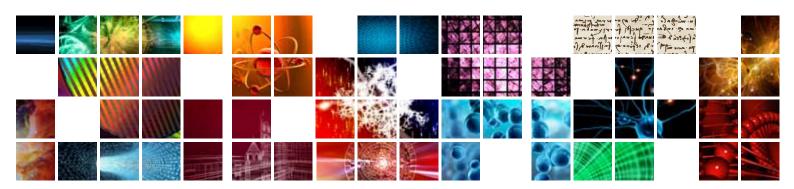
European Research CouncilBRINGING GREAT **IDEAS TO LIFE**





Contribution of the ERC Scientific Council
to the Consultation on
the Common Strategic Framework for
EU Research and Innovation Funding



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The ERC Scientific Council (ScC) welcomes this opportunity to contribute to the debate on the future of the EU's research and innovation funding as outlined in the Green Paper.¹ It recognizes that the issues, objectives and the way forward have been set out well in the Europe 2020 strategy and the Innovation Union flagship initiative. We consider the ERC to be an organic part of the research related efforts of the EC and offer our generally recognized successful experience to improve the overall efforts within CSF.

The pursuit of excellence in research is an indispensible and critical element for any future knowledge society, striving to innovate through its technologically highly developed potential and through the aspirations and reinforced capabilities of its citizens. In order to maintain its economic strength as well as its cultural values, it is important to emphasize that investments into research and innovation (as well as education) are a crucial part of the overall investment that Europe decides to make into its own future. Support and investment of high-risk frontier research is the gateway to a technological future embedded in a shared cultural outlook. This is what the ERC has come to stand for.

The ERC can help decisively by contributing to "further strengthen European excellence" in research, an explicit objective of the Green Paper. The experience the ERC has gained since it began to function in 2007 has proven invaluable and is considered an unqualified success. We offer this experience for possible lessons to be drawn, both in terms of the "what" and the "how" of the strategic choices lying ahead.

1. The ERC seen in a larger context

Let us briefly recall some of the most salient arguments that led to the establishment of the ERC as the "Ideas" programme of FP7 in 2007.

First, there was the realistic assessment that amidst intensifying global competition, funding of basic research at national level only would be insufficient in the medium and long-term to maintain Europe's position to compete at world level. This came at a time when European business and industry were challenged by global competitors, and when they were being forced to compete internationally

¹ http://ec.europa.eu/research/csfri/pdf/com 2011 0048 csf green paper en.pdf

for well-trained graduates and researchers equipped with a mastery of the most advanced scientific knowledge and technological skills. Universities in Europe were thus exposed to a much greater pressure to gain a new profile to compete internationally. Only through a radical policy shift, so the argument went, that would provide funding of basic research at EU-level, thereby complementing national funding, Europe's competitiveness could increase and allow it to play in the world's first league.

The second argument for a policy shift from funding at national level to complementary funding at EU-level was both enabled and greatly supported by a political argument. The ERC was built around a new interpretation of EU-added value, which was to be achieved by setting up a truly pan-European competition drawing on a wider pool of talents and ideas than would be possible for any national scheme. In this way the best researchers with the best ideas would receive funding regardless of their nationality (and the availability of national funding), and the competition would also act as a benchmark allowing national systems and individual institutions to assess their relative strengths and weaknesses and reform their policies and practices accordingly. As a consequence, the evaluation system had to be such that it could compare with best practice among the world's leading funding agencies. The underlying principles of the ERC's funding were crafted accordingly: a bottom-up approach without thematic priorities covering all fields of research, including the social sciences and humanities; funding based on the sole criterion of scientific excellence; and a strictly PI-centred approach by supporting research projects carried out by individual teams.

Third, the research to be funded has to be at the "frontier" of knowledge production. This definition was intended to overcome the dichotomy between "basic" and "applied" research, long considered to be obsolete, especially in the most dynamic and advanced fields of scientific knowledge production. It also allowed for frontier technologies that often emerge in the laboratory with great potential for further use outside and signaled the overall direction for which the ERC would clear the path: to make Europe and its research institutions attractive for the best researchers from anywhere in the world and to pursue cutting-edge research with its enormous potential for societal benefit and economic growth.

In order to set up the evaluation system for such an ambitious undertaking, best practice dictated that scientific strategy should be put into the hands of scientists. Thus, the ERC Scientific Council was entrusted with this task and its autonomy was to be guaranteed by the EC. Implementation was conferred to a dedicated implementation structure, followed from July 2009 onwards by the newly established ERC Executive Agency.

Let us now consider what has – and what has not yet – been achieved by the ERC. In October 2005 the ERC Scientific Council met for the first time in preparation of the ERC operating in February 2007. Since then, the ERC has launched eight calls worth over €5 bn. At the same time an entirely new organisation had to be built from scratch, which now has well over 300 specially recruited staff. Admittedly, the dual structure foreseen in the EU legislation with ScC setting the scientific strategy and an Executive Agency charged with its implementation, has not always been smooth, as pointed out in July 2009 with unusual frankness by an external mid-term review committee, chaired by Ms. Vike Freiberga. We can confidently say however, that whatever has been accomplished was largely due to the dedication and hard work of many individuals, including in particular former Commissioner Janez Potocnik; Professor Fotis Kafatos, the first ERC president; Jack Metthey, the long-time director ad interim of the ERCEA; and Professors Ernst-Ludwig Winnacker and Andreu Mas-Collel, as ERC Secretaries-General. We would also like to acknowledge the very good working relationship with the current Director ad interim of the ERCEA, Pablo Amor and the dedicated services provided by the highly professional staff of the EA. The ERC continues to enjoy the active support by Commissioner Máire Geoghegan-Quinn and Director-General Robert-Jan Smits.

The ERC is still a very young organisation. The first ERC funding was provided to researchers only in April 2008 and as of April 2011 only 32 projects have reached the mid-term 30-month stage. It is therefore too early to assess the full impact of the scientific results of ERC funded research.

With some confidence, however, we can point to extremely promising signs. With a steadily increasing budget the ERC has now completed six calls (out of the eight mentioned above) for proposals attracting over 20,000 proposals out of which almost 1,800 have been selected for funding in 430 different research institutions in 25 different countries with a total commitment of €2900m.

It is very exciting to see the talent, which the ERC has been able to fund so far. 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 Scientific Council is particularly proud of the early-stage researchers that have been funded. In designing the Starting Grant scheme, the ERC Scientific Council aimed at addressing the widely recognised problem that Europe has offered insufficient opportunities for young investigators to develop independent careers and make the transition from working under a supervisor to being independent research leaders in their own right. This structural problem has led to a dramatic waste of research talent in Europe. It has limited or delayed the emergence of the next-generation of researchers, who bring new ideas and energy, and it has encouraged highly talented researchers at an early stage of their career to seek advancement elsewhere, either in other professions or as researchers outside Europe.

A survey of Starting Grant holders show that the majority of them feel that ERC Grant has substantially enhanced their status within the academic community and improved their academic autonomy, their current remuneration, their long-term career prospect and job security. Moreover, each ERC Principal Investigator (PI) employs on average four other researchers contributing to the training of a new generation of excellent researchers. By the end of FP7 the ERC should therefore have provided support to more than 10,000 doctoral students and more than 5,000 postdocs who are trained and/or work under exceptionally good conditions. This group is also very international and carries high potential to build the foundation of the future European knowledge society.

While the effect of the ERC has, rightly, been strongest at the level of the individual researcher, its impact has perhaps been almost as strong at the institutional level, thereby generating a positive "structuring effect" which goes beyond the money it directly spends. From the start the aim has been to try to raise the overall level of Europe's research performance. Even here and with a long-term goal there is already evidence that the ERC is managing to stimulate change. The ERC's international peer review evaluation has come to be seen as providing a gold standard for national funding systems. Several countries have introduced reforms to their national systems based on the ERC model and/or launched schemes to fund runners-up in the ERC calls. Moreover, the reputational gains of hosting ERC PIs have led to an intensified competition between Europe's universities and other research organisations to offer the most attractive conditions for top researchers and to nurture especially the younger talents in their midst.

The ERC is supported by industry because it understands the value of frontier research for the private sector also. The private sector above all appreciates and highly values the increase in extremely well trained and highly qualified graduates that tend to grow in places of excellence around excellent researchers and teachers. The ERC contributes to the availability of such top researchers by offering attractive post-post-doctoral career opportunities to younger and more senior researchers alike. Note moreover that, in principle, ERC grants are also open to applicants working inside industry at the same conditions as those working in academia or public research institutes, although the take-up so far has been rather low. While it is too early to assess actual results, frontier research of the kind

funded by the ERC definitely carries the potential for "radical innovation", including break-throughs towards meeting the "grand challenges".

The distribution of grants by host institution reveals a strong concentration of ERC funded projects in a relatively small number of public research organizations, mostly, but not exclusively universities (with approximately 50% of its grants going to 40 institutions). This is to be expected, as it is well known that "excellence attracts excellence" in science. ERC funding strengthens and boosts the research base in leading research institutions in areas in which they are most competitive. This is necessary in order to allow Europe's leading institutions to reach the level of the world's leading institutions (particularly those in the US). Moreover, by strengthening competition among universities, ERC funding at the same time supports smaller but ambitious institutions to scale up the research profiles in which they are particularly strong. In these ways, the ERC contributes to the emergence of new "pockets of world-class excellence" in European research, an explicit objective of the Green Paper.

3. What remains to be done

Structuring effects and concentration carry their own imbalances. The ScC 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 reasons of the current performance under their scientific and intellectual capacity is principally a reflection of previously low levels of R&D infrastructural investments, rather than a short-fall in talent. The ERC Scientific Council recognizes that if the present funding trend continues, it will widen the gap between those countries and regions that are succeeding and those whose research environments are not doing so well in attracting researchers who can be successful in ERC competitions. This will happen not least because many talented researchers from the weaker-performing countries are taking up research positions in countries, which provide working conditions, superior to those obtaining in their home countries.

The ERC sees itself as complementing national funding schemes. Through its own high standards, it aims to set a clear and inspirational target for frontier research throughout Europe. It seeks to increase the international visibility of European research in general, including for countries and institutions that host limited numbers of grantees.

The ERC will continue to promote the principle of "excellence only". This is the only way in which Europe as a whole can excel at world level in frontier research.

Admittedly, this also implies that "excellence attracts excellence". And, increasingly, this will come to mean that excellent researchers can have access to excellence elsewhere due to global collaboration, open access to information and open access to research facilities on a worldwide basis. Such a perspective should promote the view that top-level scientific resources and instrumentation can be available to any talented researcher, independently of his/her location. Granting schemes on a merit-based, competitive basis for excellent individuals need to be combined with open access to excellent research infrastructures. It might be expected, and certainly is hoped for, that in the course of further equalization of levels of living across the EU, the migration of scientists between advanced and less-performing countries/regions will take place in both directions (see also 7.4). This will also make it increasingly possible to hire world-level Ph.D. students and post-docs in the latter and within ERC projects (so far, unfortunately, salaries eligible within FP7 regulations in these countries are much lower).

While the achievements of the ERC up to date has been called an undoubted success, ScC believes that it has not yet reached two of its goals: to increase the number of women scientists among its awardees and to increase substantially the number of excellent researchers from outside Europe who wish to work here (be they of European origin or not). For the first goal, the ERC has recently set up a gender-equality plan which aims at raising awareness among potential women scientists as applicants in order to improve the number of female applicants submitting ERC proposals in all research fields. It also aims at a fair gender balance among the ERC peer reviewers and provides for other measures to identify and challenge any potential gender bias in the ERC evaluation procedure.

Working towards the other goal implies to devise a medium- to long-term internationalization strategy with clear priorities and an overall strengthening of efforts. The Scientific Council plans to intensify ongoing measures and to make sure that this goal will also be reached in the years ahead. At the moment, a strategy paper is in the making that will establish for the ERC a comprehensive outreach policy, which will include concrete action such as how to attract excellent researchers from outside to Europe, how to increase the involvement of representatives from the global research community in the ERC's evaluation process, and other measures.

4. From frontier research towards innovation

The launch of the ERC was bold in many ways. The guiding principle is to empower individual researchers and provide them with the resources they need to carry out the best research they can. Funding of frontier research implies that

researchers know best where the frontier lies. But what follows? This brings us to the often misunderstood relation between frontier research and innovation.

While it is true that very often a tension exists between public expectations of short-term results with immediate benefits for society and the insistence of researchers that in frontier research the outcome cannot be predicted, frontier research and innovation share one characteristic: they are inherently uncertain. But as stated in our contribution to the consultation on the Europe 2020 strategy the connection between the production of scientific knowledge and innovation is well established. Economic history reveals the central role of science and innovation in the productivity growth of industrialised nations. From the beginning of modern science with its scientific revolution to the eminently practical industrial revolution, a long but never linear trajectory linking the two can be traced, leading up to the most recent explosive growth of the new communication and computational technologies and their corresponding economic sectors in the contemporary world.

Innovation as an incremental process of improvement of already existing products and components, which are combined in novel ways, does not necessarily depend on frontier research. But when it comes to paradigm changes in the ways in which societies and their economies are organized and grow, practically all epoch-changing innovations are the outcome of major scientific and technological breakthroughs. This was the case with the emergence and growth of the biotechnology start-ups in the US after 1970, for instance, which helps to explain their location in proximity to those research institutions (overwhelmingly universities) where the advances took place. But the benefits of frontier research do not only extend to the production of new scientific knowledge. They include the training of skilled graduates and researchers and the creation of new scientific instrumentation and methodology. Frontier research opens up new horizons in every field of knowledge and thereby lays the foundation for innovation, be it technological or social.

There is sufficient empirical evidence to show that ERC-style funding has a lot of potential for boosting not only academic research but also innovation. In a US study, for instance, an exogenous increase in a university's budget, has been shown to generate more output, measured by either publications or patents if, keeping everything else equal, the university faces more competition. The reason for such a result is that excellence-based competition at US-wide level induces universities to reorganize and 'raise their game' in order to be competitive for such funding. The effect is significant both for academic research (i.e. publications) and "innovation-oriented research" (i.e. patents). Although the funding of universities in Europe and in the US cannot be directly compared, we expect that ERC funding will prove to be an instrument also for more and better links between research and innovation in Europe.

5. Speeding up knowledge creation and diffusion: proof-of-concept and ERC synergy grant schemes

While empirical evidence clearly indicates that frontier research offers tremendous potential and economic rewards, it is important to speed up and facilitate their realization. This is why ScC has recently added two new schemes to its well-established ERC Starting and Advanced Grants, which will continue to define the "branding" of ERC funding. The new schemes are experimental in the sense that they involve a relatively small slice of the budget and that their actual take-up and results will be closely monitored.

The first new scheme is the "proof-of-concept". It is intended as an add-on support for those ERC grantees whose project is in areas of frontier research that offer real potential for innovation. Very often, however, this potential either remains invisible or is not taken up for various reasons. The "proof-of-concept" scheme is therefore designed for those ERC grantees who wish to explore further the innovation potential of their project. It offers to cover a funding gap between research carried out under an ERC grant and whatever may be necessary to take research ideas and results further, leading towards the earliest stage of an innovation. It can be used for activities such as technical validation through testing or prototypes, exploring market opportunities, protecting intellectual property rights or investigating business opportunities. The "proof-of-concept" is intended as the contribution of the ERC to the innovation cycle, leading from frontier research towards eventual commercialisation. The first call submission deadline is scheduled for 15 June 2011, with the results of the evaluation expected for October 2011.

For 2012 the ERC has introduced another new scheme, also on an experimental basis: the "ERC Synergy" grant. While the ERC remains committed to its strict bottom-up approach, targeting the best individual researchers who will be funded on the basis of excellence only, the new scheme recognizes that in many areas of science advances in one field influence research in others. Especially newly emerging research technologies and methodologies are frequently relevant across different fields. This recent development in scientific culture and practice is reflected in what in the US is often called "convergence" whereby different disciplinary or other approaches, when brought together in unique, but specific configurations, are producing advances in knowledge and outcome that would not occur otherwise. The new scheme aims to enable such synergies to emerge more quickly by bringing together in a bottom-up mode two to four individual PIs whose project crucially depends on their mutual (and typically complementary) knowledge, expertise and excellence, combined in a way that includes novel ways of working together. The scheme foresees funding of no more than ten to fifteen projects in 2012 which will provide for up to six years €10-15 million each. It is expected that these projects will come up with break-through ideas, cutting across

existing disciplinary and institutional boundaries and hence speeding up innovative ways of knowledge production and diffusion. The first call is expected for October 2011 with the call deadline in January 2012.

6. There is still plenty of room at the top: the case for a larger budget

The Scientific Council is very excited by the early signs of the effect that the ERC's funding is showing already, both in terms of the early results of its funded projects and its structuring effect on the European research landscape. We very much appreciate the high levels of support we have received from stakeholders, including national governments, regional authorities and national research funding agencies. We are gratified by the trust and credibility the ERC has earned within a very short time throughout the entire scientific community and the host institutions in which they perform their research. The success of the ERC has also been recognised by two high level independent evaluation panels set up by the European Commission.²

After four and a half years experience, it is very clear that there are many more excellent researchers in Europe (and from across the world who could come to Europe) who would benefit from ERC funding. The significant increases to the ERC's annual budgets over the course of FP7 have been matched or even exceeded by increases in applications (the latest Starting Grant 2011 call has seen a 42% increase in applications from the year before). In consequence the ERC has a relatively low (and, in fact, expected to decrease) success rate (13.8% over the last five calls) and many excellent proposals remain unfunded.

By the end of FP7 the ERC will have supported approximately 5,000 grants. We see an undiminished demand, especially among the younger generation, and an equally undiminished quality in the applications the ERC receives. Therefore, it is fair to say (paraphrasing the physicist Richard Feynman) that "There is still plenty of room at the top".

Moreover, we would need to see a significantly higher critical mass of grantees before the ERC could start to make a decisive impact – on, for example, the ranking of Europe's universities in global league tables, the proportion of the most highly cited scientific publications produced in Europe, or the share of the estimated 100,000 EU nationals currently estimated to work in the US research system and attracted back to Europe.

ERC Scientific Council Position Paper

² The report "Towards a world class Frontier Research Organisation" by the independent high level Review Panel set up to evaluate the European Research Council's Structures and Mechanisms stated that "the ERC has succeeded beyond expectations". And the expert group on the interim evaluation of the FP7 stated that "despite being a new, and thus untried, instrument, the European Research Council (ERC) has manifestly succeeded in attracting and funding world-class research and is playing an important role in anchoring research talent."

Finally, note that, while the ERC is currently covering a much wider area of frontier research than the US National Science Foundation (NSF), its current annual budget is less than half of the funds dispersed towards research grants by the latter in 2010, representing a small percentage of EU annual public research expenditure.

All in all, we therefore believe that the achievements of the ERC up to now and its carefully crafted ambitions for a significant but clearly not immodest expansion in the future, merit serious consideration. To be concrete, the Scientific Council would like to argue for a doubling of the ERC's annual budget it has in 2013 to a level of around €4bn per year under the Common Strategic Framework.

One of the key questions that arise with such an envisaged doubling is whether the ERC could absorb such an increased budget. Here, we feel we can be fully reassured. Indeed, on the operations side, ERCEA has smoothly managed average annual increases in budget of the order of 36% over the course of FP7 while remaining well within the current 3.5% limit for the ratio of administrative and operational expenditure relative to the total budget. ERCEA has demonstrated that its operations are scaleable. They could even benefit from significant economies of scale and efficiency savings arising from better use of IT and restructuring the main tasks based on the experience gained from completing six calls and launching eight calls with increasing budgets and numbers of applications.

7. Final considerations and recommendations

The CSF represents a unique window of opportunity to re-think, rationalise and refocus the EU's support to research and innovation across the entire spectrum under the objectives of supporting "innovation for growth", "innovation for society" and "science for innovation", and by including the crucial role of future Cohesion policy.

Based on our unique experience so far, and beyond our call for a doubling of our budget in comparison of its 2013 level, the ERC invites the Commission to consider the following considerations and recommendations.

7.1. The principle of "excellence only"

The experience of the ERC has initiated a new kind of relationship between the EC and the scientific community. It is based on trust, efforts to simplify administrative procedures to the utmost possible under current regulation and legislation, and on a thorough involvement of the entire scientific community. Moreover, the ERC has proven that this new kind of relationship can work efficiently and that it is compatible with full accountability. Notwithstanding some

remaining irritants in its governance and administrative structure which are currently under scrutiny of a special Task Force, the ERC has benefitted from the clarity of its objectives.

The ERC's Scientific Council, appointed by the Commission who is committed to act as the guarantor of its scientific independence, has been a crucial factor in its success and credibility with stakeholders. It sees itself and is seen by the scientific community as its representative whose task it is to uphold the principle of "excellence only".

This principle is *key* to pursue the ERC's mission of funding the best individual researchers (individual teams) in a truly bottom-up approach that includes all fields of research and scholarship. "Excellence only" has come to represent the one and only way of conducting an exclusively merit-based competition at EU-level, complementing national funding schemes. We expect the Commission to continue to maintain its own commitment to pursue "frontier research" in this way. It could be seen as a backward step if the objectives and implementation modes of autonomous structures such as the ERC were too tightly prescribed under the CSF. We invite the Commission to consider extending this principle also to other areas under the CSF, especially to those to be grouped together with the ERC (see more on this in point 7.3 below). We insist that for frontier research no other criteria can or should exist.

7.2. Excellence of the peer review system

The principle of "excellence only" would remain an empty shell, if it were not implemented in a robust and reliable way. By entrusting the Scientific Council with the responsibility to design, effectively organize (with the support of the ERCEA and its highly professionalized staff), closely monitor and continuously improve the peer review system, the ERC was able to set up a peer review system that compares favourably with the best peer review systems anywhere in the world. Such a system is based on transparency of its selection procedures, clear guidelines for how to deal with conflict of interests and on a continuous renewal of the panel members. The crucial element in its peer review system, however, has been the Scientific Council's responsibility for selecting the panel members.

➤ We invite the Commission to consider setting up similar scientific bodies whenever peer review at the highest scientific level is required. These scientific bodies should be in charge of designing appropriate peer review procedures and selecting the peers. Self-nomination of candidates for serving on panels and exclusive reliance on names and keywords in databases may easily jeopardize the best intentions and should be abolished.

7.3. Simplification

Despite several efforts under way to respond to the continuous demand for simplification and greater flexibility, further steps are clearly needed and expected on the part of various stakeholders and users. In our opinion, the almost unanimous rallying cry for "simplification" has its roots in current programmes and instruments having to deliver against multiple, overlapping and sometimes contradictory objectives. Instead of having a "one objective – one appropriate instrument" approach, the current tendency is to control the multiple, often unclear and overlapping objectives by one, rigidly exercised set of instruments. In particular, we recommend the following steps, which we strongly feel can be adopted in a way that does not reduce accountability, and can even enhance it:

- ➤ While the cost-reimbursement approach should be continued, major simplifications would be necessary; in particular, broader acceptance of beneficiaries' accounting practices regarding personal costs, clear, simple requirements for time recording, as well as adjust the rate of indirect costs to 30%.
- ➤ Improve the existing IT system.
- ➤ Change the ex-post audit strategy; reduce the number of audits, and use a single-audit approach all over the CSF.

The Scientific Council therefore believes that while more harmonised procedures could help make EU funding more attractive and easy to access for participants, a too rigorous "one-size-fits-all" approach would be counterproductive. The ERC's approach and success was also possible because of certain exemptions from the general FP7 rules. The ERC hopes to benefit even more in the future from having a legal framework that is better tailored to its objectives. It could therefore be seen as a step backward if the objectives and implementation modes of autonomous structures such as the ERC were too tightly prescribed under the CSF.

7.4. Under-performing Members States and regions

As stated above, the ERC is aware of existing imbalances in the scientific strengths and capabilities throughout Europe.

With a view to redressing the existing and widening gap in research capability, we would like to propose to the Commission to set up, possibly under Cohesion policy, a special channel or instrument that will allow building up strong research programmes that can adequately exploit a significant part of the investment into research infrastructures, owing to the European Regional Development Fund (ERDF) and related programmes. An increase in the quality of research infrastructures and the quality of their management, combined with merit-based individual grants for highly

qualified researchers, would greatly enhance their scientific attractiveness. It will thus prepare the host institutions within less-performing regions for a more successful competition for ERC grants.

7.5. Strengthening research effectiveness as a way to enhance its contribution to innovation

Re-structuring the component parts of the CSF and especially by grouping together the ERC with Marie Curie, Research Infrastructures and possibly FET, will initiate a fruitful new dynamics of interaction, complementarities and can thereby strengthen its contribution of the links to innovation. These component parts of the CSF share a commitment to world-wide scientific excellence and, as a consequence, reliance on an excellent and truly international peer review system. In order to fulfil their objectives, they require flexibility in the rules and regulations to which they are subject as well as a further simplification of administrative procedures. They also share an understanding of the importance of individual researchers and their contributions to the collective endeavour of advancement of science, technology and innovation.

The Scientific Council is ready to contribute its views, for example on the provision of further bottom-up support to researchers under the CSF or on the training of younger researchers in structured doctoral schools, and more generally, on the provision for the next generation of researchers of a path to excellence all across Europe. While the respective host institutions and research infrastructures in which these researchers work and pursue their careers differ, there is also a shared understanding that Europe as a whole must provide the "creative environment" in which research and innovation are to flourish.

Professor Dr. Helga Nowotny, Ph.D.

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President, European Research Council

