



# Ibec Submission to the National Smart Specialisation Strategy

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# Key Recommendations for Smart Specialisation

## Driving regional economic growth and recovery through smart specialisation

1. Develop a regionally focused Smart Specialisation Strategy which is evidence based and includes a monitoring and evaluation mechanism.
2. Create a strategy that exploits the strengths, competitive advantages and potential for excellence for each region. It must reflect the specific, place-based needs and address the specific challenges of the region and support targeted, innovation-driven investment.

## Regional Capacity for Smart Specialisation

1. Deliver an all-island roadmap for the development of clusters to support smart specialisation and regional competitive advantages.
2. Introduce specific funding to support Technological Universities and IoTs as regional drivers of innovation and to engage with SMEs, MNCs and start-ups on innovation training and strategy development.
3. Reimagine regional economies around innovation and extend the 'smart city' concept across the five metropolitan areas.
4. Support regions to develop urban centres of sufficient scale, particularly designated Regional Growth Centres and Key Towns.
5. Support the localisation of innovation by investing in critical innovation infrastructure including a network of innovation districts and centres.
6. Rollout the National Broadband Plan (NBP) to underpin regional development.

## Digitalisation and Digital Transformation

1. Engage enterprise in and prioritise the resourcing and urgent implementation of relevant national strategy actions and report recommendations that aim to further enable digital adoption, innovation, and entrepreneurship across enterprise and regions.
2. Map current needs, offerings, and gaps in supporting further digital adoption, innovation, and entrepreneurship across enterprise and regions.
3. Introduce accelerated capital allowances for several areas of advanced manufacturing e.g., computer aided machinery and robotics.
4. Create a single sectoral online hub and agency point for supports, information and facilitate collaboration.
5. Prioritise and enhance efforts to support enterprise efforts to access EU funding in enhancing digital adoption, innovation, and entrepreneurship.
6. Establish 'centralised governance' to support digital policy leadership and coordination.
7. Establish a centralised digital and data affairs forum, to lead and co-ordinate governmental and non-governmental stakeholders (and their initiatives) and deliver and drive a shared vision that ensures Ireland, and its regions are at the forefront

of a digital and innovative future. Such fora exist in other digital frontrunner countries.

### **Green Transformation for Enterprise**

1. Develop mission-oriented funding programmes to help solve known barriers to the transition to a zero-carbon circular economy.
2. Leverage existing industry clusters and the expertise in the public and private sector to identify solutions for “hard to mitigate” sectors like freight transport, shipping and aviation, large industry, and agriculture
3. Direct research into ways of bringing down the costs of viable but prohibitive technological solutions to environmental challenges like hydrogen, floating offshore wind, carbon capture, alternative fuel vehicles, and advanced biofuels like Hydrotreated Vegetable Oil.
4. Leverage existing industry clusters and expertise in the public and private sector to help businesses develop new circular products and services and address common challenges in packaging, resource use/efficiency, right to repair, and use (non-use) of end of life materials.
5. Ensure Ireland’s energy and climate modelling research centres and relevant agencies are well resourced to ensure policymaking is grounded in relevant up to date data and scientific evidence.
6. Finance extensive research into Ireland’s agriculture and land use sector to support the sector on its decarbonisation agenda and enhance its overall sustainability in a way that is fair and cost-effective.
7. Research ways to mitigate airborne ammonia emissions from anaerobic digesters applied to farmland as sustainable replacements for artificial fertilisers.

### **Innovation Diffusion**

1. Initiate a full ecosystem review to create the strategic, overarching framework from which all complementary policy and initiatives to support RDI activity in Ireland should be linked.
2. Undertake a detailed refinement of the R&D Tax Credit, Knowledge Development Box and State Aid for R&D to support business engagement in innovation.
3. Raise awareness of the value of IP across the spectrum with a special focus on entrepreneurs, start-ups and SMEs.
4. Complete the ratification of Ireland’s full and active participation in the Unified Patent Court.
5. Create a national research internship programme to bring research skills to SMEs for specific innovation projects.

### **International Collaboration on RDI**

1. Fund an online EU funding information centre for Irish enterprise providing information on the full funding opportunities open to them and would enable businesses of all size and activity to assess, analyse and pursue EU funding sources that could be competitively secured.
2. Develop a global strategy for Irish research, development, and innovation to help business and HEIs to lead international research and innovation projects.

3. Maximise the opportunities presented by the Shared Island Agenda to support cross border research and innovation projects and to connect business with a wider innovation ecosystem.
4. Provide support to establish new networks and platforms to create partnerships with other EU higher education institutions in preparation for Horizon Europe programmes.
5. Increase participation by Irish enterprise in IPCEIs in cutting-edge sectors.
6. Enhanced engagement with the European Investment Bank, with a specific focus on opportunities to leverage or blend EIB financing to unlock private sector investment.
7. Each region must deepen its formal and informal international linkages, networks and knowledge-exchange to deliver on smart specialisation objectives.

#### **Improve the National and Regional Enterprise Research and Innovation System**

1. Scale public investment for R&I by 60% to reach €1.25bn per annum.
2. Develop a sustainable higher education funding model that allows for core and programmatic funding, infrastructure investment and industry-academia collaboration.
3. Deliver a new multiannual funding programme for research infrastructure which builds on the progress of the PRTL.
4. Support regional engagement in new national mission policy by championing multiple bottom-up solutions to a small number of grand challenges.
5. Improve the environment for entrepreneurship in Ireland by enhanced tax supports, skills and talent supports, and mentoring and networking opportunities.
6. Deliver specific financial and information resource supports for SMEs to encourage their innovation
7. Build a strong high potential start-up pipeline of ambitious and diverse founders with a comprehensive suite of financial supports including new feasibility grants and additional nonfinancial supports to build connections and capability.
8. Create leadership programmes that deliver immersive innovation training to support industry and entrepreneurs to build an innovation culture, teams, and gain insight to emerging technologies.

# Introduction: Driving Regional Economic Growth and Recovery through Smart

## Specialisation

Ibec welcomes the opportunity to participate in the consultation on Ireland's Smart Specialisation Strategy. The delivery of a National Smart Specialisation Strategy is an opportunity to support an inclusive and balanced economic recovery underpinned by a robust national and regional innovation ecosystem. Regions are facing major economic challenges, such as COVID and Brexit, and developing new growth paths emphasising the twin green and digital transformations while also enhancing regional innovation capacities is tantamount to long term environmental, economic and social sustainability.

While Ireland is considered a Strong Innovator on the European Innovation Scorecard, the Regional Innovation Scorecard shows disparity in innovation capacity between regions in Ireland. The recent reclassification of the North-West by the European Commission to a 'Transition Region' provides evidence of the need for smart specialisation to drive placebased innovation and economic recovery.

Smart specialisation can reduce barriers between regions and boost regional productivity by allowing for diversification and the full utilisation of regional competitive advantages with respect to enterprise innovation. The objective of smart specialisation needs to focus on delivering tailored, regional responses to address economic disparities, while also ensuring the local research and innovation systems incubate the region's sectoral strengths. Region-specific actions and initiatives need to be implemented to take into consideration regional differences and the effects of Covid-19, to position the regional economies for innovation-led recovery and growth.

Smart Specialisation is an opportunity for the delivery of the actions of the National Development Plan and the future National Research and Innovation Strategy. Detailed recommendations on how to support place-based innovation and economic growth can be found in [Ibec's submission to the review of the National Development Plan](#) and Ibec's submission to the National Research and Innovation Strategy (2001 –2027) (attached).

The next Smart Specialisation Strategy must be supported by robust data and include a monitoring and evaluation mechanism to remain agile and opportunistic. Regional core priority areas need to be reviewed and updated regularly and aligned with changing trends and market developments, to remain a driver of regional competitiveness.

### Recommendations:

1. Develop a regionally focused Smart Specialisation Strategy which is evidencebased and includes a monitoring and evaluation mechanism.
2. Create a strategy that exploits the strengths, competitive advantages and potential for excellence of each region. It must reflect the specific, place-based needs and address the specific challenges and opportunities of the region and support targeted, innovation-driven investment.

# 1. Regional Capacity for Smart Specialisation

The next Smart Specialisation Strategy is an opportunity to follow Ireland's European counterparts and build a clear vision for the development of innovation clusters in Ireland, including the maturation of existing clusters in areas such as the bioeconomy, medication technologies, pharmaceuticals, agrifood, high-tech manufacturing and digital industries, as well as the ignition of clusters in other areas such as the experience economy, green technologies, and other cross-cutting industry sectors. Greater collaboration between the innovation helix – academia, industry, government and the public – must be the bedrock for the development of clusters in Ireland. A roadmap must be developed grounded on evidence and best practice to provide stakeholders with the tools to grow clusters and realise place-based advantages.

## Cluster Case Study: Irish MedTech Industry in the Race to Embrace Digital Manufacturing

The role of the manufacturing industries in the Irish economy has been emphasised by Covid-19. In 2020, Ireland was the only country in Europe where exports grew, experiencing 5.4% growth and in the past couple of years 30,000 jobs have been added reaching 260,000 people employed. According to a survey by the Ibec Medtech and Engineering Group, as many as 4 out of 5 business leaders said that automation of manufacturing was critical to their success, and in excess of two thirds of the respondents revealed that they were already implementing automation.

The Director of Medtech and Engineering, Sinead Keogh said that “More than half of business leaders we talked to said that their approach to adopting new technologies was business driven, with 6 in 10 planning to apply the connected factories/Internet of Things in their business. While 8 out of 10 expect digitalisation to lead to increased resource efficiency, one of the greatest barriers to advanced manufacturing is integrating new technologies according to half of respondents. One of the keys to tackling this challenge is employee engagement and upskilling with 7 in 10 manufacturing leaders saying that further training of employees is critical”.

“At Siemens Healthineers, the instruments that we make take several years to design and create. Our industry moves relatively slowly so embracing new ideas and tech is changing and speeding up how we do things,” says Gerry McNamee, Siemens Healthcare Diagnostics, Business Excellence Manager. He adds, “We have what is called a workplace knowledge system which is a system for capturing and sharing knowledge between employees. We have been looking at computer software for plant simulation and 3D layouts. Eventually we will have a VR cave, where you put on goggles and actually walk through the plant, or walk in a virtual cell, deciding where everything should be. We know these projects will benefit us in the long-run.”

Colm Sheils, Operations Director at Boston Scientific Galway says that the main reasons to adopt new technologies are numerous, but quality and compliance would be top of our list. “Investing in new technology gives benefits across safety, quality and cost. The advancement of these technologies in recent years means that automation costs less to do with even greater benefits.”

“A key aspect of industry 4.0 is aligning digital skills with real machine knowledge, equipment knowledge and technology knowledge,” says Sean Moran, Vice President of Operations and Plant Manager for Sanmina Ireland in Fermoy. Joan Hyland,

Director of Innovation and Excellence for Mergon, says “The more you digitise the workplace, the more you have to support this innovation and digitisation. [...] We have put a lot of effort into expanding our capabilities and developing our people so that they are capable. We utilise industry 4.0 to improve our process, but we’ve also modified and upgraded our current systems and equipment to enable us to extract the right information at the right time. This enables us to make better decisions and better interventions when needed.”

The full survey results and business leaders interviews are available in, [‘The race to embrace digital manufacturing: Lessons from Ireland’s journey’](#).

The establishment and expansion of Technological Universities is a unique opportunity to build upon how innovation stakeholders cluster on strategic issues that underpin regional development. A plan for a significantly higher level of sustained investment is immediately required to unleash the potential of Technological Universities to act as an anchor for innovation and high-tech skills development in the regions.

Developing the regional capacity for smart specialisation also requires investment in regional innovation infrastructure. This includes:

- Expanding Smart Cities: Each metropolitan area must fully embrace the ‘smart city’ concept. Technology can be utilised to solve the challenges our cities are facing. A ‘smart city’ does not solely focus on efficiency, it also strives to provide a higher quality of life for those that live and work there. Initiatives seek to deliver smart mobility, a healthier and safer city, a cleaner and more sustainable environment, public realm improvements and better use of space. Smart cities seek to connect government, business, academia, and inhabitants in delivering lasting and sustainable transformation.
- Connecting Smart Cities to Smart Regions: Metropolitan and regional growth are interdependent. Government must also allow the regions to develop urban centres of sufficient scale, particularly designated Regional Growth Centres and Key Towns. The benefits of such growth can be spread to surrounding rural areas. Enhanced funding and alternative mechanisms to support investment and financing must be utilised. □ Develop international city linkages: Ireland’s five metropolitan areas need to be more active in international city diplomacy. Engaging in international city diplomacy is critical for utilising best-practice, achieving smart specialisation objectives, and raising each city’s international profile and linkages. Irish cities are relatively weak by European and international standards in participating in formal city networks. Cities such as Belfast are far more advanced and have linked their participation to their respective smart specialisation strategies.
- Utilising Innovative Funding Opportunities: Opportunities to better utilise funds such as the Urban Regeneration & Development Fund (URDF) should be explored. Flagship regeneration projects should be actively supported by government through the National Development Plan (NDP) and through access to international financing. Large scale and ambitious development projects can have a transformative effect on metropolitan city areas such as Waterford North Quays Project and the South Clare Strategic Development Zone (SDZ).
- Developing Innovation Districts and Centres: A network of innovation districts and incubation centres needs to be further developed to support a culture and connection between national ambition and local enterprise. Innovative solutions to make innovation more accessible in the local community should be prioritised, building on the success of



existing centres such as MTU's Rubicon Centre and the UCC Ignite Centre. For example, the potential for remote working hubs to act as innovation centres in the local community should be explored.

**Recommendations:**

1. Deliver an all-island roadmap for the development of clusters to support smart specialisation and regional competitive advantages.
2. Introduce specific funding to support Technological Universities and IoTs as regional drivers of innovation and to engage with SMEs, MNCs and start-ups on innovation training and strategy development.
3. Reimagine regional economies around innovation and extend the 'smart city' concept across the five metropolitan areas.
4. Support regions to develop urban centres of sufficient scale, particularly designated Regional Growth Centres and Key Towns.
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6. Rollout the National Broadband Plan (NBP) to underpin regional development.

## 2. Digitalisation and Digital Transformation

The COVID crisis has accelerated digital transformation. According to the Ibec 'Business in 2021 and Beyond – A CEO Perspective' survey, nearly four out of five Irish CEOs (79%) agree that being prepared for technological change is a key priority for them in their role. Over the next 3 years (2021-2024), increased investment in technology to support business changes is seen as being among the top 5 areas of focus by Irish CEOs. The pandemic has demonstrated that digital transformation enables innovation in processes, value chains, products, services, and consumption.

The European Commission's Trade Policy Review Communication (2021) shows that the nature of trade will have to become more outward looking and innovation driven, accelerating the need for further digital capacities in enterprise. Ireland is home to a strong digitally intensive sectors such as digital, lifesciences, healthcare, financial and professional services, and among the top global hubs for the import and export of digitally deliverable services. While progress is being made, there is room for further enhancing digital adoption, innovation, and entrepreneurship across enterprise – large and small<sup>1 2 3</sup>.

Creating greater access and utilisation of digital tools can enhance productivity, enable scaling, and reduce transaction and information costs. To support the adoption of digital technologies, conditions that further enhance secure connectivity and enable further access to digital opportunities must be promoted. The urgent implementation of the relevant national strategy<sup>4</sup> actions and report recommendations must be prioritised. Enterprise must be engaged through meaningful mechanisms to ensure the delivery of these actions.

It is critical to invest in initiatives and strategic infrastructure that supports further understanding, technology diffusion, skills and training development, and research commercialisation to enhance innovation and employability across sectors and regions.

Centralised governance is needed to improve the alignment of the country's ICT and digitalisation expertise, initiatives and investments. Centralised leadership and coordination of the development and implementation of digital policy, including the new national digital strategy and aspects of national economic planning, should be coordinated through the Department of An Taoiseach. The National Economic Plan suggests such centralised governance would be co-ordinated by the Cabinet Committee on Economic Recovery and Investment. The EIB (2019), while acknowledging the benefits of various governmental initiatives [on digital], noted that they "are not fully coordinated between government entities and are not embedded in a holistic national digital strategy (NDS)."

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<sup>1</sup> IEDR (2019) SMEs need to further develop sophisticated digital functionality in attracting and meeting customer expectations in a more connected world.

<sup>2</sup> European Commission (2019) Roughly 30% of Irish enterprises are ranked as having high levels of *digital intensity* (#11 and above EU average) compared to the top three EU performers (Nordics with a 50% intensity).

<sup>3</sup> EIB (2019) and OECD (2019) report that Ireland has a two-speed digitalised economy with lower digital adoption and productivity in SMEs when measured against MNCs here. Barriers to the further implementation of digital solutions across SMEs include a lack of knowledge about digital opportunities, technical know-how and financing issues. Both EIB and OECD have provided recommendations that Ireland help its SMEs ramp up digital adoption. An EIB (2020) investment study of firms' assessment of digitalisation ranks Ireland's progress as 'modest' and behind the EU and US average in the adoption of certain technologies.

<sup>4</sup> E.g. Digital transformation in manufacturing and supply chains, DETE (2019); Digital transformation in SMEs, DETE (2021a), AI adoption and innovation in enterprise, DETE (2021b); and enhancing procurement and our GovTech ecosystem, DPER (2019)

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**Recommendations:**

1. Engage enterprise in and prioritise the resourcing and urgent implementation of relevant national strategy actions and report recommendations that aim to further enable digital adoption, innovation, and entrepreneurship across enterprise and regions.
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6. Establish 'centralised governance' to support digital policy leadership and coordination.
7. Establish a centralised digital and data affairs forum, to lead and co-ordinate governmental and non-governmental stakeholders (and their initiatives) and deliver and drive a shared vision that ensures Ireland, and its regions are at the forefront of a digital and innovative future. Such fora exist in other digital frontrunner countries.

Ibec expands on these points in its paper, ['Backing our Digital Future, June 2021'](#).

### 3.Green Transformation for Enterprise

In a changing world where investment, consumers, and talent follow environmental integrity, Ireland has no choice but to develop a more sustainable economic model. As such, Ireland's commitment to break away from a dependency on fossil fuels and a take-make-waste economy and transition to a zero carbon, circular, and environmentally sustainable society by 2050, is both an economic objective and an environmental obligation. This is recognised at business level with many companies setting ambitious company targets that often outstrip national commitments. With increased investment and smart targeted measures, Ireland has an opportunity to become a global leader in sustainable enterprise and green innovation.

The development of the smart specialisation strategy comes at a time when Ireland is setting new targets and policies on climate change, energy efficiency, waste management, biodiversity and land-use, marine protection, and air and water quality improvement. In all these areas targeted research and innovation will be needed to ensure policymaking is grounded in scientific evidence and decisionmakers have a clearer understanding of what is needed and appropriate in an Irish context. Deeper research and development will be needed in the areas of climate action and circular economy where success will largely depend on the timely arrival of new and emerging technologies. As such, the strategy is an opportunity to better direct public and private sector expertise and resources to solving these urgent environmental challenges.

In the area of climate action, targeted research and innovation is needed to identify the optimum decarbonisation pathway and solutions for "hard-to-mitigate" sectors like freight transport, shipping and aviation, large industry, and agriculture. Research is also needed to help identify ways of bringing down the costs of currently prohibitive technologies like hydrogen, floating offshore wind, carbon capture, alternative fuel vehicles, and advanced biofuels like Hydrotreated Vegetable Oil. The strategy should make full use of existing industry clusters and trade bodies to work through these issues, recognising different sectors and locations will often require different solutions.

In the area of waste management and resource-use, innovation is needed to help businesses develop circular products and services, increase resource efficiency and maximise the use of end-of-life materials. For many products in the marketplace, alternatives are non-existent or commercially unviable. Ireland's size and varied industrial base presents an opportunity for Ireland to be a leader in this space. However targeted investment and interventions will be needed to mobilise action in this area.

In the area of air quality, research is needed to mitigate airborne ammonia emissions from anaerobic digestates applied to farmland as sustainable replacements for artificial fertilisers.

#### **Recommendations:**

1. Develop mission-oriented funding programmes to help solve known barriers to the transition to a zero-carbon circular economy.
2. Leverage existing industry clusters and the expertise in the public and private sector to identify solutions for "hard to mitigate" sectors like freight transport, shipping and aviation, large industry, and agriculture
3. Direct research into ways of bringing down the costs of viable but prohibitive technological solutions to environmental challenges like hydrogen, floating offshore

wind, carbon capture, alternative fuel vehicles, and advanced biofuels like Hydrotreated Vegetable Oil.

4. Leverage existing industry clusters and expertise in the public and private sector to help businesses develop new circular products and services and address common challenges in packaging, resource use/efficiency, right to repair, and use (non-use) of end of life materials.
5. Develop a voluntary register of raw material and waste flows to highlight opportunities for industrial symbiosis.
6. Ensure Ireland's energy and climate modelling research centres and relevant agencies are well resourced to ensure policymaking is grounded in relevant up to date data and scientific evidence.
7. Finance extensive research into Ireland's agriculture and land use sector to support the sector on its decarbonisation journey, ensure the optimum use of available land and boost national biodiversity.
8. Research ways to mitigate airborne ammonia emissions from anaerobic digestates applied to farmland as sustainable replacements for artificial fertilisers.

## 4. Innovation Diffusion

The KTI Directory of RDI Supports summarises in 116 pages business supports shared across 10 universities, 9 IOTs, 16 SFI Research Centres, 8 Enterprise Ireland/IDA Technology Centres, 15 Technology Gateways and 5 other centres and institutes of scale. For a small, yet advanced, economy this highlights the sheer complexity of the system. Ireland needs to build greater collaboration, permeability and coherency across agencies, programmes and Government Departments to facilitate business engagement in and collaboration with the innovation ecosystem.

The necessary enabling framework conditions for innovation diffusion must be in place to deliver a sustainable pathway for Ireland to achieve its ambition as an Innovation Leader. This means ensuring innovation stakeholders have access to: a strong talent pipeline, world-class innovation infrastructure, internationally competitive innovation incentives, multiple channels for collaboration and high-quality guidance and information services. Specific initiatives to enhance Ireland's enabling conditions for innovation diffusion include:

- Ensuring that there is adequate capacity across all technological readiness levels in Ireland's research centres.
- Promoting a high degree of collaboration across research centres to facilitate cross centre linkages in areas such as climate and sustainability and AI to prevent duplication of effort and inter-competition for limited resources.
- Ensuring the framework conditions exist to support the creation, management and exploitation of IP and the protection of IP.
- Facilitating the fluid mobility of researchers between academia and industry to support the transfer of knowledge between academia and industry

From a business perspective, some barriers which remain in accessing state supports for innovation which need to be remedied include:

- Restrictive funding parameters around R&I support programmes can limit participation of businesses including SMEs, start-ups, and pre-profit companies.
- Significant resource, administrative and financial cost of participation compared to comparative programmes in competitor countries.
- Lack of flexibility and agility in the processing and evaluation of supports, particularly related to the R&D Tax Credit.
- Misalignment and complexities around State Aid eligibility criteria between state agencies and Government departments.

### Recommendations:

1. Initiate a full ecosystem review to create the strategic, overarching framework from which all complementary policy and initiatives to support RDI activity in Ireland should be linked.
2. Undertake a detailed refinement of the R&D Tax Credit, Knowledge Development Box and State Aid for R&D to support business engagement in innovation.
3. Raise awareness of the value of IP across the spectrum with a special focus on entrepreneurs, start-ups and SMEs.

4. Complete the ratification of Ireland's full and active participation in the Unified Patent Court.
5. Create a national research internship programme to bring research skills to SMEs for specific innovation projects.

## 5. International Collaboration on RDI

Ireland needs to embrace a greater diversity of funding and co-funding options. We must build on our past track record of successfully utilising funding from the European Union to support smart specialisation across the country. The biggest EU budget ever has been agreed, operating in part as a recovery budget with a substantial €1.8 trillion earmarked to support investment.

Irish enterprise must be supported in identifying and pursuing opportunities across the full range of EU funding programmes including the Horizon Europe, Connecting Europe Facility, LIFE, Digital Europe, and EU4Health. The new EU Cohesion Programmes 2021-2027 should be strategically utilised to support delivery of S3 objectives. Funding could support innovation projects and supporting infrastructure across the regions.

It is important that priority areas are reflected in the National Operational Programmes being developed. Specific smart specialisation initiatives under the Shared Island agenda could potentially secure funding under PEACE PLUS, the new €1 billion cross-border EU programme focusing on Northern Ireland and the border counties of Ireland, although there is scope for activity to extend beyond that area.

Horizon Europe, the new successor RD&I funding programme, takes a new approach. It has identified five Mission Areas, which aims to connect research and innovation better to society and citizens' needs, with strong visibility and impact. There will be opportunities to fund the deployment of innovative infrastructure and technologies under this programme, in addition to bidding to host cutting-edge technology test beds. This would support regional development and contribute significantly to the achievement of smart specialisation objectives.

Key research and innovation investment priorities could secure additional financing through the European Investment Fund. This can boost economic development through the promotion of private sector innovation investment, support for technology clusters, and benefitting smart cities and regions. Ireland should explore the opportunities for regions to participate in innovative, pan-European mechanisms such as IPCEI (Important Projects of Common European Interest). Government must also work closely with the EIB to promote finance opportunities for Irish firms in smart specialisation areas.

We need to demystify the programme and support businesses throughout the process. Supports need to be focused on guiding businesses through the proposal phase, matchmaking and brokerage with national and international partners and addressing the cost of managing/participating in proposals. Guidance is also needed to facilitate next steps and the exploitation of project results.

International collaboration can be driven through participation in EU and other international funding programmes. The higher education sector has built up considerable capacity and expertise in participating in international projects and partnerships. The three regional assemblies directly, and through the Irish Regions European Office, can be key to developing international linkages for local projects and by local stakeholders. For example, this includes having a visible presence at each European Week of Regions and Cities.

The three Regional Assemblies should be active in maximising local participation in interregional cooperation programmes such as the Interreg Atlantic Area, separate to the in-country managed Operational Programmes. Projects could be aligned with smart specialisation objectives. Also, more effective utilisation of these funds could support the sustainable recovery of sectors most impacted by COVID, such as the experience economy.



### Recommendations:

1. Fund an online EU funding information centre for Irish enterprise providing information on the full funding opportunities open to them and would enable businesses of all size and activity to assess, analyse and pursue EU funding sources that could be competitively secured.
2. Develop a global strategy for Irish research, development, and innovation to help business and HEIs to lead international research and innovation projects.
3. Maximise the opportunities presented by the Shared Island Agenda to support cross border research and innovation projects and to connect business with a wider innovation ecosystem.
4. Provide support to establish new networks and platforms to create partnerships with other EU higher education institutions in preparation for Horizon Europe programmes.
5. Increase participation by Irish enterprise in IPCEIs in cutting-edge sectors.
6. Enhanced engagement with the European Investment Bank, with a specific focus on opportunities to leverage or blend EIB financing to unlock private sector investment.
7. Each region must deepen its formal and informal international linkages, networks and knowledge-exchange to deliver on smart specialisation objectives.

## 6. Improving the National and Regional Enterprise Research and Innovation System

For Ireland to achieve its ambition of becoming a European and global Innovation Leader and to boost innovation to build resilience in the regional and national economies, a 'stepchange' in investment in research and innovation is critical. Public expenditure on R&I has not kept pace with increasing business investment in R&I and Ireland is significantly below the EU average for government investment in research and innovation. The constrained funding environment and the deterioration of innovation infrastructure in recent years means that valuable research projects and activities have not proceeded resulting in missed opportunities and missed potential - ultimately undermining Ireland's reputation as a hub for cutting-edge R&I.

The next Smart Specialisation Strategy is an opportunity to embed missions and grand challenges in the innovation ecosystem. Missions provide a mechanism to tackle 'wicked problems' through cross-disciplinary collaboration with the opportunity of creating hybrid innovation clusters. Developing a framework for mission-orientated innovation policy can bridge the gap between national ambition and regional implementation through the promotion of bottom-up solutions to missions with wide societal relevance.

SMEs are the backbone of Ireland's economy employing more than 70% of the State's 2.3 million workforce. Entrepreneurship and start-ups also play an important role in the

diffusion of innovation and commercialisation of research. However, Irish SMEs have low innovation capacity compared to their international counterparts and Ireland has a low start-up rate which has yet to recover from the last financial crisis. To support indigenous growth and increase regional innovation, specific challenges facing SMEs and entrepreneurs need to be addressed including sustainable financing such as improving the CGT entrepreneur relief and improving access to equity for start-ups, ensuring existing innovation programmes are accessible, creating dedicated supports for SMEs and startups and boosting entrepreneurship and SME management skills.

**Recommendations:**

1. Scale public investment for R&I by 60% to reach €1.25bn per annum.
2. Develop a sustainable higher education funding model that allows for core and programmatic funding, infrastructure investment and industry-academia collaboration.
3. Deliver a new multiannual funding programme for research infrastructure which builds on the progress of the PRTLII.
4. Support regional engagement in new national mission policy by championing multiple bottom-up solutions to a small number of grand challenges.
5. Improve the environment for entrepreneurship in Ireland by enhanced tax supports, skills and talent supports, and mentoring and networking opportunities.
6. Deliver specific financial and information resource supports for SMEs to encourage their innovation
7. Build a strong high potential start-up pipeline of ambitious and diverse founders with a comprehensive suite of financial supports including new feasibility grants and additional nonfinancial supports to build connections and capability.
8. Create leadership programmes that deliver immersive innovation training to support industry and entrepreneurs to build an innovation culture, teams, and gain insight to emerging technologies.

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