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National Research and Innovation Strategy 2021-27

IPPOSI response to Consultation - submitted July 2021

The text below has been submitted by IPPOSI in response to the public consultation on a National Research and Innovation Strategy 2021-27, opened by the Department of Higher & Further Education, Research, Innovation & Science¹.

¹ <https://www.gov.ie/en/search/?type=consultations&organisation=department-of-higher-education-innovation-and-science>

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Part One

A strategic direction for research and innovation which places it at the centre of the national response to major economic, environmental and societal challenges.

Q1.1

How should the next Strategy articulate the role of research and innovation as a key enabler of addressing significant challenges (transition to a green, digital and sustainable knowledge based economy)? What impact should research and innovation have on addressing such challenges?

IPPOSI Response:

Articulation of the role of research & innovation should be 'visionary' rather than 'advisory'. In order to articulate that 'vision' the position of Chief Scientific Advisor to the Government needs to be held independently of all funding agencies and needs to be adequately resourced. The CSA role should: report to the government objectively on the performance of funding agencies. provide independent oversight on the existing ecosystem to avoid duplication and unnecessary overlap between agencies. ensure that one agency takes up the responsibility of funding when an effective project funded by another ends – e.g. SFI outputs feeding into EI commercialisation. be advised by a multidisciplinary panel of experts drawn from bodies such as the RIA, SFI research centres, IBEC, IUA. be advertised and transparently filled.

Q1.2

How can the Strategy demonstrate the importance of research and innovation across higher education and industry for Ireland's economic recovery and sustainable growth? How can research and innovation be recognised as central to recovery and building resilience when faced with pressing sectoral challenges and financial constraints?

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IPPOSI Response:

Equality, Diversity and Inclusion should underpin the strategy. The strategy should aim to foster more inclusive, multi-disciplinary research approaches that attract 'non-traditional' disciplines, voices & communities, with a focus on leveraging Irish cultural strengths in the arts and humanities.

Q1.3

How can the Strategy articulate the value of human capital from the research system in meeting high-end skills needs? What should the objective of the next Strategy be in relation to identifying human capital needs from the research system?

IPPOSI Response:

To address the needs of our emerging innovation-based economy, the strategy needs to train people with adaptable, transferrable skills who can work across disciplines.

Q1.4

How do we frame our national policy to ensure that we have a well-balanced system of research to enable Ireland to be at the forefront of global research and innovation?

IPPOSI Response:

A continuum of funding is required across the research ecosystem - from fellowships for Early Career Researchers, grants for Principal-Investigator-led projects (at early, mid and senior career levels), Doctoral training programmes, to multi-PI programme and Research Centre-type awards across a spectrum of research areas- from fundamental to more applied. A more balanced strategy can be achieved by supporting both fundamental and applied research in response to societal/public needs, prioritised by the Irish public. A courageous move would be to dedicate a significant portion of funding to support 'blue skies' research from which the future technologies and markets will evolve.

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Q1.5

How should the role of research for policy be supported and positioned in the next Strategy?

IPPOSI Response:

The strategy should aim to encourage an enabling legislative and regulatory environment for research that identifies, aligns with, and assesses the impact on, the needs of the research community in Ireland.

Q1.8

Are there any other strategic priorities not covered in Part One above?

IPPOSI Response:

Ireland needs to embed 'Open' research practices to promote outputs that are FAIR (Findable, Accessible, Interoperable and Reusable).

Part Two

Delivering on the vision across six areas of strategic action

Q2.1

What could the role of a mission-based approach to solving grand challenges be within the national R&I ecosystem? What structures could be used to deliver on this? How do we reconcile a mission-based approach with Research Prioritisation?

IPPOSI Response:

Whereas the concept of large, mission-based investments does elevate research ambitions, there is a danger that this approach may result in a further narrowing of the base of prioritized research

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in Ireland. Mission-based approaches should be additional funding (i.e. not at the cost of other programmes) and should be linked with 'grand challenges' at the EU level. It has to be aligned with where Ireland has core expertise and national interest. It needs cross-disciplinary (including humanities), cross-agency, cross- society effort, with strong public involvement at the heart of the prioritisation process, beyond consultation to include more deliberative approaches.

Q2.2

How can we ensure that we support enterprises to engage in research, development and innovation or become more research, development and innovation active? How can we encourage greater levels of industry and academic collaboration or collaboration between SMEs and multinational companies? How can we support innovation in and of itself within enterprise? How can we improve the knowledge transfer system?

IPPOSI Response:

A more cohesive multi-departmental, multi-agency approach is needed in consultation with all stakeholders to optimise the funding landscape and avoid unnecessary barriers and duplication. Related to point 1.1 above, to ensure the development of this cohesive ecosystem, we need to appoint an independent (non- aligned with an agency) scientific advisor to the Government that has a well-funded office and has multi-disciplinary advisory groups.

Q2.3

How do we deliver a pipeline of talent for academia, industry and public service? How can we best support researchers on their career pathway?

IPPOSI Response:

The current obstacles to PhD career progression in Ireland (e.g. lack of career opportunities, salary levels of postdoctoral researchers, current methods of research assessment) bring into question the sustainability of the entire Irish research system. Career progression in research has to be seen through a much broader lens than is currently being used. A sustained and fair funding system is needed which rewards internationally-recognised, high-quality research based on objective outputs (e.g. high-quality, reproducible work which is highly cited). Ireland needs to move away

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from equating altmetrics with real measures of academic excellence. However, to work effectively, talented researchers need confidence in the system and stability with respect to research funding, with predictable and guaranteed multi-year funding calls.

Q2.4.1

What are the key priorities in determining research infrastructure needs across the system, both for higher education and for industry? How can we ensure best value for money for investment in research infrastructure?

IPPOSI Response:

Lack of investment in infrastructure has led to a significant dependency on obsolete equipment and facilities in the Irish Higher Education sector. The requirement for a new cycle of PRTLTI or equivalent infrastructure has been called for in the mid-term report for Innovation 2020 as well as the National Development Plan and needs to be prioritised as a matter of urgency. This funding should be independent of agency-level equipment calls which are typically focussed on the purchase of once-off, unique high-value instrumentation to be accessed nationally from a single location. While the national infrastructure approach has been enabling, it must also be recognised that there is a second category of locally available “workhorse” equipment essential for all activities. Fostering an ‘Open’ research environment (see point 1.8) requires a longer-term investment in research infrastructure with dedicated, 5-year rolling funding streams, that include support for the necessary ‘people/technical staff’ required, and are linked to a demonstration of the value.

Q2.6.2

What structures are needed at national/government level to support the research and innovation system? How can collaboration, coordination and engagement be strengthened? What should be the specific role of the new Department for Further and Higher Education, Research, Innovation and Science vis-à-vis other Government Departments?

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The Department for Further and Higher Education, Research, Innovation and Science should engage with the Dept of Health to jointly develop an Irish Public Genome Project which could allow for public-private partnership but would protect genomic data for the benefit of the Irish public. The Office for Life Sciences in the UK is a good example of a government platform to foster collaboration in research & innovation, bringing together government, academia and industry, and a potential model for the Irish government to follow.

Q2.6.3

How do we ensure that we engage with multiple communities and stakeholders to both inform policy development and communicate the impact and relevance of R&I to citizens, communities, regions and our national and EU partners? How does your organisation engage on R&I issues with citizens and community organisations? What is your experience of engagement with national R&I organisations?

IPPOSI Response:

Ireland should support models of collaborative research such as co-production, where researchers work in partnership with patients and caregivers, clinicians, policy-makers, health system leaders and others who identify a problem and have the authority or ability to implement the research recommendations. Public involvement in research needs to be included in structures relating to research strategy, policy and oversight. This requires more dedicated funding and resources in areas such as public discourse/dialogue, citizen jury / assembly-type approaches, science communication and engagement of minority groups.

Q2.8

Are there other areas that require action that you would like to include in your submission?

IPPOSI Response:

As well as investing in research and innovation, Ireland needs to improve in the adoption of innovations so that they benefit society. At present, we are slow do this – innovative medicines being just one example.

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