



# **Commissioner Janez POTOČNIK**

Speech

**Back to basics – putting excellence at the heart of  
European Research**

**London School of Economics  
& Political Science**

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Dear Professor,  
Ladies and Gentlemen,

When Professor Worthington invited me to visit LSE, she reminded me of a speech I made some months ago in which I called for social scientists to be “more daring”, and for European social science to be “bolder in breaking new ground and testing new ideas”. In speaking to you today about the creation of the European Research Council, I hope to demonstrate that the European Commission is not afraid to practice what it preaches, and to put its money where its mouth is. I therefore intend to dedicate most of the time allocated to me today to a wonderful project that is being created in order to put excellence at the heart of European research – the European Research Council.

## *The challenge for European research policy*

I think that it is fair to start by sharing some of my thoughts on the challenge European research faces and to quickly sketch out the policy context in which the European Research Council is being created.

It has been estimated that the European Union produces almost one third of the world's scientific knowledge. Yet the EU is less successful at converting its achievements into commercial technologies.

In fact, in 2002 the EU25 was running a trade deficit in high tech products of €33.7 billion. The EU has been unable to increase its share of this market, while countries such as China have experienced stellar growth.

What is the solution? How can we compete on the basis of creativity and ideas?

We must focus on improving the knowledge triangle: the way knowledge is produced through research, diffused through education and used and applied through innovation.

European-level research in general and the Framework Programme in particular, are of course central to this strategy. EU research spending has a major economic impact as studies show.

There are two basic factors contributing to the scale of this impact: firstly, the “crowding in” effect which means that participants are willing to invest additional resources of their own because EU projects give access to foreign researchers and research outputs in a way that national funds simply cannot. Secondly, EU projects have large economic multipliers associated with them. The pooling of competencies and resources increases the likelihood of a breakthrough in a given area.

This economic impact demonstrates that public spending on research represents not a cost, but the best possible investment in Europe’s future.

It seems that we now have a coherent approach to building a Europe of knowledge. Never before have had political leaders so clearly acknowledged the central contribution of research and innovation for underpinning the European economy, and for improving the wellbeing of European citizens. In this regard I wish to give credit where it is due, and recall how outspoken have been

the UK representatives on this issue last year when they held the EU presidency.

This is the context in which the European Commission is developing its proposals for the next Research Framework Programme, and this is why we have targeted a substantially increased budget for FP7.

- The lion's share of FP7 expenditure will go towards supporting co-operation in key scientific and technological areas where we want to establish European leadership.

The scope is enormous, covering priority themes in health, food, agriculture and biotechnology, information and communication technologies, nano-science, nanotechnologies, materials and new production technologies, energy, environment and climate change, transport, including aeronautics, socio-economic sciences and the humanities, as well as security and space.

- The Ideas Programme will establish a European Research Council, a pan-European mechanism to support frontier research. I will come back to this in few moments.

- European science can only be as good as the people carrying it out, and that is why the People programme, will support a range of actions to foster the training and networking of researchers, building on the very positive experience in previous programmes.
- The Capacities programme will develop the best possible resources and conditions for Europe's research community. Under this heading we will address research infrastructures, SMEs, the regional dimension, stimulating the research potential in the newest Member States, and the outermost regions, international cooperation, coherent Development of Research Policies, and, last but not least 'science in society'.

## ***The European Research Council***

As a European Commissioner, I am used to hearing arguments that are critical of the EU's ability to take timely and effective action to pursue our social and economic policy objectives. Above all I hear that the European institutions are prone to bureaucratic stagnation; that we are too caught up in process; and that we are slow to respond to the challenge.

I don't intend to address criticisms such as these directly today. What I know for sure is that the European Research Council tells a different story. I should like to focus today on the various threads of that story - scientific, structural, institutional and political – that have come together in this initiative, and to show how they point towards a more optimistic assessment.

Allow me first to review the background of the ERC.

The guiding philosophy under which research policy has been pursued in the European Union in recent years has been the concept of the European Research Area. As the name suggests, the key idea is to create a kind of single market for research, and for the creation, diffusion, absorption, and exploitation of scientific and technical knowledge.

The European Research Area initiative is an integral part of the Lisbon strategy, set out in 2000, with the aim of achieving a truly dynamic and competitive knowledge-based society.

The European Research Area does not imply centralist, top-down thinking. Instead, it aims at pluralism and diversity, within a flexible research system. And this system has the capacity continually to evolve as a function of need and opportunity, on the basis of interacting strategic decisions made by a wide array of national and European actors.

As I will explain, the ERC represents both a logical and necessary extension of this philosophy and a radical intervention within it.





## ***The scientific thread - The ERC concept and “frontier research”***

If research and technology have come to be understood as critical contributors to the health and dynamism of modern societies, so has their importance as leading contributors. What I mean by this is that developments in research and scientific understanding are often what actually drive forward developments in society and economy.

Thus, countries with leading edge research are the ones that are best positioned to maintain and advance their quality of life and their positions in the world. They are best able to establish leading edge industries and services, and to generate intellectual assets with long term returns. We see this reflected clearly in the industrial strategies of many of the fast-developing countries such as China, India, Singapore, for example.

This puts much emphasis on what one might call the strategic capacity of the research community. At the heart of the European Research Council concept is the recognition that practising researchers are best placed to identify those exciting new opportunities and directions at the forefront of knowledge that will

lead into the industries, markets, and broader social innovations of the future.

The ERC approach is therefore wholly investigator-driven, or “bottom-up”, in nature. Instead of relying on the identification of political or thematic priorities, the focus is on supporting the highest quality research from all disciplines by funding individual teams in open competition at pan-European level, solely on the basis of excellence.

It is important to stress that, although I am talking here about a mechanism to identify and support research that stands at the forefront of creating new knowledge and developing new understanding, the ERC should not simply be understood as a funding mechanism for “basic research” in the traditional sense of the term.

Here, I would go beyond the commonplace observation, which is of course entirely true, that some of the most promising research prospects today are found in areas like nanotechnology, at the borders between different disciplines.

Science and scholarship are today extremely complex. Enormous yet often unpredictable interactions occur between previously distinct areas of knowledge. Understanding problems of global warming demand contributions extending from atmospheric chemistry to economics and sociology. Neuroscience makes connections between molecular biology and subjects like the appreciation of art and music. But the ERC is also expected to play a key role in the support of social sciences and humanities. For instance, we can think about religious studies combined with network theories in studies of the origins of terrorism.

Furthermore, many emerging areas of leading-edge research combine elements which in an earlier era would have been distinguished as “basic” or “applied”. For example, key areas of fundamental mathematics are today concerned with the development and understanding of algorithms, which would earlier have been labelled “applied”. Much of contemporary fundamental biology would simply not exist as a pure science, since the techniques of genetic manipulation are so central to the process of discovery in that domain.

For these reasons, we are deliberately using the term “frontier research”, rather than “basic research” to describe the activities of the ERC. Frontier research is directed towards fundamental understanding, at the frontier of knowledge; it is not directly market-related. But it is designed to give a 21<sup>st</sup> century connotation to the ERC, rather than one captive to the dynamics of research in the mid-20<sup>th</sup> century.

## ***ERC impact: the structural thread***

The ERC is thus an instrument specifically tailored to address current and future prospects for science and scholarship. It represents a fabulous opportunity for the very best of Europe's researchers. But it is much more than that. It is a vital response to a serious structural problem of research in Europe.

A few moments ago, I highlighted the crucial importance of frontier research to Europe's future. The problem we face, however, is not that there is a big deficit in European research performance as such. To be blunt, the problem is that the very best research – that is to say, the research that will have a truly outstanding impact in the world of tomorrow – is often not being done in Europe.

I hasten to assure you that I am taking a broad view, not one that necessarily applies to every institution or research discipline. But the facts speak loudly. On average, Europe's production of research and its impact is at around world level. But in its share of the very top publications (for example, measured by citations),

and of the most influential researchers, Europe is totally dominated by the United States.

The situation is even more discouraging when we refer to new scientific fields. Although Europe shows reasonable strength in chemistry, physics, maths, and clinical medicine, for example, it is underperforming in the fast-emerging fields such as biotechnology and nanoscience; fields in which science and technological innovation are closely interconnected, and that are therefore critical to the development of a knowledge economy.

What is going on here? Europe as a whole seems to have problems in selecting and supporting new and influential fields of research, managing rapid quantitative growth in these fields and combining this with high quality. These problems suggest a mismatch between the institutional set-up for research in most European countries and the requirements of new leading sciences. We are thus ill-equipped to respond adequately to the challenges of global competitiveness. Existing research funding mechanisms tend to support more established disciplines where the division between basic and applied research is more pronounced.

Top-down strategic priorities and the inertia from past priority-setting, result in a lack of flexibility and an inability to respond to the needs of the future. Furthermore, the existing institutional setting fails to encourage the mobility that is necessary to catalyse and support the growth of these areas with high-quality human resources.

If this is the case, how can the ERC help? A recent report of high level economists and science policy specialists came to the following conclusions:

- First, by creating open and direct competition for funding between the very best researchers in Europe, the ERC will enhance aspirations and achievements. It will enable the best ideas and talents to be recognised from a much larger pool than exists at national level, and thus will raise the overall level of expectation and achievement.
- Second, the ERC's competitive funding will be able to exploit the diversity of European research talent, and channel funds into the most promising new fields, with a degree of agility not always possible in national funding schemes.



- Third, as a highly prestigious and internationally recognised funding body, the ERC will confer status and visibility on European frontier research and the very best researchers, of the present and next-generation. Not only will this provide generous resources to them, it will also quickly signpost their talents and encourage the accumulation of younger researchers around them, with a strong multiplier effect by training and transfer of knowledge.

These are important contributions. But the ERC will also have substantial dynamic structural effects, which will have a long term influence on the European research system more broadly.

Higher quality peer review; the establishment of international benchmarks of success; the provision of reliable, up-to-date information on who are the “winners” and “losers” and why: these are the crucial “market effects” created by the ERC. They will increase the pressure on individual countries and send clear messages that will help national research systems to learn from European competition and maximise their research performance. They will also provide incentives to universities and other

research institutions to develop better strategies to establish themselves as more effective global players.

Looking outward, the European Research Council will surely make Europe more attractive to research leaders, irrespective of their country of origin. Europe's record of attracting and retaining the best researchers from around the world is rather weak. Despite producing more scientists and engineers than either the US or Japan, Europe is a net exporter of talented researchers. The ERC will also help to keep them in Europe by providing them with the resources necessary to develop their full potential.

The ERC is certainly not a panacea, but from the structural perspective, it represents perhaps the single most important means of remedying Europe's weakness in high-quality research and in new, fast-developing areas.

## *The institutional thread - a radical departure for Community research funding*

But the significance of the ERC as a dynamic new development does not simply lie in what it aims to achieve, but also in how it aims to achieve it.

The ERC introduces two very significant - in some ways even revolutionary - innovations of an institutional character, into the European research environment.

### *Subsidiarity*

The first relates to the interpretation of the subsidiarity principle. Built into the legal base of Community research policy is the requirement that research activities should only be carried out at European level if they create clear added value beyond national activities. This is an obvious condition for the effective functioning of the European Research Area.

Up to now, the subsidiarity principle has been reflected in Community research activities by limiting them to areas of cross-

national collaboration. This means, for example, funding either research teams in a consortium arrangement with different national partners involved, or supporting the mobility of researchers across national borders.

The creation of the ERC introduces a completely different, forward-looking and indeed complementary notion of European value added: the continental (rather than national) scale of competition for funding. The possibility of allowing a researcher in any Member State to compete with all other researchers to win funding in a way that guarantees the existence of open competition between the best players, whoever and wherever they are, and regardless of nationality.

Although this might at first glance seem a rather exotic rationale for added value, in reality it is quite obvious. Which Member State, which competitor country, would seriously think of funding frontier research through competition at sub-national scale?

## ***The Scientific Council and the ERC strategy***

The second institutional innovation relates to the establishment of the ERC as an autonomous entity under independent scientific leadership. As you may be aware, the supervisory body of the ERC – the Scientific Council – has already been established as an autonomous, independent body and met for the first time in October last year. It is composed of 22 high level scientists drawn from various institutional backgrounds and from the full range of research disciplines. In fact, as an economist myself, I am pleased to be able to tell you that 5 of the 22 members, including one Vice-Chair, are recognisably from the social sciences and humanities fields.

The role of the Scientific Council is broadly to establish the overall strategy, to monitor and control the quality and performance of operations and evaluate programme implementation, and to define the scientific management processes of the Council - including the peer review methodology and the selection of experts.

Under the leadership of Professor Fotis Kafatos, who works at Imperial College here in London, the Scientific Council is now meeting regularly and working hard to develop the scientific strategy for the European Research Council and to address the detailed implementation issues.

Meanwhile the role of the Commission is to provide the necessary institutional and administrative support and to work on building up the necessary implementation capacity.

So far the Scientific Council has developed a strategy that focuses on two main schemes: the “Early Stage Independent Investigators” scheme and the “Established Investigators” scheme.

The Early Stage Independent Investigators scheme will be designed to target talented, young researchers at the stage of starting their first independent research team. Under the existing European institutional structure, such individuals are denied the opportunity to undertake independent work in new areas, and are forced to look elsewhere if they want to develop and come through.

This scheme will be implemented at the start of FP7 and will run for the full 7 year period of the Framework Programme. I am sure that in that time it will have a dramatic effect on the culture of European research, by creating huge incentives towards improving opportunities for young researchers and stimulating the adaptation of national research structures.

In the second year it will be accompanied with the implementation of the Established Investigators scheme. This will be designed to support excellent, investigator-initiated projects by established researchers, and will therefore complement the first scheme by targeting existing independent research leaders.

Further information about the progress of the work of the Scientific Council will emerge from the meetings that will take place over the next few months.

## *The political thread – and the budget*

Let me turn now to the political thread in the story of the European Research Council.

The ERC has made the transition from concept to highly successful political project in a remarkable short period of time.

Although it is right to view the creation of a European Research Council as at the forefront of our efforts to boost the Lisbon strategy, it should not be forgotten that the widespread debate on a possible European Research Council had its origins in the scientific community. Needless to say, this community was primarily motivated not by political concerns, but by the need to boost the excellence of Europe's research base.

Just three and a half years on from the first political level discussions at the Danish Presidency conference in Copenhagen, the ERC initiative has the full support of Member States and the European Parliament.



The scale of this achievement should not be underestimated. It serves as testimony both to the ability of the European research community to mobilise itself in response to key challenges, and to the effectiveness of the community machinery in acting quickly and decisively to enhance the support for frontier research across Europe.

The European Research Council has been successfully negotiated as the “flagship” component of the Commission’s proposals for the 7<sup>th</sup> Framework Programme – or FP7 - which are currently being debated by the Council and the European Parliament. The UK presidency, notably the presiding over the research issues, Lord Sainsbury, have done a great job in securing that success and I am taking this opportunity to thank him and the others publicly.

There is no question that FP7 signals a major step change in the Community approach to research funding, firstly in terms of the budgetary priority that has been afforded to it, and secondly, as I have described, in terms of the way in which we are seeking to pursue our research policy objectives.

In 2013, the resources available for research will be around 75 % higher in real terms than they are today in 2006. Although this is not fully in line with our original ambitions, it represents a very substantial increase compared to the past. Furthermore, it reflects the strengthened priority that is being given to research as part of the reinvigorated Lisbon agenda.

Furthermore, the allocation of Community funding according to an entirely quality-based approach represents a dramatic development, not just in the context of research policy, but also in the wider context of the financial priorities of the community as a whole.

The scale of our commitment should not be underestimated, and is reflected in the budget that we envisage for the ERC. Although the final figures will be determined by the formal inter-institutional agreement on FP7 later this year, our proposal is for an average amount per year of just over 1 billion euros. This will be committed in line with the substantial and progressive development we foresee for the ERC, so that the budget at its start in 2007 will be 300 million euros, and will expand to a figure of 1.7 billion euros in 2013.

At this time I wish to underline that the proposal explicitly provides for eligibility of projects coming from within the field of socio-economic sciences and humanities among those supported by the programme. I acknowledge that this is a slight departure from the “open ended” approach we have generally undertaken vis-à-vis predetermination of eligible fields or disciplines. I do believe, however, that this departure is justified in view of the importance of the social sciences and humanities and to dispel worries that the ERC would become an exclusively “hard science” club.

However the amount to be dedicated to the ERC is not yet secure. Consensus is always easier before budget discussions become serious. There are always dangers at the very end of a political negotiation, when different interests emerge and negotiating strategies turn towards brinkmanship. This is especially true in the case of a “non-aligned” activity such as the ERC which has no sectoral label. But let me tell you one thing – if there is a fight worth fighting, this is the one. The success of the ERC depends heavily on its critical mass, and it is vital that the other institutions – the European Parliament and the Council of Ministers – maintain their focus on this until the very end of the discussions.

## *Conclusions*

Ladies and Gentlemen,

The creation of the ERC should therefore leave nobody in any doubt about the Community's commitment to identifying and exploiting major opportunities to help achieve our goals for Europe's economic and societal development. I also believe that it shows that EU institutions are capable and willing to work together rapidly to take bold, decisive, and innovative steps forward.

The adoption of the ERC legislative proposals later this year will be a historic moment for EU research policy, a hugely significant moment for the construction of the European Research Area, and I sincerely hope also an exciting moment for Europe's most talented scientists.

The new mechanism will offer the long-term grants that can provide world-leading researchers with the freedom and flexibility they need. As a result it will boost Europe's competitiveness by helping to attract and retain the best researchers; by supporting

risk-taking; by stimulating novelty and high-impact research; and by promoting world class scientific research in new, fast-emerging research fields.

Furthermore, it will catalyse the structural adaptation of the European research base, and supplement efforts already underway to make it more relevant to the challenges of a knowledge-based economy.

As a result, I believe the ERC will successfully provide Europe with the world-leading capabilities in frontier research that are necessary to meet the global competitiveness challenge. And it will perhaps also help in increasing the number European scientists winning Nobel Prize winners, be they European by nationality or their choice of place for doing research.

Thank you for your attention.