EICTA
European Industry Association | Information Systems Communication Technologies Consumer Electronics

Brussels, 18 December 2002

"More Research for Europe: Towards 3 % of GDP"

EICTA position on Commission's Communication COM(2002)499

Executive Summary

EICTA[1] welcomes the objective agreed at the Barcelona European Council of raising R&D expenditure in the EU to 3 % of GDP by 2010, especially because of its political momentum to bring about the improvements so badly needed in the climate for private R&D in Europe. Unfortunately, the Barcelona 3 % objective focuses only on raising R&D expenditure. However relevant in itself, EICTA considers R&D as only one of the inputs of Europe's innovation system. What ultimately matters most for competitiveness is raising output in terms of new products and services successfully launched on the marketplace. To trigger more innovation, also market pull from strong customer demand and economic growth is essential.

In Europe's innovation system, governments should play a major role, not only on the supply side (by stimulating R&D and creating favourable framework conditions), but also on the demand side (by helping to create markets and aggregating demand). In this respect, EICTA suggests more active use of public procurement, governments acting as launching customers, and adequate legislation to back up the results of European R&D. The eEurope 2005 Action Plan should be fully implemented.

No simple, fix-all solution exists for filling the gap vis-à-vis the US. Nevertheless, EICTA would particularly like to highlight the following of its many recommendations:

- Raise interest for ICT and S&T among youngsters and facilitate immigration of non-EU talent.

- Strengthen links between public and private research by rewarding academic researchers not only for scientific output, but also for cooperation with industry.

[1] As of 1 October 2001, EICTA has merged its activities with EACEM, the European Association of Consumer Electronics Manufacturers. The new joint association is called EICTA - European Information, Communications and Consumer Electronics Technology Industry Association. It combines 45 major multinational companies as direct members and 28 national associations from 18 European countries. The new EICTA altogether represents more than 10,000 companies all over Europe with more than 1.5 million employees and revenues of over 190 billion Euro.

Diamant Building
A.Reyerslaan 80 Bld. A. Reyers
B-1030 Brussels (Belgium)
T: +32 2 706 84 70
T: +32 2 706 84 80
F: +32 2 706 84 79

- Give researchers in academia and industry training in entrepreneurial skills.
- Truly complete the internal market to increase returns on R&D investments.
- Provide adequate support for private R&D through predictable and stable incentive schemes for small and large firms alike**.**
- Modernise EU rules on State aid for R&D to make public support more effective and create a level playing field, also at the worldwide level.
- Adapt governance models to the knowledge-based economy, *e.g.* by each Member State appointing a single minister for science, technology and innovation.

1. Introduction

On September 11, 2002, the European Commission put forward its Communication "More Research for Europe: Towards 3 % of GDP" (COM2002)499). This Communication identified the wide range of policy areas that must be mobilised in a coherent manner to achieve the objective agreed at the Barcelona European Council of raising R&D expenditure in the EU to approach 3 % of GDP by 2010, with two-thirds coming from the private sector.

Deeply convinced of the key role of R&D for the international competitiveness of Europe's ICT industry, EICTA has reviewed the Communication with great interest. In this position paper, EICTA presents its comments. Chapter 1 contains some general remarks on the Barcelona 3 % objective, in particular its merits and limitations. Chapter 2 highlights the crucial importance of ICT for realising the Barcelona 3 % objective. Chapter 3 presents EICTA's detailed observations and recommendations on the policy areas listed in the Commission's Communication.

With current business expenditure on R&D in the EU amounting to about 1 % of GDP, the "Barcelona 3 % objective" actually implies a doubling of private R&D as a percentage of GDP by 2010. The Communication rightly points out that firms only invest to the extent that they can expect a return that exceeds their risk-adjusted cost of capital. Unfortunately, the poor framework conditions for R&D and innovation in Europe currently give us little reason to expect sufficiently attractive returns to increase our R&D investments here. Therefore, EICTA very much welcomes the Barcelona 3 % objective, primarily as an opportunity to drastically improve the climate for R&D and innovation in Europe.

What ultimate matters most for us is successfully launching innovative products and services on the market, in other words the output of the innovation system. In a way, the 3% Barcelona objective reflects the outdated linear innovation model, suggesting that raising R&D as input will automatically lead to more output. However, also the throughput of Europe's innovation system in terms of its effectiveness and efficiency needs to be improved. Maybe even more crucial is a strong market pull from customer demand and economic growth.

Governments should play major role in the above, not only on the supply side (by stimulating R&D and improving framework conditions), but also on the demand side (by helping to create markets and aggregating demand). Several suggestions in this respect can be found in chapter 3.

Diamant Building
A.Reyerslaan 80 Bld. A. Reyers
B-1030 Brussels (Belgium)
T: +32 2 706 84 70
T: +32 2 706 84 80
F: +32 2 706 84 79

2. Key role of ICT in reaching the Barcelona 3 % objective

In the debate on the Barcelona 3 % objective, ICT is of special importance:

- ICT not only represents a major vertical industry sector in itself, but also provides the foundation on which other sectors such as aeronautics, energy, health, transport, *etc.* build part of their own products and applications

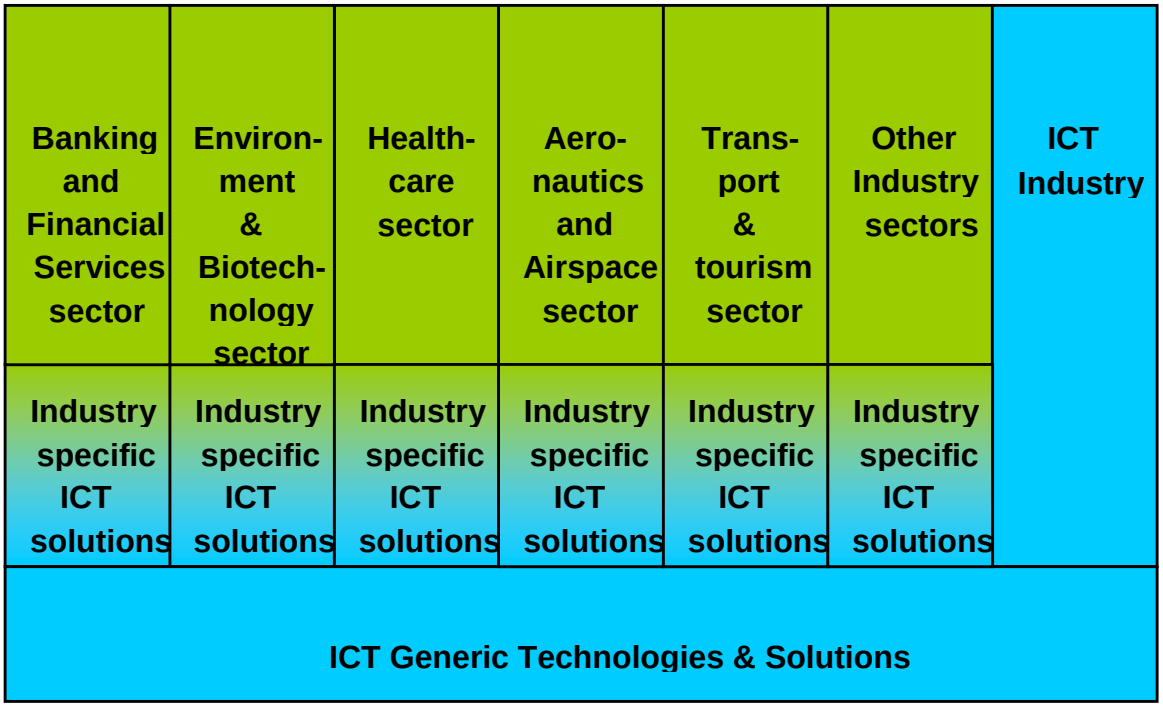

Figure 1: The ICT industry includes (1) the common ICT foundation for all sectors, (2) a major vertical industry segment among other sectors and (3) specific ICT solutions in other industrial segments.

- For virtually all domains of science and technology, ICT is an essential enabler of research:
  - Electronic measuring equipment;
  - Gathering, storing, processing, retrieving, analysing data;
  - Scientific calculations, modelling, computational science;
  - GRID, e-science.

However, in spite of the crucial importance of ICT for the competitiveness of all sectors of the economy, Europe's R&D efforts in the ICT domain are lagging behind:

- According to the OECD's 2000 report "Measuring the ICT sector", the ratio of R&D to Value Added in the ICT sector in 1997 amounted to about 17 % in Japan, 10 % in the US and 6 % in the EU. Also in terms of the ratio of R&D in the ICT sector to total business sector R&D, the EU was falling behind: about 40 % in Japan, 38 % in the US and less than 24 % in the EU.

Diamant Building
A.Reyerslaan 80 Bld. A. Reyers
B-1030 Brussels (Belgium)
T: +32 2 706 84 70
T: +32 2 706 84 80
F: +32 2 706 84 79

- More recent figures from IDATE[2] are even more dramatic: in Japan, ICT in 2000 represented 34 % of all R&D efforts and in the US 35 %, against only 18 % in the EU. Private R&D expenditure amounted to 5.9 % of the production of the ICT sector in Japan and 4.9 % in the US, against 1.2 % in the EU. Also in absolute numbers, the differences were huge: total R&D expenditure on ICT in 2000 was 48,8 billion € in Japan and 93.3 billion € in the US, against only 29.2 billion € in the EU.

These figures clearly indicate that Europe really needs to step up its R&D efforts, also in the ICT domain.

3. Detailed observations and recommendations

For convenience the topics and numbering of the (sub)sections in this chapter exactly match those of the corresponding sections 3.1 – 3.3 of the Commission's Communication.

3.1.1. Sufficient and high quality human resources

Education

Interest among young persons for careers in ICT is too low to meet the current and future needs of Europe's ICT industry. Also the interest in science and technical studies is insufficient. This might actually become the key bottleneck for realising the Barcelona 3 % objective. A very recent public-private partnership to address this issue is Jet-Net: on November 29, 2002, Dutch multinationals Shell, Philips, Akzo Nobel, DSM and Unilever signed a five-year deal with the Dutch education and economic affairs ministries as well as education organisations today to convince more high school students to study science. For this purpose, these companies will make their experts available to high schools for guest lectures, case studies, company visits etc.

Promote the attractiveness of careers in the ICT industry.
Address the age group between 12 and 16 years by various means, including role models of teachers who, having themselves an ICT/technical background, can radiate and inspire enthusiasm among young persons for ICT professions and careers.
Better link the curricula of educational institutes to the needs of industry[3].
Create harmonised rules and incentives to encourage public/private partnerships in education.

Non-EU researchers

Because of the lead times inherent to education, generating more interest in ICT careers among young persons can only provide a solution in the longer term. To satisfy its short-term needs, the ICT industry needs talent from abroad. Unfortunately, the extremely time

[2] *Comparaison de la recherche dans les TIC dans les grands pays industriels*, IDATE, 2002.
[3] *Curriculum Development Guideline*, Career-Space, 2001; see http://www.career-space.com/downloads/index.htm

Diamant Building
A.Reyerslaan 80 Bld. A. Reyers
B-1030 Brussels (Belgium)
T: +32 2 706 84 70
T: +32 2 706 84 80
F: +32 2 706 84 79

consuming procedures to get visa, work permits and residence permits for non-EU nationals are a major impediment to all R&D efforts.

A selective immigration process is needed in the Member States to make it easier to obtain working/residence permits[4]. It should especially target inward mobility of ICT talent, including graduates from the new accession countries. These persons have often a particular interest to work in the ICT industry in Europe. After some years of international experience, they typically return to their home countries to contribute to the local ICT industry, or even to set up new ICT companies (*cf.* the Irish model).

Streamline procedures for getting visa, work permits and residence permits for non-EU nationals.

Mobility

Within the EU, mobility of researchers is hampered by differences in social security systems, pension schemes, culture and educational systems, especially for senior researchers with families.

Improve the transferability of social security and pension benefits between Member States and the mutual recognition of professional qualifications.

3.1.2. A strong public research base with improved industry links

Centres/networks of excellence

Europe certainly has some good centres of excellence. In general, however, competence centres with “excellence” potential in Europe are too scattered over the various countries to achieve the required economies of scale (critical mass) and develop into true centres of excellence.

Create centres/networks of excellence whenever critical mass is essential.
Invest in high-capacity networks for researchers in academia and industry.

Industry links

The cooperation between public research base and industry is not optimal as many universities in Europe esteem academic science much more interesting than industrial R&D. This might be due to the existing system of assessing and financing academic research mainly on the basis of scientific output (publications *etc.*).

Improve image in academia of working on topics pertaining to industrial R&D.
Give researchers in academia proper recognition for cooperating with industry

[4] *Cf.* the "Green Card " initiative in Germany.

Diamant Building
A.Reyerslaan 80 Bld. A. Reyers
B-1030 Brussels (Belgium)
T: +32 2 706 84 70
T: +32 2 706 84 80
F: +32 2 706 84 79

It is essential to involve industry in strategy discussions and in priority setting for public R&D using both a bottom-up and top-down approach.

Focus on topics with the potential of having strategic relevance for industrial innovation and competitiveness.
Involve industry in defining strategies and priorities.

In policy papers, industry is usually seen as a mere "user" of the knowledge coming from public research. At least in some Member States, however, industry files more applications for European patents than all domestic universities and research institutes together.

Take into account the role of industry as "creators" of knowledge in policy making and the allocation of public budgets for R&D.

Governance

Only a few countries (*e.g.* Denmark, Germany, UK) have single ministers for science, technology and innovation. In other countries, these policy areas are scattered over several different ministries.

Also within the European Commission, the same Commissioners do not handle research and innovation. The new Competitiveness Council, on the other hand, brings together matters that were previously dealt by separate Councils for Research, Industry, and the Internal Market. This should also help balancing research policy, enterprise policy and competition policy (*cf.* section 3.1.6).

Adapt governance models of public policies for science, technology and innovation to the knowledge-based economy.
Consider appointing one coordinating minister for science, technology and innovation.

Non-EU partners

Public programmes for R&D partnerships (e.g. FP, EUREKA, national programmes) do help in finding good public partners in Europe. However, for success in industrial R&D, private partners are at least as important. Also the involvement of non-European partners can be essential for Europe to become the world's most competitive and dynamic knowledge economy by 2010 (the Lisbon objective).

Foster cooperation with the best universities, institutes and companies worldwide.

Diamant Building
A.Reyerslaan 80 Bld. A. Reyers
B-1030 Brussels (Belgium)
T: +32 2 706 84 70
T: +32 2 706 84 80
F: +32 2 706 84 79

3.1.3. Entrepreneurship for, and through, R&D

Launching spin-offs from larger firms and universities is hampered by a lack of entrepreneurial culture and skills among researchers.

Provide public funding to selected business schools for developing curricula especially geared towards training of researchers in entrepreneurship, and identify best practices.
Award fellowships (*e.g.* through the Marie Curie scheme) to selected researchers in private enterprise and public institutes to spend 1-2 months at aforementioned business schools and acquire the basic skills needed for successful entrepreneurship and innovation.
Enable teams of researchers preparing spin-offs from larger firms or universities to invoke professional help in analysing their business cases.

3.1.4. Effective adaptation and use of intellectual property rights systems

Community Patent

Introduce a cost-effective Community Patent as soon as possible, with a simple language system, requesting filing in English only, without any obligation for (partial) translation into other Community languages in subsequent stages.
Amend the European Patent system so that patents can be obtained for software related inventions meeting the usual patentability requirements.
Stop discussions about the introduction of a Community Utility Model, because it will harm innovation instead of stimulating it.

IPR in cooperating with academia

IPR issues could easily become a stumbling block for cooperation with academia.

Develop harmonised approaches among Member States (based on best practices) for handling IPR in R&D cooperations between industry and universities.

3.1.5. Research- and innovation-friendly regulations

Internal market and trade barriers

The removal of trade barriers and the true completion of the internal market stimulate R&D, because larger markets increase returns on investments in R&D. In Europe, harmonised standards (linked to European regulation) are an effective means to reduce trade barriers.

Diamant Building
A.Reyerslaan 80 Bld. A. Reyers
B-1030 Brussels (Belgium)
T: +32 2 706 84 70
T: +32 2 706 84 80
F: +32 2 706 84 79

Enhance the "new approach" in European regulation, thus facilitating a coupling between regulation and standardisation that is flexible enough to cope with the high pace of technology developments. (A part of the European Directives is not yet in line with the "new approach".)
Give mandates to CEN, CENELEC and ETSI, as a "contract" for the development of harmonised standards by these organisations. Stimulate rapid standard development in the mandates by putting tight deadlines and by new standardisation processes (of which the Publicly Available Specification (PAS) process in IEC is an example.
Streamline the European Treaty to reduce unclear situations around national trade barriers of the type of the "Cassis de Dijon" case[5].
Continue to combat trade barrier elements in national regulations (role of Commission).
Promote the take-up of European standards and the "new approach" coupling between standards and regulation in other parts of the world, in support of the UN-ECE International Model[6].
Continue the EC role in Mutual Recognition Agreements.

In the end, achieving critical mass at wordwide level is essential for European ICT standards to become successful.

Promote worldwide standards originating from Europe.

Public procurement and related regulatory matters

To stimulate public demand, governments should more actively use public procurement policies, or act as “launching customers” in public-private partnerships to aggregate demand and accelerate public and private adoption of new technologies, products, processes and services.

Use public procurement to stimulate public and private demand, letting governments act as “launching customers”.
Exploit the opportunities created by the eEurope 2005 initiative, including broadband access to connect all schools.
Address regulatory barriers hampering the introduction of e-services, such as the recommendations formulated for e-health care by the European Health Telematics Association (EHTEL)[7].

[5] OJ C256/2 of 3.10.1980.

[6] Promoting this approach is particularly important in Asia Pacific as a counterbalance to US actions for "exporting" American standards to Asia Pacific, and in Eastern Europe to align their trade policy with that of the EU.

[7] See www.ehtel.org

Diamant Building
A.Reyerslaan 80 Bld. A. Reyers
B-1030 Brussels (Belgium)
T: +32 2 706 84 70
T: +32 2 706 84 80
F: +32 2 706 84 79

Investigate options to use Europe's security and defence policy as a way of boosting private R&D, including the dual use aspects that are particularly relevant in ICT.

The goal to raise R&D spending in the EU to 3 % of GDP becomes irrelevant if market introduction of R&D results is not supported by appropriate regulations. For example, the FCC decision to make the implementation of ATSC mandatory in digital tuners has a strong beneficial effect on market development, making the US a more interesting region for R&D and investments in digital TV than Europe. This enhances the position of the technically inferior ATSC standard also outside the US, and jeopardises the chances to repeat Europe's success with GSM also with DVB.

Another example is the dramatic impact that the high payments for UMTS licences had on the telecom industry and its R&D.

Back up the results of European R&D by means of appropriate legislation.

European tendering is not required for public procurement of research (see for example Directive 93/36/EEC Article 6.3.b). Lifting this exemption would stimulate competition and excellence among public research institutes and help them to internationalise, and at the same time reduce the fragmentation, isolation and compartmentalisation of national research efforts.

Reconsider the exemption from the public procurement requirements that currently applies to public supply contracts for research.

3.1.6. A competitive environment and supportive competition rules

Competition decisions

In competition decisions, a dynamic view going beyond a static appraisal and extrapolation of past behaviour is necessary is assessing market power, especially where medium to long term competition is in rounds "for the market: and to a lesser extent "in the market" after each round.

Give due account to the temporary nature of major positions "in the market" where there is fierce competition "for the market" over the medium to long term.

Ex post challenges of successful, *ex ante* acceptable R&D cooperation and IP licensing on the basis of alleged abuse of a dominant position do have a chilling effect on innovation and exploitation of the results thereof.

Diamant Building
A.Reyerslaan 80 Bld. A. Reyers
B-1030 Brussels (Belgium)
T: +32 2 706 84 70
T: +32 2 706 84 80
F: +32 2 706 84 79

Prohibit competition law to endanger the exploitation of IP rights within the scope of such IP's.

In the Modernisation of Competition Policy care should taken at both the European Level and at Member State Level that competition decisions must properly balance longer and short term economic factors ensuring durable competition especially through innovation.

Make sure that different interpretations of this balance do not lead to new trade barriers between Member States.

EU rules on State aid for R&D

The boundary conditions for direct R&D support measures in the Member States are set by the EU rules on State aid for R&D[8]. A strict control of State aid is necessary to prevent distortions of competition in the internal market. Unfortunately, however, the principles underlying the current EU rules on State aid for R&D have on several accounts become obsolete and at odds with industrial reality. As a consequence, these rules hamper Member States in effectively stimulating industrial R&D and closing the gap Europe is facing in business R&D expenditure with respect to the US and Japan, as envisaged by the Barcelona 3 % objective.[9]

Foster a level playing field, not only within the EU but also worldwide, *e.g.* through the WTO.
Avoid imposing State aid rules that hinder fair competition at the global level.
Give up the outdated distinction between industrial research and precompetitive development and replace them by a single category “industrial R&D”.
Avoid *a priori* disqualification of aid for R&D projects within a firm’s core business or with clear market potential.
Take more account of (international) co-operation or risk in assessing the required incentive effect of State aid.
Make more use of the derogation foreseen in the Treaty for State aid for “important projects of common European interest”.
Strive for more simplicity and clarity.

EU rules on State aid for investments

A further tightening of the Multisectoral investment framework would cause investments to go outside Europe in the future.

Refrain from tightening the Multisectoral investment framework.

[8] *Community framework for state aid for research and development*, OJ C 45, 17.02.1996.

[9] The main recommendations from EICTA’s position of2000 on the revision of these rules are still valid: *EICTA Position on the Revision of the EU rules on State aid rules for R&D*, October 10, 2000; search “positions” at www.eicta.org

Diamant Building
A.Reyerslaan 80 Bld. A. Reyers
B-1030 Brussels (Belgium)
T: +32 2 706 84 70
T: +32 2 706 84 80
F: +32 2 706 84 79

3.1.7. Supportive financial markets covering the various stages of .....development of high-tech and other innovative companies

Improve awareness of R&D in the financial world as an investment, not an expense.

3.1.8. Macro-economic stability and favourable fiscal conditions

Customer demand

What ultimately matters most in triggering more R&D is a strong customer demand for innovative products and services. This would automatically stimulate industry to invest more on R&D, in order to feed future innovations.

Boost customer demand by increasing discretionary spending power of consumers, *e.g.* through lower taxes and a better economic situation.

3.2.1. Direct support measures

Administrative overheads

Our researchers see red tape as the main deterrent to participation in public R&D programmes.

Make procedures simple, lean and transparent.

Oversubscription

Researchers are not very eager to spend any efforts on competing for public funding if chances of success are too small in proportion to the bureaucracy required.

Limit oversubscription and reduce rejection rates by narrowing the technological scope of Calls for Proposals commensurate to the available budget.

Minimum rates for public funding of private R&D

In view of the contractual obligations attached (reporting, exploitation, sharing IPR, etc.), public funding rates should not be lower than about 50 %. It should be kept in mind that industry still has to carry at least the other 50 % of the R&D costs and 100 % of all the costs and risks of the subsequent exploitation phases.

Diamant Building
A.Reyerslaan 80 Bld. A. Reyers
B-1030 Brussels (Belgium)
T: +32 2 706 84 70
T: +32 2 706 84 80
F: +32 2 706 84 79

Keep public funding rates at a level of 50 %.

Risk and reasonable endeavours

Industrial R&D is by definition uncertain. Public R&D programmes should stimulate risk taking, rather than punishing it.

Base payments to participants on reasonable endeavours, not on the delivery of predefined (positive) results.

Reimbursable loans

Compared to a subsidy or grant, loans that have to be reimbursed in case of successful commercial exploitation are of lesser interest, at least for large firms, as they usually have easier access to capital markets and face less liquidity problems than SMEs and start-ups. Moreover, the incentive effect of such reimbursable loans is very much weakened by the fact that accounting policies require companies to make reservations for (part of) the amounts received, in order to cover the risk of having to pay back the loan. The condition that such loans have to be reimbursed only in case of commercial success is a disincentive to succeed.

Avoid using reimbursable loans for stimulating private R&D.

Ceilings on public funding for large firms

As large firms nowadays consist of many smaller units each having their own bottom-line responsibility, we see little reason to limit public support to a certain maximum per firm, or to exclude large firms altogether. Such limitations keep parts or even all of the R&D activities in large companies unexposed to the incentive effects of support measures.

Refrain from imposing limits or ceilings on public funding for large firms.

Project size

Because of economies of scale, larger projects may improve efficiency and reduce overheads. In some areas of science and technology, however, scale doesn't matter.

Allow smaller projects if critical mass is not relevant.

Distance to the market in publicly funded collaborative R&D

To allow competitors to collaborate in a meaningful way, public programmes for industrial R&D should remain sufficiently far from the market. R&D cooperation in the precompetitive phase has been shown to have more value for companies than when it is of a near-market

Diamant Building
A.Reyerslaan 80 Bld. A. Reyers
B-1030 Brussels (Belgium)
T: +32 2 706 84 70
T: +32 2 706 84 80
F: +32 2 706 84 79

nature, at least in the Framework Programme[10]. Furthermore, although political pressures may exist to spend public R&D money on obtaining tangible results in the form of new products or services in the marketplace, the current EU rules on State aid for R&D (see section 6) actually do not allow Member States to fund any R&D beyond the stage of first prototypes.

Keep sufficient distance from the market in programmes stimulation R&D cooperation.

Access rights for affiliates of participants

IPR conditions should take the objective of strengthening industrial competitiveness into account. To ensure proper exploitation of the results, it is essential that affiliated companies of participants in publicly funded R&D projects have the same access rights as participants themselves. For example, it is often Corporate Research that participates in public R&D programmes, whereas exploitation takes place in product divisions.

Give affiliates the same access rights as participants.

Impact on employment

Assessing the employment impacts of individual R&D proposals, projects and programmes is difficult, especially when using a too narrow approach[11]. In the short term, the productivity gains stemming from the introduction of new technologies may even destroy jobs. In the longer term, new products and services can create new markets that in turn will require new labour. In addition, increased productivity can improve competitiveness, allowing larger market shares that can also lead to a higher labour demand[12].

Avoid applying a too narrow scope when assessing the employment impacts of R&D projects.

Flexibility

Participants should be able to adapt the contents of their R&D project according to their needs, with the flexibility and speed required for keeping up with developments in science, technology, markets and society, and particularly with the strong dynamics inherent to ICT. If necessitated by such developments, participants should even be permitted to terminate R&D projects prematurely.

Allow adaptation or even termination of projects if needed.

[10] *Technology and market orientation in company participation in the EU Framework Programme*, T. Luukkonen, Research Policy 31 (2002), p. 437-455.

[11] *Technology, Productivity and Job Creation: Best Policy Practices*, OECD Jobs Strategy, 1998, p. 135.

[12] *Impact of technological and structural change on employment: prospective analysis 2020*, IPTS, JRC, Seville, 2001, p. 35; see http://www.jrc.es/cfapp/reports/details.cfm?ID=849

Diamant Building
A.Reyerslaan 80 Bld. A. Reyers
B-1030 Brussels (Belgium)
T: +32 2 706 84 70
T: +32 2 706 84 80
F: +32 2 706 84 79

Segregation

SMEs may indeed need special treatment to facilitate their participation in public programmes. On the other hand, academia, large firms and SMEs increasingly need and complement each other: whereas SMEs have the flexibility and entrepreneurial spirit beneficial to innovation, large firms have the critical mass often required for R&D as well as market access, and play an essential role in the innovation system by generating, accumulating and disseminating knowledge. Also in the ICT industry, harmonious cooperation along the value chain is required, with SMEs playing key roles in co-development, supply, service creation, content generation and software applications, and large firms in systems integration, manufacturing and marketing.

Avoid a segregation of the R&D efforts of academia, large firms and SMEs over different public programmes.

EUREKA

A key objective of the European Research Area (ERA) is better coordination and cooperation between the R&D efforts at national level. In this respect, EUREKA can and should play an important role, as a useful complement to the Framework Programme. Therefore, we would like both the Framework Programme and EUREKA to prosper within the European Research Area, as two separate programmes, but with more synergy than in the past. After all, they both have the objective of strengthening the competitiveness of Europe's industry.

Make use of EUREKA to achieve ERA objectives.

Co-financing

Mixing within one single project different sources of public funding, all with their own rules, will become too complex. Also Article 169 of the EU Treaty may be nearly unworkable in practice. Instead, we propose a more pragmatic approach (also advocated by MEDEA+ and ITEA, the major EUREKA programmes in microelectronics and embedded software, respectively): to cooperate and coordinate between Framework Programme, EUREKA and national R&D efforts at the level of "strategic domains" of technologies and applications.

Avoid mixing different sources of public funding within one project.
Use a pragmatic approach to coordinate between R&D efforts at Community, intergovernmental and national programmes at the level of strategic domains.

Harmonisation of funding for EUREKA

Unfortunately, EUREKA is seriously hampered by the lack of harmonisation of funding procedures and synchronisation of funding decisions among member countries. Some of them hardly provide any funding at all. In the UK, for example, the funding made available to large firms for EUREKA projects has been extremely limited. As a consequence, starting new EUREKA projects is not as easy as it should be.

Diamant Building
A.Reyerslaan 80 Bld. A. Reyers
B-1030 Brussels (Belgium)
T: +32 2 706 84 70
T: +32 2 706 84 80
F: +32 2 706 84 79

Harmonise availability, procedures and timing of public funding among EUREKA member countries.

Technonationalism, centralisation and open method of coordination

To overcome the undesirable consequences of compartmentalisation and achieve a genuine European Research Area, Member States will have to moderate the techno-nationalism that has too often been paralysing political decision making and public R&D policies in Europe. On the other hand, too much harmonisation may make R&D in Europe gravitate downwards, whereas a healthy degree of competition exerts an upward force.

Make use of the new "open method of coordination" to bring about a sound peer pressure among Member States, involving benchmarking and identifying best practices rather than central planning.

Internationalisation

To be competitive, large firms are forced to look anywhere in the EU and elsewhere for the best locations for their research, development and manufacturing activities. However, when granting support for an industrial R&D project, a national government usually imposes restrictions on IPR and the location of R&D and manufacturing, to ensure sufficient benefits to the domestic economy. Such obligations hamper companies in optimising their R&D and its exploitation. Furthermore, these requirements are hard to reconcile with the idea of a European Research Area.

Refrain from imposing national exploitation of the results from publicly funded R&D.

Globalisation in ICT

As technological developments do not stop at the borders of nations or continents, foreign or even non-EU researchers and organisations should in principle be allowed to participate in public R&D programmes. This is particularly relevant for the area of Information and Communication Technologies (ICT), where the market and the industry are truly global and many of the key players are based outside the EU.

Allow R&D actors from outside the EU to participate whenever needed.

Other issues in designing direct support measures

Give incentives to industry to stimulate R&D even in difficult business periods.
Focus direct support on strategic topics with high leveraging effect.

Diamant Building
A.Reyerslaan 80 Bld. A. Reyers
B-1030 Brussels (Belgium)
T: +32 2 706 84 70
T: +32 2 706 84 80
F: +32 2 706 84 79

Create harmonised rules and incentives for encouraging public-private partnerships in R&D.

3.2.2. Fiscal incentives

Make more use of fiscal incentive schemes, complementing targeted R&D subsidies.
Design fiscal incentive schemes so as to • be volume-based rather than incremental, • benefit also firms that are still or temporarily without profit, • be reliable, predictable and stable over time, • be sufficient in size/rate to really act as an incentive, • apply equally to small and large firms, without caps.

3.2.3. Guarantee mechanisms

No remarks.

3.2.4. Public support for risk capital

Promote a culture of putting venture capital into high-risk start-ups instead of low-risk (existing) enterprises.
Provide funding to start-ups and spin-offs, limiting red tape to the absolute minimum.
Stimulate entrepreneurial behaviour by ensuring that those seeking funding have to tap into several independent sources (rather than one-stop shops) to gather the financial resources required to make their business plans viable.

3.2.5. Improving the overall mix of instruments

Avoid tax incentives at the cost of reducing direct measures.
Develop schemes for direct measures in order to raise government financing to at least 10% of business sector R&D or implement harmonised R&D tax incentives. Both subsidy schemes and tax incentives need to be attractive, predictable, stable and equal to large and small companies.

Diamant Building
A.Reyerslaan 80 Bld. A. Reyers
B-1030 Brussels (Belgium)
T: +32 2 706 84 70
T: +32 2 706 84 80
F: +32 2 706 84 79

3.3. R&D and innovation in corporate strategies and management

Promote annual R&D reports to be part of the external reporting system of companies listed on stock exchanges, in addition to financial statements, environmental reports and corporate citizenship reports.

Especially among SMEs there still may be insufficient awareness of the crucial importance of R&D and innovation.

Convince management of SMEs to invest more in R&D and innovation.

In deciding about investments in R&D and innovation, companies take a wide range of factors into account, as also emphasised in this Communication (COM(2002)499).

European Commission and Member States should always consider the likely impact on company propensity to invest in R&D and innovation of all proposed new and modified legislation and should publish this as part of an overall impact assessment.

Diamant Building
A.Reyerslaan 80 Bld. A. Reyers
B-1030 Brussels (Belgium)
T: +32 2 706 84 70
T: +32 2 706 84 80
F: +32 2 706 84 79