



**Speech of Prof. Helga Nowotny  
President of the European Research Council**

***Competitiveness Council lunch***

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**CHECK AGAINST DELIVERY**

Dear Ministers, Dear Commissioner,

It is a great honour to be able to introduce your lunch discussion today.

We are living through a time of **unprecedented challenges**. Europe's ambition is to meet these challenges and move to an era of "**smart, sustainable and inclusive growth**". But it is the decisions we take individually and collectively in the coming months and years that will determine whether we succeed or not.

A crucial component of Europe's response will be **Horizon 2020**. And I am sure we are all eagerly awaiting the Commission's proposals. These proposals present a great opportunity to rationalise and strengthen support for research and innovation at the European level. I would therefore like to set out briefly today how we see the **role of the European Research Council during the coming critical years**.

### **ERC's fundamental mission**

The fundamental mission of the ERC is to fund cutting-edge, frontier research in Europe. But I am still being asked whether this is necessary. Doesn't Europe already produce excellent science that is not exploited? Isn't it more important to equalise research capacity across Europe? Don't we need to apply existing research towards societal challenges?

These are all genuine questions to which I will return shortly. But the truth is that **Europe has been second best to the US in terms of the very best research for many decades now**. And major emerging economies are increasing their scientific capabilities at a pace never before seen. In order to meet our ambitions it is essential that Europe can once again take a leading role in creating the technological paradigm shifts which will be the

key drivers of productivity growth, competitiveness, wealth and social progress in the future.

These shifts don't come along every day. And they are not the result of incremental, "for the record" research. They happen when researchers are given the freedom to explore new areas, put together different ideas in new combinations, take risks, make breakthroughs. **This is how the ERC defines excellence.** And unfortunately too much European research is not excellent in this sense. For example, while the EU has nearly three times as many public sector researchers as the US and produces the most scientific publications in the world, the US produces twice as many of the best scientific publications. US universities dominate the top places in international league tables. **70% of Nobel Prize winners work in the US.**

So yes, it is still essential to reinforce excellence in Europe. Does that mean that supporting such research would solve all of Europe's problems? Of course not.

One of the things that the Commissioner must be commended for is that she quickly understood the need to take a more holistic approach to research and innovation than before. As set out in the Innovation Union flagship initiative it will be necessary to work on economic framework conditions, education, finance, markets and many other issues to raise Europe's innovation performance. Excellent research is a necessary but not sufficient condition. Only by seeing the challenges clearly can we address them.

And the Commissioner has also set out a bold vision for the EU's future support for research and innovation. The current, sometimes complicated and confusing, overlapping set of instruments will be rationalised, strengthened and focussed under Horizon 2020.

And I am happy to see a clear recognition in this structure that reinforcing the excellence of our science base is one of the main challenges, alongside applying science to tackling societal challenges and exploiting science to make European industry more competitive.

## **Reinforcing excellence**

What then is the ERC's role in reinforcing excellence?

Firstly, even though the ERC is still a very young organisation, it is very exciting to see the talent, which the ERC has already been able to fund. ERC grantees feature **very prominently as winners of the highest international research prizes and awards** (including the Nobel Prize, Fields Medal, Wolf Prize, Lasker Award, Millennium Technology Prize and Crafoord Prize). Their research is starting to leave its mark in the top journals of their respective fields, with publications acknowledging ERC funding in high-impact journals (such as Nature and Science) several times per month. The ERC's Scientific Council is particularly proud of the early-stage researchers that have been funded. **Many European countries put too many barriers** in the way of the next generation of researchers achieving independence.

So I have no doubt that we are funding excellent research. And it is equally clear that we could fund much more top-quality research. The number of excellent proposals we receive, especially from the younger generation, is increasing each year, more than matching the increases in our budget. In consequence the success rates in the ERC calls are relatively low and decreasing (13.8% over the last five calls) and many excellent proposals remain unfunded. Therefore, it is fair to say (paraphrasing the physicist Richard Feynman) that **“There is still plenty of room at the top”**.

## **Excellent research benefits us all**

So we have high hopes that from the research we do fund we will see important breakthroughs which could have major economic or societal consequences. In order **to help accelerate these breakthroughs we introduced "Proof of Concept" funding last year.** This allows our grantees to explore the potential for commercial or social gains arising from their work. This helps us to capture the full value of the frontier research which we fund.

In these ways we expect the ERC to have direct impacts **on all aspects of our lives.** And this is a crucial point. It is natural that every time we announce the latest ERC grantees there is great interest in where they are located. People want to root for their team. To see who is winning or losing. But as scientists we know that frontier research is a collective, public and international endeavour. And ultimately the results do not narrowly benefit any particular institution, region or country. The great scientific breakthroughs do not result in a new gadget or a patent. They result in a new understanding of the world, from which countless benefits flow. So we are in danger of taking too narrow a view if we only focus on where the ERC grantees are based.

Still we are very happy that people are interested in our grantees. We understand this and indeed encourage it.

We want ERC funded projects and grantees to set a clear and inspirational target for frontier research in Europe. We want to raise the visibility and attractiveness of European research for the best researchers at the global level.

This benchmarking function is vital because the ERC can only be complementary to wider efforts. **By the end of FP7, the ERC will have**

**provided approximately 5,000 grants.** So you can see that even if, as I hope, our budget is substantially reinforced, it is obvious that we cannot be the body responsible for funding the best ideas of **all of the EU's 1.4 million researchers.**

### **The role of Member States in the European research landscape**

What we can do over time however, is to hold up a mirror to the European research system. The ability of national systems and individual research institutions to attract and host ERC grantees can help to show their relative strengths and weaknesses. They can then reform or adjust their policies and practices accordingly. And already we see that the prestige of hosting ERC grantees and the accompanying "stamp of excellence" is leading to intensifying competition between Europe's universities and other research organisations to offer the most attractive conditions for top researchers.

In this way Europe can produce more of the excellent science that will benefit us all. So the aim of closing the current gap between the EU and the US is not to win some imaginary scientific contest. **The reality is of continual, active cooperation between EU scientists, including many of those funded by the ERC, and their colleagues in the US and elsewhere.** So it would be a disaster for science if we were to build a wall around our European or national researchers. As I said earlier, science is collective, public and international. The aim is for us to create the conditions where Europe can make its full and rightful contribution to this global endeavour. At the same time, as the Commissioner so rightly emphasizes, we must also create the conditions where our entrepreneurs and companies can make their contribution and take the opportunities available to them.

The question is not therefore for the ERC: what is the ERC doing to change its distribution of grants? **The real question is for all of us: what are we, in the Member States, the Universities and the other research institutions doing to change the distribution of ERC grants?** Do our institutions and researchers have the resources and freedoms necessary in order to compete at the highest level? Is our funding based on merit and competition? Do our young researchers have the opportunities to independently pursue their own ideas at an early stage? Is our system open to talented researchers from other countries? Is research funding a national priority?

These questions are not directed to any particular group of countries or regions. **There is no room for complacency in any European research system.** The next wave of technologies is emerging in areas such as renewable energy, nano-electronics, tissue engineering, cloud and ambient computing, synthetic biology. Where are we placed in those areas? Why do tens of thousands of researchers from all the EU countries still feel that they need to go to the US? Only this year, China has surpassed the number of researchers in the EU for the first time and from a very low base is on course to exceed EU research intensity next year. Are we content to admit that from now on the best science will be produced elsewhere?

### **Supporting excellence across Europe**

Of course the Scientific Council is very much aware that the authorities and scientific communities in some countries do not regard their results in the ERC competitions so far as fully reflecting their scientific and intellectual capacity. The reason for the current performance is principally a

reflection of previously low levels of R&D infrastructural investments, rather than a short-fall in talent. And ultimately this can only be addressed at national level.

Our responsibility is to ensure that "the mirror" is not distorted. **Scientific excellence is the sole criterion on the basis of which ERC grants are awarded.** But we must ensure that there is a level playing field.

We must first ensure the **integrity of our peer evaluation system** which is the core of what we do, and the ERC's most valuable asset. We constantly monitor the evaluations to identify potential biases (e.g. in terms of gender, age, nationality), to guarantee transparency, fairness and impartiality in the treatment of proposals. There is always room to improve and we will happily listen to any suggestions or feedback. But what we cannot do is to introduce quotas or distortions as this would nullify the very purpose of the ERC.

Secondly, we are taking measures to enhance the **awareness of the ERC grants schemes across Europe.** Several events have therefore already been organised with the help of the ERC National Contact Points and national academies of sciences. For instance, the ERC and its Scientific Council went to Bucharest last year and to Budapest this year, under the Hungarian Presidency of the EU. To build upon these successes, this autumn the ERC will visit both Latvia and Poland. In this context we would like to praise the efforts of the current Presidency. With the support of the ERC, the Polish ERC National Contact Point is coordinating specific seminars in various research institutions to increase participation and awareness of the ERC amongst researchers in Poland. In addition, ERC representatives at the highest level – the Secretary General, the ERC

Executive Agency Director, and the Vice-President - are participating in key events and meetings in this country. By ensuring that the best scientists are well informed throughout Europe, the ERC hopes to increase the level of participation in its competitions and ultimately to contribute to nurture the interest for science in these countries.

**We also know that there is a steep learning curve when countries join the Framework Programme.** Large projects do not favour all countries. It can be hard to get the right information, to set up a consortium and penetrate established networks.

The good news is that other Member States have shown how it is possible to build up their research capacity considerably by combining wisely the support offered by the EU's regional funds and their own efforts.

And I know that the Commissioner is working hard to find further ways to help. By creating "stairways to excellence" from cohesion funds. Through simplification. By improving the National Contact Points' network. And by funding returning scientists through Marie Curie.

**The situation is dynamic. Ambitious individuals, institutions, regions and countries can seize the initiative.**

And in many ways the ERC is the perfect tool for ambitious individuals, institutions, regions and countries. It is true that 50% of our grants have gone to 41 institutions. But the other 50% has gone to over 400 more institutions in 25 different countries. We provide flexible funding to individual Principal Investigators. Portability means that researchers can take their funding anywhere and we already have examples of grantees

taking this opportunity to return to their home countries. Countries can and already do use our peer review to provide funding for excellent proposals which we were not able to fund.

As a recent Irish grantee at the Waterford Institute of Technology said “I firmly believe you can do world-class research anywhere, as long as you have the right attitudes, people and ideas.” I share this conviction. **Excellence can be everywhere.** It is possible for every country to have at least one facility for excellence. And such hubs for excellence will also become nurturing ground for future ERC grantees.

**In summary, my main messages are that:**

- excellent science brings global benefits and is the bedrock upon which future innovations must be built;
- but we must also create the much broader conditions under which innovation can flourish;
- it is still essential to reinforce excellence in Europe and excellence can be everywhere;
- the ERC can play a leading role in this, but it will require much more than our efforts alone.

**Our efforts must complement ongoing efforts at EU, national and regional level** to reform, build capacity and unlock the full potential and attractiveness of the European research system. Contributing to this process could, we believe, ultimately be the ERC's greatest impact.

To end where I started, the decisions we take individually and collectively in the coming months and years will determine whether we succeed or not. We must all take our own responsibilities.

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