

Dundalk Institute of Technology Response to Successor to Strategy for Science, Technology and Innovation

Dundalk Institute of Technology is a leading research intensive Institute of Technology which carries out internationally recognised translational research across strategically prioritised areas of national and international relevance. We welcome the consultation process regarding the next SSTI and below captures some of the key points we would like to highlight as part of this process. Fundamentally the success of the next SSTI will hinge on tackling and solving the fundamental differences that exist within the national HEI ecosystem namely between the University and Institute of Technology (IOTs) sectors. These include:

- No research allocation within the core budget for IOTs. This has led to the IOTs employing their own resources to support the research and innovation agendas, such as, establishment of research and technology transfer offices
- Current academic contract with high undergraduate teaching loads negate possible staff involvement in research and innovation especially for emerging researchers.
- Lack of career progression for research active academics within the sector
- Inability at times to attract high caliber researchers due to inability of pension provisions for contract researchers from some national funders
- There are a number of instances where the IOT sector is excluded from national grouping e.g. Irish Humanities Alliance and the Horizon 2020 NCP Support Group (currently only two IOTs are members).
- No access for IOT sector to IREL. This has significant implications for researchers in the sector as they can't access the most up to date scientific literature like their university counterparts
- Strategic importance of the Technology Gateway Programme would be recognized and increased investment if such centres should occur. These centers are market orientated in nature in terms of their research activity. Currently not all regions are represented by such centres which needs to be addressed.

Research Prioritisation: Dundalk supports a prioritised approach to national investment in research and innovation however lessons should be learnt from the past research prioritisation exercise. Whilst this exercise was undertaken to justify the public investment in research across the HEI sector with a view to ensuring future economic stability of Ireland a detailed review of the chosen 14 areas should be undertaken with immediate effect. It would be short sighted to maintain these areas until 2020. Key points which should be considered include:

- There is a clear lack of national investment in basic fundamental research which is the driver for knowledge generation and future economic and societal impact. This is evidenced by the changing remit of SFI into the applied remit and how the current funding calls are structured and evaluated across the majority of funding bodies.

- The Humanities, Social Sciences and Creative Arts domains are not supported through the current 14 areas. This should be recognised and the model adjusted accordingly. The potential societal and economic impact of these areas has largely been ignored. It is unclear how these areas are funded through the current funding bodies as the majority of funding is aligned to STEM areas. A similar approach as that of Horizon 2020 would be beneficial and allow Ireland to access its wide pool of talent across all disciplines whilst encouraging interdisciplinary research.

Enterprise Level R&D: Enterprise-level R&D should continue to be supported in our view however there remains uncertainty on what the future funding programmes will look like and who the primary funder will be for these activities. This is especially true considering the changing remit of SFI and the on-going discussions between SFI and EI. What are the potential implications on current funding programmes of these discussions? We would support the continued investment of Enterprise Ireland initiatives like New Frontiers, Commercialisation Fund programmes, Technology Gateways, Innovation Vouchers/Partnerships as these programmes have delivered economic benefit. The concept of introducing a new funding programme that would bridge the innovation voucher and partnership schemes would be a key driver for ensuring and encouraging better collaboration between the SME sector and the regional HEIs. In addition it would be important that all regions are presented by Technology Gateways, as this is currently not the case, and increased funding into the existing centres and the establishment of new centres should be a priority

Collaboration and Engagement: We would support measures that would increase international collaboration and engagement however a more strategic approach should be adopted. There are several barriers currently within the Institute of Technology sector which hinder researchers' involvement in programmes like H2020, such as, difficulties in recruiting high calibre researchers into the IOT sector due to national issues which need to be addressed as a matter of urgency so as to ensure a level playing pitch across the HEI landscape between universities and IOTs. Key considerations include:

- There are currently limited national funding calls available to individual researchers to drive international collaborations.
- Resourcing by government at a national and individual HEI level which would allow engagement of all HEIs to H2020 programmes.
- IOTs are instrumental in driving the engagement of SMEs with Horizon 2020. IOTs can act as an effective mechanism through which SMEs can interact with Horizon 2020 by targeting SMEs with R&D capacity.
- To recruit high quality researchers to IOTs it needs to be possible to offer comparative contracts /conditions of employment e.g. in relation to access to pensions. IOTs need to be facilitated to meet the requirements of the EU Charter and Code for Researcher Careers.

Intellectual Property/KTI: The establishment of Knowledge Transfer Ireland was a welcome step but its relevance can only be ensured if it actively supports HEIs on an on-going basis through the appropriate Technology Transfer Offices. KTI's role and its interaction with existing TTO's in the HEI sector should be clearly defined. The on-going financial implication for HEIs in the maintenance of patents needs to be addressed from a strategic national perspective. The TTSI initiative whilst welcome only facilitates the

funding of staff mainly within university TTO offices as they tend to be the lead organisations. It should be recognised that the IOTs in general have funded their own TTOs from their own funding. This model is not sustainable and TTSI 3 should be designed to address this issue.

Research for Knowledge and Human Capital; It will be the researchers on the ground whom will enable the delivery of the new SSTI and with this in mind it is key that appropriate supports and resources are strategically invested by the government to support this activity. Key points to consider include:

- The new SSTI should have clearly defined targets, which make sense, for the numbers of various researchers to be supported through the strategy. The categories of researchers to be considered and supported should cover the complete spectrum of researchers, from postgraduate researchers to highly distinguished principal investigators. A delicate balance between the various researcher categories should be reached. The reality is that statements like doubling PhD numbers over the lifetime of the SSTI should be avoided. Generating numbers for the sake of numbers is not sensible. The rationale for supporting specific numbers should be clearly articulated. The aim should not be to educate a vast array of PhD researchers whom ultimately leave the country, the so called “brain drain”.
- National funding schemes should be designed to grow existing national talent as far as is reasonably possible. This will ensure strong foundations for the SSTI moving forward.
- Attraction of highly distinguished principle investigators from abroad should be facilitated but not at the expense of supporting existing distinguished principle investigators within the third level sector
- Increased national funding to support recruitment of high caliber PhD and master’s level researchers. Currently it is primarily the IRC which funds postgraduate researchers with limited scholarships awarded on an annual basis and the project costing being supported adequate to run effective research programs. The importance of the research masters has been lost in recent years which needs to be readdressed through appropriate funding calls.
- Removal of some of the preconditions to SFI funding calls. These preconditions have the potential to eliminate valuable researchers and possibly novel ideas from attaining national funding through SFI. Current criteria being applied to schemes such as the SIRG and CDA schemes from SFI are quite restrictive and have the potential of ensuring promising early stage researchers will not be supported nationally. This practice is short sighted.
- There is currently no dedicated capital research call through which HEIs/centres/institutes/research teams can avail of funding to purchase, upgrade and maintain capital pieces of research equipment.
- The inclusion of postgraduate researcher funding opportunities through Enterprise Ireland would allow students to attain valuable experience of working on commercial based projects