs from Working Group (WG) Chairs and Rapporteurs
as of October 2003

Summary based on inputs from Working Group (WG) Chairs and Rapporteurs as of October 2003

Chair, rapporteur, membership

- The task of being a Chair can be rather heavy. Hence, this should be recognised before accepting the task.
- Frequently some WG members are unable to attend a meeting, therefore a large membership may ensure good attendance.
- The composition of the WG membership is important, i.e. well balanced according to its mandate, active interest in the topic, etc., as well as its time-horizon, i.e. traditional WGs should address fundamental problems, while small and quick-working WGs should address concrete issues, etc.¹
- As can be expected, some members are more active than others either in discussions or by providing written input.
- The role and quality of the rapporteur are crucial, not only for the result but also for relieving the Chair of his/her responsibility, and in being able to understand and summarise inputs from the members.
- A good rapporteur must find a balance between reporting and summarising the ideas of the WG members (“neutrality and objectivity”) and presenting his/her own expert judgment and input.
- The role of the rapporteur depends on the Chair (active, directive and knowledgeable vs low key, non-directive and with vague knowledge) as well as the membership (high interest and support vs. little or no reaction to documents, attendance, etc.). Good panels are a joy to work with – weak panels should not spoil the report.
- The rapporteur also needs a sufficient “time-budget” and be aware of the time and effort required to devote to the task.
- A renewal of EURAB’s membership (forthcoming in 2004) may be required due to limitations on how much time members can spend on EURAB, “burn-out”, etc.

Mandate, task, structure

- Before a WG is established, the mandate, task and structure should be carefully thought out, planned, and made clear and explicit.
- A long-term work programme for EURAB would be helpful, with:

- Annual reviews of the work programme and its direction.
- Strong/clear objectives and targets as well as clarity of the connection between WGs.
- Time schedules.

Contact with and information from the Commission

- Updated relevant information from and close contact with the Commission is crucial for the advice to be both relevant and timely. There is a need for:
 - Knowledge about relevant documents, action plans, and actions, whether former, current or planned (preferably in a summary targeted at EURAB’s need).
 - Knowledge of other (non-EURAB) working groups, advisory boards or task forces with a similar mandate.
 - Direct interaction with members on the Commission since this may have as much impact or influence on decisions and policies as the written recommendations.

WGs’ “modus operandi”

- It is of great importance to be informed about what goes on in related/overlapping WGs.
 - An idea may be to post minutes, notes, and other relevant information on a “EURAB Intranet”.
- Summaries of the recommendations of all earlier WGs should be made available to each WG.
- Sufficient time for debates in the WGs is valuable (even if sometimes difficult to find).
- Teleconferences have been effective if used once the WG is well established.
- Outside experts have proven useful and may be used more frequently, partly depending on the background and role of the rapporteur.
- In order to be really effective, the work of EURAB needs not only proper planning but also sufficient resources.
- EURAB members tend to generalise from their personal (and sometimes limited) experience or discipline. It may be useful to present a “state of the art” prior to, or at the launch of a WG.

¹ This particular point was addressed and recognised during the June 2003 meetings.

Recommendations/advice and response/feedback

- Several recommendations or advice go far beyond what is within the control of the Commission. Hence, EURAB cannot expect that its advice is always taken *ad notam*, or it may take time before it is implemented, consequently follow-ups may be required over an extended period.
- EURAB's recommendations have not always been sufficiently explicitly formulated.
- In the recommendations, it should be clearly stated to whom these are directed.
- The recommendations may also be classified according to priority.
- Recommendations from several WGs overlap.
 - An idea may be that each WG produces "early warnings" of likely recommendations. The rapporteurs of the two or more relevant WGs should be tasked with identifying convergence/divergence. Where there are overlaps, the WGs may be invited to bilateral meetings.
- The recommendations with the greatest probability of success are those that directly address:
 - Near term: FP6 (particularly new instruments, and the development of activities directly in support of ERA).
 - Longer term: FP7 ("window of opportunity", hence, good timing and targeting can have a major impact).
 - The development of ERA.
- The impact of recommendations which are directed at groups beyond the Commission will very much depend on the EURAB members' ability and willingness to further them in their own country or industry.
- The structure of the reports should not be too standardised but rather fit the diversity of topics. It is the quality of the analysis and the recommendations that count.
- "Common themes" across WGs may be key issues warranting their own WG or be developed as "Key Issues for Action" by the Plenary.
- The rule about a "Response from the Commission" is significant. However, the response should go beyond saying that "this has already been taken care of".

General:

- The true cost of EURAB (time and effort on the part of the members, travel expenditures, etc) may not be fully recognised and **may** therefore be greater than the benefit.
- The benefit of EURAB is not only the potential impact of its advice and recommendations, but also the learning and common understanding achieved within the unique, diverse membership (and by the Commission members participating in the various EURAB meetings).

D. EURAB 1 and its Bureau: Membership

1. EURAB 1 Members and its Bureau

I. EURAB 1 Members and its Bureau

BUREAU

Prof. Enric BANDA	Ms. Elisabeth JASKULKÉ
Dr. Catherine CESARSKY	Prof. Helga NOWOTNY (Chair)
Prof. Graham DAVIES	Dr. Jens ROSTRUP-NIELSEN
Prof. Ian HALLIDAY (Vice-Chair)	Dr. Horst SOBOLL (Vice-Chair)

EURAB

Prof. Lígia AMANCIO	Dr. Rainer NEUMANN
Prof. Ruth ARNON	Prof. Gunnar ÖQUIST
Prof. Paolo BLASI	Dr. Enrico OTTOLINI
Prof. Jean-Luc BREDAS	Prof. Helga RÜBSAMEN - WAIGMANN
Prof. Charles BUYS	Dr. Gill SAMUELS
Prof. Gerry BYRNE	Mr. Arno SCHLEICH (resigned)
Prof. Carlos CAMPOS MORAIS	Prof. Arnold SCHMIDT
Dr. Ellen DE BRABANDER - VAN DEN BERG	Ms. Brigitte SERREAULT
Mr. Jan Alexander DEKKER	Prof. Rolf TARRACH
Prof. Jane GRIMSON	Dr. Yannis V. TZAVARAS
Dr. Guy HAEMERS	Dr. Fulvio UGGERI
Prof. Miltiades HATZOPOULOS	Prof. Reijo VIHKO
Prof. Helena ILLNEROVÁ	Prof. Lars WALLØE
Dr. Maria Kristina JEPSEN	Dr. Arne WITTLÖV
Prof. Danuta KORADECKA	
Prof. Norbert KROÓ	Scientific Secretary
Prof. Juhani KUUSI	Dr. Ragnhild SOHLBERG
Mr. Helmut LIST	
Dr. Joan MAJÓ I CRUZATE	European Commission Liaison
Prof. Gérard MÉGIE	Dr. Mary KAVANAGH (until 1 March 2003)
Prof. Gretty MIRDAL	Dr. Isidoros KARATZAS (1 March - 1 June 2003)
Prof. Juan MULET MELIÁ	Dr. Marina ZANCHI (from 1 June 2003)
Prof. Erwin NEHER	

The new membership of EURAB 2 and its Bureau is available on the EURAB website:

http://www.europa.eu.int/comm/research/eurab/index_en.html

E.

List of Working Groups, Task Forces, Workshop Groups

1. Working Groups
2. Task Forces
3. Workshop Groups

I. EURAB Working Groups and Task Forces (2001-2004)

Working Groups	Members (Chair)		Date of adoption of report
Evaluation	C. Buys	E. Jaskulké	Evaluation of Proposals
	D. Koradecka	G. Mégie	EURAB 02.007
	E. Neher	E. Ottolini	April 2002
Role of Universities in ERA	R. Arnon	P. Blasi	Some Issues Affecting the Future of University Research in the EU
	J.L. Bredas	G. Davies	
	J.J. Grimson	I. Halliday	EURAB 02.051
	J. Majó	A. Schmidt	November 2002
	H. Soboll	L. Walløe	
Improving Innovation	G. Davies	E. de Bradander	Improving Innovation
	J. Dekker	E. Kuusi	EURAB 02.053
	H. List	J. Majó	November 2002
	J. Mulet	E. Neher	
	R. Neumann	J. Rostrup-Nielsen	
	G. Samuels	A. Schleich	
	F. Uggeri	A. Wittlöv	
Increasing the Attractiveness of Science/Technology/ Engineering Careers	R. Arnon	C. Buys	Increasing the Attractiveness of Science, Engineering and Technology Careers
	G. Byrne	C. Cesarsky	
	E. De Brabander	M. Jepsen	EURAB 02.054
	G. Mirdal	H. Rübnsamen-Waigmann	November 2002
	G. Samuels	R. Tarrach	
ERA Scope and Vision	L. Amancio	E. Banda	European Research Council
	J.L. Bredas	C. Campos-Morais	EURAB 02.055
	C. Cesarsky	E. Jaskulké	November 2002
	M. Jepsen	D. Koradecka	
	G. Mégie	J. Mulet	
	C. Öquist	B. Serrault	
	H. Soboll	Y. Tzavaras	
	L. Walløe		
Boosting Joint Investment in R&D (3%)	E. Banda	E. de Brabander	Boosting Joint Investment in Research: Towards 3% of GDP
	G. Haemers	E. Jaskulké	
	M. Jepsen	J. Majó	EURAB 02.066
	H. Nowotny	E. Ottolini	December 2002
	J. Rostrup-Nielsen	A. Schmidt	
	B. Serrault	H. Soboll	
	R. Vihko		
Enlargement and ERA	E. Banda	G. Haemers	Enlargement and ERA
	M. Hatzopoulos	H. Illnerová	EURAB 02.052
	D. Koradecka	N. Kroó	January 2003
	E. Ottolini	R. Vihko	

Working Groups	Members (Chair)		Date of adoption of report
ERA Scope and Vision	L. AMancio	E. Banda	The European Research Council (ERC) –
	J.L. Bredas	Ch. Buys	A Possible Implementation Model
	C. Campos-Morais	C. Cesarsky	EURAB 03.051
	M. Hatzopoulos	H. Illnerova	October 2003
	E. Jaskulké	M. Jepsen	
	D. Koradecka	N. Kroó	
	G. Mégie	J. Mulet	
	G. Öquist	B. Serrault	
	H. Soboll	Y. Tzavaras	
	L. Wallø		
Research Infrastructures	E. Banda	Ch. Buys	Research Infrastructures
	C. Cesarsky	N. Kroó	EURAB 03.053
	I. Halliday	M. Hatzopoulos	October 2003
	H. Nowotny		
ERA and the Social Science and Humanities	L. Amancio	P. Blasi	ERA and the Social Science
	G. Davies	J. Grimson	and Humanities
	M. Hatzopoulos	M. Jepsen	EURAB 03.076
	G. Mirdal	R. Sohlberg	January 2004
	R. Tarrach	F. Uggeri	
	R. Vihko	L. Walløe	
Technology Platforms	E. Banda	J.L. Bredas	European Technology Platforms
	Ch. Buys	J.A. Dekker	EURAB 04.010
	E. Jaskulke	J. Kuusi	January 2004
	H. List	J. Mulet	
	E. Ottolini	J. Rostrup-Nielsen	
	G. Samuels	B. Serrault	
	H. Soboll		
Interdisciplinarity in Research	R. Arnon	P. Blasi	Interdisciplinarity in Research
	E. de Brabander	J. Grimson	EURAB 4.009
	E. Jaskulké	M. Jepsen	April 2004
	D. Koradecka	G. Mirdal	
	R. Sohlberg	L. Walløe	
Evaluation	C. Buys	E. Jaskulké	Evaluation
	D. Koradecka	G. Mégie	EURAB 04.008
	E. Neher	G. Öquist	April 2004
	E. Ottolini	A. Schmidt	
SMEs and ERA	G. Bryne	J.A. Dekker	SMEs and ERA
	N. Kroó	R. Neumann	EURAB 04.028
	E. Ottolini	Y. Tzavaras	May 2004

Working Groups	Members (Chair)		Date of adoption of report
Structural Funds and the Research Component	R. Arnon	E. Banda	The Structural Funds and the Research Component EURAB 04.037 May 2004
	G. Byrne	C. Campos Morais	
	I. Halliday	M. Hatzoloulos	
	H. Illnerová	E. Jaskulké	
	D. Koradecka	N. Kroó	
	J. Mulet Meliá	E. Ottolini	
	A. Schmidt	R. Sohlberg	
	R. Vihko		

2. Task Forces

Task Forces	Members (Chair)		Date of adoption of report
Security Related Research	E. Banda	M. Hatzopoulos	
	A. Schmidt	B. Serreault	
	H. Soboll	R. Sohlberg	
	Y. Tzavaras	F. Uggeri	
Universities	R. Arnon	P. Blasi	
	J. Breda	G. Davies	
	J. Grimson	I. Halliday	
	G. Mégie	H. Nowotny	
	A. Schmidt	H. Rübsamen-Waigmann	
	H. Soboll		
Descartes Prize	J.L. Bredas	H. Illnerova	EURAB 04.039 May 2004
	H. Nowotny	H. Rübsamen-Waigmann	

3. Workshop Groups

Workshop Groups (*)	Members (Chair)	
Security Related Research	Miltiades Hatzopoulos Ragnhild Sohlberg Fulvio Uggeri	Brigitte Serreault Yannis Tzavaras
European Research Council	Enric Banda Ian Halliday Norbert Kroó Helga Nowotny Arnold Schmidt Ragnhild Sohlberg	Carlos Campos Morais Elisabeth Jaskulké Erwin Neher Enrico Ottolini Horst Soboll Reijo Vihko
Structural Funds and Research Component	Enric Banda Ian Halliday Elisabeth Jaskulké Norbert Kroó Enrico Ottolini Ragnhild Sohlberg	Carlos Campos Morais Helena Illnerová Danuta Koradecka Juan Mulet Meliá Arnold Schmidt
Future of Research Policy (COM “Chapeau”)	Enric Banda Catherine Cesarsky Helena Illnerová Maria Jepsen Helga Nowotny Arnold Schmidt Horst Soboll	Carlos Campos Morais Graham Davies Elisabeth Jaskulké Norbert Kroó Jens R. Rostrup-Nielsen Brigitte Serreault Ragnhild Sohlberg (rapporteur)
Research Infrastructures	Carlos Campos Morais Graham Davies Norbert Kroó Arnold Schmidt Claus Madsen (expert rapporteur)	Catherine Cesarsky Maria Jepsen Helga Nowotny Ragnhild Sohlberg
Relations between EU Research and Intergovernmental Research	Catherine Cesarsky Danuta Koradecka Arnold Schmidt Claus Madsen (expert rapporteur)	Maria Jepsen Norbert Kroó Ragnhild Sohlberg
European Coordination of National and Regional Programmes of Research in the context of the ERA	Paolo Blasi Juan Mulet Meliá Arnold Schmidt	Danuta Koradecka Rolf Tarrach Reijo Vihko
Universities	Paolo Blasi Ian Halliday Arnold Schmidt	Jane Grimson Joan Majó

(*) There were no formal reports resulting from these Workshop Groups, as the purpose of the meetings was to have an exchange of views with the Commission services on these various subjects.

F.

Meetings in 2001-2004

Meetings in 2001-2004

2001

During 2001, EURAB and its Bureau held the following meetings:

1 st meeting of EURAB:	26 September
1 st meeting of the Bureau:	26 October
2 nd meeting of the Bureau:	13 December
2 nd meeting of EURAB:	13 December

During EURAB's 1st meeting, the following **Bureau members** were elected:

Chair:	Helga Nowotny
Vice-Chairs:	Ian Halliday Horst Soboll
Other members:	Enric Banda Catherine Cesarsky Graham Davies Elizabeth Jaskulké Jens Rostrup-Nielsen

During the same meeting, EURAB also decided to recruit the assistance of Ragnhild Sohlberg as **Scientific Secretary**.

During EURAB's 2nd meeting, 13 December 2001, the following Working Groups (WGs) were established:

WG 1:	The Role of Universities in ERA
WG 2:	Enlargement and ERA
WG 3:	Evaluation (focusing on Evaluation of Proposals)
WG 4:	ERA Scope and Vision
WG 5:	Improving Innovation
WG 6:	Increasing the Attractiveness of Science/ Technology/Engineering Careers

2002

During 2002, EURAB and its Bureau held the following meetings in Brussels:

3 rd Meeting of the Bureau:	19 March
3 rd Meeting of EURAB:	20 March
4 th Meeting of the Bureau:	27 May
4 th Meeting of EURAB:	28 May
5 th Meeting of the Bureau:	23 September
5 th Meeting of EURAB:	24 September
6 th Meeting of the Bureau:	05 November
6 th Meeting of EURAB:	06 November

As a consequence of the "3% goal" established during the meeting of the European Council in Barcelona in March, EURAB also decided to establish a WG7 on "Boosting Joint Investment in R&D", with H. Soboll as Chair.

At its 6th meeting, EURAB decided to establish a WG 8 on "Interdisciplinary Research", with J. Grimson as Chair.

During 2002, each Working Group appointed a rapporteur, and in addition to electronic communication, held the following meetings:

WG 1	The Role of Universities in ERA:	7 February 19 March 29 May
WG 2	Enlargement and ERA:	19 March 27 May 23 September
WG 3	Evaluation:	22 January 19 February 16 December
WG 4	ERA Scope and Vision:	13 February 22 April 13 September 13 December
WG 5	Improving Innovation:	18 February 20 March 27 May 19 August 5 November
WG 6	Increasing the Attractiveness of Science/Technology/ Engineering Careers:	30 January 21 March 28 May 5 July 26 July
WG 7	Technology Platforms:	23 September

Prior to the Heysel Conference on FP6 held in November 2002, the recommendations from five WGs had been presented to the EURAB Plenary for discussion and approval.

2003

During 2003, EURAB and its Bureau held the following meetings:

7 th Meeting of the Bureau:	21 January
7 th Meeting of EURAB:	22 January
8 th Meeting of the Bureau:	5 March
9 th Meeting of the Bureau:	1 April
8 th Meeting of EURAB:	2 April
10 th Meeting of the Bureau:	16 June
9 th Meeting of EURAB:	17 June
11 th Meeting of the Bureau:	17 September
10 th EURAB Plenary:	18 September
12 th Meeting of the Bureau in Washington DC:	14-16 October
13 th Meeting of the Bureau:	2 December
11 th Meeting of EURAB:	3 December

During 2003, EURAB Working Groups held the following meetings:

WG 1	The Role of Universities in ERA:	10 March 8 May
WG 2	Enlargement and ERA:	10 January
WG 3 (bis)	Evaluation:	1 April 28 May 8 September
WG 4	ERA Scope & Vision:	7 March 12 May 17 June 18 September (preparatory meeting) 3 December 4 December
WG 7	Technology Platforms:	19 September 12 November
WG 8	Interdisciplinary research:	1 April 17 June 16 July 4 December
WG 9	SMEs & ERA:	1 April 16 June 17 September 2 December
WG 10	Social Sciences & Humanities:	2 April 16 June 18 September 3 December
WG 11	Infrastructure:	8 July (Audio-conference) 5 September
WG EURAB	Communication Strategy:	16 September
Task Force	Universities:	9 October 3 November
Meeting of the WG Chairs & Bureau members:		17 September

2004

During 2004, EURAB and its Bureau held the following meetings:

13 th Meeting of the Bureau:	26 January
12 th Meeting of EURAB:	27 January
14 th Meeting of the Bureau:	15 April
13 th Meeting of EURAB:	16 April
15 th Meeting of the Bureau:	14 June
14 th Meeting: joint session EURAB 1 and EURAB 2	15 June

During 2004, EURAB held the following informal workshops:

Technology Platforms:	13 January
Security Related Research:	26 February
European Research Council:	25 March
Future of Research Policy:	26 March
Research Infrastructures:	26 March
Relations between EU Research and Intergovernmental Research:	26 March
European Coordination of National and Regional Programmes of Research in the context of the ERA:	29 March
Universities:	30 March

During 2004, EURAB Working Groups held the following meetings:

Structural Funds and Research Component:	26 January (Teleconference) 23 March 25 March
WG 4 ERA Scope & Vision:	27 January
WG 9 SMEs & ERA:	11 March
WG EURAB Communication Strategy:	25 May

European Commission

EUR 21219 - Report of Activities (2001-2004) - European Research Advisory Board

Luxembourg: Office for Official Publications of the European Communities

2004 – 43 pp. – 17.6 x 25.0 cm

ISBN 92-894-7820-9

The European Research Advisory Board was established in 2001 to advise the Commission on the design and implementation of Community RTD policy. Its 45 members include some of Europe's best-known scientists and industrialists.

During 2001-2004, EURAB has produced a series of recommendations on topics ranging from proposal evaluation to the role of universities in ERA and improving innovation. Their recommendations are presented in this publication.

Further information on EURAB, its members and its activities can be found on the EURAB website:
http://europa.eu.int/comm/research/eurab/index_en.html



Publications Office

Publications.eu.int

