

Department for Science, Innovation and Technology
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Dear DSIT Pioneer team

The Royal Society of Biology (RSB) is a learned society representing a diverse breadth of members and organisations in the life sciences sector¹. As a unified voice for the bioscience community, we are strongly in favour of UK association to Horizon Europe, as the optimal outcome for UK research, innovation and economic growth. In parallel to the ongoing negotiations regarding UK association to Horizon, we are pleased to have received the Government's alternative plan, Pioneer, alongside opportunities to engage with the Department for Science, Innovation and Technology (DSIT) on the prospectus.

Following our most recent engagement with DSIT in May, where a small delegation from the physics, chemistry and biology research communities provided direct feedback on the proposal, we are pleased to offer a series of comments and evidence from members of our wider community, to help shape Pioneer where possible.

Awards duration and value: members of our community propose funding should balance both shorter-term and longer-term awards for maximum value. Longer term awards are beneficial in many research areas, e.g. discovery research operating over longer time-frames² and enable the time needed for development from concept to commercialisation³. Additionally, shorter-term awards are also of distinct benefit, including by potentially enabling less complex selection processes and more direct beneficiaries, considering the breadth of the disciplines the Talent offer would cover. Teams applying for long and short-term awards should seek to benefit from diverse skills sets, and include early career representation wherever possible. Overall, a connected, collaborative and multi-disciplinary ecosystem will be crucial for nurturing and retaining talent. Provision of ongoing awards should be based on efficient and fair monitoring and evaluation of research delivery, such as via periodic benchmarked reviews, and checks and balances such as break clauses, over longer-term timeframes.

Attractiveness for international applicants: funding available for up to 10 years would be a strong argument to attract international talent. However, other factors are important, e.g. recognition of applicants' qualifications in the international context and the guaranteed transferability of said qualifications when entering the local workforce. Furthermore, our community would want to understand whether the aim is to attract talent to the UK on a permanent basis or to train researchers who would return to their country of origin. Depending on the objectives, Government should continue to facilitate visa processes enabling access to the right to live and work in the UK for successful applicants and their immediate families.

¹ A list of RSB Member Organisations is available on [our website](#)

² RSB response to the BEIS survey UK R&D Roadmap 2020:

https://www.rsb.org.uk/images/RSB_response_to_the_BEIS_survey_UK_RD_Roadmap_2020_submitted.pdf

³ RSB response to the (then) Science and Technology Committee (Commons) inquiry into a new research funding agency for the UK, 2020: https://www.rsb.org.uk/images/A_New_UK_Funding_Agency_-_RSB_response_-_submitted.pdf

Equality, diversity and inclusion (EDI) considerations: our community underlined the importance of embedding equality, diversity and inclusion into all the phases of the selection process. Some suggestions were: blinded peer reviews of applications; introduction of assessment criteria that weighs meritocracy higher than volume of publications and years in research; introduction of ‘special entry tracks’ that would be assessed separately and publication of all the criteria used in the selection process to ensure transparency. Our members with extensive expertise in grants at national and international levels – as reviewers but also as participants – provided evidence^{4 5 6 7} that grant review panels show both conscious and unconscious bias in making their assessments. For that reason, it would be valuable to support reviewers with EDI training, but to also ensure that the reviewing panels are diverse themselves.

Defining the moonshots: part of our community believes that researcher-defined moonshots are more likely to be successful as they would deliver feasible, yet imaginative proposals; whilst taking into account the pitfalls involved in trying to deliver them. Some areas of focus for the moonshots projects could be the following: technology implementation in society, acceleration and innovation at the cross-section of biotechnology and artificial intelligence, material sciences, quantum computing and synthetic biology.

Building international collaborations: some of our members expressed concerns about the ability of the Pioneer programme to enable the funding of large international grants involving different types of beneficiaries such as universities, research institutes and industry collaborators. Horizon offers a centralised system to co-ordinate the funding mechanisms, intellectual property agreements, ethical review and assessment, and align reporting requirements and audit projects – across sectors and borders. Pioneer Global, on the other hand, would require international participants to pool individual funding, with a risk of funding rules and cycles across different countries not aligning, and projects falling off. Participants would also have to navigate heterogeneous legal frameworks – building in efficient, centralised elements and equivalent support for participants would be essential to attract collaborators and enable programme and project success.

Identifying infrastructure needs: consideration should be given to improving university infrastructure to support the development of the practical/research skills of graduates so that they are better prepared for doctoral training and the needs of industry. This would help address some of the challenges around skill provision⁸, and support the Government’s ambition to cement the UK’s place as a global science and technology superpower.

Resource and operational details: our community raised two main concerns regarding the delivery of Pioneer. First, funding is subject to future spending reviews: the preference would be for the budget to be fixed – as it is the case for Horizon – to remove a layer of uncertainty.

⁴ Tackling bias in peer review: MRC peer reviewer guidance, 2022: <https://www.ukri.org/publications/tackling-bias-in-peer-review-mrc-peer-reviewer-guidance/>

⁵ Guthrie *et al*, Measuring bias, burden and conservatism in research funding processes, 2019: <https://doi.org/10.12688/f1000research.19156.1>

⁶ Tamblin *et al*, Assessment of potential bias in research grant peer review in Canada. 2018: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5915246/>

⁷ Severin *et al*, Gender and other potential biases in peer review: cross-sectional analysis of 38 250 external peer review reports, 2020: <https://bmjopen.bmj.com/content/10/8/e035058.info>

⁸ The Skills Opportunity: Building a more innovative UK, Campaign for Science and Engineering, 2023: <https://www.sciencecampaign.org.uk/analysis-and-publications/detail/the-skills-opportunity/>

Second, the programme represents additional administrative burden for the chosen delivery partners: implementing Pioneer would require accelerated capacity expansion, which could prove difficult to do efficiently in short timeframes.

We look forward to continuing engaging with you on the future of UK research and innovation and reiterate the desire of the life science community for the UK to associate with the Horizon programme.

Yours sincerely,



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