

1: Introduction

The Western Region, along the Atlantic Economic Corridor and situated on the Wild Atlantic Way is very well positioned to face the likely challenges in the coming years. There is era-defining opportunity to develop the offshore wind potential off Ireland's west coast, and through a collaborative engagement and development process, become a leader in renewable energy for centuries to come.

This huge natural resource can, over time, offset the challenges of an EU region, designated a Region-In-Transition, and 'moderate innovator' with an innovation score of 70% - 100% of the EU average.¹ The current situation sees a region reeling from COVID and Brexit and the uneven impact in sectors such as retail and tourism on younger, and predominantly, female workers². This is amplified by historical structural issues, concentrated employment in tourism, agriculture, and public services.³

The Western Region has a comparatively lower share of employment in the generally higher value-added Knowledge Intensive Services (KIS) sectors (Financial, Insurance & Real Estate, Information & Communications, and Professional, Scientific & Technical activities)⁴. The enterprise structure of our region is also more reliant on micro-enterprises and self-employment. Census data show that five of the six slowest growing counties, in terms of employment, from 2011-2016 were in the Western Region.

To address these issues and building on the body of work carried out by the WDC Policy Analysis Team over 20 years, the WDC identified the strategic goal of using the WDC Investment Fund to develop a global competitive advantage in one or two sectors, Sustainable Enterprise, in the long term. This work is progressing and as set out in this submission, the key sectors are:

- Life Sciences (MedTech) and the evolution of connected health
- The emergence of global competence in sensors and mobility that has the potential to impact on many industries as an enabling technology in the area of AI / Data / Analytics
- The Creative Industries / Economy and in particular the emerging area of Creative / Immersive Tech.

These established and emerging specialisations require integrated strategies for regional development policy that cut across sectors and that are based on inclusive and collaborative governance arrangements. If these regional strengths and areas of comparative advantage are considered in the design and implementation of a National Smart Specialisation Policy, it will be more effective in addressing the current lack of critical mass to develop sustainable economic and social structures in the long term.

¹ NWRA [New National Research and Innovation Strategy Consultation | Northern and Western Regional Assembly \(nwra.ie\)](#)

² WDC / Central Bank [Regional Impact of COVID-19: Western Region & Atlantic Economic Corridor \(Vol. 2020, No. 10\) \(centralbank.ie\)](#)

³ WDC [Exploring some potential impacts of the Covid 19 shock on the Western Region – revisiting sectoral employment patterns - Western Development Commission | Business Sectors and Employment in the Western Region: Exploring some potential impacts of the Covid 19 shock - Western Development Commission](#)

⁴ WDC [Financial & ICT Services in the Western Region \(wdc.ie\)](#)

2: Regional Context

The Western Development Commission (WDC) is a state agency tasked with economic and social development in the Western Region, identified in the 1998 Western Development Act as Donegal, Leitrim, Sligo, Roscommon, Mayo, Galway and Clare.

To maximise future opportunities and support effective regional development government must focus on the reduction of regional infrastructure deficits and broader policies to support the 3 E's (Education, Employment & Enterprise) ([McHenry and White 2010](#)). In the face of regional diversity, one-size-fits-all policies that fail to account for regional strengths and weaknesses will not succeed. Building on regional strengths can help promote long-term economic development while also contributing to national economic growth. Regions must be able to mobilise their assets to take full advantage of their growth potential. This requires integrated strategies for regional development policy that cut across sectors and that are based on inclusive governance arrangements. If regional strengths and areas of comparative advantage are considered in the implementation of a national smart specialisation policy, it is likely to be far more effective. [OECD \(2019\)](#) argues that regional productivity gaps can be closed by shifting policy interventions towards strengthening the inherent capacity of rural areas across economic sectors. Place-based policies will have to anticipate and address the region-specific impacts of three types of global megatrends identified by OECD (2019):

1. digitalisation, automation and other technological changes
2. demographic changes, including urbanisation, ageing and migration
3. climate change and resource scarcity.

2.1: Strategic Context

The WDC is the co-ordinating body for the Atlantic Economic Corridor as set out in Ireland 2040 and is the lead agency for the delivery of the National Hubs Network, a key project under Our Rural Future. The WDC 2019-2024 'Work Smarter, Live Better' Strategy has an explicit commitment to collaboration. On that basis the WDC is well positioned to address the inter-regional challenges presented by the NUTS III classification, given the cross-boundary ties in many of the sectors outlined in this submission. A good example of this inter-region co-operation is the collaboration, supported by the WDC across three of the Regional Enterprise Plan areas; North-west, West and Mid-west in the areas of renewable energy and the Creative Economy.

The WDC 'Work Smarter, Live Better' Strategy is based on three pillars: short-term, medium-term and long-term.

- **Regional Promotion:** In the short term, the WDC seeks to raise the profile of the region, creating a coherent narrative that highlights the benefits of living and working on Ireland's Atlantic Coast
- **Regional Leadership:** In the medium term, this work focuses on positioning the west as an innovation testbed. The extension of the Atlantic Economic Corridor [Donegal to Kerry] Hubs Network pilot to the rollout of the National Hubs Network and Connectedhubs.ie platform is an example.

- Sustainable Enterprise: The WDC manages the Western Investment Fund with a portfolio value of €75m to invest and lend in enterprise and community projects in the Western Region. The Smart Specialisation Initiative aligns closely with this strategic goal in taking the long-term view. Sustainable Enterprise seeks to create a global competitive advantage in one or two sectors in the long term.

2.2: Economic Context

The Western Region is highly exposed to the shocks of COVID-19 and Brexit ([Lydon and McGrath, 2020](#); WDC [Timely Economic Indicator Series](#)). These shorter-term shocks have highlighted and, in some cases, exacerbated longer-term pre-existing structural issues in our region (Lydon and McGrath, 2020; [McGrath, 2021](#)). The Western Region holds a greater reliance on public service employment (health, education, and public administration), industry (largely manufacturing) and agriculture. There has been a historical trend towards concentrated employment in tourism, agriculture, and public services ([McHenry, 2020a](#); [2020b](#)). The Western Region has a comparatively lower share of employment in the generally higher value-added Knowledge Intensive Services (KIS) sectors (Financial, Insurance & Real Estate, Information & Communications, and Professional, Scientific & Technical activities). The enterprise structure of our region is also more reliant on micro-enterprises and self-employment. Census data shows that five of the six slowest growing counties, in terms of employment, from 2011-2016 were in the Western Region. The structures of enterprise and employment may be related to the sluggish recovery in employment growth from the previous recession. For example, [O'Connor et al. \(2018\)](#) found that having a diverse industry structure was associated with a significant positive impact on county-level employment growth from 2006-12. Lydon and McGrath (2020) suggest that the low levels of employment growth in the Western Region may be, at least in part, a consequence of the reliance on public service employment.

In addition to the sluggish recovery in employment growth, there has also been a sluggish recovery in economic output and household incomes. The Regional Gross Value Added (GVA) data from 2000-18 reveals that the Northern and Western region, a close proxy for the Western Region, has persistently held the lowest level of GVA per capita of all NUTS 2 regions. McGrath (2021) shows a negative average annual GVA per capita growth rate of (-0.1%) for the Northern and Western Region from 2012-18. The structure of economic output provides some insight into this sluggish recovery and, in turn, is related to the structures of employment. The Northern and Western Region (a close proxy for the seven Western Region counties) holds a particularly large share of GVA in public services, sectors where there was also slow employment growth, and a low share of GVA in the KIS sectors, where there were high levels of employment growth. Stagnation was observed in the Northern and Western Region compared with growth in all other NUTS 2 regions since 2012. However, the regional GVA data suffers from the same macroeconomic distortions observed at the national level and there is currently no regional GNI* breakdown. These issues are discussed by [McHenry \(2019\)](#). Personal or household income is not subject to the same level of distortions as the GVA data. Another advantage of the household income data is that county-level data is provided. The county income data reveals a common trend of divergence in disposable household income from 2011 in all Western Region counties (McGrath, 2021).

3: Responses to Consultation Questions

3.1: Sectoral Strengths

Q: Do you agree with the suggested areas of strength for the three regions as set out above? Are

DETE has identified nine high-level sectoral strengths. These are MedTech, Life Sciences, ICT, Food Agri-Tech, Marine, Financial Services, Climate action and sustainability, Manufacturing and Audio-visual/ creative sector.

The WDC acknowledges the importance of all these sectors. We believe that our region has an established or emerging competence in all these areas. However, we argue that these industries cannot be treated in isolation. Instead, we must acknowledge that these areas will be disrupted by their convergence with ICT, specifically **data and sensors**. For example, the WDC region hosts SFI funded research centres Lero and Insight that look at software and data analytics. These centres work closely with research centres in other areas such as life sciences and medical devices (e.g., Cúram) and AgTech (e.g., Vistamilk). The **Creative Industries and Economy** has a similar role to play as an enabling competence across the region.

The regional competence(s) in data and sensors and the Creative Economy complement the sectoral specialisms outlined above. In simple terms, rather than focusing solely on the vertical sectors such as MedTech to overcome the current lack of critical mass in the region it is vital to acknowledge the role of the horizontal enabling competences in data and sensors and the Creative Economy. These competences are a key differentiator for the region, that are not easily replicated and as such provide the basis for sectoral (vertical) strengths.

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

We believe that there are three established sectors and other emerging sectors

Established Sectors

The **Life Sciences (including MedTech)** sector makes a significant contribution right across the region. The MedTech sector is responsible for €12.6bn of exports. More than 300 MedTech companies support 29,000 jobs and 15 of the top 20 global medical device companies operate in Ireland.⁵ MedTech is the largest industrial activity in the Western Region accounting for 27.7% of total industry employment, more than twice the sectoral share nationally.⁶ It is important that this sector continues to receive support to ensure continued competitiveness, particularly in the area of connected health.

⁵ NUI Galway [MedTech - NUI Galway](#)

⁶ Western Development Commission [WDC-Insights-Industry-Employment-in-Western-Region-Feb-2019.pdf](#)

The **AI/Data/Analytics** specialist sector is well-represented regionwide⁷. AI, Big Data & Analytics refers to an area of technology devoted to extracting meaning from large sets of raw data, (e.g., often including simulations of intelligent behaviour in computers). More and more AI is being applied to many other sectors.

The Northwest has a growing technology and financial services sectors, there has been significant growth in software engineering technical support, global business services and R&D in the west in recent years.⁸ The mid-west (Clare) hosts the Future Mobility Campus Ireland along with other enterprises in the area of smart mobility.

This underlines the existing strength in the areas of **sensors and mobility** established in the mid-west and parts of the west and emerging in the northwest. This area, along with the life sciences has been a focus of development work for the Western Development Commission as part of its strategic goal of Sustainable Enterprise in the region in the long term. Further work and analysis on this sector as well as a number of pilot projects are planned in 2021, 2022 and beyond.

The development of the **Creative Industries / Economy** in the region is being led by the WDC. Culture Ireland defines the Creative Industries as ‘industries and occupations which focus on creativity as a means to deliver commercial success, export growth and resilient employment for Ireland including: advertising and marketing, architecture, crafts, design (exhibition/performance/games/graphic/industrial/interior/landscape/product/textiles), fashion, film, tv, radio and photography, IT, software and computer services, publishing, museums, galleries and libraries, music, performing and visual arts.’

The WDC is a national leader with regards to policy, research, investment and the development of the creative industries in the regions and is the lead agency for the sector under the Regional Enterprise Plan. Work includes publications such as Creative West (2008), a range of data collection research projects e.g., Creative Momentum (2015-2018), co-investment with GMIT, Údarás na Gaeltachta and Galway Film Centre in the network of dedicated creative tech innovation enterprise development hubs, the EI funded CREW project⁹ the first of its kind in Ireland, as well as the recently announced Atlantic Film Studios in Galway.

The WDC has also established the WRAP Fund¹⁰ the only targeted investment fund for creative enterprises in Ireland with over €5m committed to the fund to 2024 for creative enterprise and innovation. The work of the WDC has influenced the development of national policy frameworks for the creative industries, through engagement with the Oireachtas on shaping policy and strategy. The WDC aim is to consolidate the creative economy along the Atlantic Economic Corridor as a competitive advantage at global level over the next decade. This sector has significant, further growth potential as outlined below.

⁷ IDA Ireland - [Driving Sustainable Recovery and Growth 2021-2024](#), Government of Ireland, 2021 pg. 27, 29, 33

⁸ IDA Ireland - [Driving Sustainable Recovery and Growth 2021-2024](#), Government of Ireland, 2021 pg. 27, 29, 33

⁹ CREW Digital [Home - Crew Digital](#)

¹⁰ WRAP Fund wrapfund.ie – [Western Region Audiovisual Production Fund](#)

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?

There are a number of emerging sectors along the Atlantic Economic Corridor that could achieve critical mass in Ireland over the next seven years. The primary areas of focus should be Cleantech and the Creative Industries / Economy, however there is notable growth in the areas of Advanced Manufacturing, AgTech and Fintech.

Cleantech, specifically in the area of renewable energy has the potential to achieve critical mass. Cleantech consists of sustainable solutions in Energy, Water, Transportation, Agriculture, and Manufacturing, including advanced materials, smart grids, water treatment, efficient energy storage, circular bioeconomy, and distributed energy systems.

For the first time in its history, the west of Ireland has a strategic natural resource that can transform the region with over 30GW of verified offshore energy resources. To put this in context, an analysis of the east coast opportunity has calculated the total employment from the development of 3.5GW of fixed offshore wind as 21,380 full-time equivalent jobs. However, because the supply chain is already well established, the majority of these are internationally based and lie in manufacturing (over 16000).

Floating offshore wind is a burgeoning industry, and Ireland has the opportunity to get involved from the outset. The opportunity for the west coast in terms of employment is many multiples of the above figures with a recognised potential for over 30GW in the Atlantic. This resource can guarantee energy independence for Ireland, significantly reduce our carbon footprint, reshape communities through billions of euro from community benefit funds and boost jobs and exports. Indeed, the west coast has many strengths to allow it to seize this opportunity.

There is significant port and research infrastructure in place across the region. There is commitment to collaboration, and an acknowledgement that the scale of potential development can only be fully realised through a whole-of-Government approach to the renewable energy potential along the Atlantic coast. Government policies must align across several critical areas, including planning policy (location of new data centres and other heavy energy users), telecommunication interconnection (west to east and beyond), renewable energy development and in particular floating offshore wind and also other supporting policies such as housing and supporting infrastructure (ports, rail and road links).

Given the long lead-in times for these changes and the need to provide clarity to all the players involved, action must be taken now to act collectively to ensure that this opportunity is not lost. Furthermore, we need a whole coast approach that recognises each location has particular strengths, which if used holistically will allow the region as a whole to prosper. An example of the emerging commitment to collaboration is a joint stakeholder submission to EirGrid in June 2021 by the Regional Enterprise Plan Programme Managers in the north-west, west and mid-west, along with the ports of Foynes, Galway, Ros a'Mhíl and Killybegs.

The following are the next steps to achieve this 'whole coast' approach:

1. The immediate establishment of a group to examine how Ireland can capitalise on the Atlantic resource of at least 30GW of floating offshore wind by 2050.
2. Increase in investment in research & development in the floating wind supply chain to reduce floating wind technology costs.

3. A mapping exercise should be undertaken for the ports on the west coast to identify each port's strengths in the context of floating offshore wind and identify what upgrades are needed to capitalise on the Atlantic resource.
4. Increased telecommunications interconnection on both an international and national scale (east to west) is required.
5. A plan should be put in place to ensure that the necessary interconnection is developed in the West of Ireland to facilitate a demand-led electricity generation approach.
6. Additional electricity interconnection between Ireland and Europe to provide for the export of early excess electricity from floating offshore wind in the Atlantic.
7. Examination of the establishment of floating wind technology, logistics and research hubs in the West of Ireland.
8. Develop an accelerator for floating offshore wind development and renewable energy-related activities, such as the development of green hydrogen.

Creative Industries / Creative Economy

Based on on-going 2021 research by the WDC, there is an identifiable enterprise spine of creative tech innovation companies in audio-visual, design, music, animation, games, immersive technologies. For example, the western region / Atlantic Economic Corridor Region is home to 50% of large-scale AV studios in Ireland (including the recently announced Atlantic Studios), 20% of Irelands globally trading animation companies and a growing base of global and indigenous gaming companies including EA Games, Triggerfish and Romero Games.

These are medium-large sized enterprises with global market reach and significant enterprise and sustainable job growth potential over the next two decades. Existing global enterprises are migrating to the west of Ireland and new creative enterprises are being established in the west in AV (audio-visual), music, Immersive Tech, animation over the next two years. The PwC Global Entertainment & Media Outlook 2021-2025¹¹ projects sustained growth in 14 market segments of entertainment and media. Analysing global territories including Europe and Ireland, the segments include books, business-to-business, cinema, data consumption, internet access, internet advertising, music (including radio and podcasts), newspapers and consumer magazines, over-the-top video, out-of-home advertising, traditional TV and home video, TV advertising, video games and esports, and virtual reality. PwC expects industry revenues to rise 6.5% in 2021. From 2020 to 2025, PwC project a five-year CAGR of 5.0%, taking revenues to \$2.6 trillion in 2025.

There is strong potential for critical mass along the Atlantic Economic Corridor over the next seven years with appropriate investment and resources. This includes sustained creative tech skills development, targeted investment in cross sectoral research, development, innovation and entrepreneurship, comprehensive and ongoing data collection and analysis, strategic business activation supports (including employment incentivization), increased investment portfolio of indigenous creative tech companies and targeted and strategic development FDI to bolster sustained development of the creative tech ecosystem.

¹¹ [Global Entertainment & Media Outlook 2021–2025: Media: Technology, Media & Telecommunications \(TMT\): PwC](#)

Immersive technology in creative industries and cross-sectoral, while nascent, is on the rise with companies in the West/AEC moving to establish studios and pivot services for cross sectoral purposes. This includes games/AV/animation/design as well as with MedTech, pharma, tourism, and education. Over 40% of Irelands postgraduate software engineering support this growing ecosystem in the West offering opportunities for RDEI in creative tech and cross sectoral innovation.

The CUA and TUs have a significant offering of relevant programmes offering and graduate pathways to these industries. Apprenticeships and FE skills development courses are also pathways to enterprise in these sectors in the regions. These education offers coupled with Creative Enterprise West (CREW)¹² present opportunities for creative enterprises in the regions that is unavailable elsewhere. This unique support framework is further enhanced with lifelong learning opportunities via Skillnet, Screen Ireland funds, Údarás na Gaeltachta investments and growing supports for start-ups through Local Enterprise Offices.

There is a significant strategic opportunity to grow the creative tech ecosystem and consolidate a reputation on a global stage as a region in Europe leading in sustained clusters of creative tech enterprise and innovation.

Next step:

- Draft a 10 year+ strategic business activation plan for Creative Tech enterprise, driven by regional smart specialisation and to facilitate collaboration with identified globally trading creative enterprises as a roadmap to implementation with national and regional policy, enterprise and education organisations.

3.2: Digitalisation and Digital Transformation

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

The National Hub Network is set to grow to over 400 facilities by 2023. The Western Development Commission (WDC) in collaboration with the Department of Rural and Community Development is developing a network from the estimated 400 hubs across the country. The methodology used to build this network is based on a successful pilot of 114 hubs carried out in the Atlantic Economic Corridor (AEC) with the support of the AEC Officer Network based in the region. The AEC includes 9 counties and 10 local authorities and stretches from Donegal all the way down the western seaboard to Kerry. The AEC is part of Project Ireland 2040.

During this pilot phase a strategy for the development of the hub network was drafted. A classification system was produced which provides a high-level understanding of the various types of hubs in existence. This can be viewed here: <https://connectedhubs.ie/files/AECHubsClassificationSystem-Master.pdf>

Data gathering for a national hubs network began in February of 2021 and so far, detailed information on over 400 active hubs has been mapped using online surveying and mapping tools. The result of this data gathering can be viewed on this online map: <https://connectedhubs.ie/nationalhubsmmap.html>

¹² CREW Digital [Home - Crew Digital](#)

During the pilot phase in the AEC, the WDC procured an online platform to deliver a range of functionality to the hub sector. This was in response to extensive consultation with over 370 stakeholders and procured with scalability for a national hub network in mind.

The platform delivers the following key pieces of functionality:

- A website for the platform connectedhubs.ie and a microsite for each of the 400 estimated hubs on the network. This will promote and market the hubs.
- A flexible booking engine to accommodate various hub desk plans, fully integrated into a payment gateway linked to the hub bank details.
- A hub management system to assist with hub administration, management of members', internal hub network collaboration and community development between other hubs.
- A mobile App to allow users to book and manage their hub membership. This is due for release in September 2021.

There is a roadmap of additional functionality which will be rolled out on a phased basis.

This platform is branded as www.connectedhubs.ie and was launched by Minister Heather Humphreys, TD in May 2021. At the time of the launch there were over 60 hubs live and using the system. There are now 129 live hubs with another 50 in the process of being onboarded, and the balance of 400 hubs will continue to be onboarded on a phased basis. A national campaign is being jointly planned between WDC and DRCD to market and promote the network.

Next Steps:

- The users who occupy the hubs in the national hub network comprise a large number of **Small and Medium Enterprises (SMEs)** as well as numerous **micro-enterprises**. The hubs network can play a lead role in Digital Transformation programmes for the businesses using the hubs and also the wider community. The Western Development Commission's National Hubs Network Team are working with a leading hub manager who has developed a framework which gives clear pathway for how a Digital Transformation programme could be rolled out across the National Hub Network.
- This network is also well placed to take advantage of a **blended return-to-work policy** in a post-COVID environment. This would have multiple benefits for local economies and communities with larger numbers of workers spending more time working and spending money in their locality. This would bring numerous indirect benefits such as reduced commute times for workers, reduction in carbon emissions and a better work life balance for workers.
- Many hubs, especially in rural settings, are being managed by a combination of full, part-time, or by volunteers. This means that hub managers have limited capacity to engage in the strategic development of their hub such as the Digital Transformation opportunity outlined above. **Collaborative funding supports for managers** need to be identified as a matter of urgency if the potential of the hubs is to be unlocked.

Q: Could your business or sector benefit from new digital technologies? What support would you need to adopt these technologies? / Q: How can we improve the alignment of the country's ICT and digitalisation expertise, initiatives and investments?

Digitalisation is a horizontal priority highlighting the impact of digital technologies on productivity growth and competitiveness of businesses across sectors and priorities. Therefore, boosting digitalisation capacities in the region is vital to facilitate the implementation of the smart specialisation strategies.

Many industries are experiencing a convergence where two or more technologies are coming together to create a single device, product, or solution. For example, blockchain is being incorporated into print cartridges to ensure they can be recycled effectively.

The new business models that are arising from the convergence of emerging technologies with traditional industries such as agriculture, health, and transport present an opportunity for the region given our established competences in IoT, (big) data/data analytics, high performance computing and sensors and emerging competence in cybersecurity technologies.

However, connecting the businesses, in particular the SMEs with enabling digital technologies, including AI, HPC and Cybersecurity is not a simple straightforward process. The role of the intermediaries to facilitate the enterprises to better understand and experiment on how digital technologies can improve their efficiency, effectiveness, and product quality i.e., their competitiveness, is essential and to this end, a regional 'one stop shop' concept, in the form of the **European Digital Innovation Hub (EDIH)**, is an important instrument. Efforts have already been made to bring this concept to fruition, by developing a multi-stakeholder proposal for a regional EDIH bringing together RTOs, governmental agencies, academia, and industry – **Data2Sustain** - with the aim to drive data-based innovation for circular economy, operations, and sustainability, therefore enabling an integrated digital and low carbon approach in support of smart specialisation.

Conceived based on an ecosystem approach for the digitalisation of the local industry, EDIH Data2Sustain can also support the development of the regional innovation ecosystem as well as the business growth and upgrading of supply chains in key sectors. One clear role for the EDIHs in the region is to harmonise the digital transformation innovation support system and providing a transparent straightforward process for SMEs and other industry stakeholders. First step in this direction has been achieved by attracting the designation status for EDIH Data2Sustain through a competitive process in Q1/Q2 of 2021.

3.3: Green Transformation for Enterprise

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

See Section 3.1 Sectoral Strengths and opportunities: Cleantech.

There is a clear need to continue to communicate the importance of the Green Transformation and to reduce, where possible, the degree of risk involved in the transition to a low carbon economy and support to deliver the associated financial and environmental benefits for individuals and SMEs in particular.

3.4: 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?

[TO INCLUDE] Q: How can we enhance collaboration between industry and the higher education sector?

Cohesion:

- Developing a regionwide approach focused on smart specialisation will support business growth and competitiveness to bridge these gaps. It will provide an entrepreneurial environment necessary to foster innovation among start-ups and SMEs and enable regional economies to build stronger links with Multi-National Organisations (MNO's) and create opportunities for more people to stay and work in the region. Together these actions will forge a more viable area for new start-ups, businesses to locate, families to grow, and visitors to return.

Communication:

- The National Hubs Network offers an opportunity, through its projected membership of more than 400 hubs to raise awareness of opportunities to bring new ideas to life and to market. The European Digital Innovation Hub network is an important step breaking down the barriers, but also other structured supports to raise awareness and accessibility of IP developed and held by the higher education sector and to licence that IP (at little or no cost as appropriate) to facilitate early exploration of commercial potential.

Orchestration:

- There is a need, through initiatives such as the Atlantic Economic Corridor to orchestrate existing and emerging capacities in regional areas and to raise the profile nationally and internationally. In doing so, it offers the opportunity to create ad hoc teams for short (2-3 year) periods to develop and support emerging growth opportunities and address the lack of critical mass in certain areas in certain sectors. An example would be the Creative Industries / Economy that aligns with the Atlantic Economic Corridor / Wild Atlantic Way in terms of audio-visual production facilities and locations and can be marketed internationally as such. This again addresses the lack of critical mass through cohesion and communication.

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

The following agencies and institutions are central to innovation diffusion in the Northern and Western Region, namely:

- National University Ireland of Galway
- Galway Mayo Institute of Technology
- Sligo Institute of Technology
- Letterkenny Institute of Technology
- St Angela's College Sligo
- Enterprise Ireland (EI)
- IDA
- Údarás na Gaeltachta
- Science Foundation Ireland (SFI)
- Marine Institute
- Teagasc
- Government Departments
- Higher Education Authority
- SEAI
- EPA

WDC Western Investment Fund (WIF)

The WDC Western Investment Fund was established on a statutory basis under the 1998 Western Development Act. It has a 20-year history of providing equity finance and loans to businesses, communities, strategic initiatives and creative industries in the region. During that time the fund has a total portfolio value of €75m and operates across three areas:

- Business Investment including equity investments and loans for small and medium sized enterprises
- Community Investment including loans for community / social enterprises and bridging finance for LEADER funding.
- Creative Industry and Investment including the Creative Micro Loan Fund and WRAP Fund as outlined above

3.5: International Collaboration on R&I

Q: What areas of research or industry sectors does Ireland have an international competitive advantage in? How can we build on that advantage? / 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? / Q. How can Ireland's regions use Ireland's international links and memberships to support their strengths and emerging areas of future opportunity?

The WDC has examined these questions as part of its 'Sustainable Enterprise' strategic goal to identify one or two sectors with a global competitive advantage to develop a resilient region to withstand global challenges in the long term through the use of the WDC Investment Fund.

Recent research into Place-based Innovation Ecosystems, highlight five regions that have the potential to serve as an indicative reference case study. These are Espoo in Finland, Barcelona in Spain, Gothenburg in Sweden, Ljubljana in Slovenia and Boston in the United States of America. While different, they all have highly complex innovation ecosystems. They have different implementation levels of the Quadruple Helix Model and different kinds of interrelations with Smart Specialisation Strategies and their inherent Entrepreneurial Discovery Processes.

We conclude that, for all of these successful regions, 'Orchestrators' and main key players perform an essential role in the governance of the innovation ecosystems, playing a leadership role concerning local, regional, national and international innovation-related policy agendas. This leadership, talent attraction and retention, research and innovation infrastructure, complementary system stakeholders and internationalisation were detected as core elements for thriving local and regional innovation ecosystems.

3.6: Actions to improve the national or regional enterprise R&I 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?

The WDC Investment Fund (WIF)¹³ as outlined above has a 20-year history of providing equity finance and loans to businesses, communities, strategic initiatives and creative industries in the region. It is well established and a key player in the region.

A significant on-going challenge is the sustainability of successful programmes such as BioInnovate, particularly in terms of staffing and the need through many funding schemes to move to sustainability within three years. In many sectors, particularly MedTech and the Creative Economy and in a region that lacks critical mass, this move to sustainability can take significantly longer in some cases, and it is vital that this issue is addressed in the coming years.

The Future Mobility Campus Ireland, based in Shannon and funded by EI, WDC, Clare County Council and private industry, given its scale offers huge potential, but similarly needs sufficient on-going resourcing in the medium term to support the necessary growth to sustainability in the long term

¹³ WDC Western Investment Fund [Investment Funds - Western Development Commission](#)

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?

See 3.4 above – Innovation Diffusion – a unified ecosystem will be built around cohesion, communication and orchestration.

Internationally, there is an emerging trend that some accelerators will become funds. The leading US accelerators already act as seed investors. There's also a gap in the market between accelerators and VCs, usually filled by angels. There is an opportunity to bridge this gap where accelerator-managed micro funds could invest in companies they've done extended due diligence on during the accelerator programme. Or there is likely to be more partnerships between funds and accelerators which has occurred for many years in the top US accelerators (SV Angel invested automatically in Y-combinator participants for several years).

There are indications that generalised programmes, culminating in a demo day and attended by a wide range of contacts and interested parties, might well be over. The current trend for more specialised accelerator programmes will continue and likely to provide the supports, insights and connections much earlier during the programme rather than a 'show and tell' at the end.

In recent years, social entrepreneurship, social enterprises, and social innovation have gained importance in policy and practice across Europe, including in Ireland, and indeed the role of the Department of Rural and Community Development in Social Enterprise and National Policy is key. Various initiatives, supports and funding methods are available. Given the nature of the Atlantic coast, the culture, the sense of community, and inherent ingenuity, social innovation and enterprise have always played an integral role in the region (indeed great work in recent years in being done by Social Impact Ireland).

By definition, social enterprises aim to have a social impact instead of making a profit for their owners or shareholders. Furthermore, the European Commission promotes social entrepreneurship and social innovation. This support will continue during the 2021-2027 programming period under the ESF+ It is important to understand that social innovation will continue to form an important aspect of any regional innovation ecosystem.

Q: How do we target RD&I spend in a way which maximises impact for the economy

Within the western region, the volume and quality of investor-ready projects are limited. It is clear that from a WDC investment perspective, the MedTech cluster dominates in terms of volume and quality of investable venture initiatives within the region. Furthermore, all the established professional venture investors (Angel NW's, VC Funds and indeed the WDC fund) all look to the Enterprise Ireland High Potential Start-up (HPSU) pool as the primary investment-ready cohort. However, the volume of these within the region is limited when compared to other regions.

While there are other initiatives in the region, notably the Bio Innovate & BioExcel initiatives in NUI Galway that specialise in Life Sciences and the New Frontiers programmes in various 3rd level institutions, generally for a region with a population of 1.7m, it is significantly underserved. There is an opportunity to align these entrepreneurial supports with the National Hubs Network to improve awareness, visibility and engagement.

Open Innovation Environment:

The WDC seeks to build a region where innovation is enabled to thrive regardless of whether it from large multi-nationals to tiny start-ups. There is a need for an open, collaborative, and stimulating culture, where new ideas or initiatives can be tried and tested before scaling internationally, or failing, only to embrace the next version. Some of this is implicitly in place. However, this environment must be reinforced to give it national and international prominence.

Access to funding mechanisms:

There is a need to build a region where supports and funding are available at all stages of the innovation journey, from 'idea' to 'internationalisation'. While multiple funding options are available in the region, the investment level, both in value and volume, is significantly less than the greater Dublin region. Using the National Hub Network among other actions to help stimulate and improve the quantity and quality of projects, initiatives and start-ups at all stages of the innovation journey, thereby providing greater quantity and quality of fundable initiatives.

Incubators & accelerators:

There is an excellent foundation in place as the WDC has developed a Hub network of 100+ hubs in place across the AEC region and growing to 400 as part of the National Hubs Network. This includes a hub classification system, hub network engagement and promotion, and standard systems, including a hub website platform, an online automated booking engine and a hub management system.

Venues and Events:

The region has an abundance of venues of varying sizes broadly spread. However, it has very few industry events, especially those of international note. The WDC is developing a series of actions to plan, promote, organise and manage an annual international event (growing to multiple events over time) starting in 2022. These events will include industry forums, thought leader keynotes, specialist workshops, exhibitions, start-up competitions, investor panels, and night and social events in multiple locations. They will be targeted to national and more importantly, international attendees.

Education & Research

The region has very strong education and research capabilities, with three Universities, four Institutes of technology and multiple research institutes. There is an on-going need to develop and sustain collaboration between industry and academia, to develop clear pathways for innovation and spinouts, and promote the advantages and opportunities by studying and working in the region.

Defined Specialisms

As set out, the region has some strong specialisms, namely 'Life Sciences' and 'AI, Big Data & Analytics' and the Creative Industries / Economy with further emerging specialisms in Advanced Manufacturing & Robotics, AgTech, Cleantech (including Circular & Bioeconomy) & Fintech that show enormous growth potential.

Notable Private Industries

There are some globally recognised industry leaders across the region, both started and scaled from the region and global players who have a strong presence in the area. Examples include Kerry, Fexco, SITA, McHale, Abbott, Analog, TCS (Pramerica), Pfizer, Cisco, JLR, J&J, Dell, AMCS.

4: Strategic Topics for Ireland's S3

- The transition to a low carbon economy ([issues for rural dwellers](#))
- Infrastructure to support the development of sustainable (renewable) energy supply and regional, national connectivity
- The need for the delivery of balanced regional development as set out in Ireland 2040
- The Three Es - Education, Employment & Enterprise ([McHenry and White 2010](#))
- Positioning the Atlantic Economic Corridor as an innovation testbed
- The National Hubs Network as a platform for delivery of public services and supports and as a data source for the formation of national and regional policy.

5: Conclusion

The challenge in the western region and along the Atlantic Economic Corridor is, in parts, the lack of critical mass. There is a need to acknowledge and address this core issue. This can be done through the use of the National Hubs Network to create structured links between national, specialist supports and programmes and those seeking support in rural and regional areas across the country. Furthermore, the National Hubs Network offers the opportunity to act as a platform for the delivery of public services and can play a key role in raising the awareness of both market opportunities and state supports to access those national and international markets.

Smart Specialisation will build on existing competencies with global standing. The identified sectors of life sciences, mobility and sensors and the Creative Industries / Economy, with on-going supports and medium- and long-term planning will create a sustainable and resilient base for economic and social development in the west. To achieve this and to amplify the existing and emerging specialisms, there is a need for public and private collaboration through orchestration to create cohesion and to communicate that common message at home and abroad.