

To achieve sustainable global competitiveness, the EU has no choice but to become a vibrant knowledge economy. Innovation and research policies are central to this, as together they cover the full spectrum of issues affecting the genesis of new knowledge and ideas, their use and commercial exploitation.

World-wide competition to attract research and innovation investment is growing. Moreover, the scale of competition is such that no Member State can succeed in isolation. Coordination between the national, regional and European levels is needed and European action should support and complement the efforts of national authorities and the private sector.

Member States have to reform and strengthen their public research and innovation systems, facilitate public-private partnerships, ensure a favourable regulatory environment, help to develop supportive financial markets and create attractive education, training and career conditions to achieve this goal.

This Communication outlines ambitious actions, reaching beyond the 3% Action Plan and innovation policy to date, along four main axes:

1. Putting research and innovation at the heart of EU policies
2. Putting research and innovation at the heart of EU funding
3. Putting research and innovation at the heart of business
4. Improving research and innovation policies

More Research and Innovation

COMMUNICATION FROM THE COMMISSION

A Common Approach

EUROPEAN COMMISSION

Directorate-General for Research

Directorate M — Investment in research and links with other policies

Unit M1, Political aspects, private investments, relations to EIB

E-mail: rtd-invest-feedback@cec.eu.int

Contact: Michaela Bitsakis

Tel. (32-2) 29-80279

Fax (32-2) 29-94207

Directorate-General Enterprise and Industry

Directorate D — Innovation policy

Unit D1 — Innovation Policy Development

E-mail: entr-innovation-policy-development@cec.eu.int

Contact: Katja Reppel

Tel. (32-2) 29-50952

Fax (32-2) 29-60428

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EUROPEAN COMMISSION

More Research and Innovation

A Common Approach

**Communication from the Commission
to the Council, the European Parliament,
the European Economic and Social
Committee and the Committee
of the Regions**

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Foreword



Günter Verheugen

The communication “More Research and Innovation - Investing for Growth and Employment: A Common Approach” is an important part of Europe’s response to the competitiveness challenge. Emerging developed countries such as China and India are not competing only through lower costs but also through steadily increasing their research and innovation capacities. Meanwhile, the research and innovation gap remains a cause for concern, notably with the United States. The European Union must respond urgently to these challenges with better measures to boost research and innovation.

The communication provides a new impetus to the actions launched in 2003 under the action plan “Investing in research” and the communication on innovation policy. It also goes further in accordance with the Lisbon Partnership for Growth and Jobs, which gives higher priority to research and innovation. The proposed EU actions aim to achieve four objectives:

- Put research and innovation at the heart of EU policies;
- Mobilise EU funds and instruments to support research and innovation;
- Improve the environment for business research and innovation;
- Enhance national policies through trans-national cooperation.

Actions include guidelines on public procurement to better stimulate research and innovation; guidelines to improve cooperation between public research and industry; and guidance on tax incentives for research. They also include funding schemes to mobilise the widest possible range of public and private investments, coordination initiatives and policy analysis instruments.

This is the first time that the Commission has put forward a common roadmap for the research and innovation strands of the Lisbon strategy. The integration of research and innovation policies is a major step towards the systemic policy-making that Europe needs to transform itself into a dynamic, competitive and sustainable knowledge economy.



Janez Potočnik

Günter Verheugen

Janez Potočnik

To achieve sustainable global competitiveness, the EU has no choice but to become a vibrant knowledge economy. That is why, in launching the new Lisbon partnership for growth and jobs¹, the European Council singled out *knowledge and innovation for growth* as one of three main areas for action. This Communication specifies the actions in this area in line with the overarching new Community-Member States partnership based on the Integrated Guidelines² (IG) for the preparation of the National Reform Programmes (NRP) and on the Community Lisbon Programme³ (CLP). To highlight full consistency with the CLP and the IG, endorsed by the European Council, the summary of each chapter provides references to the relevant documents. Innovation and research policies are central to this, as together they cover the full spectrum of issues affecting the genesis of new knowledge and ideas, their use and commercial exploitation.

Achieving strong and sustainable growth calls for a vigorous integrated policy response. The EU should mobilise a coherent mix of instruments covering research, innovation and other related policies. Coordination between the Member State, regional and European levels is needed and European action

should support and complement the efforts of national authorities and the private sector. The 2002 Barcelona European Council set the goal of raising overall research investment in the EU from 1.9% of GDP to approach 3% by 2010, increasing the private funding proportion from 55% to two-thirds. Member States have to reform and strengthen their public research and innovation systems, facilitate public-private partnerships, ensure a favourable regulatory environment, help to develop supportive financial markets and create attractive education, training and career conditions to achieve this goal.

The 3% objective and the follow-up Action Plan⁴ for more investment in research have had a mobilising effect on Member States. Nearly all have set targets, which – if met – would bring research investment in the EU to 2.6% of GDP by 2010. However, instead of rising, EU research intensity is more or less stagnant⁵. In most Member States, increases in public and private research investment and the range and ambition of policy initiatives fall far short of what their national targets, let alone the EU target, would require. Private investment is particularly low. At the same time, European innovation performance has not increased enough⁶.

World-wide competition to attract research and innovation investment is growing. In addition to attractive locations such as the US and Japan, new competitors have emerged, such as China, India and Brazil. For the EU to remain competitive and sustain its model of society, far-reaching reforms are needed urgently. Moreover, the scale of competition is such that no Member State can succeed in isolation. Transnational synergies should be fully exploited. This is the only way to boost research and innovation performance and to turn it effectively into more growth and jobs in the EU. A high level of R&D spending and a good innovation performance contribute to more and better jobs. In addition research and innovation are needed to make the EU economy more sustainable, by finding win-win solutions for economic growth, social development and environmental protection.

This Communication builds on the Partnership for Growth and Jobs⁷. It addresses the full research and innovation spectrum, including non-technological innovation. It makes explicit the commitments taken by the Community Lisbon Programme, by detailing the measures in support of research and innovation that will be undertaken and that were described there in general terms. It outlines ambitious actions, reach-

ing beyond the 3% Action Plan and innovation policy to date⁸. It strengthens the links between research and innovation, with research policy focusing more on developing new knowledge and its applications and the framework conditions for research, and innovation policy focusing on transforming knowledge into economic value and commercial success. In line with the Commission's better regulation approach, measures with a potential impact on competitiveness will be subject to an impact assessment.

1 "Working together for growth and jobs. A new start for the Lisbon Strategy" - COM(2005) 24, 2.2.2005.

2 Council Recommendation 2005/601/EC of 12 July 2005 on the broad guidelines for the economic policies of the Member States.

3 "Common Actions for Growth and Employment: The Community Lisbon Programme" - COM(2005) 330 - and "Annex to the Common Actions for Growth and Employment: The Community Lisbon Programme" - SEC(2005) 981.

4 COM(2003) 226.

5 <http://www.cordis.lu/indicators/publications.htm> (Key Figures 2005 on Science, Technology and Innovation) and <http://epp.eurostat.cec.eu.int/> (Eurostat data).

6 <http://trendchart.cordis.lu/> (European Innovation Scoreboard).

7 "Common Actions for Growth and Employment: The Community Lisbon Programme" - COM(2005) 330, 20.7.2005.

8 "Innovation policy: updating the Union's approach in the context of the Lisbon Strategy" - COM(2003) 112.

1. Research and innovation at the heart of EU policies

Research and innovation need a predictable and favourable regulatory environment to attract private investment and to help transfer new ideas to the market. Policies in these areas should also take account of sectoral specificities, SME needs and the role of public research organisations, while contributing to EU policy objectives in fields such as environment, safety, health and transport. Many regulatory and administrative practices affecting research and innovation are the responsibility of Member States. Nevertheless, the Community can both lead by example in its own areas of competence and support Member States in theirs – not by intervening more but via better and more focused regulation and policies.

With this in mind, all policies at Member State and EU level should be tuned to support research and innovation wherever possible. They should promote excellence in basic and applied research while enabling firms to produce, acquire and use the technologies, knowledge and finance they need to exploit new market opportunities.

1.1 BETTER REGULATION FOR NEW TECHNOLOGY

Regulation may help or hinder research and innovation. How it does so depends on its design, including its impact on commercial risk and legal certainty, its timing and its capacity to accommodate alternative technical solutions. Under the 'Better regulation' initiative for improving Community law, impact assessments are now mandatory for all new Community legislative proposals. This includes an assessment

of the effects of such proposals on research and innovation.

It is also important to have a predictable, anticipative approach to legislation, in particular for product market regulation. For this, we need to identify instances where existing legislation or standards, or their absence, constitute obstacles to developing and deploying new technologies and to the emergence of new markets. Conversely, future regulatory measures should be taken into account in planning research and innovation activities. **The Commission will step up its dialogue with stakeholders to identify regulatory barriers to research and innovation**, particularly using European Technology Platforms and Sectoral Innovation Panels to be set up under the Europe INNOVA initiative. This will facilitate coherent development of technology and of the regulatory environment.

Europe INNOVA

The **Europe INNOVA initiative** is a family of sectoral innovation projects bringing together analysis and practical experience. It will start at the end of 2005 and will include:

- A «Sectoral Innovation Watch» to assess innovation performance in different industrial sectors and identify drivers and challenges to innovation.
- Networks of industrial clusters across Europe, organised by sector, to identify and exchange good practice in related policies.

▼

- Networks of innovation financing actors, organised by sector, to identify specific needs of companies in these sectors.
- Innovation Panels composed of high-level experts of relevant industrial sectors, academies and policy makers to validate the findings of the project and draw policy recommendations.
- A Europe INNOVA Forum consisting of a virtual platform where any initiative related to innovation policy may network and exchange good practice.

The business environment also depends on the quality of regulation and its efficient implementation. This means building Community regulation into national legislation without adding layers of bureaucracy to national rules, and adopting research and innovation-friendly administrative practices. Member States are invited to transpose and apply Community legislation in a way that will promote research and innovation.

1.2 REDEPLOYING STATE AID TOWARDS RESEARCH AND INNOVATION

Research and innovation generally thrive best in open and competitive markets. However, as explained in the State Aid Action Plan⁹, market failure may hamper the delivery of optimal levels of research and innovation. State aid among other policy tools can tackle market failures and change the incentives of market participants, thus facilitating research and innovation. While existing rules already provide wide possibilities for Member States to support research and innovation through State aid, the Commission

has announced that it will review its rules to better reflect Community policy priorities and the need for a more research and innovation-friendly system.

To this end the Commission has recently launched the consultation document on **State aid for Innovation**, which puts forward concrete proposals to improve State aid rules for innovation, to increase funding possibilities as well as legal certainty. The ongoing review aims to reduce State aid gradually while refocusing it on activities that have the most sustainable impact on competitiveness, jobs and growth. In particular, **the Commission intends to modify the Community Framework for State Aid for R & D** to better reflect the Community's priorities such as promoting cross-border research cooperation, public-private research partnerships, dissemination of research results and major research projects of common European interest. In addition the Commission intends to review the rules for State aid and risk capital.

The Commission will also encourage eco-innovation and improvements in productivity through eco-efficiency in line with the Environmental Technology Action Plan, in particular when revising the Community guidelines for State aid on environment.

1.3 IMPROVED EFFICIENCY AND USE OF INTELLECTUAL PROPERTY

Most high-technology companies consider intellectual property (IP) to be their most valuable asset. Effective and efficient protection of IP is essential for research and innovation. Millions of euros can be lost overnight if a company fails to protect its IP. The EU therefore needs an affordable, legally secure and user-friendly system of IP protection if it is to attract high-technology companies. The establishment of the Community

⁹ "State aid action plan: Less and better targeted state aid: a roadmap for state aid reform 2005-2009" http://europa.eu.int/comm/competition/state_aid/others/action_plan/saap_en.pdf.

trademark and of the Community design right were big steps in this direction.

Unfortunately, a similar process does not yet exist for patents. Companies are still faced with far greater patenting costs in the EU than in the USA. This is largely due to high translation and maintenance costs and the cost of having to defend a European patent separately in the courts of each Member State, in the event of litigation, with the risk of conflicting decisions. Adopting the Community patent would go a long way to resolve these problems by creating a unitary patent court and lowering translation costs.

But this is not enough. Users often fail to protect their intellectual property through ignorance of current possibilities. Therefore, the **Commission will strengthen existing information and support services**, such as the IPR Helpdesk, **and encourage better cooperation amongst relevant national agencies**. Community co-financing may be provided for joint projects under the PRO INNO initiative, and for policy coordination under the RTD OMC-Net initiative.

The Commission will also launch a dialogue with industry and other stakeholders in 2006 to determine what more might usefully be done to provide the European industry with a sound IPR framework.

1.4 AN ATTRACTIVE SINGLE MARKET FOR RESEARCHERS

To expand its role in science, technology and innovation, the EU needs to get more and better researchers and to use these human resources fully. It should stimulate the best brains to follow research careers and to stay in or come to Europe. A broad and integrated strategy to strengthen human resources in research in the EU has been developed and implemented with Member States in recent years.

The ultimate aim is to create an open and competitive European labour market for researchers, enhancing diversification of competences and career paths at transnational level. Substantial progress has been made at national level on a number of measures to eliminate barriers to the mobility of researchers, to develop the skills and competences necessary for the evolution of their careers across different sectors and disciplines, and to enhance their status and career development. However, mobile researchers still face legal, administrative and information problems, notably related to tax and social security, and other obstacles to inter-sectoral and transnational mobility. These have to be overcome.

The Commission will support and monitor the implementation of its recommendations on a European Charter for Researchers and on a Code of Conduct for the Recruitment of Researchers. Once adopted, the same will be done for the Directive on the admission and residence of third-country-researchers for more than three months and for the corresponding Recommendation, which will anticipate the application of some provisions of the Directive. Member States are invited to implement the above Recommendation as well as the Council Recommendation on short-term visas for third country researchers. The **Commission will continue to develop and implement, together with Member States, measures to overcome persistent obstacles faced by mobile researchers**. The Commission will also foster public recognition of researchers and encourages Member States to do likewise.

1.5 USING PUBLIC PROCUREMENT TO FOSTER RESEARCH AND INNOVATION

Business investment in research and innovation is strongly influenced by the market, in particular the level of performance demanded by customers. With public procurement accounting for 16% of EU GDP,

public authorities are big market players. Thus they have powerful means to stimulate private investment in research and innovation. This could be done by specifying functional requirements in a way that leaves firms the widest scope to propose innovative solutions. This would give firms strong incentives to maximise the efficiency and performance of the products and services they offer, particularly where public authorities act as launching customers providing lead markets for new technologies. Markets where public authorities have a strong potential to stimulate demand for new technologies include transport, energy, environment, health, education and information and communications.

To realise this potential, public procurement officials need political and managerial backing and practical support. Policymakers and public authorities should be made aware of the possibilities offered by the new public procurement legislative framework – in particular, the scope for encouraging companies to increase the technological and innovative content of procured goods and services. New tools are needed to support the necessary changes. In the field of environment, this was done with a “Handbook on green public procurement” in 2004.

The **Commission will raise awareness of the benefits of re-orienting public procurement towards stimulating research and innovation** and the scope for this under Community public procurement law. This will take the form of a “Handbook on public procurement and research and innovation”.

This work, which will fully comply with the public procurement directives¹⁰ and State aid rules will have to be seen in the broader context of the various ways in which public procurement policy can contribute to the delivery of the Lisbon partnership for growth and

jobs. In this respect, the Commission will ensure the coherence of the various initiatives underway and reflect on how best to realise the significant contribution that the application of public procurement can bring to the attainment of our Lisbon goals. Mutual learning between Member State stakeholders and procurement officials, involving the exchange of good practice, could reinforce these efforts.

1.6 BETTER AND WIDER USE OF TAX INCENTIVES

Well-designed tax incentives can support business research and innovation in a simpler and more predictable way than grants, but at the cost of a reduced ability to target specific research and innovation objectives. In recent years, many Member States have introduced new tax incentives or substantially expanded existing ones to stimulate business research. They now form a substantial part of the total public effort to support business research in several Member States. However, the design and implementation of tax incentives vary greatly, resulting in a fragmented and unattractive fiscal landscape.

Tax incentives are essentially the responsibility of Member States. However, their effectiveness and stability could be improved by identifying and disseminating good practice compliant with Community law, and by promoting consistent approaches across the EU to common issues such as cross-border outsourcing of research, expansion of young research-intensive firms, or synchronisation of national support to large European research projects. Extending them to other forms of innovation such as design or process engineering can also be explored. It is of course imperative that all such schemes comply with Community law.

¹⁰ EU directives 2004/17 and 2004/18.

In the design of tax incentives, attention should be given to SMEs, which often outsource their research or acquire new technologies through technology transfer. Young innovative SMEs also tend to have lower profits or even losses and so may not benefit from tax incentives as easily as larger companies.

The **Commission intends to adopt a Communication to bring about a more effective, stable and concerted use of R&D tax incentives** across the EU. This will provide guidance on designing and implementing R&D tax incentives, including specific schemes addressing areas of common interest.

To put research and innovation at the heart of EU policies:			
	The Commission will:	Member States are invited to:	Reference:
1.1	Step up dialogue with stakeholders to identify regulatory barriers to research and innovation	Transpose Community legislation in a way that will promote research and innovation	IG 7 and 14
1.2	Adopt a more research and innovation-friendly State aid regime	Fully exploit the possibilities of the new framework for support to research and innovation	IG 7 and 13
1.3	Support actions on improving the IPR system and its effective use	Adopt the Community patent, and meanwhile improve the current system	IG 8 CLP action I.1
1.4	Support, monitor and further develop actions under the research human resources strategy	Implement the Recommendations and Directive (when adopted) on research human resources and other means	IG 7 CLP action III.10
1.5	Promote the use of public procurement to stimulate research and innovation	Consider reviewing procurement practices through mutual learning and use the possibilities offered by the new legislation	IG 3 and 8
1.6	Provide guidance to promote an optimal use of R&D tax incentives	Implement on a voluntary basis the forthcoming guidance taking into account national contexts	IG 7 CLP action III.9

2. Research and innovation at the heart of EU funding

Public support programmes are essential to “the excellence and attractiveness of the science base” as well as for the innovation performance of companies. Higher priority should be given to research and innovation in allocating public expenditure at all levels. In addition, better use should be made of the various public support mechanisms to leverage private investment: grants, equity instruments, guarantee schemes and other risk-sharing mechanisms.

The Commission has already done so with its proposals for the 7th Research Framework Programme¹¹ (FP7) and the Competitiveness and Innovation Framework Programme¹² (CIP), the Structural Funds¹³, the Rural Development Fund and other relevant instruments. These are complementary instruments, each with its specific form of governance. Member States should also do more, taking into account their specific situations and learning from others’ experience.

2.1 MOBILISING PUBLIC AND PRIVATE RESOURCES FOR KEY TECHNOLOGIES

The **Council and the European Parliament are invited to adopt the Commission’s proposals for FP7 and CIP**, which would provide the financial means and instruments to address the challenges of the new Lisbon partnership for growth and jobs.

For FP7, the Commission proposes to keep as a main instrument the transnational collaborative projects,

which typically associate public research and industry. In addition the Commission proposes new approaches which will further increase the relevance of FP7 for industry. In particular the Commission proposes to set up long-term public-private partnerships, called “Joint Technology Initiatives” in areas where existing schemes are inadequate in view of the scope of research and the scale of material and human resources required. They will implement parts of the Strategic Research Agendas defined by the European Technology Platforms in co-ordination with national programmes and projects in the same field. They will aim to combine financing from Community and national public sources and from the private sector. EIB loans may contribute where appropriate.

Another new instrument proposed under FP7 is the “Risk-Sharing Finance Facility”. It aims to improve access to EIB debt finance for participants in large European research actions such as new research infrastructures and large collaborative projects, including those of EUREKA. By sharing risk with the EIB, the facility will allow a larger volume of loans for research projects and the financing of bankable projects with a higher risk than would otherwise be possible for the EIB.

The Commission proposals for FP7 also aim to strengthen the research and innovation capacity of SMEs. The Commission has proposed doubling the funding available for specific actions to support outsourcing of research by SMEs or SME associations.

¹¹ COM(2005) 119.

¹² COM(2005) 121.

¹³ COM(2005) 299.

SMEs' participation in FP7 will be further enhanced by taking due account of their needs in defining the content of the thematic areas and by further simplifying and rationalising administrative/financial procedures. In addition, the Commission will continue to promote the participation of SMEs in EU research programmes.

In the field of information and communication technologies (ICT), the Commission has launched the i2010 initiative¹⁴. It highlights the pervasive role of ICT as key enablers of innovation. For instance, fixed and wireless broadband communications are essential for building the basic infrastructure for innovation and the knowledge economy. They help generate demand for new applications and services and provide means for firms to increase productivity through process innovation. CIP will support wider take-up and better use of ICT in both private and public sectors.

Eco-innovation, including methods to boost energy efficiency, has great potential for creating competitive advantages for European enterprises. The CIP proposal includes support for pilot projects and market replication of eco-innovative technologies to help deploy them, in line with the Environmental Technologies Action Plan¹⁵.

Further Community funding to fill the gaps between research and implementation is provided, for instance, by the Trans-European network budget lines that support industrial projects in the fields of radio navigation systems (GALILEO), railways, air traffic control and other intelligent transport systems applications.

2.2 EUROPEAN STRUCTURAL FUNDS TO DRIVE RESEARCH AND INNOVATION

Cohesion policy, supported by the Structural Funds, increasingly focuses on knowledge, research and innovation. Where regions, Member States and the Commission foster development within a bottom-up approach, based on partnership and shared management, it has proven to be a strong instrument resulting in increased growth and job creation. A strong effort has already been made in the present programming period (2000-2006); spending on research and innovation amounts to 7.4% of the total European Regional Development Fund for less developed regions (EUR 7.5 billion) and 11% for regions under economic restructuring (EUR 2.4 billion). The Commission has proposed that Member States significantly increase expenditure in this area in the next programming period. Similar efforts are being made with the European Social Fund.

This approach is reflected in the Commission's draft Strategic Guidelines for Cohesion Policy¹⁶, which expect the Structural Funds to fully back the implementation of the Partnership for Growth and Jobs. A broad range of research and innovation related actions may be funded, such as regional and trans-regional clusters, poles of excellence, technology transfer, business support services and actions to develop human capital and to help workers and enterprises anticipate and adapt to economic change. Regions and Member States can use the Structural Funds in a flexible manner to help meet their specific needs and exploit the synergies with FP7 and CIP. Innovative actions will also be co-financed by

European Agricultural Fund for Rural Development to develop new high quality and value added products and to promote the sustainable use of natural resources. The **Commission will, through the strategic guidelines and its interactions with Member States and regions, promote the use of Structural Funds and Rural Fund to improve knowledge and innovation for growth.**

Member States are invited to take full advantage of the Structural Funds and the European Agricultural Fund for Rural Development to strengthen and build strong research and innovation systems.

2.3 IMPROVING SME ACCESS TO FINANCE

Access to finance remains a major concern for businesses, including innovative SMEs. Innovative and R&D-intensive businesses often have difficulties in obtaining finance in the stages between demonstrating a new technology, process, product or service and exploiting it commercially. Compared with its main competitors, the market for finances for innovative companies from the pre-seed to expansion stages in Europe is still underdeveloped.

Better access to equity and quasi-equity for more mature innovative SMEs is also needed for 'follow-on' investment to help businesses reach their full potential, bring their products and services to the market, and continue funding their research. This requires incentives to take more risk and a change in attitudes among financial institutions,

private investors and business angels. Hence the Commission will further explore the different facets of financing growth and EU action in a communication in 2006.

The **Commission has put forward concrete proposals to improve SME access to finance through CIP.** The proposed new High Growth and Innovative SME Facility will improve and strengthen Community mechanisms to share risk and reward with private equity investors, providing significant leverage for the supply of equity to innovative companies. The proposed SME Guarantee Facility will improve SME access to equity and quasi-equity (mezzanine finance) by sharing the risk of these operations. Specific support for SMEs active in eco-innovation will be provided. These instruments will be managed by the European Investment Fund, and complement the European Investment Bank Group initiative on investment in innovation¹⁷. They also should seek synergy with the measures improving SMEs access to finance – such as grants and loans – under Structural Funds.

In addition, the Commission will bring together stakeholders to identify further barriers to obtaining finance and explore possible solutions. For example, currently SMEs cannot easily use their IPR to obtain debt financing, which forms the bulk of their external finance. For high-tech and research intensive SMEs, especially, this presents a problem as they often have no other collateral to offer to financial institutions, IPR being their main asset. The Commission will encourage the financial community, accounting bodies and the IP-community to investigate the scope for valuation of IPR¹⁸.

¹⁴ "i2010: the European Information Society 2010" - COM(2005) 229 and http://europa.eu.int/information_society/eeurope/i2010/index_en.htm.

¹⁵ "Stimulating Technologies for Sustainable Development: An Environmental Technologies: Action Plan for the European Union - COM(2004) 38 and http://europa.eu.int/eur-lex/en/com/cnc/2004/com2004_0038en01.pdf.

¹⁶ The Strategic Guidelines set out the strategic framework for the new operational programmes to be supported by the European Regional Development Fund (ERDF), the European Social Fund (ESF) and the Cohesion Fund - COM(2005) 299.

¹⁷ "Innovation 2010 initiative": <http://www.eib.eu.int/site/index.asp?designation=i2i>.

¹⁸ See also action on intellectual capital reporting in section 3.5.

2.4 MOBILISING NATIONAL PROGRAMMES AND OTHER SOURCES OF FUNDING FOR EUROPEAN RESEARCH AND INNOVATION

Community funding to promote innovation and research activities represents only a small fraction of the overall European public effort¹⁹. To offset the lack of critical mass, national programmes need to increase their efficiency and complementarity, contributing to a fully integrated European Research and Innovation Area and consistently mobilising national funding in support of European research and innova-

tion activities. The ERA-NET-initiative²⁰ has shown the success of this approach as it opened up the prospects for increased transnational cooperation.

The **Commission has proposed to extend and reinforce Community instruments to further stimulate transnational cooperation and coordination between regional and national programmes supporting research and innovation**. These will provide direct Community support to develop and implement joint research and innovation programmes between Member States. They consist of the ERA-NET Plus scheme, new EC Treaty Article 169 initiatives under

FP7, and the CIP Business Innovation Support Scheme, which will draw on the PRO INNO initiative to be started mid-2006.

Donations are an underdeveloped source of funds for research (especially basic research) in most EU countries other than the UK. The role of foundations and trusts in raising funds for research should, therefore, be developed. This means tackling a number of legal, regulatory and fiscal issues. Foundations also need to be more transparent and accountable to encourage donor confidence. The **Commission is exploring ways and means to develop and exploit the potential of philanthropy as a source of funding for research**.

<i>To put research and innovation at the heart of EU funding:</i>			
	The Commission will:	Member States are invited to:	Reference:
2.1	Stimulate the use of Structural Funds for driving research and innovation	Adopt the Commission's proposals on the Cohesion and Structural Funds and take full advantage of the wide range of new opportunities offered by these Funds and by the Rural Development Fund, regarding research and innovation	CLP action II.1 to 3 and III.1 and 2
2.2	Promote better access to finance for innovative SMEs	Make full use of the equity and guarantee schemes and engage their financial communities to facilitate access to finance	IG 8 and 15
2.3	Support the development of new technologies and foster their market uptake	Adopt the Commission's proposals on the 7 th Research Framework Programme and the Competitiveness and Innovation Framework Programme, together with the European Parliament	CLP II.4 and 5
2.4	Mobilise national and regional research and innovation programmes and other sources of funding	Take maximum advantage of Community support schemes to foster transnational cooperation	IG 8 CLP II.4

PRO INNO

The **PRO INNO initiative** aims to foster transnational cooperation among innovation agencies and programmes by:

- Creating an INNO Learning Platform to identify and further assess good practice in support of innovation through peer-reviews and impact assessments studies.
- Supporting the creation of INNO-Nets to bring together regional/national innovation programme managers in view of facilitating trans-national cooperation.
- Supporting specific trans-national innovation initiatives and public-private partnerships through INNO-Actions.

A call for proposals will be launched in October 2005.

¹⁹ <http://www.cordis.lu/coordination/era-net.htm>.

²⁰ EIRMA, EUA, Proton and EARTO, "Handbook on responsible partnering", <http://www.eirma.asso.fr>.

3. Research and innovation at the heart of business

When placed at the heart of business, research and innovation become motors of wealth generation and growth. It is also widely observed that the innovation performance of enterprises is reinforced when they form clusters and networks. Public policy cannot create clusters, but public funding can strengthen them. For the EU's science base to strengthen its industrial base, cooperation between public research and industry should improve considerably.

Business and policy stand to benefit from better information on trends in private research investment and innovation, particularly in individual sectors. More emphasis is needed on sectoral needs in formulating research and innovation policies, together with improved business support services to foster technology take-up and entrepreneurial innovation, in particular to help SMEs overcome their specific problems and participate in European networks.

3.1 INTENSIFIED UNIVERSITY-INDUSTRY PARTNERSHIPS

Sub-optimal research collaboration and knowledge transfer between Public Research Organisations (PROs), particularly universities, and industry are one of the weaknesses of the European research and innovation system. While a number of Member States have done valuable work in this area, they have often only considered the national perspective. As a result, current rules and practices in the EU are fragmented, especially those regarding ownership

of publicly-funded research results and contractual arrangements between PROs and industry.

More consistent rules and practices across the EU would foster PRO-industry links and maximise their impact. This will help create a level playing field for cross-border university-industry research partnerships, and thus contribute to the European research and innovation area.

To this end, the **Commission will adopt a Communication defining EU guidelines to improve research collaboration and knowledge transfer between PROs and industry** which Member States and stakeholders will be encouraged to implement on a voluntary and flexible basis. These guidelines will build on existing good practice (by both Member States and stakeholders) such as the Responsible Partnering Initiative launched by several European industrial and academic associations²¹.

The Commission will also propose action to reinforce the position of universities in European research and technology, including in terms of knowledge creation for and with the business community and knowledge transfer to society. The "Industry-academia partnerships and pathways" mobility scheme under FP7 will increase knowledge sharing through joint research partnerships, supported by the recruitment of experienced researchers, staff secondments, etc. In the context of the new Framework for State aid for R&D, the Commission will clarify the issue of university-industry partnerships as regards State aid rules.

21 EIRMA, EUA, Proton and EARTO, "Handbook on responsible partnering", <http://www.eirma.asso.fr>.

3.2 INNOVATION POLES AND RESEARCH-DRIVEN AND INDUSTRIAL CLUSTERS

The EU has many dynamic industrial clusters, albeit smaller and less integrated than in the USA. Research and innovation therefore suffer from the same fragmentation as the internal market. To make them as attractive as possible to foreign investors, these innovation poles and clusters need to achieve critical mass. They cannot be built from scratch, but depend on a strong industrial base and good and trustful relations between science and industry.

Networking within clusters and across complementary clusters is a key factor for their successful development. Training and research centres, financial institutions, innovation and intellectual property consultants, local and regional development agencies and other support organisations are all key players in maximising firms' creative business potential. The ever increasing complexity of products and pro-

Regions of knowledge

The **Regions of Knowledge** initiative will support trans-national mutual learning and cooperation between research-driven clusters, bringing together regional authorities and development agencies, public research organisations, industry and other relevant stakeholders. Main activities covered:

- Analysis, development and implementation of research agendas for regional clusters and cooperation between them.
- «Mentoring» of regions with a less developed research profile by highly developed ones.
- Actions to improve the integration of research actors and institutions in regional economies.

cesses and the need to integrate services such as maintenance, logistics and marketing raise problems, even for the most successful clusters. Cooperation between clusters can help to address them.

Member States are invited to develop regional and national policies for innovation clusters and poles, using the support offered by the European Structural Funds. Several EU measures will encourage and support the efforts of Member States and regions. The Commission will provide them with a map analysing the strengths and strategies of existing clusters in the EU. The **Europe-INNOVA initiative will provide support to facilitate networking between industrial clusters** with a view to intensifying transnational cooperation and learning how others build and manage successful cluster initiatives.

Finally, **under FP7 increased resources are proposed for continuing the Community's "Regions of Knowledge" initiative**, which supports the definition and implementation of policies for the development of research-driven clusters.

3.3 PRO-ACTIVE BUSINESS SUPPORT SERVICES TO STIMULATE RESEARCH AND INNOVATION

SMEs play a major role in the European Union's business economy, accounting for approximately 66% of private employment and 57% of value added in EU-25. However, many face size-related problems, in particular when it comes to innovation, access to information, networking and partner-finding. Public authorities should address the relevant market failures by facilitating dissemination of technology to SMEs and strengthening their capacity to develop, acquire, adapt and use new technologies.

EU innovation policy therefore facilitates transnational technology transfer (TTT) between firms and

encourages them to bring innovations to market, in particular through the network of Innovation Relay Centres²², which fill a market gap by providing a regional gateway to European cooperation and combining grass-roots knowledge with Europe-wide expertise and contacts. The **Commission will continue to support the Innovation Relay Centres Network**, encouraging synergies with other business support networks, such as the EuroInfo Centres, with a view to creating “one-stop shops” where possible and improving and extending the range, efficiency and quality of the services they provide. The Commission also encourages the creation of networks strengthening innovation through interregional co-operation under Structural Funds. These improvements will focus particularly on TTT activities and partner finding between innovative SMEs, research organisations and large companies.

3.4 INNOVATION MANAGEMENT AND SOCIAL CHANGE

‘Innovation management’ is a prerequisite for innovation to flourish in firms. Many enterprises, especially SMEs, encounter difficulties in planning, implementing and marketing innovative products and in innovating in their production processes. Innovation cannot work without taking people into account. Therefore, in addition to the specific research skills and researcher career issues addressed under the strategy in Section 1.4, further education and training is essential to keep Europe’s human capital up to date with the skills and knowledge necessary for

innovation. This includes entrepreneurial skills and the readiness to take risks.

Enterprises of all sizes should be more flexible in responding to rapid changes in demand, adapt to new technologies, such as ICT and e-business, and be able to innovate constantly in order to remain competitive. To this end, innovative working practices are to be promoted and disseminated, as stressed in the European Employment Strategy. The Education and Training 2010 Programme²³ and the Integrated Action Programme in the field of Lifelong Learning²⁴ also play a part in facilitating structural and social change.

Innovation requires investing in people and skills. Commitment to innovation and research is also a manifestation of corporate social responsibility²⁵ (CSR). Voluntary initiatives which go beyond legal, contractual and other requirements can boost a firm’s competitiveness and spur social and environmental innovations which combine business benefits with societal objectives. The **Commission will encourage such innovative CSR practices among European companies**.

To promote dissemination of good innovation management practices, the Commission will facilitate the development of new self-assessment tools for further use by regional and national innovation agencies in support of SMEs. Furthermore the **Commission will encourage the creation of a new European Innovation Prize** as a “prize of prizes” to raise the profile of successful European innovative entrepreneurs.

3.5 THE POTENTIAL OF INNOVATIVE SERVICES

The service sector plays an important role in growth and new jobs. At present, innovation in services is mainly driven by new offerings that respond to customer demand. But increasingly services are also driven by higher research investment and depend on the adoption of new technology.

Recognising their increased importance for the European economy, **by the end of 2006 the Commission will define a strategy to promote innovative services in the EU**, based on the work and policy recommendations of the European Forum on business-related services²⁶. Innovation support mechanisms will be geared to the specific needs of services and specific efforts will be made to measure service-based innovations better.

3.6 ESTABLISHING A EUROPEAN INDUSTRIAL RESEARCH AND INNOVATION MONITORING SYSTEM AND IMPROVING INTELLECTUAL CAPITAL REPORTING

Even if the level of research investment of top European firms in many sectors is comparable to that of the US and Japan, the EU’s research deficit is largely due to underinvestment by the private sector, partly as a result of a different sector mix. The EU has a lower output than the US or Japan in some key research-intensive industries²⁷. This and other

factors – some sector-specific – hold back the EU’s innovation performance and competitiveness.

While extensive data and analysis on industrial research investment and innovation performance are available in the Member States, data availability and comparability at company and sector level need to be improved in order to better understand the factors driving investment trends, identify upcoming challenges, and anticipate barriers to, and opportunities for, improving research and innovation investment.

As outlined in the recent industrial policy Communication²⁸, **the Commission will establish a European Industrial Research and Innovation Monitoring System**. This builds on the coordinated development and use of different statistical and analytical instruments. To this end, the Commission will expand its monitoring and analysis of private research investment by supplementing the annual European industrial research investment scoreboard, notably with annual sectoral surveys of prospective trends. Furthermore, the system will build on the “Sectoral Innovation Watch” on performance and practice that monitors and benchmarks sectoral innovation patterns. This information system helps policy makers optimise research and innovation policies taking better account of sectoral needs and specificities and industrial sectors and firms to improve competitiveness. A High-level Stakeholders Group, involving industry and policy-makers, will provide guidance and feedback on the focus and relevance of this activity for competitiveness.

22 <http://irc.cordis.lu/>.

23 Communication from the Commission “Education and Training 2010: The Success of the Lisbon Strategy Hinges on Urgent Reforms” - COM(2003) 685, 11.11.2003.
http://europa.eu.int/comm/education/policies/2010/et_2010_en.html.

24 Proposal for a decision of the European Parliament and of the Council establishing an integrated action programme in the field of lifelong learning - COM(2004) 474, 14.7.2004.

25 CSR is the voluntary integration, by enterprises, of social and environmental concerns in their business operations and in their relationship with stakeholders - COM(2002) 347.

26 http://europa.eu.int/comm/internal_market/services/brs/forum_en.htm.

27 <http://eu-iriscoreboard.jrc.es/>.

28 COM(2005) 474.

Few firms systematically take stock of their intellectual capital, the value created through research and other knowledge resources. This under-recognition of intellectual capital can lead to a bias in financial markets towards traditional rather than research-intensive businesses and in the allocation of resources within companies. Although several methods of measuring and reporting intellectual capital have

been developed, especially for internal management purposes, take-up in companies has been slow. **The Commission will help to further promote their development and use, while improving the consistency of definitions and methods across the EU.** This should take into account the views of stakeholders and developments in accounting rules.

To put research and innovation at the heart of business:			
	The Commission will:	The Member States are invited to:	Reference:
3.1	Define EU guidelines to improve research collaboration and knowledge transfer between public research and industry	Implement the guidelines taking into account the national contexts	CLP III.10
3.2	Promote innovation poles and knowledge-driven and industrial clusters	Make full use of Structural Funds for the development of innovation poles and participate in EU cluster initiatives	IG 8 and 10 CLP III.1
3.3	Provide specific business support services to enterprises, in particular SMEs, stimulating research and innovation	Make full use of Structural Funds and IRC support for improving innovation support services, in particular for SMEs	IG 8 and 15 CLP III.1
3.4	Promote good innovation management practices	Promote the use of new innovation management tools and consider innovation prizes	IG 8 and 15
3.5	Define and implement a strategy promoting innovative services	Consider ways of promoting innovative services	IG 8
3.6	Expand monitoring and analysis of private research investment and sectoral innovation performance	Take account of the results of the EU level monitoring and analysis	ILS ²⁹ chapter 6

29 "Working together for growth and jobs. Next steps in implementing the revised Lisbon Strategy" (ILS) - SEC(2005) 622.

4. Improved research and innovation policies

The EU currently displays a patchwork of national and regional research and innovation systems adapted to the varying local situations. Improving their efficiency requires more systematic cooperation among Member States on addressing transnational issues and developing synergies between their research and innovation systems. Development of coherent and mutually supportive policies by the regions, Member States and European institutions is essential for strengthening the European Research and Innovation Area and for implementing the new Lisbon partnership for higher and sustainable economic growth with more and better jobs.

The Commission will provide the basis for robust economic and policy analysis and will put in place more efficient channels for policy makers to draw on each others' experience and to enhance transnational coordination and cooperation.

4.1. RESEARCH AND INNOVATION AS A PRIORITY OF THE NATIONAL REFORM PROGRAMMES FOR GROWTH AND JOBS

Research and innovation policies are one of the key areas of the revised Lisbon Strategy. The Council has adopted a new set of integrated guidelines³⁰, which will guide Member States in preparing their NRPs. Member States will report annually on their research

and innovation challenges, targets and policy developments and on progress with implementing them. The contribution of the operational programmes co-financed by the Cohesion and Structural Funds will be highlighted.

For many Member States research and innovation should be identified as key challenges in the NRP. **Whenever relevant, the Commission will analyse the NRP from the angle of research investment targets and research and innovation policy developments.** Bilateral dialogues with Member States will help identify their possible strengths and weaknesses and suitable policy measures to improve conditions for research and innovation.

4.2 IMPROVED POLICY ANALYSIS INSTRUMENTS

Developing appropriate policies to strengthen investment in research and innovation requires sound economic and policy analysis of the current situation. There is a need for information and analysis on the challenges faced, measures introduced, their implementation and impact, and the performance of the research and innovation systems. This can be achieved by using suitable indicators and benchmarking policies and good practice for particular contexts. This analysis should be progressively extended to the regional level.

30 See in particular guidelines No 7 (increase and improve investment in R&D, in particular by private business) and No 8 (facilitate all forms of innovation) in Council Recommendation 2005/601/EC of 12 July 2005 on the broad guidelines for the economic policies of the Member States and the Community (2005 to 2008) - OJ L 205, 6.8.2005, p. 28.

To this end, the **Commission will further develop as complementary tools, in close cooperation with Member States, the European Trend Chart on Innovation and the information system on national research policies (ERAWATCH)**. This will include the Innovation Scoreboard and the research key figures. These instruments will be key elements for monitoring the new Lisbon partnership for growth and jobs and will provide an inventory of good practices that can be widely used to build on strengths and address weaknesses in national research and innovation systems. They will be linked to the future inter-institutional portal which will provide a single entry point to EU web resources on science, research and innovation.

4.3 SUPPORT TO POLICY LEARNING AND COOPERATION

There is a need for further policy learning and for assessing good practices in support of research

and innovation with regard to their transferability and methods of implementation, taking into account regional and national specificities. **The Commission will continue to provide European platforms to share and validate good practices**, bringing together the relevant stakeholders and encouraging peer reviews. Through this process, the Commission will also promote a common approach to transnational issues and a more systematic evaluation culture in the EU.

Research policies are coordinated under the auspices of the European Union’s Scientific and Technical Research Committee (CREST). To make this process more effective, the Commission will invite CREST to meet at Director-General level when appropriate. In addition, a pilot scheme has been launched to support bottom-up coordination initiatives by several countries and regions in the field of research policy (RTD OMC-NET). This will be further developed in FP7. Effective liaison will be ensured with the

Enterprise Policy Group, which will coordinate innovation policy issues.

OMC_NET

RTD OMC_NET is an initiative to support, through calls for proposals, initiatives undertaken by several countries and regions, involving where appropriate other stakeholders. Selected activities will:

- contribute to more effective national policies through enhanced mutual learning, peer review and identification of good practice.
- identify issues with a strong trans-national dimension, which would benefit from concerted or joint action between Member States or mutually reinforcing action at national and EU levels.
- prepare the ground for concerted action by interested Member States and for Community legislation or guidelines where appropriate.

<i>To improve research and innovation governance in Europe:</i>			
	The Commission will:	Member States are invited to:	Reference:
4.1	Monitor and support national research and innovation policy developments through the new Lisbon partnership for growth and jobs	Where appropriate, report on national research and innovation policy developments in NRP within the new Lisbon partnership for growth and jobs	CLP ch. 2 ILS ch. 3 and 6
4.2	Further develop policy analysis instruments for research and innovation	Make full use of statistical and policy analysis provided by the Commission	ILS ch. 6
4.3	Support policy learning platforms and facilitate transnational policy cooperation	Make full use of transnational policy learning and cooperation	ILS ch. 4 and 6

To further facilitate policy learning and development in the field of innovation, the Commission will build on existing instruments for developing and benchmarking innovation strategies, such as the Regional Innovation Strategies assisting regions to foster their innovation systems. This will be supplemented and further developed by the forthcoming INNO Learning Platform, which will focus on transnational cooperation. The Commission will use existing interactive learning platforms on regional research and innovation under the umbrella of the Innovating Regions in Europe platform, bringing together regional and national stakeholders and providing an inventory of good practices and case studies.

4. Conclusion

The actions outlined in this Communication will ensure maximum effectiveness in research and innovation policies and are in line with the renewed Lisbon strategy's emphasis on *focus, partnership and streamlining*. In particular, it gives substance to the priority of *knowledge and innovation for growth*, by providing a framework for developing synergies at all levels. Building on past achievements, all actions, new and upgraded, need to be pursued with vigour and determination if the aim of raising the EU's research and innovation efforts to world-class intensity and effectiveness is to be achieved. Where appropriate, the Commission will also propose initiatives that bring together research and innovation policies at the level of key strategic sectors.

The NRP, developed within the new Lisbon partnership for growth and jobs, should fully embrace research and innovation challenges. Focused Community finan-

cial support for research and innovation activities of European interest, guidance for coordinated policy development, and improved platforms for mutual learning, in all areas where transnational cooperation offers strong added value, will support the NRP. In this way, a truly European Research and Innovation Area will develop, building upon the specific strengths of Member States and their regions.

Further details of the actions described in this communication are set out in the accompanying document. Where appropriate, the actions envisaged in this document and its annex will be continuously updated, taking into account the progress made on increasing and improving research and innovation in Europe and the ongoing discussions on the Financial Perspectives for 2007-2013. Moreover, the approach will be updated in the light of implementation of the Partnership for Growth and Jobs.

European Commission

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