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**European Research Council President Jean-Pierre Bourguignon visiting the Budgets
Committee
European Parliament, Brussels**

27 January 2016, 15:00 – 18:30

Opening statement

I would like to thank the Committee for the opportunity to make a presentation at a critical time for European future.

Leading actor in a world experiencing a number of major tensions and emergencies, Europe is facing multiple challenges. Its Institutions must use every opportunity and occasion to successfully rise to them. That is why the current midterm revision of the EU budget is so important. The European Parliament is determined to get all data necessary to propose the best adjustments while ensuring that the reviewed budget reflects the priorities and opportunities of the 21st Century. One of the key elements to the success of this enterprise is what some people call the Fourth Industrial Revolution (theme of this year's World Economic Forum) in which, through innovations based on radically new knowledge and technologies, science will contribute in an unprecedented way, to the global economic development.

Each generation's essential responsibilities include preparing the next one and providing it with the means to overpass it. We must ensure that we do not forget this duty, even as we are struggling with today's pressing emergencies.

Fulfilling this duty lies at the heart of the mission given to the European Research Council (ERC) already in the 7th Framework Programme. It is also a core element of the current budgetary period, in the "Excellent Science" Pillar of Horizon 2020. The researchers funded by ERC are contributing at the highest level to lay the foundations - not just for the future, but for a better future. Europe will have to use all its resources to remain a privileged place to develop new knowledge which will give birth to ground-breaking innovations that can be implemented in a sustainable way and benefit everyone in the society. Through their works, grantees are thus directly contributing to innovation and economic progress themselves as many examples show that scientific breakthroughs lie at the heart of many radical innovations.

Among European programmes, the ERC has a simple mission: to provide substantial five-year funding to researchers working in Europe and selected on the basis of their most ambitious ideas for future research and their previous outstanding achievements, covering all areas of knowledge from Physics and Engineering to Life Sciences and Social Sciences and Humanities. Awards are granted solely according to scientific quality with no predetermined priorities, targets or quotas. The level of competition guarantees excellence (success rate barely superior to 10% of submissions). This is why in some eight years, getting an ERC grant has become synonymous of Scientific Excellence for the world scientific community.

In line with this, the ERC Scientific Council, which is charged with the budget's allocation, reserved two-thirds of the overall funding to young researchers: 2/3 of the laureates are between 30 and 40 years old (some are even younger!). This represents some 4000 young researchers who have



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been given scientific autonomy. Some 40 000 PhD students and post-doctoral fellows are working in ERC teams, 25% of them coming from outside Europe.

As ERC President, I can tell you that the members of the ERC Scientific Council feel a great sense of responsibility for the taxpayers' money that has been entrusted to them. This is why they have for instance decided to proceed to an ex-post evaluation of the first series of contracts after their conclusion. This independent evaluation, going beyond the financial and scientific aspects, aims matter-of-factly at appraising whether the ambitious goals of exploring the frontiers of research have been reached. I will come back to this at a later stage.

As senior scientists ourselves, immersed in our own scientific communities, we know what is needed to allow the best science to happen. We know that freedom of initiative, freedom of exploring ideas at the frontiers of knowledge are proven to be the best ways to generate radical breakthroughs. We believe in simple processes with a clear focus on scientific quality.

The decisive and key element to achieve that is the quality of the evaluation. This is why for every call (ERC is making 3 each year) we rely on around 350 high level scientists as panel members and on 2000 remote reviewers from all over the world.

We also believe that the follow-up of funded projects should be strict as far as expenses are concerned but light and tailor-made to the needs of frontier research with all its uncertainties. It should hence enable scientists to decide strategic or implementation changes when they deem necessary.

I should emphasize that the highly professional work of the ERC Executive Agency (ERCEA), the dedicated implementation structure of the ERC, enables the Scientific Council to convince the very best scientists to take part in the evaluations despite the high workload it entails (typically one month work every two years for each member of a selection committee.) An independent survey by the Commission showed that 93% of the beneficiaries highly praise their contracts' implementation and management. This outstanding performance is the result of the full and unconditional commitment of the ERCEA staff.

The result of this approach is that after nearly a decade of operation with so far nine billion Euro awarded to some 6000 beneficiaries, the ERC has an administrative overhead just over 2%, an error rate of 1.35% and an average time to pay of 22 days. The ERC has also committed 100% of its budget every year since its creation. This shows a sound and efficient use of public money.

This performance, beyond the mere "brand of Excellence", is a remarkable achievement. There are many success stories among which several Nobel Prizes and Fields Medallists. A serious pointer to excellence is that one third of ERC grantees have already published an article that ranks in the top 1% most highly cited worldwide among the 40 000 articles published in journals with international peer review. They are also the ones watched by industry, governments and non-governmental bodies as sources of radical technological and social innovation. During its first years, the ERC gave out only a small number of grants, so the number of these publications is growing every day and figures will hence keep growing every year. It should be noted that far more patents have been introduced than the frontier nature of the programme would have allowed to anticipate. The ex-post evaluation mentioned above carried out by independent evaluators shows that 20% of the projects funded by the ERC produced a breakthrough (with a very strict definition



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of such a performance), 51% a major scientific advance, meaning an overall success rate of 71% “overly above average”.

The ongoing process will be repeated every year. It proves in a qualitative way that ERC funded research has a large impact deepening the understanding of the world we live in. To assist ERC laureates wishing to explore practical extensions of their ideas closer to the market, the ERC developed the “Proof of Concept” sub-programme. This sub-programme won immediate recognition, even stretching to potential other partners such as the “European Business Angels Network” (EBAN). This kind of research can create whole new sectors of industry and services, one of the challenges Europe must raise, e.g. to in the digital age.

The approach chosen by the European Commission when establishing the ERC is not an idealistic position. Allowing the best researchers the freedom to explore ideas at the frontiers of knowledge is proven to be the best way to generate radical breakthroughs.

Today, as Europe faces crisis and upheaval, I am convinced that it can take up the challenges provided it makes the right choices. It must lean on those who believe in it and thrive to go ahead. This is the case of scientists working in Europe. For them, Europe is a reality and the benefits brought by the ERC clearly tangible.

To move ahead, one should not just “tick all the right boxes”. Moving forward requires mobilizing all driving powers and focus the right people on the right perspectives. A timid approach will not do! The European Union must be bold and invest decisively in solutions looking towards the future properly included in its budget.

Europe is sometimes seen as an “old continent”. The establishment of the ERC in 2007 proves that the European Institutions, among which the European Parliament plays a critical role, can innovate and create new, dynamic action spaces. The European added value of the ERC is self-evident: it does not allow any compromise on principles and is fully open to the world. On top of that it leaves no room to clientele building or small deals which too often prevail in local calls.

In spite of its young age, the ERC is already seen as a peer by top research organisations in the US, China, Japan and Korea. This is why they and other organisations in other countries have signed agreements to allow their young researchers to join ERC projects. In Europe, many countries are reshaping their research policy and creating new schemes based on the ERC model and philosophy.

The ERC can do even more. The rise in resources during the 7th FP stopped in 2013 and the period 2014 to 2020 started with three years where the budget was short of 100 MEuros compared to the 2013 budget. The rise is due to resume only in 2017 and continue until 2020. Given this constrained financial situation, and to control the increasing number of submissions, the Scientific Council set up restrictions to resubmissions. These were often seen as too strict. This was nevertheless a condition to keep effective evaluation; a carefully thought, responsible choice made by the Scientific Council. Yet it is true that the ERC refuses a number of very high-level applications. It is forced to turn away many excellent proposals from its current calls. In the first five calls of Horizon 2020, there have been nearly 1 000 applications to ERC, worth 1.8 billion Euro, to which the panels awarded the top “A” score but for which there were not enough funds to support them. Financing them would have cost an extra 1.8 billion Euros.



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In spite of the restrictions put in place, the mean success rate still remains at 11/12% but there is a risk that it falls below the critical 10% rate. If this were the case, some of the very top Individual scientists may well decide not to apply.

So far ERC has funded far less than 1% of Europe's researchers. I see no reason why ERC could not keep its commitment to the highest quality while increasing significantly the number of researchers it supports. It would give the ERC selection committees even more possibilities to take higher risks when confronted with the most ambitious projects. The resources necessary to achieve such a goal would be of the order of 1.5 billion Euros on top of the ERC budget presently committed until 2020.

One can give consider broadening the ERC modes of action, particularly in interdisciplinary research, which is considered essential for the 4th industrial revolution: in 2012, the "Synergy" programme set up to finance far-reaching, mainly interdisciplinary, projects involving up to four scientists working on ground-breaking challenges aiming at turning Europe into a world leader, was struck by a massive over-subscription leading to unacceptable success rates around 2%. The study just completed by the Scientific Council with visits to all laureate teams, convinced the sceptics of the value of this funding scheme, on the condition that one avoids what had burdened the first two calls. This would mean devoting to such a programme about three times the support it had in its first two calls, around 400 MEuros a year.

To conclude, I believe that, if Europe is to be a success, we need an EU that can be bold and innovative. In 2007, the EU Institutions were indeed bold and innovative in creating the ERC, the first European-level research programme focussed on individual scientists and the responsibility of which was given to scientists themselves. As Commissioner Moedas puts it, "the ERC is the best thing the European Commission did for Science"; he hears it every place he goes and he can witness its effects. The ERC has shown that it is an efficient programme which has delivered exceptional impact in a very short period of time. The ERC has also become a world reference in just a few years, and I believe that, with your help, we can do a great deal more in the coming years as the ERC has not yet reached either its final form or its cruising speed.