



European Research Council
Established by the European Commission

**ERC President Jean-Pierre Bourguignon at Horizon 2020 Working Group meeting of
the Committee on Industry, Research and Energy (ITRE)**

European Parliament, Brussels

8 November 2016

I would like to thank the Committee for inviting me to address you once again.

Your support for research, and in particular for the European Research Council, has been invaluable, and several times in the past your intervention has proved decisive. I could witness that myself since I have been President of the ERC, for almost 3 years now.

Of course I want to take this opportunity to update you about the latest achievements of the ERC. But I feel I need to do more than that, namely to try and make you share the enthusiasm which I and the scientific community of Europe feel towards the ERC.

Let us go a little back in time. It is the right time to remember what has happened at the beginning since in March 2017 we will celebrate the 10th anniversary of the ERC.

In 2007, I was one of many scientists who had been asked by the first ERC Scientific Council to evaluate the first call for starting grants.

The Framework Programmes had been operating for many years on the basis of funding transnational collaborations in more applied areas as the EU added value was easy to claim.

The idea of a European Research Council looked very ambitious, and far fetched. Many were even challenging that funding frontier research projects submitted by individual researchers would have a significant EU added value. On top of that, there was also nervousness within the Commission about the legitimacy of handing over the duty of allocating large sums of EU taxpayers' money to an independent governing body, the ERC Scientific Council.

So all those who participated in those first panels felt a strong sense of responsibility, and some nervousness. Having campaigned so long for an ERC, now we had to make it work!

And we certainly had to work! That first call saw 9,000 applications for just 300 grants. It was the first time the staff assembled to support us had to run such a call. No dedicated buildings nor IT system. The ERC was there to be a proving ground for a whole new conception of EU added value, a challenge that DG Research took on and supported.



European Research Council

Established by the European Commission

But, together, we did make it work. And it was a wonderful experience. Because the many hours we sat on those panels showed us two things: Firstly, the amazing potential of Europe's young researchers when given the freedom to define their own path; And secondly, for the first time, we could do that in the name of the European scientific community.

Looking from the vantage point of 2016, and after all what has been achieved, one can easily forget this. Now, the ERC appears as an established, I should even dare to say an indispensable, part of the research funding system in Europe.

Indeed, since 2007, the ERC has supported over 6,500 researchers to develop their ambitious projects. The ERC has seen 6 of its grantees being awarded a Nobel Prize, the latest being this year Professor Bernard L. Feringa, and 2 a Fields Medal. More than 30,000 post-doctoral fellows and PhD aspirants are working in teams built by ERC grantees. We now see countries around the globe queuing up to sign agreements to send their best young researchers to work here in teams of ERC researchers. It was made by DG Research an essential part of the Excellence pillar of Horizon 2020, and this met your active support.

Today it is appropriate that I highlight an important milestone we have just become aware of. When scientists publish the results of their work, they often cite the work of other scientists they found useful. In this way looking for highly cited papers is a quick way to identify papers impacting the community. In 2005 there were 8,000 top 1% most cited papers in the world with an EU author. By 2014 this number had reached 14,000. In 2014 reported ERC publications represent nearly 7% of those, a remarkable achievement in less than 10 years. At the same time, ERC funded researchers score 7 times higher than "normal" (1%) on this key performance indicator. The most exciting part of the news is that, for the first time in 2014, authors based in the EU appeared on more top 1% cited publications (14,172) than authors based in the US (14,093). This would not have been the case without the nearly 1,000 papers ERC funded researchers contributed. This shows the remarkable scientific impact ERC researchers have at world scale!

The ERC's achievements have transformed the attitudes of scientists towards EU research programmes. When the idea of the ERC was first hatched, many of Europe's top scientists were very suspicious towards EU-funded research. Now, in Europe, the ERC is almost universally seen as 'first best' funding option. It has set a gold standard in quality frontier research, while giving the highest priority to empowering the next generation of researchers.



European Research Council

Established by the European Commission

The ERC has also raised the bar for researchers, institutions and even countries regarding what it takes to develop high quality research. Many of them have changed their structures or developed new ones in order to perform better at ERC competition. We can see this impact in many different dimensions: prizes, publications, but also through the competition for ERC grantees institutions and countries involve themselves in, the use of ERC grants as an indicator of performance at national level, and the fact that, worldwide, many well established bodies such as the US NSF or the Japan Society for the Promotion of Science see ERC as a peer, if not, for some of its activities, a model to be copied. Commissioner Moedas is often using ERC as a model of the action of the European Commission.

But this successful path was not inevitable. Indeed, after the initial euphoria, it could have happened that the interest in the ERC calls declined, that standards slipped, that bureaucratic inertia sat in, leading to the disenchantment of the scientific community.

But this has not happened! The Scientific Council sees it as its main job to make sure this will not happen. We must safeguard the principles of autonomous governance of the ERC because they condition its continued success. Of course the dedication of the very competent staff of the Executive Agency running the ERC has to be acknowledged here. It constantly makes the case for the ERC needs against unjustified attempts at uniformisation.

I personally feel that it is my utmost duty to ensure that nobody takes the achievements of the ERC for granted. The status quo is not an option. Positive momentum must be maintained. A long term perspective has to be adopted when discussing the future of the ERC. More degrees of freedom have to be given to it to ensure its success can be broadened.

It is with this in mind that the Scientific Council just decided to relaunch in 2018 Synergy calls for 2, 3 or 4 researchers bringing their vision and expertise together to tackle an exceptionally challenging problem. We must give more room to pluridisciplinary research in order to make it thrive in Europe. This will also ERC allow to reach out to new communities.

We understand why the first priority of European politicians is to provide more and better jobs and achieve more growth. It seems to be now widely accepted that funding frontier research is one of the best ways to bring sustained growth. But I claim there is still a misunderstanding out there. Some people, outside the scientific community, seem to regard funding frontier



European Research Council

Established by the European Commission

research as if it was a lottery. They behave as if buying a few tickets to take a chance is OK but most of the funding should be spent more “sensibly”.

I think this is plainly wrong, and, in the end, a damaging view. Because we have proof that, while ERC is funding high-risk research, it delivers (the ex-post evaluation of the first completed ERC projects identified 21% of them as breakthroughs), and also because funding frontier research has many benefits beyond scientific advances. The ERC Scientific Council introduced the Proof-of-Concept scheme to make sure that ERC researchers would be able to branch out and get closer to markets or societal needs. You will hear more on this later.

Look! Frontier research increases the stock of useful knowledge, both codified (e.g. via publications) and tacit (know-how and experience). It trains skilled technicians, graduates and researchers in solving complex problems. It produces new scientific instruments and methodologies. It trains scientists working in panels to recognize good opportunities, spreading novel ideas. It creates international peer networks circulating the latest knowledge. It can even bring totally new light on questions about societal values and choices.

Intense efforts in frontier research allow countries to be at the forefront of knowledge creation because, without access to these results, individuals, firms or countries lack the capacity to identify and assimilate potentially exploitable knowledge created elsewhere. It is a critical point, as, for each country or region, most useful knowledge comes from elsewhere.

Furthermore, research and education, particularly postgraduate education, are intimately linked. For example, some 60% of the funding provided by the ERC for research goes on staff costs, predominantly to support PhD candidates and postdoctoral researchers working in the teams of ERC funded Principal Investigators. A majority of these highly trained individuals will go on to work outside academia, using their acquired skills to impact the economy.

When Europe aims to be the top ‘knowledge economy’, funding frontier research does not only produce new knowledge, it also produces new knowledge workers. And Europe needs to create the conditions to attract the brightest students to its higher education institutions. The best recipe known to date to achieve that is to fund the best frontier research.

The ERC is funding only about 1% of researchers working in Europe with a budget representing roughly 1% of the available budget for research. With a success rate of



European Research Council

Established by the European Commission

applicants that fluctuates slightly above 10%, the ERC is missing to fund a significant number of excellent projects year after year purely due to budgetary constraints. More top researchers could be funded. Achieving a 15% success rate could be a good target. It would even encourage evaluators to support bolder ideas of applicants and to take more risks.

In conclusion, I believe that funding bottom up frontier research on a much larger scale could radically change the European research and higher education landscape in a relatively short time. In recent years, researchers proved their capacity to address some of the challenging issues such as migration or energy questions without having their hands held. The role of the European playing field would be to provide a dynamic tier of competitive funding driving up the overall quality, with Member States providing the needed long-term institutional investments and more focused efforts with a more local impact.

This is a radical vision but the series of difficult challenges facing Europe today require that business as usual be no option and that bold and decisive actions be implemented.

Several of the key decisions shaping the next framework programme will be made already next year. As part of the interim evaluation of Horizon 2020 a High Level Group has been asked to *“draw strategic conclusions on maximising the impact of EU Research and Innovation programmes in the future and to formulate a vision for future EU Research and Innovation”*. Furthermore, the draft EU budget for the next programming period is due to be proposed by the Commission before the end of next year. This will not contain any details about future research funding but it will fix the overall budget and therefore define the level of ambition of the next framework programme.

We are currently living in a period of considerable political uncertainty. We cannot be sure even of the membership of the European Union when it comes to 2021. And several key elections will take place across many Member States in the coming years. As a result the precise conditions under which many of the key decisions will be taken are even more difficult to predict than usual. Times of uncertainty can make decision makers timid but they can also open the way to bold decisions. Members of this committee have supported bold choices in the past, and I hope that you will do so again!

Let me add one final consideration: In a moment where EU's image is suffering in many countries, the image of the ERC is amazingly positive, for all the reasons previously put forward. The EU, and I mean all people involved in its institutions, should exploit this positive



European Research Council

Established by the European Commission

image much more than they do now: in their speeches, simply informative or political, in their debates with citizens, in the narrative on the relevance and achievements of Europe. Giving a good example, last May, Vice-President Ansip tweeted: *“Meeting with the European Research Council - one of best things that has happened in EU research in past 10 years.”*

All the ERC grantees are great ambassadors not only of the ERC, but of the EU and can bring this very positive message about Europe to citizens. One example is here with us today: it is a great pleasure for me to introduce Valeria NICOLOSI, a very successful ERC grantee. By listening to her, the reasons to bring the support of ERC to a new level will be even more evident to you. I give her the floor. Thank you!