Analysis of the impacts of Covid-19 in Ireland

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Contents

1 Foreword

ecoRIS3 is an Interreg Europe funded Research & Innovation project that brings together eight partners in a consortium led by Fomento San Sebastián from 1/01/2017 to 31/12/2021. Through the exchange of experiences and sharing of best practice, the partners aim to agree regional action plans to support the transfer of innovation and knowledge produced by the Research and Technological Organisations (RTOs) and higher education to local & regional businesses. This challenge remains one of the most pertinent to Innovation & Growth across Europe and is significant in Ireland. It is particularly relevant in the context of local & regional areas for Smart Specialisation (RIS3), where innovation opportunities present themselves through commercialising R&D.

The unforeseen impacts of Covid19 and resulting recession has altered the ways in which the original Action Plan could be implemented. The purpose of this document is to analyse how overall Ireland has been impacted by the Covid19 recession, but more specifically at a regional and local level the impacts of the pandemic. How has the Irish ecoRIS3 action plan altered due to the pandemic and what changes are needed to still achieve our original goals. This work takes place within a Covid-19 related extension by Interreg Europe where 7 ecoRIS3 partners continue to collaborate from 1/11/2021 to the 31/08/2022. There are three further sections to this report. The next section looks at the impact of the pandemic and is subdivided into three subsections: the impact of the pandemic on the economy; the responses from national and local government and the impacts of the pandemic on the original SWOT analysis. Following on from that the report then has a section explaining the impact that the pandemic has had on the original Action Plan and how the Action Plan has changed in response to the pandemic. The report then finishes with a conclusion.

Table 1. Policy instrument addressed

The Action Plan aimed to impact:	☒ Investment for Growth and Jobs Programme ☐ European Territorial Cooperation Programme ☒ Other regional development policy instruments
Name of the Policy Instrument Affected:	The Southern & Eastern Regional Programme 2014-20
Managing Authority:	The Southern Regional Assembly
Period of implementation	Already implemented: 1/01/2017 till 31/12/2021 Still to be implemented: 01/10/2021 till 31/08/2022

2 Impacts of the pandemic

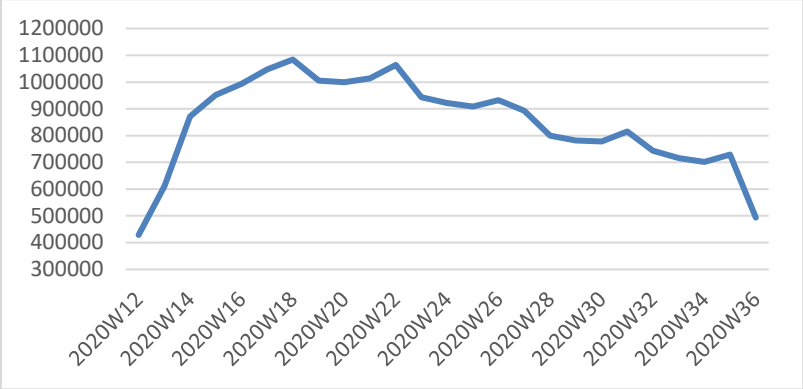
2.1 Impacts of the pandemic on key sectors and stakeholders of the innovation ecosystem

The Irish economy faces several challenges and potential challenges including employment, unpredictable consumer spending and sustainability of government expenditure due to the Covid-19 pandemic and its impacts.

Employment

The largest initial impact on the local economy has been the increase in the number of people in receipt of unemployment assistance. Before the pandemic the number of unemployed people was measured using the number of people on the 'Live Register'. Since the start of the pandemic there has been additional supports from the government for unemployed people: Pandemic Unemployed Payment (PUP) and the Temporary Wage Subsidy. Figure 1 below shows the number of people in receipt of one of the three unemployment payments from week 12 of 2020 to week 36 of 2020. At the beginning the number was just over 400,000 but in 6 weeks it more than doubled to over 1 million, highlighting the severity of unemployment in the initial stages of the Covid19 crisis. Since then the unemployed numbers have fallen significantly and the economy is showing signs of resilience.

Figure 1: The number of unemployed people in Ireland[1]



Source: CSO

To understand the local resilience a modified version of the sensitivity index proposed by Martin (2012)[2], was utilised to examine the change in the local unemployment from the start of the data (Week 12) to the peak (Week 18) relative to the change in national unemployment. The equation is:

$$\frac{\triangle\ Change\ in\ Local\ Unemployment/Initial\ Local\ Unemployment}{\triangle\ Change\ in\ National\ Unemployment/Initial\ National\ Unemployment}$$

[1] Data comes from the Central Statistics Office (Live Register Dataset) and can be downloaded from: https://ws.cso.ie/public/api.restful/PxStat.Data.Cube_API.ReadDataset/LRW03/XLSX/2007/en

[2] Martin, R. (2012). Regional economic resilience, hysteresis and recessionary shocks. *Journal of Economic Geography*, 12 (1), 1–32.

This equation gives a measure of local resilience relative to the national situation. A result of less than 1 would indicate that the local level is more resilient than the national while a result of greater than 1 would indicate that the local level is more vulnerable. This ratio has been measured for all 26 counties (see appendix 1 for table). The result for Cork was 1.21 which indicates that Cork has been less resilient than the national average.

The Southern and Eastern region which is made up by 13 counties contains 7 counties who have been less resilient than the national average (Cork, Dublin, Kildare, Kilkenny, Limerick, Meath and Wicklow). Whilst 6 counties in the region were more resilient than the national average (Carlow, Clare, Kerry, Tipperary, Waterford, and Wexford).

Consumer Spending

The lockdowns in the economy greatly changed the spending habits of consumers as they were unable to go out and socialise. Figure 2 shows the change in personal expenditure on consumer goods and services from the second quarter in 1995 up to the third quarter of 2021. Although there has always been some volatility in this figure, before Covid19, it tended to remain within +/- 5% (the highest was 6.1% in 1999 and the lowest was -2.9% in 2009). Since Covid19 we have seen unprecedented volatility in consumer spending (the figure since the start of the pandemic has often been +/- double figures). This level of unpredictability in spending can make it difficult for business to plan ahead and deter investment. This level of volatility could have a detrimental impact on the economy moving forward.

Figure 2: Change in Personal Expenditure on Consumer Goods and Services[3] (€million)[4]

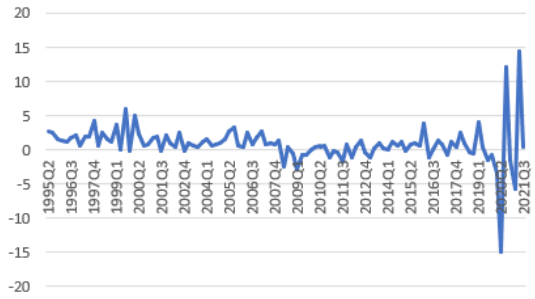


Figure 3: Net Expenditure by Central and Local Government on Current Goods & Services

Government Spending

Since the onset of the Covid19 pandemic the Irish government has introduced several generous schemes to help business and individuals such as the pandemic unemployment payment for people who lost their jobs due to Covid19 and several business supports to keep business open despite the lockdowns and general downturn in the economy. These supports, which were needed, have meant

[3] Data comes from the Central Statistics Office (National Accounts Quarterly) and can be downloaded from: https://ws.cso.ie/public/api.restful/PxStat.Data.Cube_API.ReadDataset/NQI01/XLSX/2007/en

[4] Data comes from the Central Statistics Office (National Accounts Quarterly) and can be downloaded from: https://ws.cso.ie/public/api.restful/PxStat.Data.Cube_API.ReadDataset/NQI01/XLSX/2007/en

that government spending has increased substantially. Figure 3 below shows the net expenditure by central and local government on current goods and services. The figure was steady in the pre-pandemic years but as can be seen from the graph, from the first quarter of 2020 to the second quarter the expenditure increased by €100m. Since then the figure has remained high. It is unclear how sustainable this increase in spending is in the medium to long term but it is likely that the government will need to reduce spending and this could potentially have a negative impact on the economy.

2.2 National and Local Responses to the Covid19 pandemic

In addition to the extra, short-term, supports for unemployed people outlined above, both the National Government and Local Councils have introduced structural changes that should have benefits which last long after the Covid pandemic has passed.

National Government

The National Recovery and Resilience Plan was published by the government in June 2021. The purpose of this plan is to outline how the government plans to achieve a sustainable, equitable and digital recovery from the economic crisis caused by the Covid19 pandemic. To achieve this the plan outlines 16 investments and 9 reform commitments across three priority areas. The priority areas which the plan focuses on are; advancing the green transition, accelerating and expanding digital reforms and transformation, and social and economic recovery and job creation. The emphasis on green transition and digital reforms highlights how the government is hoping to use the recovery to implement needed structural changes to the economy.

Cork County Council

Similarly, Cork County Council is using the crisis as an opportunity to provide some much needed resources to 23 county towns through Project “ACT” (Activating County Towns). Project “ACT” is being run across Cork County Council’s eight Municipal Districts with the support of Elected Members. The Project will see the creation of multi-sectoral teams with a targeted focus on rebuilding the economy and community life in each area. Some of the immediate actions being taken include:

- A deep clean of the main retail and pedestrian areas
- Decluttering and fixing street furniture
- Replanting of trees and flowerbeds
- Additional road/pavement markings
- Measures to improve public space utilisation for pedestrians and business

2.3 Impacts of the pandemic on original SWOT Analysis

A key part of the early research of ecoRIS3 in each of the partner areas, is to undertake a SWOT analysis on the levels of awareness of the RIS3 process, in the local city, region, or wider national territories. The SWOT also set out to establish the parameters of the RIS effectivity, in terms of the Smart Specialisation Strategies being successfully deployed, to support sustainable growth and development in the participating partner regions. Like everything, Covid has impacted the original SWOT analysis but not all negatively. The original strengths, weaknesses, opportunities and threats still hold true however there has been the need to include many new strengths, weaknesses, opportunities and threats. Table 2 highlights the original and new strengths, weaknesses, opportunities and threats.

The new strengths are mostly focused on resilience and adaptability of firms. Small and family firms especially showed great resilience to remain open and continue to serve the community. The overall economy has adapted by increase digitisation and transition to the green economy. These transitions were happening at a slow pace before Covid but since the pandemic it has been accelerated which has highlighted the ability of the economy to adapt to new situations.

Th main new weaknesses, as mentioned in section 2.1, has been the large job losses, which have disproportionately effected people in certain sectors such as hospitality and entertainment. There has also been large fluctuations in spending which has effected business' ability to plan for the future.

The most important new opportunity is how the economy can be restructured to help develop economies outside the large cities and ease problems within the cities. Before the pandemic most firms would have thought it inconceivable to have their employees working remotely, even in the form of a hybrid work scheme but the pandemic has shown how, with new technologies, effective the workforce can be even when working remotely. This has great potential for the development of regions outside cities as it will give people the opportunity to settle in more rural location and thus help those local economies. A potential exodus from the cities could also ease the pressure on urban housing which has seen continue price increases for the past 10 years.

There are of course new threats that need to be considered. The main threats come from having to learn to live safely with the virus as, although restrictions are being lifted, the virus has not gone. As the economy reopens people need to be mindful of the threats and constantly weigh up the options i.e. is it essential to have team meetings in person or can they continue to be done via video conferencing. Also, with the increase in people working from home this can potentially effect the mental health of people as the separation between work-life and home-life is blurred. This lack of separation can increase stress and the potential of burnout.

Table 2. Covid-19 Update of 2019 ecoRIS3 Irish SWOT Analysis of the Innovation Ecosystem

Strengths *(original strengths that remain accurate)*	**Weaknesses** *(original weaknesses that remain accurate)*
- Clear recognition of the regional Innovation ecosystem working satisfactorily - High levels of collaboration among the triple helix stakeholders (research, industry, and government) - Healthy level of cross sectoral collaborations, events, and projects - Good research infrastructure - Helpful and well engaged public agencies driving job creation and innovation - Strong focus on driving and supporting entrepreneurship	- Absence of any significant recognised connectivity between the regional Innovation ecosystem and the formal Irish RIS3 strategy - Significant exclusion of Civil Society representatives - Absence of any regional consultation on RIS3 - Absence of any regional inputs to RIS3 monitoring and roll out processes - Potential of regional clusters is under recognised
New Strengths derived from the pandemic	**New Weaknesses derived from the pandemic**
- Irish family businesses have demonstrated resilience and a strong commitment to continuity[5]. - Coronavirus research suggests resilience among smaller firms[6]. - Acceleration of digitisation across SMEs with more than a third (36%) of Irish SMEs reimagining their business processes online, and one in 10 (11%) planning to move to an e-commerce or online-only model. - Increased awareness of the steps pertaining to Green Transition and Climate Change across the triple helix	- Many sectors of the domestic economy have been severely affected with widescale job losses in areas such as accommodation, food, arts, tourism & entertainment. - The unemployment rate stood at 14.7% in September 2021 significantly higher than pre-pandemic. - Household spending and modified investment declined by 22% and 24% respectively in the Q2 of 2021. - Policies not pertaining to Covid-19 supports were put 'on the back burner' and educational challenges with college and school lockdowns.
Opportunities *(original opportunities that remain accurate)*	**Threats** *(original threats that remain accurate)*
- ecoRIS3 can establish a broad engagement platform for all sectors of the quadruple helix to be engaged - Recommendations can be inputted based on significant regional strengths - Opportunities for awareness raising and dissemination - Opportunities for building stakeholder ownership - Opportunities to broker engagements and public consultation plus policy recommendations on RIS3	- Lack of EU recommended processes in relation to consultation and stakeholders' engagements may undermine the RIS3 process - This undermining, if occurring may hinder post 2020 funding for regional initiatives - Stakeholder apathy may increase leading to more difficulty in consensus building
New Opportunities derived from the pandemic	**New Threats derived from the pandemic**
- Transition towards remote and hybrid working for sectors who would have previously believed this was inconceivable - Opportunities regarding balancing the regional economy as the workforce can choose to locate outside our cities to manage their time more productively, see more of their families, spend less time commuting, more exercising etc. - Southern Regional Assembly promoting a Regional Approach to Smart Specialisation	- Re-opening of the economy and the speed at which that occurs for all sectors/communities and living with the virus on an on-going basis. - Meeting face to face being 'reserved' for most critical activities in some sectors. - Home vs Work and the balance between both. Peoples willingness and want to travel for work as opposed to connect virtually – represents a small steps approach.

[5] https://business.dcu.ie/irish-family-businesses-show-resilience-and-capacity-to-adapt-despite-83-negatively-impacted-by-covid-19/
[6] https://www.irishtimes.com/business/technology/coronavirus-research-suggests-resilience-among-smaller-firms-1.4671930

3 Impact and deviation on your Action Plan

In order to reach the ecoRIS3 goals of increasing the level of commercialisation of research and engagement in applied research by industry and higher education institutions in Ireland whilst also increasing our attractiveness for foreign investment, a clear understanding of the current environment, areas for development, and supports required needs to be ascertained.

Promising policy mechanisms for achieving this goal could be through the further development and analysis of cluster and co-working policies. In our ecoRIS3 Action Plan published in December 2019 sought to implement activities under three specific actions:

1. Educate the quadruple helix and develop a test case model for cluster development for Ireland
2. Support the development of a national cluster policy and training for cluster facilitation in Ireland
3. Co-working as a mechanism to support companies clustering and innovating via stronger connections with academia

The rationale for same was that at a national level, a national policy and framework for clustering could inform a plan for strategic support for RD&I, connecting industry and targeting of foreign investment which, if correctly implements, could enable the regional assembly to support collaborations that already exist. From an Irish national context, the Department for Enterprise, Trade and Employment (DETE) are responsible for the development of such a clustering and co-working policy and where they would sit within industrial policy. At the sub-national level, it is the responsibility of each regional assembly to translate, disseminate, support and integrate emerging national policy across their regions.

Realising all of the ecoRIS3 actions has been significantly impacted by the global Covid-19 pandemic and some of the actions have been extended due to the focus of National Government of supports for business, the Pandemic Unemployed Payment (PUP) and the Temporary Wage Subsidies. In this section each of the actions and sub-actions are outlined and an update on progress is provided on same.

Action 1: Educate the Quadruple helix and develop a test case model for cluster development for Ireland	
Action 1.1	Run a series of workshops for cluster development in Ireland
Action 1.2	Develop a methodology for cluster design in an Irish context
Action 1.3	Source funding and implementation for animation of the chosen cluster development model
Action 1.4	Develop a methodology for the monitoring and evaluation of clusters in Ireland

Progress on ACTION 1:

Action 1.1: MTU have been engaged in a series of workshops for cluster development and education. Inputting at webinars by the Regional Assembly, TCI Network and Cluster Research Network events to support cluster development across Ireland both prior to and during the pandemic.

Action 1.2: MTU developed a methodology for the creation of a European Cluster Style organisation based on Good Practices in partner regions (e.g. Innovation Poles in Piedmont) and are implementing it through the Cyber Ireland initiative. This was animated in phase 1 of ecoRIS3.

Action 1.3: MTU sourced seed investment of €200,000 (IDA Ireland) for a period of 24 months and have secured €400,000 (Enterprise Ireland) for the further development and SME focus of Cyber Ireland from December 2019 to December 2022.

Action 1.4: MTU are continuing the work to develop and revise a methodology for the monitoring and evaluation of clusters in Ireland. There are difficulties with this activity, as clarity and structure within a national cluster programme is required, to allow monitoring and evaluation to be effective. At present the cluster landscape in Ireland is disparate with a lack of structure and different funding mechanisms being utilised by 'clusters' who may not fit the European definitions of cluster organisations and may be more correctly defined as networks or business associations. Work on this is on-going and linked to actions 2.1 and 2.4.

Action 2: Support the development of a national cluster policy and training for cluster facilitation in Ireland	
Action 2.1	Support the composition of a national cluster development policy.
Action 2.2	Organisation of a workshop to engage with existing 'cluster managers' at a national level in Ireland to offer their insights and inputs into national cluster policy.
Action 2.3	Develop a training and management syllabus for cluster managers/facilitators in Ireland.
Action 2.4	Implement a funding mechanism for the support and or development of Cluster organisations in Ireland

Progress on ACTION 2:

Action 2.1: MTU are liaising and working with Department for Enterprise, Trade and Employment, Enterprise Ireland and IDA Ireland, the Southern Regional Assembly, South West Regional Enterprise Plan and our ecoRIS3 Stakeholder Group to support the development of a national cluster development policy. Dr John Hobbs has been appointed to the National Cluster Policy Steering Group on the back of his ecoRIS3 work for development of an Irish cluster policy for Q2 2022. Dr Hobbs has also been elected as a Director of The Competitiveness Institute to 2024. TCI will provide further access to other EU and international regions pursuing national cluster polices and the benefits and pitfalls associated with same.

Action 2.2: MTU in collaboration with Department for Enterprise, Trade and Employment, and the National Cluster Policy group are inviting cluster managers and network facilitators operating across Ireland to connect and allow them to collaboratively scan for cross sectoral collaboration, new market exploration, regional marketing, recruitment and R&D opportunities. MTU are also engaged in a Cluster Research Network (CRN) project funded by InterTradeIreland to complete an all-island cluster gap analysis. The project set out to gather the views and increase the transfer of knowledge between SMEs, Cluster Managers, Policy Makers, Policy Makers, State Agencies, as well as between all-island cluster researchers and academics. The subsequent workshops and discussions turned into a unique and diverse North/South blend of expertise and perspectives. Critical to the success of the CRN project has been the inputs and contributions of the 104 stakeholders who gave their valuable time to engage in a collaborative conversation about cluster challenges and opportunities.

Action 2.3: Clusters are a central feature in the European Commissions' competitiveness and Smart Specialisation strategies (DG Research, 2019). Their pivotal role in leading the green and digital transitions, in building resilience and boosting recovery is widely recognised[7], becoming especially clear with the emergence of the pandemic. Despite this formal training and qualifications for academics, cluster managers and policy makers who work with cluster ecosystems on a day to day basis are limiting their impact. MTU is continuing to liaise and work with local stakeholders to develop an accredited training and management syllabus for cluster managers/facilitators in Ireland. Sessions have taken place on a webinar basis to support stakeholders across Ireland to share knowledge on management and governance of clusters, however this has taken place on an ad-hoc and request from stakeholders' basis. To develop formalised accredited cluster managers/facilitators training MTU have developed a project proposal under the Marie Skłodowska-Curie Actions - Doctoral Networks (DN) programme under call: HORIZON-MSCA-DN-2021. To put in place accredited structured learning and experiential training for the 10 Early Stage Researchers (PhD researchers), to meet this clearly identified need among European cluster stakeholders. Our ESRs will be supervised by 6 person teams consisting of Lead and Associate supervisors from different partner universities and countries to share knowledge and support ESRs learning pathways. This accredited training will not be delivered in the current period.

Action 2.4: MTU have had discussions with Department for Enterprise, Trade and Employment, and the National Cluster Policy group on the applicability of GBER Innovation Cluster Funding as an instrument for funding clustering in Ireland. Presently, National Government in Ireland believe a national policy is first step and then refine same to benefit from the impact of GBER funding. There is much confusion in Ireland at present as a recent Grant Thornton (2022) found that 45 organisations self-identified as 'clusters' in Ireland and 100% of this cohort are funded through National, Regional or Local Authority funding programmes. There are 5 specific programmes which are used to fund clusters and each of these have different funding scales for cluster management ranging from 40% to 100%; cluster initiatives (events / seminars / conferences / match making etc) from 25% to 50% and travel funded from 50% to 100% of the actual cost. It is envisaged that the National Cluster Policy will also include a standardised equitable instrument for all organisations who meet the cluster definition.

[7] European Commission (2021) European Expert Group on Clusters Recommendation Report

Action 3: Co-working as a mechanism to support companies clustering and innovating via stronger connections with academia	
Action 3.1	Map existing co-working spaces and digital innovation hubs present in the Southern Region.
Action 3.2	Establish a network among the Southern Regions co-working and digital innovation hubs to facilitate knowledge transfer.
Action 3.3	Formulate a short policy briefing to facilitate both B2B introductions and research connections between Tech and Enterprise Hub members and academia in order to promote collaboration and innovation through solid connections regionally, nationally and internationally.
Action 3.4	Measure and raise awareness of public funding mechanism for the support and or development of co-working spaces and digital innovation hubs in the Southern Region.

Progress on ACTION 3:

Action 3.1: MTU has been engaged with and liaising with co-working spaces and digital innovation hubs to assemble the data to map/visualise same. Lockdown restrictions have stymied delivery. The specific action 'Map existing co-working spaces and digital innovation hubs present in the Southern Region' has been undertaken at a national level and is available at https://connectedhubs.ie/.

Action 3.2: MTU have supported through our Innovation Office the establishment of the network with the Programme Manager of the SWREP. Cork and Kerry networks established; work is ongoing across other regions. This work is on-going due to a change in Programme Managers locally.

Action 3.3: MTU engaging with co-working and hub representatives, other HEIs, SWREP and other stakeholders. This collaboration has been pushed back by Covid-19 and public health restrictions, but will be reinforced through the National Cluster Policy and how hubs fit into the overall cluster ecosystem at different levels.

Action 3.4: MTU and REP Managers to measure and raise awareness of public funding mechanism for the support and or development of co-working spaces and digital innovation hubs. This is becoming even more relevant for the National Remote Working policy which is being developed and delivered presently. There are significant opportunities regarding balancing the regional economy as the workforce can choose to locate outside our cities to manage their time more productively, see more of their families, spend less time commuting, more exercising etc.

MTU is very keen to overcome the Covid-19 challenges in tandem with our ecoRIS3 partners to deliver or Action Plan to have the most impact possible. We are happy to share good practices and methodologies utilised in Ireland to foster interregional learning from Covid-19 but also keen to learn about clustering responses and how remote and co-working has been utilised during the pandemic in partner regions.

4 Conclusions

The objective of the report is to outline the impact of the Covid-19 pandemic across Ireland and to share how Ireland has navigated its way through the pandemic and the areas as a country we are still struggling with. Like everything else the coronavirus has had an impact on the delivery of our ecoRIS3 Action Plan as policy makers have understandably re-aligned their activities towards schemes to help business and individuals which included: (1) Financial supports (including Income supports; Loans, grants, vouchers and schemes; Rates waiver and tax measures); (2) Sector-specific supports and guidance and (3) Skills and training supports. These initiatives were provided by government aiming to keep business open despite the lockdowns and general downturn in the economy.

In looking specifically at the SWOT analysis undertaken in 2019 by the ecoRIS3 project, this really showcases the impact that Covid-19 has had at the regional level in changing the goalposts for the triple helix of industry, academia, and Government. Covid-19 has brought about new strengths, weaknesses, opportunities, and threats (at local and national levels) and it is useful to analyse these.

The new strengths identified include the resilience of Irish family businesses and smaller firms during the pandemic. The acceleration of digitisation across SMES with more than a third (36%) of Irish SMEs reimagining their business processes online during the pandemic, and the increased awareness of the Green Transition and Climate Change across the triple helix in line with EU targets.

New weaknesses in the local economy have been highlighted by the pandemic, these include many sectors of the domestic economy which have been severely affected with widescale job losses (accommodation, food, arts, tourism & entertainment); increased unemployment rate (14.7%, September 2021), reduced household spending and consumer confidence; policies not pertaining to Covid-19 supports being put 'on the back burner' and educational challenges with college and school lockdowns.

However, with the weaknesses come opportunities and Covid-19 has allowed Ireland transition towards remote and hybrid working for sectors who would have previously believed this was inconceivable, this represents significant opportunities regarding balancing the regional economy as the workforce can now choose where to locate themselves as they manage their time more effectively towards a work/life balance. The Southern Regional Assembly also made huge strides in promoting a Regional Approach to Smart Specialisation, which has the opportunity to be implemented at a national level.

Finally, the threats that are on the horizon at present pertain to the re-opening of the economy and the speed at which that occurs for all sectors/communities and living with the virus on an on-going basis. There are challenges for employers and employees alike as Peoples willingness and want to travel for work as opposed to connect virtually – represents a small steps approach, and meeting face to face being 'reserved' for most critical activities in some sectors.

It will take time for Ireland, its regions and counties to build on these strengths and take advantage of the opportunities that present themselves whilst being mindful of the weaknesses and threats which are apparent. The government has taken a conservative and guarded approach to the coronavirus quite often with more restrictions in place than our European neighbours, but one which has focused on keeping people and business in employment/operation with direct provision of supports to facilitate same, our population being put at the core of all activities. It is now the right time to re-focus on the implementation of our ecoRIS3 Action Plan and how that can support the innovation ecosystem and getting people back to work and economic growth in due course.

5 Appendix

Table 2: Resilience[8] of Irish Counties[9] (a value below 1 indicates that the county was resilient)

County	Resilience
Carlow	0.997739
Cavan	1.099942
Clare	0.843933
Cork	1.210023
Donegal	0.658373
Dublin	1.060438
Galway	0.908074
Kerry	0.772995
Kildare	1.201967
Kilkenny	1.014206
Laois	0.980741
Leitrim	0.761325
Limerick	1.000194
Longford	0.785567
Louth	0.849436
Mayo	0.765541
Meath	1.38419
Monaghan	1.367467
Offaly	1.018061
Roscommon	1.016446
Sligo	0.753806
Tipperary	0.944362
Waterford	0.738321
Westmeath	0.873572
Wexford	0.869411
Wicklow	1.015639

Source: Own calculations based on data from the CSO

[8] Resilience is calculated using the equation: $\frac{\triangle Change\ in\ Local\ Unemployment / Initial\ Local\ Unemployment}{\triangle Change\ in\ National\ Unemployment / Initial\ National\ Unemployment}$

[9] Data comes from the Central Statistics Office (Live Register Dataset) and can be downloaded from: https://ws.cso.ie/public/api.restful/PxStat.Data.Cube_API.ReadDataset/LRW03/XLSX/2007/en