

Is the “3% R&D for 2010” objective unrealistic?

Can the dramatic reappraisal it implies be achieved?

An ERT View

The Barcelona European Council of 15-16 March 2002 announced targets for raising R&D investment from the current level of 1.9% of GDP to close to 3% of GDP by 2010. The Council also stipulated that the private sector should seek to provide two-thirds of the additional R&D investment.

The European Round Table of Industrialists (ERT) paid close attention to the Summit declaration because it believes that R&D has a crucial role to play in attaining the Lisbon target of making Europe the most competitive and dynamic knowledge-based economy by 2010.

But is the 3% target realistic or just wishful thinking? ERT decided to study this in depth with its Members who are deeply involved in European R&D. The 42 ERT Member Companies account for a large share of private sector R&D investment in Europe, i.e. for more than 13% of total European R&D spending. Believing their collective views on the challenges and prospects for European R&D should offer useful guidance for policymakers, the ERT's Competitiveness Working Group has surveyed Member Companies with the aim of identifying the main drivers of R&D investment. This is a summary of their findings.

While, for obvious reasons, no company specific data can be shared outside ERT, the Survey revealed that, in 2001, ERT companies invested almost €37 billion in R&D in all parts of the world. The ratio of Global R&D to Global Added Value shows the importance of this activity for ERT companies, with the average ratio equivalent to approximately 9%, which can be compared to the 1.9% of R&D to GDP ratio. This, of course, encompasses a very wide variation between companies, not least according to the specific sector of activity, with the leading sectors being ICT and pharmaceuticals, followed by the automobile industry.

Of the €37 billion invested in 2001 in R&D worldwide, the amount ERT companies invested in Europe was equal to €22.3 billion, which corresponds roughly to 13% of the Gross Expenditure on R&D in the EU as a whole. However, according to estimates put forward by the companies themselves, the amount they invest in Europe is not expected to increase much over the coming three years. A majority of companies intend either to maintain or to raise only slightly their current level of R&D spending in Europe. If this trend proves to be common to all companies and EU GDP continues to rise, then private EU R&D expenditure as a percentage of EU GDP will fall. This is significant given that, in order to attain the 3% objective set by the European Council in Barcelona, EU R&D effort must increase by more than 50% (from 1.9% to 3% of a rising GDP).

Moreover, despite a likely slowdown in the coming years, ERT companies still expect, on average, to increase their level of Global R&D expenditure, so in effect their increase will occur outside Europe. The reasons for this relate to the relatively unattractive framework conditions for investing in R&D in Europe, in terms of human resources and infrastructure, financial incentives and overall legislation and regulation.

Overall, the findings from the ERT Survey support the key messages of the Commission's recent Communication ("More Research for Europe" COM(2002)499). However, they point to a very sober conclusion: unless there is a dramatic reappraisal of Europe's approach to R&D and its framework conditions for business, the gap between the Barcelona target and the real world will not be bridged by 2010.

Anxious to play its part in closing this gap, the ERT has put together a set of recommendations aimed at dealing with R&D "black spots" identified by ERT Members as serious obstacles to achieving the EU's ambitions.

ERT's recommendations set out below with survey evidence in support, span human resources, financial, legal and regulatory policies.

A. Invest in centres of excellence, raise the status and supply of scientists

1. **Develop strong R&D centres of excellence** in key industrial fields such as ICT, advanced new materials and pharmaceuticals. In addition to higher public funding, a more focused common EU strategy requires a reallocation of resources towards industrial sectors that have the highest impact on productivity and economic growth.
2. **Improve the supply of skilled labour for R&D** by reforming educational priorities and policies. Immigration restrictions should also be eased for people with relevant skills.
3. **Strengthen the attractions of a career in science** by tackling the cultural bias against it. Improve rewards and recognition of its economic and social importance in all relevant sectors, including engineering.

From our survey: ERT companies believe:

- Europe is rather poor at coordinating R&D assets compared to the US. That is why it has fewer centres of excellence capable of attracting companies as potential R&D partners;
- they are suffering from a diminishing skills base in Europe – particularly in specific sectors such as ICT where there are serious worries about the long term;
- there are too many difficulties in the way of researchers crossing borders and moving between public and private R&D. These are caused by:
 - incompatibilities between education and training systems across the Member States;
 - incompatible approaches between private and public research establishments.

4. **Improve the salaries and career prospects of research staff and the equipping of university laboratories.**
5. **Encourage and reward public/private partnerships and collaboration between public research institutions and improve mobility of researchers between public and private R&D.**

From our survey: ERT companies believe:

- the effects of inadequate public investment are evident in underpaid and poorly motivated staff, poorly-equipped university laboratories and inadequate basic research in public institutions;

B. Increase public spending to encourage more private R&D spending

6. Encourage **higher government financing of business R&D¹ and a range of tax incentives** to stimulate more private investment in R&D. A predictable and stable system should apply equally to large and small companies irrespective of whether they are profitable.
7. **Stimulate the creation of cross-border collaborative R&D networks** with large and small companies and academic participation. The emergence and development of networks will be strongly helped if public funding is available after the pre-competitive research stage.
8. **Create better markets for venture capital** by utilising economies of scale, appropriate incentives and harmonised market conditions.

From our survey:

ERT companies expect:

- business R&D spending in the EU to fall as a percentage of GDP in the coming years;
- there will be no drastic increase in their R&D investment in Europe. This will, in any case, be conditioned by the rate of economic growth in the region;
- to increase their global R&D spending, but outside of Europe.

ERT companies believe:

- in comparison with the US, R&D in Europe is handicapped by stiffer rules on subsidy schemes. These need to be changed to allow a level playing field.
- information on subsidies and procedures for obtaining them need to be more simple, transparent and timely;
- the less developed venture capital market in Europe is a major impediment to new innovation and business growth;
- to be more effective, current measures must be:
 - available to all companies large and small, profitable or not;
 - reliable, predictable and stable over time.

¹ Following its study on the stimulating effect of public funding on R&D, the OECD recommends that public financing should equal 12% of business R&D, whereas the current level of spending in the EU is approximately 8.5%. (OECD Science, Technology and Industry Outlook 2000)

C. **Legislate better IPR and cut the red tape holding back new products and technologies**

9. **Improve Intellectual Property Rights** in Europe to encourage R&D in new areas including genetically modified organisms (GMOs) and software.
10. Urgently agree a **quality, cost-efficient Community patent** so as to strengthen protection and reduce bureaucracy, costs and litigation. Costs will only be kept down if the language requirement is kept simple (preferably filing in English only).
11. **Radically reduce unjustified regulatory constraints** (environmental, administrative, etc.) which hold back the development, production and introduction to market of new products and technologies.

From our survey: ERT companies believe:

- companies need greater regulatory clarity and certainty – the Better Regulation Initiative must deliver concrete results that achieve a genuine balance between the economic, social and environmental pillars of sustainable development;
- research is being stifled in key areas of future competitiveness such as GMOs. More effort is needed to encourage public attitudes that are more open towards emerging technologies and to promote the benefits of innovation.

Conclusions

- Europe is lagging behind its main competitors in R&D and innovation.
- R&D investment is not a goal in itself – it is a key vehicle for achieving the most competitive and dynamic knowledge-based economy by 2010.
- The situation can be improved only through a dramatic reappraisal of measures covering financing, human resources and infrastructure and the regulatory and legislative environment.
- Attaining the 3% of GDP target for R&D spending requires dramatic, predictable, long term commitment from both the European Union and Member States across a range of policies, including R&D, education, internal market, competition and enterprise policy.