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COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN COUNCIL (INFORMAL MEETING IN LAHTI – FINLAND, 20 October 2006)

An innovation-friendly, modern Europe

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I. INTRODUCTION

The world has become a more intensely competitive environment in a relatively short period of time as more and more countries have entered the global market place. Meeting at Hampton Court last October, Heads of State and Government recognised that to be successful in a global economy and achieve the rates of growth necessary to sustain our living standards, Europe must do more to harness its creative power and ability to convert knowledge into high quality products, services and new business models for which there is strong global demand. Progress on innovation will be central to the success of the renewed Lisbon Strategy for Growth and Jobs.

Europe has a proud tradition of inventing solutions that have improved people's lives all over the world: from life-saving medicines to advanced mobile telecommunications. Innovation is key to tackling the main challenges we face now, such as climate change, detection and prevention of diseases, congestion, insecurity, and social exclusion.

The Commission has already presented an overall framework designed to foster innovation in Europe and a 10 point action plan[1] to foster innovation which was recently discussed by the Competitiveness Council. This paper focuses on a small number of specific issues which have a European dimension and which, if strongly supported by the Heads of State and Government, have the potential to produce very significant benefits (in a relatively short time-scale).

II. WHERE DOES EUROPE STAND?

The innovation performance of the EU as a whole is still lagging behind its main competitors, even though some Member States' economies are amongst the most innovative in the world. China and India, who have long challenged us in the traditional labour-intensive sectors, are now taking huge steps forward in innovation and technology. Economic reforms are turning them and other emerging economies into serious global competitors across a wide range of high growth sectors. Many emerging economies are taking a strategic approach to innovation, investing heavily in their high-tech infrastructure and producing large numbers of talented, highly educated workers.

Europe and its Member States possess many innovation assets. But we also suffer from a number of paradoxes:

- We invent but frequently do not convert our inventions into new products, jobs and patents
- There are many small, highly innovative start-ups but they do not easily grow into big, globally successful companies
- In certain sectors, such as telecommunications, the adoption of (ICT) innovations has resulted in important productivity gains, but in others, such as financial services and distributive trades, this has failed to happen

1 "Putting knowledge into practice: a broad-based innovation strategy for the EU", COM (2006) final, 13/09/06

There are a number of innovation drivers at work:

First of all, providing high-quality education is critical in preparing our citizens to meet the challenges of globalisation. Ultimately, if companies cannot find enough people with the right skills in Europe, they will look elsewhere to invest. The average EU adult is significantly less educated than adults in other industrialised countries.[2] We also invest considerably less in higher education than many of our competitors.

In the past, the skills people learned remained valid for decades. Now, people need to constantly update and renew their skills but we are still not doing enough to stimulate continuous education and retraining programmes.

The EU, like many other parts of the world, will experience large demographic changes as the baby boom generation ages. Between now and 2030, the working age population will fall by 6.8%. This will exacerbate skilled worker shortages. In many Member States, there is already a shortage of highly skilled staff, particularly researchers and science and engineering graduates, who are the foundation of technology advancement.

Demographic change will have wider implications for Europe. Less than twenty years from now about half of Europe's population will be over 50 years old compared to only one in three today; fewer younger people will inevitably affect society's ability to reform and innovate.

But perhaps the greatest challenge to our education systems is organisational. Europe's education system remains fragmented; universities do not co-operate with each other as much as they should. In the US and Japan, many successful innovations have emerged from close collaboration between academia and business. Europe has joined this game rather late and has a lot of catching up to do.

Another handicap to greater innovation is that Europe's R&D investments are much lower than those of other industrialised countries. If Member States' commitments are realised, Europe's R&D expenditure is expected to reach 2.6% of GDP by 2010[3], from the current level of 1.9%. But achieving this implies considerable efforts at both national and EU levels, notably to make Europe more attractive to R&D investment. The research investment deficit in Europe arises mainly from much lower R&D investments by the private sector, which in turn reflects less favourable framework conditions and a concern about profitability.

Finally, in many areas, there are still obstacles hindering economic dynamism. Many companies face access barriers in specific markets, scarcity of venture capital and bottlenecks in our regulatory framework or red tape which impede innovation and hinder the diffusion of ideas. In addition, outdated structures and customs make it more difficult to adapt to rapid change.

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2 For example, in 2005, only 22.8% of the EU working age population (25-64) had attained tertiary education compared to 39% in the US and 37% in Japan (sources: Eurostat, OECD)

3 The overall EU R&D target for 2010 is 3% (of which 2% by the private and 1% by the public sector).

III. THE KEYS TO UNLOCKING EUROPE'S INNOVATION POTENTIAL

While technological innovation is important, there is at least as much scope for non-technological innovation, for example through changes in business models, better design and process organisation. In fact, organisational change is usually needed to get the best out of technological advances.

Action in the following areas would significantly boost Europe's innovative capacity:

1) Establishing European leadership in future strategic technologies

To date, Europe continues to suffer from a dispersion of limited resources[4]. The European Technology Platforms (ETPs) are an excellent instrument for greater collaboration and the achievement of critical mass. They bring together a wide range of public and private stakeholders to define and implement long-term research and technology agendas. They address from an early stage the framework conditions for bringing results of R&D work successfully onto the market. A strong commitment from national and regional public authorities to help ETPs to realise their goals would boost their prospects of success.

Some ETPs have achieved such a scale and scope that achieving their key objectives now requires the setting up of dedicated public-private partnerships – i.e. the creation of "Joint Technology Initiatives" (JTIs) – which will lead to higher and more stable commitments for research investment over the longer term.

Promising areas where the launch of JTIs is envisaged:
- Hydrogen and Fuel Cells
- Nanoelectronics
- Innovative Medicines
- Embedded Computing Systems
- Aeronautics and air transport ("Clean Sky")
- Global Monitoring for Environment and Security (GMES)

European industry stands ready to invest considerable sums of money in these initiatives provided their investments are matched by EU funding (through the 7th Framework Programme), complemented by individual Member States' contributions. Launching ambitious public-private partnerships on solid economic and governance foundations is an opportunity we cannot afford to miss if we want to establish European leadership in the technologies of tomorrow. The European Institute for Technology could build on initiatives in these and other promising fields.

The Commission will include, in its Progress Report on the Growth and Jobs Strategy due for the end of this year, a road map for the early launch of the most mature JTIs.

2) Forging much stronger links between universities, research and business

In the past, universities would develop new knowledge and, when it was mature, it might be picked up by business for commercial application. Far too much knowledge remains locked up in universities and the development of new knowledge takes too little account of the needs of business. This innovation model is out of date. Today, innovation is build around

[4] The Innovation Policy Trend Chart lists 1340 innovation support schemes in use in 28 countries.

knowledge networks which, by sharing, developing and accumulating knowledge, facilitate a rapid development of products and services out of new ideas.

Such cooperation between universities, large and small companies, research and knowledge transfer institutes, investors or even associations of users and consumers is best realised within clusters – geographically delimited areas which allow for a direct interaction between existing stakeholders and which also attract new ones. In fact, there is strong and growing evidence that companies co-operating in clusters are amongst the most innovative in Europe[5]. Cluster policy has therefore become an important element of Member States' innovation strategies and should be encouraged further.

Member States and universities can do much themselves– and are already doing - to foster closer co-operation. But significant benefits can be reaped if we manage better to exploit the knowledge and capabilities available across the EU. The proposal to create a European Institute of Technology (EIT) presents an innovative model for strong cooperation between universities, research centres and the business community. The EIT will contribute to improving the competitiveness base of the Member States by involving partner organisations in integrated innovation, research and education activities at the highest international standards. The EIT will help to pool Europe's resources, mobilise private sector funding for cutting edge research, attract the best researchers from all over the world, stimulate spin-offs of innovative SMEs, and in so doing could become a symbol of Europe's ability to work together and innovate.

3) Improving the framework conditions

Turning knowledge into successful commercial applications does not depend on luck. Investing in R&D alone does not suffice. There are a number of general as well as sector-specific framework conditions that, if present, significantly improve the environment for innovation and the chances to achieve commercial rewards. After having set a common target for R&D spending, Europe must now focus on getting the most out of this investment by creating the right framework conditions.

General framework conditions

A genuinely integrated Single Market

A pre-requisite for more innovation is effective competition and a fully-functioning single market which offers sufficient scale to help large companies and many SMEs to compete globally.

Financing innovation

It is obviously vital that individuals with good ideas can find the financing to get their ideas off the ground. This has never been easy but for early stage financing it has become more difficult in recent years. Venture capital funds have become less interested in very small scale investments. This has created what many call the equity gap. As a result, many promising ideas do not get off the ground. Further, far too many fast-growing SMES have to look elsewhere (to America) to find the capital they need.

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5 Cf. Innobarometer 2006 – www.europa-innova.org

There are no magical solutions to solving this problem. Some Member States have offered fiscal incentives to so-called "business angels" willing to invest in small, high risk, start-ups. The exchange of good practice will be encouraged and other public policy angles explored which could possibly be brought to bear on this problem.

An intellectual property policy for the 21st century

Once an idea is mature, it is important for the owner to secure legally the rights to its use. Intellectual property rights (IPRs) is typically the core asset of many companies and the source of their competitive advantage.

Whilst views may differ on the design of the most effective framework, most agree that Europe's current industrial and intellectual property rights regime has failed to keep pace with fast (single) market integration, rapid technological change and changing business methods.

Europe urgently needs a clear and coherent legal framework for IPR protection fit for purpose in the 21st century – one which embodies the following principles:

- **high-quality**: IPRs should be based on tough examination standards for novelty and inventive step. A low-quality patent system is a source of legal uncertainty and litigation;

- **affordable**: affordable patent procedures, that balance cost with quality and legal certainty, are a priority, especially for SMEs;

- **convergence**: common interpretation of laws and unified court proceedings enhance legal certainty and significantly reduce costs;

- **balance**: between rewarding valuable creations and ensuring that ideas can circulate easily in Europe’s dynamic information society.

The adoption of a cost-effective Community Patent is the most important step. In the meantime, in order to lift a significant barrier to innovation, the Member States and the Commission should together make the existing patent system more efficient by improving the means for litigation through a Community instrument. The European Council should indicate that breaking the logjam in this area is a high priority and task the Council and the Commission to come forward with solutions within a time frame which it could set. Beyond this, the Commission has embarked on a wide-ranging review of IPR policy as a whole, and will propose concrete steps towards a modern and affordable framework before the 2007 Spring European Council.

Faster setting of open and interoperable standards

Even as ideas are leading to commercial products, it is important that European standards emerge to guarantee that a product can be put on the market and work smoothly with other applications.

Standards can determine the success or failure of new technologies. Without the single GSM standard agreed in 1987, and deriving from EU-funded R&D, Europe would not have achieved its global leadership position in mobile communications.

However, for fast-moving markets such as high-technology products, our standard-setting process has become too slow – and increasingly standards are set outside Europe in ad hoc

bodies, where European companies have only limited influence. In response to this, standardisation bodies have introduced new, less formal ways of working which allow agreements to be reached more quickly but which have, as in the recent case of mobile TV standards, led to the setting of multiple, non-interoperable standards. This means no single market can develop with all the ensuing costs for users and producers of devices and services.

This situation cannot be allowed to continue. The Commission will urgently consult industry and make proposals which will allow standards to be developed quickly enough to cope with very short innovation cycles whilst ensuring full inter-operability.

Sector-specific conditions

Whilst improving the general framework conditions will help all companies to innovate, global success also depends on creating the right conditions in specific sectors.

The current tendency for technologies to go wireless will accelerate. Without a real common European approach to manage spectrum the development of these technologies will be hampered. As far as renewable fuels are concerned, another promising technology, solutions will need to be found to resolve infrastructure and distribution constraints. These are examples where the right public policy decisions can give European industry a decisive head start.

In other areas, such as resource-efficiency and eco-innovation, the role of governments is to provide legal predictability to enable companies to plan their investments. They can set an example by ensuring that their public buildings meet the highest standards. Instead of buying standard products off the shelf, they can make smart use of their large procurement budgets by requesting innovative solutions. In so doing, they can create the necessary demand for the development of, for example, more energy-efficient buses or highly sophisticated waste treatment facilities.

In sectors such as health and education where the government itself is a major actor, there is significant scope for using its funding or organisational prerogatives to promote innovative applications that increase quality and efficiency of the services. More generally, governments can positively influence innovation by modernising their public administrations, particularly through e-government applications.

Within its initiative to promote the emergence of lead markets, the Commission will undertake a sector-by-sector analysis – drawing on outside expertise – in areas which hold potential for creating demand for new innovative products and services. This analysis will identify obstacles that need to be removed and will assess how best to use public policy instruments so that promising applications, across cutting edge as well as more traditional sectors; can get to the market and grow into global success stories.

IV. CONCLUSION

There are many facets to promoting innovation. The success of some countries and regions in creating a genuinely favourable environment to innovation is largely due to a conscious political decision to take a strategic approach to innovation, by focusing policy on a key set of framework conditions and ensuring that its implementation is a matter followed up at the highest political level.

The Lahti informal European Council offers Europe's leaders the opportunity to give clear guidance in concrete areas which can boost innovation in Europe, thus contributing to the goals set by the renewed Lisbon strategy for growth and jobs. There is no need to create new structures. Making sure that progress on these measures proceeds rapidly should be monitored within the context of the Lisbon strategy at future Spring European Council meetings.