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Changes to the ERC evaluation procedures: background and rationale

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The ERC Work Programme

The Scientific Council of the ERC sets the strategy for the ERC programmes, based on our understanding of what the research community in Europe needs and how we can best serve current and potential ERC grantees. This strategy forms the basis for the ERC annual work programme, which describes the funding activities for the forthcoming year, including how the funding is allocated to the calls, and the mechanisms that will be used to distribute it.

The work programme must be formally approved by the European Commission before we can announce our calls for grant proposals. Any changes to the evaluation procedure, eligibility conditions, special activities etc. need to be included. Over time, the work programme has become unwieldy and so the Scientific Council has rewritten it from scratch this year, hopefully making it more accessible.

A central element of the ERC strategy is to ensure and uphold the quality of our peer review process. The Scientific Council monitors the work of the evaluation panels that carry out the peer review, and solicits feedback from applicants (both successful and unsuccessful), from the members of the evaluation panels, from the scientific and financial officers of the ERC Executive Agency, and, as active members of the research community, also directly from that community.

The feedback we receive shows an overall approval of the application and evaluation procedures. There are areas where further improvement is necessary, and indeed, some issues leading to confusion or frustration with the current processes have been repeatedly brought up. As a result of the input we have received, and following in-depth discussions in the Scientific Council, we have made changes in three areas:

- the format of the scientific proposal, including the assessment of feasibility of the proposed work;
- measures to make the workload of the evaluation panels more manageable;
- a change in the eligibility windows for Starting and Consolidator Grants.

In this article, I describe the changes in these three areas, together with some background information and our reasoning for making these changes.

Unsurprisingly, even where most agree that change may be needed, not everyone favours the same solution. Thus, we often have to settle for a pragmatic solution over a seemingly ideal one, basing such decisions on facts and data, and on consulting those who will be affected.

A. Format of the scientific proposal

<u>Background</u>

The current, two-part structure of the project proposal has been in place since 2008. The very first ERC call, the Starting Grant 2007, had a two-stage call with applicants submitting an initial eight-page proposal at the first stage of the evaluation; shortlisted applicants were then invited to submit a full proposal of sixteen pages. The ERC received a record number of 9167 applications, 8787 of which were peer reviewed, and 559 applicants were invited to submit a full proposal for the second stage of the evaluation. A total of 299 grants were awarded, representing a success rate of 3.4%. But a major drawback of the two-stage approach became evident: a sufficiently long period of time had to be allocated between the first shortlisting step and the final assessment of the full proposal, which results in a long decision cycle.

A single submission followed by a two-step evaluation was therefore introduced in 2008. We see this as the only practical solution. A two-stage procedure, with longer decision cycles and higher workloads for evaluators at stage one would be unmanageable with four major ERC calls per year.

In the current two-step evaluation procedure, the scientific proposal consists of two parts that are presented in two separate sections of the application form. Part B1 contains a five-page "Extended Synopsis" of the scientific proposal, with particular attention to the ground-breaking nature of the research project and the feasibility of the outlined scientific approach, as well as the applicant's CV and track record. The panels review Part B1 in step 1 of the evaluation and, on this basis, decide which proposals to take forward for further in-depth scrutiny.

Part B2 contains the full, fourteen-page, scientific proposal and an annex outlining current projects and pending funding applications for work related to the proposal. The full proposal includes the detailed description of the methodology and other aspects of implementation

At step 2, the panel members and the remote referees invited to comment on the short-listed proposals receive all the parts of the application (Part B1, Part B2 and the relevant sections of Part A) for their final assessment.

Revisiting the option of a possible true two-stage procedure, we recognised that especially now, with four separate calls per year, the overlaps between the calls would become unmanageable with longer decision cycles and did not pursue this option further.

Views from applicants and panel members

A 2018 survey of Horizon 2020 ERC applicants found that most applicants, both successful and unsuccessful, were satisfied with the submission and application process (92% and 67%, respectively), with only 2% of the former and around 13% of the latter dissatisfied or very dissatisfied. However, one issue that both applicants and panel members bring up regularly relates to the distribution of content between the two parts of the project proposal: some information necessary for the step 1 evaluation is missing from Part B1 whilst too much information from Part B1 has to be repeated in Part B2. We also heard confusion regarding the breadth and depth of information that should be provided in the respective parts of the proposal.

Panel members found that it was not possible to comment on the 'feasibility' of the proposed work at step 1 of the evaluation without the detailed methodology, which was only described in Part B2. At the same time, discussions on feasibility often lead to overly conservative assessments and run the risk of excluding high-risk and potentially groundbreaking proposals at too early a stage, whereas the ERC wants to fund precisely such projects. Particularly creative or difficult projects should be given a chance to be looked at in more detail in step 2.

Proposed new structure for the two parts of the scientific proposal

We looked at possible alternatives to the current structure. The extreme options were a return to a true two-stage process where applicants submit only a short outline of the proposal at step 1, and only those who are shortlisted then submit a full proposal; or a single, full-length proposal that is seen by the evaluators from the beginning. We also considered more conservative changes to the definition of the content of the two parts.

To help inform our analysis, we surveyed the views of all panel members who served in the evaluations from 2020 to 2023, asking them about either making the full scientific proposal available to the panels from step 1 or, alternatively, keeping two parts, but changing the content of the two parts of the scientific proposal.

The option of a full proposal that is seen by the panels at step 1 was rejected by most panel members, many of whom are currently stretched in their capacity to handle the large number of applications, even with only five pages to read.

We also dismissed the other extreme option, the return to a true two-stage procedure where applicants submit only a brief project description and only those who have been shortlisted write a full proposal. As set out above, this would extend the evaluation cycle for each call well beyond the current length. This long wait is unattractive for applicants, and it would also mean that applicants would not receive the evaluation of a proposal in time to reapply to the next call (if they were unsuccessful). In addition, the Starting, Consolidator, and Advanced grant calls would not only overlap with each other, but also with the same calls from the previous and following years, with implications for the logistics of the evaluations that would create an unacceptable burden for the ERC Executive Agency.

We therefore settled for keeping the two-part structure but redefined the focus of the two parts of the scientific proposal. The idea of the revised structure is this: the first part should allow the panels to answer the question "is this a great idea that would be worth pursuing?", while the question for the second part is "can that idea be pursued realistically, and if so, in the manner and with the approach that the applicant proposes?". The more detailed instructions in Work Programme 2026 are shown in the box below.

Part I *of the Scientific Proposal should present the envisaged research and it should:*

- *lay out the current state of knowledge,*
- *explain the scientific question and the objectives of the project, and*
- *present the overall approach or research strategy to reach the goals of the project.*

Part I should convince the Panel that the proposal presents an original and creative idea addressing an important question in the research field(s). It should explain how the project will advance the frontier of knowledge, and what contribution it will make to the research field(s), i.e. what may be changed, opened, challenged or how the results of the work will alter the current understanding of the field.

At Step 1 of the evaluation, only Part I and the Curriculum Vitae (CV) and Track Record (see below) are assessed by the evaluation panel. Part I forms the basis for the panel's decision whether to evaluate the proposal in the next step. Therefore, all essential information must be covered in this section.

Part II *of the Scientific Proposal: This should be a detailed explanation of the project implementation, including research methodology, work plan, risk assessment and mitigating measures, justification for the requested budget and resources, and any further necessary background not included in Part I. An annex listing all ongoing research grants, and any grant applications submitted or pending approval for work related to the proposal should be included.*

Feasibility

The first change in the revised format of the scientific proposal was to abolish the assessment of 'feasibility' at step 1. Some panel members expressed concern about this change, stating that "anybody can come up with an interesting and important problem - but not everyone can

come up with a good way of solving it", and therefore, not judging feasibility at step 1 would lead to non-viable projects being passed to step 2. Indeed, it is possible to imagine examples where this could be the case – a mathematician picking one of the top unproven theorems in mathematics and claiming they would prove it, but not saying how. However, having a really good idea is not that easy; and indeed, often the 'good idea' is exactly about *how* to solve a known problem.

So, the point is not that an idea is sufficient and can stand alone without explanation of how it will be addressed. The approach to the problem is indeed an essential component of a proposal. In our thinking, not judging feasibility means not putting details of the methodology into the foreground: are the proposed experimental conditions the optimal ones? will the proposed survey contain the correct questions? is the ship available for the expedition? is access to the subjects of the studies guaranteed? etc. All of these are important matters that, if not properly planned, can sink a project, but discussing them at step 1 can easily lead to the rejection of risky but well-planned projects.

It is, however, extremely important for the evaluators to know the overall approach or research strategy that is proposed to tackle a problem - whether it is a survey, an experimental approach, data collection, developing a new method, etc. - and we therefore ask the applicants to outline this in Part I of the scientific proposal.

Panel members noted that projects were often either entirely about method development, or that method development was a large component of the proposed research. In those cases, the new methodology is the 'idea' for the proposal (or part of it) and would be laid out in Part I – but again, feasibility can only be discussed when the details of the approaches have been explained in Part II.

We hope that by moving the description and the assessment of the details of methodology and implementation to the second part of the proposal, both applicants and evaluators will be able to tackle Part I in a more straightforward manner, allowing the panels to focus on scientific ambition and creativity first and implementation later.

Content of Parts I and II of the scientific proposal

Many of our discussions revolved around what precisely the content of Part I should be, and what words would describe it best.

The two parts of the proposal should be complementary and not redundant. With the details of the methodology moved to the second part, Part I should make a compelling case why the proposal is an original, creative idea about an important question in the research field(s) and how the project will advance knowledge. It should lay out, (1) the current state of knowledge, (2) the major open question(s) and objectives of the project and (3) the overall approach or research strategy to reach the project goals[1]. To give the panel an idea of the overall relevance and importance of the proposed project, Part I should present the contribution of the proposal to the research field(s), and applicants are encouraged to explain how the expected results of the project will advance the field, change the thinking about it, or open new avenues.

[1] A range of other words which the Scientific Council considered to describe the content of Part I are: (1) Background, current state of the field, current knowledge; (2) research question, scientific challenges, problems, rationale, aim, research objectives and how these relate to the current research frontier, novelty, originality, ground-breaking nature of the project, potential scientific impact, importance, relevance, significance to the research field; and (3) overall methodological approach, strategy to reach the objectives, overall research design and core methods to be deployed.

We had extensive discussions on the length of Part I. Some panel members argued that the aim and approach for potentially groundbreaking ideas could be adequately described in two pages. This would bring a significant reduction of workload for the panel members. But others worried that this could lead to an increase in non-viable or unrealistic proposals advancing to step 2, only to be rejected later. The desire to allow the applicant sufficient space for thorough explanations won the day, and the length of five pages was kept.

Part II should describe the implementation, with details of the research methodology, work plan, a discussion of potential hurdles and risks, and suggestions for contingency plans. It does not need to repeat the background or the overall justification for the project, but it should justify the approaches and methods and give background on those where necessary. We concluded that seven pages are sufficient to describe the implementation in part II, while even for the most complex Synergy Grant projects, ten pages should provide ample space.

Parts I and II together form the full scientific proposal, which will be assessed by the remote referees and by the panel members in step 2.

B. Workload for panel members

Another concern for the ERC is the workload for panel members. Every year hundreds of panel members are recruited for each call; the ERC also relies on the goodwill and dedication of several thousand remote referees who volunteer their time and expertise to review proposals.

Panel members take on a large workload, including two full-week panel sessions in Brussels, and the Scientific Council is extremely grateful that so many continue to serve on panels. However, a steady increase in the number of grant applications is leading to almost unmanageable numbers of applications in some panels, and the administrative burden of handling proposals and the burden for reviewers have increased accordingly. We have begun to introduce changes to the review process to try to alleviate the workload. We have tried to keep changes to a minimum because the peer review process at the ERC is generally thought to work well, and we do not want to damage it by cutting corners. But we recognise that we will have to streamline the procedures further and may have to resort to more incisive changes in the future.

<u>Number of readers per application</u>

The most time-consuming task for the panels is reading and judging the applications before the first panel meeting. The current practice is that each application is read and scored by four reviewers, and we have reduced this now to the legally required minimum of three (except for proposals that require expertise from more than one panel, interdisciplinary or particularly complex proposals).

During the annual post-evaluation meeting of all panel chairs, some expressed unease about reducing the number of reviewers from four to three; however, additional reviewers can and will be assigned, if necessary, on a case-by-case basis.

<u>Written feedback on the applicant</u>

Changes have also been made to the way applicants will receive feedback. In the current assessment procedure, panel members provide both a qualitative rating on a five-point ordinal scale (from ‘non-competitive’ to ‘outstanding’) and a written comment on the applicant. The latter is difficult to write, with reviewers often resorting to generic and non-specific language

for both positive and negative assessments, or occasionally unreasonably gushing or harsh negative comments. In the survey of the evaluation process, applicants have also commented on receiving unhelpful comments. We have therefore decided to no longer request a free-text evaluation of the principal investigator at step 1. Instead, each reviewer will provide an individual rating for every question concerning the principal investigator, and these ratings will be communicated to the applicant.

This simplification does not mean that the panels will no longer assess the applicant's ability to carry out the project. The merits of the applicant will continue to be an important consideration, especially at step 2. The remote referees, whose knowledge of the subject and of the research community makes them best placed to judge the ability of the principal investigator to conduct ground-breaking research, will also be asked for a qualitative rating and have the option of expanding on this in a written comment.

Discussion of low-ranking applications

Currently, every proposal must be discussed formally in the panel meeting at step 1. Evaluation panels naturally spend most of their time discussing the applications that end up near the cut-off for being taken to the next step of the evaluation. Those proposals where the entire panel agrees on the merits, or the weaknesses, generally need little or no discussion. In the case of the weakest proposals, we have decided to relax the rule that every proposal must be discussed in the panel meeting.

We had to find a metric to define which proposals would not require discussion. Prior to the step 1 panel meeting each reviewer scores the research project on a scale from 1 to 5, where 5 means outstanding, 4 excellent, 3 very good, 2 good and 1 non-competitive. An analysis of our past assessments shows that essentially no proposals where *all* reviewers gave a mark of 3 or below ended up being funded. It therefore seems justified to remove the requirement to discuss applications with such low scores. This applies to approximately 15% of all applications. If we do the same analysis for a mark of 3.5 or below from *all* reviewers, a small number of these (34 out of 23,459 analysed for the period of 2021 to 2024) passed on to step 2, but still none made it to funding. We therefore chose this mark as the cut-off for a formal requirement for discussion in the panel.

The rule is now as follows: any proposal that receives *at least one mark above 3.5* for the research project must be discussed in the panel. Proposals that receive a mark of 3.5 or lower from *all* reviewers do not need to be discussed unless the panel explicitly decides otherwise. This measure is projected to reduce the number of proposals requiring discussion by approximately 30 percent.

Panel members asked why we made the decision dependent on a mark from a single reviewer rather than an average, and why we do not normalise the marks, given that different individuals and probably also different panels may have very different thresholds for scoring.

Consider a proposal that is given a mark of 3.5 by all three reviewers who assess it and compare it to another proposal that receives two high marks – say 4 and 4.5 – but one member does not like it and gives it a low mark, say 2. Both cases result in an average of 3.5. But in the first case, nobody scored the research project as excellent (i.e. 4), and each reviewer most likely had other proposals they considered more worthy of being advanced to step 2. By contrast, in the second case, the very disparity of the scores means that the proposal should be discussed. There is also a view that proposals with disparate scores are more likely to lead to breakthrough discoveries.

The method we chose means that a single high vote is sufficient to take a proposal to the panel discussion. This is also the reason we did not consider it necessary to normalise the scores. It is not the point of the exercise to create a ranking, or a comparison among all proposals, but only to decide for any given proposal if there is a desire among the evaluators to discuss it for taking it to the next step. With this method, panel members will know that if they give a score of 3.5 or lower, the proposal will only be discussed if one of the other reviewers wishes. So, this mechanism itself will calibrate the scores – not only within, but even between panels.

Finally, the new rule is not a ban on discussing the excluded proposals, it only removes the formal obligation for the panel to discuss them and write a joint panel assessment. If any of the reviewers change their minds about the marks they gave, or if another panel member wishes a proposal to be discussed, they may request this during the panel meeting.

C. Adjustments to eligibility windows

It has always been the intention of the ERC to fund the most ground-breaking and ambitious research and the most talented people to carry it out, and one way of optimising the selection is to target the competition to defined career stages – with the Starting, Consolidator and Advanced Grants. But the career trajectories in academic research and the demands placed on researchers have been changing, and the road to research independence for a significant share of early-career researchers has become longer.

The ERC programmes cater to the entire range of research in all fields of scholarship and must accommodate the different cultures in all research fields. Academic career paths in different countries in Europe vary considerably, with options for independence for young researchers arising at different times and being defined by a variety of criteria. A career in mathematics or law looks different from one in the life sciences or engineering. For example, in the life sciences, long postdoctoral periods have become the norm. Thus, a potential applicant who has spent five years as a postdoc, then set up their own lab and spent a year or two to put together a productive team to establish their independent work, is already seven years past their PhD by the time they are ready to apply for an ERC grant. Conversely, in mathematics it is not unusual to be appointed to an independent position immediately after completion of a PhD. A mathematician who has come up with an idea for a new path for research during their PhD, and perhaps already begun to work on it, might not want to wait for two years to apply for a grant.

This evolution in career trajectories made us reflect on whether the current eligibility criteria for Starting and Consolidator Grants still appropriately reflect the periods in which researchers make a break for independence or consolidate their research. We concluded that to offer all early-career researchers, whatever their trajectory, the possibility to obtain funding for novel and ambitious ideas, the current eligibility periods had to be adapted.

From 2027 onwards, researchers will be eligible to apply for a Starting Grant immediately after defending their PhD, and at any time within the following ten-year period. Consolidator Grant applicants will be eligible to apply between five and fifteen years after defending their PhD. This should give enough flexibility to fit most career paths in Europe, and the overlap between the eligibility periods is necessary to ensure that flexibility.

If a mathematician finishes their grant six years after their PhD, and the Consolidator window only started after the end of the new 10-year Starting Grant window (or even at the current 7-

year mark), they could not apply for a new grant right away. Therefore, the Consolidator window now starts at the point where the earliest starting grantees might want to apply (5 years post-PhD) and ends at the time when the latest starting grantees would be able to apply (i.e. 5 years post the end of the Starting Grant window, and 15 years post-PhD). The overlap means that applicants in this range decide to which call to apply. But that decision will likely be guided by their career trajectory up to that point.

Might the 10-year windows discourage the more junior applicants in each cohort from applying because they fear the competition with more senior peers? We think this is unlikely, because competition occurs within panels among applicants in the same field and with similar career trajectories. Thus, the young mathematician will not be competing with the biologist coming out of a long postdoctoral period. Of course, a junior mathematician or computer scientist may compete with an older one who spent some years working in industry before returning to academic research and applying for a grant. But we also know that panel members are experienced in judging a CV according to the stage of the applicant's career. And finally, a longer career does not equal a better CV or better chances of receiving a grant. Our data on success rates are very clear on this: while applicants in the first year of the current Starting Grant eligibility window have a slightly lower success rate, for the remaining years the success rates are equal. This means that those who apply in year 2 of the window have no competitive disadvantage against those who apply in the last year.

We have also made a further rule that will reduce this type of competition (which may apply even more during the Consolidator window): no one may receive more than one Starting Grant and one Consolidator Grant. An applicant who has successfully competed for a Starting Grant at year 3 after their PhD is not eligible to apply again for another Starting Grant in year 8 but must then apply for a Consolidator Grant – they are, after all, no longer 'starting'. The same applies for Consolidator Grants. We consider a previous holder of a Consolidator Grant ready to apply for an Advanced Grant. There is no restriction on how many Advanced Grants a researcher can hold; the current record is three! Holders of two Starting or two Consolidator Grants are rare: 7 and 12, respectively, in the entire history of the ERC.

All other current policies for the extension of the eligibility periods will remain in force.

As scientists and scholars, we, the members of the Scientific Council understand that even soundly fact-based decisions that have been made with the best intentions are not necessarily perfect, and that the outcome of any decision must be carefully and critically monitored. That's what we will be doing when we observe over the coming months and years the effects of the changes we have introduced. We will continue to listen to the feedback from our communities and strive to serve you all to the best of our capacity.