

Submission to the Mid-Term Review of Innovation 2020

Introduction

The Royal Irish Academy welcomes the opportunity to respond to the consultation by the Department of Business, Enterprise and Innovation (DBEI) for the mid-term review of Innovation 2020. It commends the work undertaken thus far by the constituent stakeholders in achieving significant advances in the framework conditions underpinning Innovation 2020 and the commitment to ongoing dialogue to achieve success.

Ireland's higher education institutions, their scientists and scholars are the principal performers of research and are thus instrumental to the on the ground delivery of the ambitions expressed in Innovation 2020. In so doing they are supported and enabled through the actions of the public research funders and government frameworks for higher education and research and so continuing and meaningful dialogue between each of these stakeholder groups is instrumental to the success of Innovation 2020. The Academy's members number the very best, internationally recognised researchers in the sciences, humanities and social sciences on the island of Ireland and are deeply enmeshed in the everyday realities of teaching and learning, training and mentoring early career researchers and conducting excellent research.

Summary of main points

- The next iteration of Innovation 2020 should embrace a broader definition of innovation that incorporates original and creative thinking as well as innovation in the social and cultural sectors.
- Research excellence must be the primary criteria driving the evaluation and delivery of an increased pipeline of researchers. Sectoral needs are rapid changing, expansive and difficult to predict. Ireland must be flexible in its research prioritisation agenda to respond to emerging and yet unimagined sectoral and societal needs. A solid research base across the full range of disciplines is critical to Ireland's future innovation agenda. This next wave of Innovation 2020 should address the imbalance in funding available to support frontier research versus industry-facing research while recognising the contribution of both.
- Greater capacity for interdisciplinary work should be enabled through public funding mechanisms to build Ireland's capacity to contribute to "grand challenge" style research of Horizon Europe and the challenges facing Irish society, industry and culture. The NRP could, for example, be expanded and opened to enable greater multi-disciplinary and cross-sector engagement with the priority areas.
- The next wave of I2020 should provide annual inter-disciplinary reports to demonstrate the progress made in integrating a genuine inter-disciplinary approach to addressing the NRP areas.
- It seems that Government policy on research infrastructure funding has been changed from I2020 to NDP 2027 without a consultative process with stakeholders.
- The expectation across the academic and research community is that a new cycle of PRTLII will be funded in line with its previous key principles and objectives.
- Assess and renew the role of the Chief Scientific Advisor to ensure that government has access to independent, expert advice to inform research and innovation policy and practice across the sciences, humanities and social sciences.

Goal 2: Innovation in Enterprise

A general weakness of Innovation 2020 is the absence of a discussion of innovation in the humanities and social sciences or indeed of original thinking in research in areas outside of the national research prioritisation

(NRP) areas. This is particularly pressing as the majority of the competitively allocated public research funding budget is allocated in line with NRP areas.

Innovation 2020 and the NRP lack a meaningful assessment of how innovation in the humanities and social sciences (HSS) contributes to innovation goals or enable and inform strategic leadership and innovation in leadership.

The current Brexit negotiations are a striking example of the crucial contribution of HSS scholarship and research in informing complex political negotiations whose outcomes will greatly impact upon enterprise and research in Ireland. Law, history and political science are in this instance key drivers in establishing the conditions for future enterprise on the island of Ireland. The activity and participation of Irish based HSS academics in ensuring that their expertise contributes to public debate on these issues in Ireland, the UK and the European Union is notable and highly innovative (see for example the RIA-British Academy Brexit discussion paper series).

Action 2.8: Promote interdisciplinary collaborations

Tomorrow's society requires contemporary research that supports human flourishing in sustainable communities and societies. The next iteration of Innovation 2020 and R&D in Ireland should reflect this through a greater focus on original and creative thinking to support the material, intellectual and spiritual betterment of human life within ecologically sustainable human societies.

This would address the current over emphasis on the sciences and recognise the need and immense value and contribution that the wider research base can, and must, make to an innovative thriving future Ireland.

The current reliance within I2020 that the HEA core grant should be the major source of funding for interdisciplinary collaborations seems unrealistic given the substantial new programmes of funding rolled out to enable capacity building across the NRP areas. A reliance on co-funded programmes also seems overly hopeful given the limited budgets available to funding agencies supporting the wide research base and not merely the NRP areas. Inter-disciplinary research needs dedicated seed funding and capacity funding to realise this ambition.

- More capacity for interdisciplinary work should be added to the Irish public research funding landscape. For example, the NRP could be expanded and opened to enable greater multi-disciplinary and cross-sector engagement with the priority areas.
- The next wave of I2020 should provide annual inter-disciplinary reports to show the progress made in integrating a genuine inter-disciplinary approach to addressing the NRP areas.

Goal 3: Education for innovation

Increase the pipeline of PhDs, post-doctoral researchers and principal investigators

- In rolling out an increase in the pipeline of PhDs and post-doctoral researchers care should be taken not to rely over-heavily on the national research priority areas. Many graduates of research degree programmes will pursue a career internationally, and research training programmes should take a long-term view in terms of preparing graduates for careers in all sectors (public, private, non-profit) and in countries outside of Ireland. This would align with EU policies regarding research training such as the [Innovative Doctoral Training Principles](#) and the [EU Charter for Researchers](#).
- Responsibility for the provision and awarding of postgraduate research and education programmes falls solely within the remit of designated higher education institutions. With the support of successive governments and successive waves of PRTL funding, Ireland's higher education (HE) sector has

developed world-class supervisors and a research and academic community to train and shape this generation of PhD scholars. Additional funding for PhD graduates is welcome and necessary but student funding alone is only part of the overall funding costs of delivering a world class research experience.

- A decade of declining public funding has left a HE sector struggling to maintain high quality standards. Innovation 2020 is notably silent on matters such as overhead funding to enable HEIs to deliver additional PhD numbers particularly as the sector struggles with a decade of underinvestment and its knock-on impact.
- Successive waves of PRTL funding clearly demonstrated the benefit and impact of large-scale systemic programmes but it is acknowledged that HEIs have struggled to embed these programmes due to a lack of meaningful funding for the necessary HEI internal infrastructures to deliver the wraparound services and supports for a high-quality research experience.
- Research excellence must be the primary criteria driving the evaluation and delivery of an increased pipeline of researchers. Sectoral needs are rapid changing, expansive and difficult to predict. Ireland must be flexible in its research prioritisation agenda to respond to emerging and yet unimagined sectoral needs. A solid research base across the full range of disciplines is critical: it is far easier for provision to go from wide to narrow than from narrow to wide i.e. to offer niche, sectoral-informed PhDs but which are situated within the appropriate broad research and academic discipline base.

Action 3.9: Institute a new programme of funding for frontier research across all disciplines

Innovation 2020 promises “excellence, talent, impact”. Innovation requires creative and complex thinking at which the sciences and the HSS excel. Excellence, talent and impact is not and cannot be confined to the sciences. Realising the full potential of I2020 requires integration of humanities and social science knowledge throughout the plan and a careful reconsideration of the contribution that can be made by research in areas outside of the NRP. HSS research should be understood as fundamental to – rather than complementary to – addressing strategically important national and international challenges. Finland for example, recognises the value the creative industries contribute to economic growth, innovation, excellence and general cultural enhancement and the next wave of I2020 should also.

- The next iteration of Innovation 2020 should embrace a broader definition of innovation that includes social and cultural innovation.

Care should be taken not to rely over-heavily on the national research priority areas but instead consider the wider strategic context including international drivers of research and original or frontier thinking.

- The mid-term review should respond to and embed vital strategic international drivers such as the UN Sustainable Development Goals and the move towards mission-oriented research within Horizon 2020 within Innovation 2020 and research prioritisation.

The IRC Laureate programme is a highly welcome addition to the funding landscape: sadly, its impact is minimised by the low number of awards available under it and indeed the fact that there has been no call since 2016. For example, its budget pales in comparison to that made available to support the new Centres for Research Training launched earlier in 2018 by SFI with funding from DBEI and which support PhDs specifically within the NRP areas. Funding of these type complements research centre-based funding streams and enhances Ireland’s overall attractiveness to the world-leading researchers it wishes to nurture, attract and retain.

- Enhancement of Laureate funding scheme budget including annual calls to support frontier research across the wide research base

Action 3.16 Ensure a strategic approach to the development of existing and new research infrastructure programmes

The June 2018 Royal Irish Academy research infrastructures workshop and accompanying survey of researchers¹ illustrates a strong appetite and desire within the academic community for research infrastructure investment across the wide research base including support for the maintenance of existing infrastructure, the development of shared platform technologies and high-end computing. Research infrastructures investment must support the wider research base – laboratories and libraries, digital infrastructures for the science *and* humanities and social sciences, and investment in researcher across all disciplines.

The I2020 consultation document states that the development of research infrastructures is progressing but is constrained by limited funding. It points to the Project 2040 commitment to introduce a new PRTLTI scheme. However, this Project 2040 commitment, which is outlined in the National Development Plan 2027, states that the next wave of PRTLTI funding will be aligned to research prioritisation and, it seems, will be rolled out through SFI. This is a direct contradiction of the Innovation 2020 objective of investing to in the “research infrastructure in the wider research base”. The NDP plan appears to contradict in this instance the goals of I2020. The Mid-term Review of I2020 must consider and question this apparent change of objectives and delivery.

It seems that Government policy on research infrastructure funding has been changed from I2020 to NDP 2027 without a consultative process with stakeholders.

- The development of a strategic approach to a new research infrastructure programme should be driven by the academic research community – the end users of such infrastructures are best situated to identify existing and future needs.
- This exercise should be timed to allow meaningful consultation across the community and structured as a key input to the next national review of research infrastructures,

The expectation across the academic and research community is that a new cycle of PRTLTI will be funded in line with its previous key principles and objectives. Any change in PRTLTI objectives so that it becomes a vehicle for research prioritisation rather than a support for capacity building and frontier research across the wide research base is highly significant and likely to be contrary to the expectations of many of the actual research performers.

Goal 6: Innovating with the EU and the wider world

Benchmark our innovation system against comparator countries

Through its participation in international scientific and policy networks particularly the EU sponsored Science Advice Policy by European Academies (SAPEA) project, the Academy engages with strategic areas in the fields of research policy, science advice and societal issues. The topics of academic freedom, Horizon Europe, open access, trust in science, research infrastructure and early career researchers are high on the Academy’s priority list for 2018/2019.

The Academy’s active membership of the ALLEA Science Integrity working group, which directly authored the first European Code for Research integrity was instrumental in benchmarking and driving the

¹ See: <https://www.ria.ie/reports/policy-reports-0> for full reports.

development of Ireland's National Code for Research Integrity and subsequent adoption and implementation by Irish HEIs via the National Research Integrity Forum.

It is notably by international standards that Ireland lacks an independent Chief Scientific Advisor to Government and the Academy calls on Government to reassess and re-establish this post with additional support to the post provided through access to an independent research advisory council.

About the Academy

The Academy promotes and supports excellence in scholarship across the sciences, humanities and social sciences. It is an independent, self-governing body of Ireland's most distinguished and internationally renowned scholars and scientists. The Academy encourages and facilitates scholarly informed debate and discussion on issues of public interest in line with its members' expertise.