

Consultation on the National Smart Specialisation Strategy

Submission by Corca Dhuibhne Creativity and Innovation Hub

Consultation Questions

Q: Do you agree with the suggested areas of strength for the three regions as set out above? Are there other areas of strength in the three regions to be highlighted?

It is not clear how the suggested strengths have been compiled and the criteria on which they are based. For example, is it related to the existence of a research or technology sector or to a big presence of industry in the region? There are clearly pockets of expertise in specific regions and they may not appear on the list.

Recommendation 1

When establishing a definitive list of strengths, it would be helpful to categorise the various research/technology centres across the country by reference to (i) their areas of expertise; (ii) what they do and the services they provide; and (iii) details of their staffing and budgets (so that the significant centres are clearly visible).

Recommendation 2

Consideration should be given to developing a Community Innovation Readiness Roadmap that would enable local communities to determine how ready they are for innovation in their community.

Recommendation 3

Consideration should be given to some of the megatrends (possibly [those identified by the EU](#)) and other significant initiatives, such as the [EU Recovery and Resilience Plan](#); articulate the opportunities provided, by mapping these opportunities against what Ireland might be able to offer in terms of research, skills and manufacturing or other capabilities and from Ireland's natural resources.

Recommendation 4

Consideration should be given to the growing concerns about [Europe's Strategic Autonomy](#) and the opportunities for Ireland to choose some strategically important contributors to future economic success and seek to locate these in Ireland.

Recommendation 5

[Food Vision 2030](#) should be incorporated into each region's Smart Specialisation and specific initiatives should be identified to meet the challenging export and environmental targets.

Recommendation 6

A study should be undertaken on the implications of decarbonisation of the electricity system and the impact (and opportunities) for the regions to establish new smart specialisations based upon this.

Recommendation 7

Consideration be given to establishing a major 'Electricity Test-Bed Infrastructure' to support companies and regions which may be interested in developing, manufacturing, testing and exporting relevant products and services required to support the decarbonisation.

Recommendation 8

In the recent public consultation on [Shaping Our Electricity Future](#) (run by [EirGrid](#)), different options were proposed that could see a very different electricity grid and distribution of generating capacity across the island of Ireland in the future. These opportunities should be considered for future smart specialisations.

Recommendation 9

Opportunities afforded by offshore-generated electricity (and hydrogen and related issues) should be considered, both nationally and at regional level.

Recommendation 10

Consideration be given to the potential of renewably-generated offshore electricity for supporting smart innovation, through the creation of value-added products and services within Ireland.

Recommendation 11

In its report, [The Growing Role of Minerals and Metals for a Low Carbon Future](#), the World Bank, highlights the potential impacts that the expected continuing boom in low-carbon energy technologies will have on demand for many minerals and metals. Ireland currently accounts for a significant proportion of both European zinc mine output and European lead-mine output.

Consideration should be given to developing new smart specialisations based upon the natural resources (including minerals).

Q: What, in your opinion, are the key sectors in your region? What are the skills, assets and capabilities within your region?

As regards the skills, assets and capabilities, these are already available from published data from the HEIs, Enterprise Ireland and IDA et al. The issues are also mentioned in the [Regional Social and Economic Strategies](#), [County Development Plans](#), [Local Area Plans](#) and [Local Economic and Community Development Plans](#).

Recommendation 12

A study should be undertaken to establish the capacity and capability for innovation of the local communities within each of the regions.

Recommendation 13

The role of the 400+ [Connected Hubs](#) should be expanded to specifically include a role for the Hubs of supporting innovation, [Engaged Research](#) and Community Engagement (including the establishment and running of various local networks for businesses and individuals who may be interested) so that the capacity and capability for innovation is developed and strengthened in the regions.

Recommendation 14

Education and Training Boards should be specifically named in any Smart Specialisation Strategy, as they have been actively involved with successful initiatives over the years.

Recommendation 15

The Southern Region is not homogenous and, in the case of the South West Region, the impact of some of the larger industries in the Greater Cork area may hide the fact that there are tremendous disparities in economic progress across the region, not least between County Cork and County Kerry.

A report commissioned by Kerry County Council ([The Economic Impact of COVID-19 on the Economy of County Kerry](#)) highlights the negative impact of the high dependence of County Kerry on Tourism and the imperative to diversify the job base and types of industries across the county.

Besides looking at the Smart Specialisation from a regional perspective only, the sub-regional areas should also be considered.

Recommendation 16

It is noted in the Consultation Paper (pages 16/17) that there is a need for significantly more investment in R&D in the Southern Region, with the lowest level of innovation by businesses in the State (€489/head vs a State average of €662/head.)

A specific programme be developed, to raise the awareness of the importance of innovation in the communities and in business in the Southern Region.

Q: Which sectors could achieve critical mass in Ireland over the next seven years? Where are the opportunities and what needs to be done to unlock these opportunities?

Recommendation 17

In conjunction with the implementation of [Food Vision 2030](#), a major region-wide, open-access Internet of Things-enabled Smart Technology Farming initiative be established across the Southern Region, to provide a Living Laboratory for delivering the transition of agriculture to a low carbon emission future, while also supporting farmers, the agriculture and food sectors and other businesses (e.g technology companies) to develop technologies and business models that can support the transition.

Recommendation 18

With the European Union expressing greater concern in relation to [Europe's Strategic Autonomy](#), an assessment be carried out of the Strategic Supply to determine what opportunities, if any, might be available for Ireland.

Recommendation 19

With the growing importance of quantum physics and quantum computing and the strong presence of this speciality in UCC and the Tyndall National Institute, there should be a significant investment on this area through the Quantum Engineering and Computing Centre.

Cross Cutting Issues

1. Digitalisation and Digital Transformation

Q: Is digitalisation impacting your sector or region? How?

Recommendation 20

A number of specific regional (or national) initiatives should be undertaken to create significant, area-wide sectoral 'Living Laboratories' that would be overlaid with open, public access infrastructure (for example, for Internet of Things, Data Analytics, Blockchain, Artificial Intelligence, Machine Learning, Robotics, Virtual Reality, Augmented Reality, Intelligent Transport, etc.) that could then be applied to relevant sectors. The impact on business models should also be explored as part of any such initiative, as opposed to solely looking at the technologies themselves.

Q: Could your business or sector benefit from new digital technologies? What support would you need to adopt these technologies?

The [Corca Dhuibhne Creativity and Innovation Hub](#) is actively engaged with the local community and connecting the community with State and other public bodies, researchers, academics, other businesses and at EU level, through various funding programmes.

Recommendation 21

- (i) The new National Smart Specialisation Strategy should recognise the important role that local communities can play in encouraging digitalisation and innovation. Support should be provided (through the provision of a funding line in the current range of Exchequer-funded schemes for communities) to support community-led initiatives that raise awareness of digitalisation and educate and train people so that they can avail of the digital services and new technologies, such as Internet of Things, Data, Artificial Intelligence, Machine Learning, Blockchain, Robotics, Intelligent Transport etc. The 400+ [Connected Hubs](#) should be invited to participate in this initiative.
- (ii) Support should be provided for significant 'Living Laboratories' in regions that would enable testing of some of these new technologies across the region
- (iii) The local Education and Training Boards should also be given a role in supporting the awareness raising, training and education for local communities.

Recommendation 22

Similar to the [Grand Challenges operated by Science Foundation Ireland](#), public calls could be announced for communities to address societal challenges that require to be addressed; and

Q: How can we improve the alignment of the country's ICT and digitalisation expertise, initiatives and investments?

Recommendation 23

Ireland should position itself as the European Regulator (where allowed) for ICT and Social Media companies and wide-area 'Living Laboratories' should be established to explore the technological and regulatory issues and the impact on business models. As part of this initiative, the Office of the Data Protection Commissioner should be expanded to allow it to not only regulate the current companies but also to co-create solutions for the future that would be acceptable from all relevant aspects –

technologically, financially, regulatorily, ethically and from a community-perspective (i.e social licence). The impact on the business models (and taxation etc.) should also be included.

2. Green Transformation for Enterprise

Q: What opportunities can you see as arising from Green Transformation for your sector or region?

There are significant opportunities for the Southern Region arising from the Green Transformation. There are significant resources available (from research centres, higher education and technology centres) but the role of the local community appears to be missing.

The [Corca Dhuibhne Creativity and Innovation Hub](#) has recognised the importance of the Sustainability and 'Green' issues from its establishment and it has also recognised the overlapping nature of the 'green' and 'digitalisation' agenda (e.g applying digital technologies to help address the challenges of transitioning to low carbon – see [Corca Dhuibhne 2030](#)).

It also notes the statement in the Consultation Paper (p.9) that, in relation to the EU Green Deal: *'It also aims to protect, conserve and enhance the EU's natural capital and protect the well-being of citizens from environment-related impacts.'*

The Dingle Peninsula has been designated as the Decarbonisation Zone for County Kerry and the Corca Dhuibhne Creativity and Innovation Hub is supporting a significant initiative in the [Maharees/Castlegregory](#) area (part of the Dingle Peninsula) aimed at protecting the short-term and long-term damage being done to the area (including the sand dunes, ecology, coastline and the local ecosystem, that is part of a Special Area of Conservation and Specially Protected Area), by seeking *"to protect, conserve and enhance the EU's natural capital and protect the well-being of citizens from environment-related impacts"*.

Recommendation 24

The National Smart Specialisation Strategy should recognise the important, essential and unique role that can be played by local communities in addressing the significant challenges posed by Climate Change and Biodiversity loss. By providing a supportive local environment and innovation ecosystem for addressing these existential issues, it is possible for local communities (and local businesses, researchers, higher education institutions and others) to develop solutions.

Q: What challenges exist for enterprises trying to reduce emissions or introduce sustainable practices?

Q: How could government or enterprise agencies assist you in meeting those challenges?

There are a number of challenges for enterprises trying to reduce emissions and introduce sustainable practices. These include an awareness of the need for the changes and the specific changes; the scale of the changes needed; the availability of sufficiently skilled people to undertake the work required; and the costs of the work required to be done.

Recommendation 25

- (i) An awareness programme be introduced to support the decarbonisation of businesses. This should not just be for businesses but it should be aimed at the wider community.
- (ii) Approaches, such as being adopted by Kerry Education and Training Board, under its [Sustainability Strategy, 2020-2022](#), that encourage students (and Kerry ETB staff) to attend a specific module on Sustainability; and

- (iii) Companies should be encouraged to upskill its management and staff in relation to decarbonisation, by attending such courses as UCC's [Higher Diploma in Sustainability in Enterprise](#).

Recommendation 26

Research should be commissioned on the decarbonisation of various sectors that are important to the Irish economy, similar to what has been [published by MAREI](#) in respect of the decarbonisation of distilleries.

3. Innovation Diffusion

Q: What are the barriers for innovation diffusion in Ireland? How can these barriers be broken down? Are their regional differences in these barriers?

Recommendation 27

There should be role for the 400+ [Connected Hubs](#) to assist with the diffusion of innovation in Ireland. By building capacity and capability for innovation in local communities, it raises the level of awareness about the importance of innovation in local communities; it facilitates collaborations across the community; it provides links with other companies and research institutions; and it enables community-wide initiatives to be taken.

Q: What channels for diffusion are used by your business or sector?

[Corca Dhuibhne Creativity and Innovation Hub](#) utilises a number of different channels for diffusion, as follows:

- [Engaged Research](#) and [Community Engagement](#) are the bedrock of the linkages between Corca Dhuibhne Creativity and Innovation Hub and the [UCC MAREI Research Centre](#) and this partnership has enabled the various innovation diffusion techniques outlined below. This has also been facilitated by the partnerships with [ESB Networks](#) and [NEWKD](#).
- [Learning Briefs](#) (in conjunction with [MAREI](#) and Journal Papers, led by MAREI researchers)
- [Policy briefs](#) (aimed at policy-makers and produced by MAREI with inputs from Dingle Hubs)
- [Dingle Adapts](#) (series of short videos that highlight innovations across the Dingle Peninsula)
- [Webinars and Events](#) (a series of events to bring together various sections of the community to address issues)
- Networks of different groups (e.g. [Creative Industries](#), [Community Energy Mentors](#), [Farm Ambassadors](#), [ESBN Ambassadors](#), [Ploutos Project](#))
- [A range of education and out-of-school programmes](#) such as [Coder Dojo](#), [Animation Workshops](#)

Recommendation 28

In the various Exchequer-funded schemes for regional development and community development, provision be allowed for such initiatives (as outlined above) in respect of diffusion of innovation. This would help to embed innovation in local communities which should, in turn, result in greater levels of innovation in businesses and among the wider community.

Q: How can we enhance collaboration between industry and the higher education sector?

Generally, there appears to be a good relationship between Higher Education/Research Institutions and Multi-National Companies (MNCs) but it does not appear that there is as much collaboration

between the indigenous Small to Medium Enterprises (SMEs) and Higher Education/Research Institutions. This may be partly due to the fact that the importance of innovation and investment in innovation, research and education/training is not fully appreciated by the SMEs or, indeed, in the local communities in which they are based.

Recommendation 29

- (i) In Exchequer-funded schemes aimed at regional development, provision should be made for [Engaged Research](#) and [Community Engagement](#), which could facilitate engagement between Higher Education Institutions, Research Institutions and local communities (and, by extension, businesses). Because of the more demanding nature of the Engaged Research (i.e. there is usually more travel involved, more time dealing with local communities, etc.) there should be a specific incentive for researchers to engage with local communities and to co-create solutions.
- (ii) The 400+ [Connected Hubs](#) should be supported to undertake [Engaged Research](#) and [Community Engagement](#) and to encourage them to produce and share [Learning Briefs](#)
- (iii) By including provision for the establishment of Research and Innovation Networks in all future grant approvals for Hubs, it would be possible to embed innovation and research as an integral part of the future of the small companies around the country.
- (iv) Education and Training Boards (ETBs) should be seen as part of the State's support for innovation and, in this role, the ETBs should be encouraged to work with local communities and businesses to provide education programmes for local communities on relevant innovative topics.

4. International collaboration on RD&I

Q: What areas of research or industry sectors does Ireland have an international competitive advantage in? How can we build on that advantage?

The [SFI Research Centres](#) are world class and they operate in areas in which Ireland has a competitive advantage. In addition, in certain economic sectors, Ireland has a competitive advantage due to its significance global presence. One Research Centre with which the Corca Dhuibhne Creativity and Innovation Hub has been working for a number of years, is the [SFI MAREI Research Centre](#), with its HQ based in UCC. There are also good relations with [NUIG](#), [MTU](#) and others.

Recommendation 30

Ireland should build upon the successes of the [SFI Research Centres](#) and continually identify new trends and opportunities in emerging sectors and opportunities that are driven by policy interventions (such as the Green Deal and Covid-19).

Recommendation 31

International research engagement is not just about drawing down funding from international (or EU) sources but it also exposes Irish researchers to best in class globally.

- (i) More Irish researchers should to be encouraged to apply for European Research Council grants and specific targets should be set for this, with greater supports and rewards made available to researchers to apply and if they are successful. Specific admin/specialist resources should also be made available.

- (ii) SFI (and other) Research Centres should be specifically supported and encouraged to lead EU Horizon projects, rather than just be a partner and the Centres should be incentivised to do this.
- (iii) The Strategy should incentivise collaborations (nationally and internationally), building on the experiences of some of the programmes run by SFI, including those programmes that encourage links with USA and other countries
- (iv) Participation in relevant international organisations (e.g International Energy Agency), particularly relevant Working Groups, should be strongly supported and incentivised, as it encourages Irish researchers to become involved internationally, to develop contacts and to influence policies internationally and nationally.

Q: In what areas or sectors should we be concentrating our international research collaboration activity? What supports do these areas or sectors need to be competitive on a world stage?

Recommendation 32

Ireland should concentrate on (i) the areas in which we have a strong base of research and/or industry in Ireland; (ii) ones that are (or will be) important for Ireland in the future (e.g climate change, offshore electricity and energy; decarbonisation of society and electricity; (iii) ones that will have huge global impact and there may be opportunities to become a serious player (e.g quantum engineering); and (iv) sectors that that may be seen as relevant to the [European Strategic Autonomy](#) (e.g microprocessor production).

Q. How can Ireland's regions use Ireland's international links and memberships to support their strengths and emerging areas of future opportunity?

Recommendation 33

Regions should be supported to build their international links through:

- (i) Their SFI (and other) Research Centres and also through participation in other EU Regional Projects that involve collaborations with local communities.
- (ii) Utilising the [Connected Hubs](#) to link local communities with other communities across the EU.
- (iii) Leveraging EU funding for significant research infrastructure in Ireland, for example, in the area of decarbonisation of electricity, which would allow researchers and companies to experiment with new ideas on such largescale infrastructure that no individual Higher Education Institution (HEI) could fund on its own.
- (iv) The Irish government should leverage the EU for peripheral regional stimulus funding based on our unique geographical and, post Brexit, political location. These funds could support our research agencies and academic institutions to develop and sustain leading-edge labs/field observation systems.

5. Actions to improve the national or regional enterprise research and innovation system

Q: Which RD&I initiatives have been successful for your sector/region? Which programmes should continue? Which RD&I programmes for enterprise are not working?

Q: How do we generate a stronger, unified ecosystem approach to RD&I across the country to strengthen the visibility of our RD&I supports?

The focus of the Corca Dhuibhne Creativity and Innovation Hub is on the Dingle Peninsula but there is also a strong commitment to [share the findings of all research](#) and to make a contribution across Kerry, regionally and nationally. The strong [collaborative approach](#) between the [Hub](#), [MAREI/UCC](#), [ESBN](#), [NEWKD](#) is the basis of the success of the Hub and Corca Dhuibhne 2030. Other excellent partners include [Munster Technological University](#), [Teagasc](#) and [NUIG](#) (the main research partner for the Maharees Project) and [Net Feasa](#) (a local Internet of Things and Communications company).

A report was also published titled [The Value of Collaboration](#) and it outlines the benefits of the collaborative approach.

Recommendation 34

[Engaged Research](#) with local communities should be encouraged to support greater Research and Innovation in local communities.

Q: How do we target RD&I spend in a way which maximises impact for the economy and which addresses the market failure evident in low RD&I in the indigenous SME sector?

Recommendation 35

A particular effort should be made to increase R&I investment by the indigenous sector and the 400+ [Connected Hubs](#) should be supported to raise awareness of the importance of R&I in local communities and, particularly, the SMEs.