DONEGAL

IT'S IN OUR DNA

Donegal 2030:

WRITING OUR OWN ENTERPRISE FUTURE

Donegal Strategic Enterprise Development Plan

Oifig Fiontair Áitiúil
Local Enterprise Office

Comhairle Contae Dhún na nGall
Donegal County Council

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Executive Summary

An Enterprise Development Strategy and Plan must put forward a clear pathway of how the investment of time and a clear focus can help people in a geography establish, expand, or improve their business. The very nature of Enterprise Development is to facilitate companies create value, help people earn a living or a way out of poverty and lead to a long-term economic growth for themselves, their families, and their communities.

Historically, most people believed that Enterprise Development could be a siloed and fragmented activity. Small businesses must be treated as small, medium as medium, FDI companies as different and elite and academia as a source of human capital only. This model no longer applies and is demonstrated in this strategy and plan. Naturally, there is a need for functional excellence in each of these areas but in truth, the cross over in their development creates a natural ecosystem where they support and reinforce each other. This Enterprise Development Plan therefore focuses on the changing nature of the interactions between universities, industry, government agencies and other public organizations and brings forth a multi-actor orchestration model for Donegal with new forms of interfaces, organizational forms and collaborative formats and spaces and well as a change in the fundamental role of each actor within the county.

Donegal, although one of the most spacious and beautiful counties in Ireland has long experienced a burden of geography. For many reasons, it could be perceived to be isolated. This is demonstrated in the analysis of this report which shows a static local economy – one that is active but not generating the relevant value and wealth and one that missed at least one generational opportunity of growth.

There have been initiatives taken through Donegal County Council, the Local Enterprise Office, and the state agencies of Enterprise Ireland, Bord Bia, Bord Iascaigh Mhara, Údarás na Gaeltachta, Donegal Education and Training Board (ETB) and Letterkenny IT (LYIT) alongside regional development initiatives which are manifest in the multiple activities that are already underway in the county. This current plan builds on the excellent work of the previous plan (2017 – 2020) which has created platforms of potential growth alongside these bodies. The plan then established a vibrant, robust, productive, and diversified economy by reconstructing the framework within which the sectors of Donegal are transformed into a new engine of growth. The theme is ***"Writing its own enterprise future"*** which underscores the principal need for Donegal to start to create new national leadership opportunities in various sectors that play to the strengths of the county.

> **The entire plan is predicated on 4 pillars of development which work with government agencies, various industries and push academia to attain sustained enterprise growth and value, expand business activity within the SME sectors, generate more and better employment opportunities and attract in new talents and skills, enhance the competitiveness of the sector in order to increase exports, accentuate the development of human resources in tandem with the selected sectors, increase foreign direct investment inflows and improve the governance of the local economy.**

To identify and understand the sectors to focus on, Donegal has looked to similar geographical identities with similar topologies. Hence, examples are drawn from New Zealand, British Columbia (Canada), Costa Rica and Austria – each demonstrating how local economies can achieve focussed leadership positions that support the national economy.

Each activity within the designated four pillars has a specific metric attached to it and is achievable within a 10-year period. It will be supported by changes – the opportunities presented by Covid, the development and funding of a Metropolitan area of 400,000 people, the opening of new European scenarios compelled by Brexit and the global dimensions of the evolution to a climate resilient society and an increasingly digitised world. However, the pathway to achieving this is difficult and complex. Significant changes in academia, government agency engagement and industry itself is required. Fundamentally this plan can only work, if the inner limits of thinking in Donegal and those who support it are transformed to embrace the change needed and do not prevent it from doing so.

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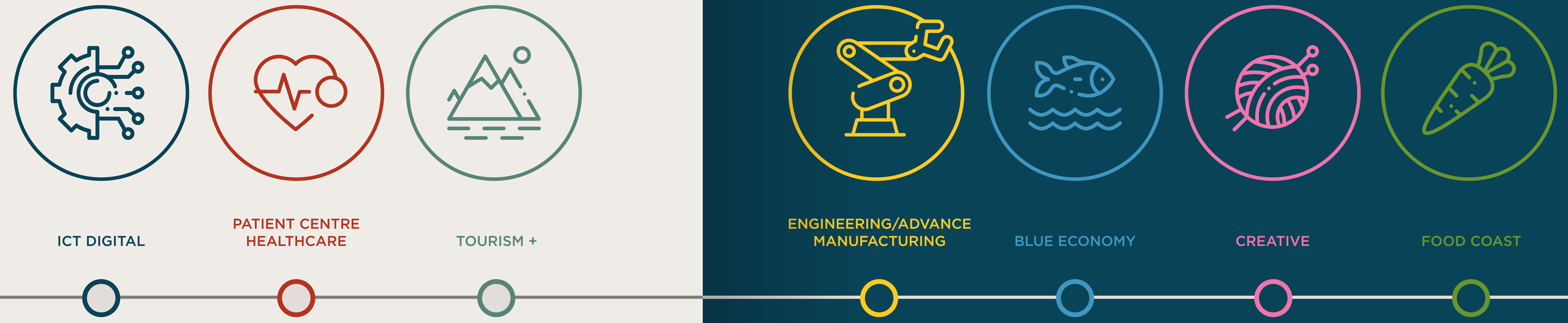
Introduction

Figure 1:

Donegal:
The Commercial Opportunity



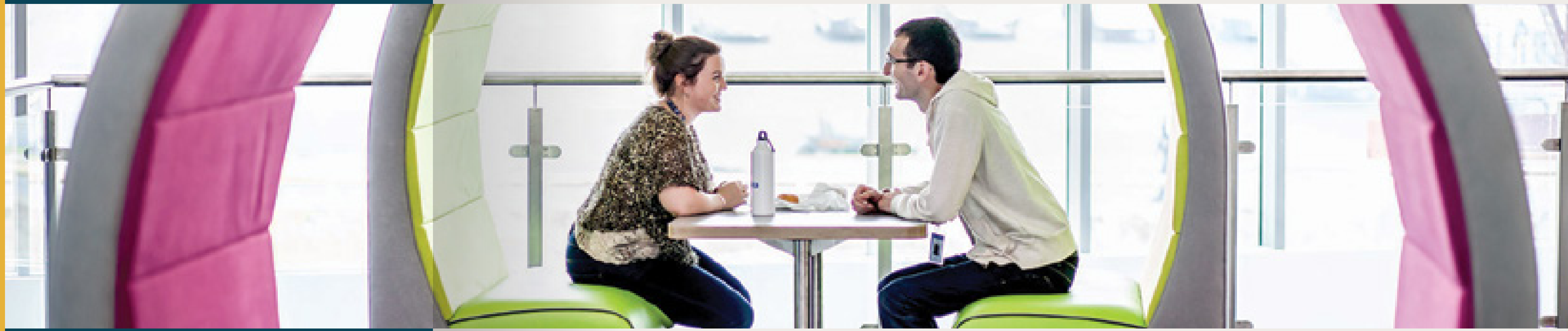
This ten-year Strategic Enterprise Development Plan has been prepared by the Local Enterprise Office (LEO) Donegal, Donegal County Council on behalf of and with the endorsement from the Enterprise and Skills Forum.

It has also been prepared in the context of the adopted Local Community and Economic Development Plan for County Donegal – which encompasses the broader countywide economic, social, and cultural issues, opportunities and development actions which will affect the community and business environment within which the LEO and the other enterprise agencies will operate and within which their client base i.e. small, and micro local businesses, will operate.

The plan is set in the policy framework of the Government's national strategies and Action Plan for Jobs, the Regional Action Plan for Jobs, and the emerging County Development Plan for Donegal. It is also prepared within the context of the North West Strategic Growth Partnership model between Donegal County Council and Derry City & Strabane District Council.

The Plan sets out the strategic objectives for Donegal for the ten-year period 2021-2030 and sets out clear actions, activities, and outputs for the initial three years of this plan. These are all set within the context of the vision statement and mission of the Plan which we believe to be challenging yet achievable. The Plan also outlines some of the challenges and opportunities which currently face the business community within the county and thus the county as a whole.

The profile of Donegal businesses means that to develop the economy in Donegal there needs to be a tighter co-ordination between all the agencies. In any enterprise development plan, it is essential to see all the dimensions of the ecosystem in an integrated fashion as otherwise the fragmentation of initiatives will lead to sub-standard levels of performance. In Donegal, approximately 70% of the businesses in the county employ less than 20 people and yet these businesses can be the supply chains of much larger entities in the future. To that end, a core component of this plan will be the ability to orchestrate all the activities of the plan and deliver the outcomes outlined.



2.1 The context of this plan

The pre Covid-19 "Enterprise 2025"- Ireland's National Enterprise Policy 2015-2025, sets out the long-term ambition for enterprise growth and job creation for Ireland for the decade. The strategy was developed from the remnants of the global financial crash and the role and importance of businesses was highlighted:

"A competitive enterprise base drives productivity growth, innovation and investment and creates jobs, delivering higher standards of living for all."

As reported in multiple formats, enterprises contribute to the provision of essential public services including infrastructures, healthcare and education through their exchequer returns. These same enterprises also contribute to an enhanced "place" including quality of life and the attractiveness of our towns and cities by providing quality retail outlets, restaurants, professional and personal services and by engaging in collaborative regionally based initiatives.

Furthermore, innovative enterprises contribute to realising national policy priorities in areas such as smart infrastructures, healthy ageing, food security and a sustainable environment to deliver better outcomes for our citizens. All such initiatives begin locally – everywhere in the world. The EU 2020 Entrepreneurship Action Plan states that "The principle of ***'think small first'*** must become the touchstone of European and national policies. We must work on ensuring that being an entrepreneur is an attractive prospect for Europeans".

The Local Enterprise Office within Donegal County Council can be the local method of delivering on this principle, within a cost-effective framework and in creating a competitive and outward looking enterprise base within the county. The Local Enterprise Office and other bodies in Donegal such as the Donegal Education and Training Board, LYIT and national bodies such as Enterprise Ireland, the IDA, and others all work to develop and enhance a cohort of businesses in Donegal so that they are more competitive, more sustainable and more innovative and capable of addressing existing, new and emerging market opportunities both national and international. It will also seek to ensure that for Donegal entrepreneurs the county provides them with the most supportive environment. This task was the pre-set task pre Covid 19.

Covid 19 has altered many dimensions of the global and local economy. As the successful vaccination programme allows Ireland to progressively reopen the economy, the ***Economic Recovery Plan***[1] sets out the full resumption of economic activity and get people back to work. This Plan sets out new phases of supports, investment and policies for a new stage of economic recovery and renewal. The overarching ambition is to have 2.5 million people in work by 2024, exceeding pre-pandemic levels and most of these jobs must be more productive, innovative, resilient and in new areas of opportunity, aligned with the government's green and digital ambitions.

The subtext of this Economic Recovery Plan however is that this must start locally – as all achievements do. There is no top-down recovery process possible, it begins in every individual town and townland with individuals achieving support locally to make their opportunities real and practical and achievable. In all these respects, this Enterprise Development Strategy and Plan aligns with the context of Enterprise 2025 and the Economic Recovery Plan and makes recommendations in a meaningful and practical way for Donegal County ensuring a significant contribution to the national ambition.

[1] This Economic Recovery Plan has four pillars. (1) Ensuring our public finances are sustainable for a lasting recovery (2) Helping people back into work by extending labour market supports and through intense activation and reskilling and upskilling opportunities, driven by Pathways to Work 2021-2025 (3) Rebuilding Sustainable Enterprises through targeted supports and polices to make enterprises more resilient and productive (4) A Balanced and Inclusive Recovery through strategic investment in infrastructure and reforms that enhance our long-term capacity for growth, balanced regional development and by improving living standards.

Methodology

Figure 2: Assessment Methodology

Assessment Methodology

This Enterprise Development Strategy has been created using an Assessment Methodology. There are three components to this methodology:

01 Data or quantitative analysis

The first component comprises of data analysis where comparable data is gathered from several sources to present a quantitative viewpoint on the county.

02 Structured interviews with key stakeholders

The second component consists of several structured interviews with key stakeholders with an interest or commitment to Donegal.

03 Collating key findings and recommendations

The final component is the development of the synthesis of component 1 and 2 and putting together some key findings and recommendations which are then reviewed by a short expert panel.

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The Current Position

The current position

Donegal is an interesting county in Ireland due to the complexity of geography and politics. It sits geographically at the edge of the European Union facing towards the Atlantic and Iceland. It is the fourth largest county in Ireland and has a history of arts, crafts and writing from the annals of the four masters to the to master of stagecraft Brian Friel.

Geographically, it has larger borders with the sea and Northern Ireland than with the rest of Ireland. This has inhibited enterprise growth historically. But the legacy is of a functional-economic hub anchored to the sea and nature with a DNA of creativity, design, and authenticity. The advent of new technologies now connects it to the global circuits of commerce irrespective of their origins.

These circuits of commerce are augmenting again post Covid-19 and Donegal can take advantage of this opportunity. Donegal can position itself in two dimensions:

01

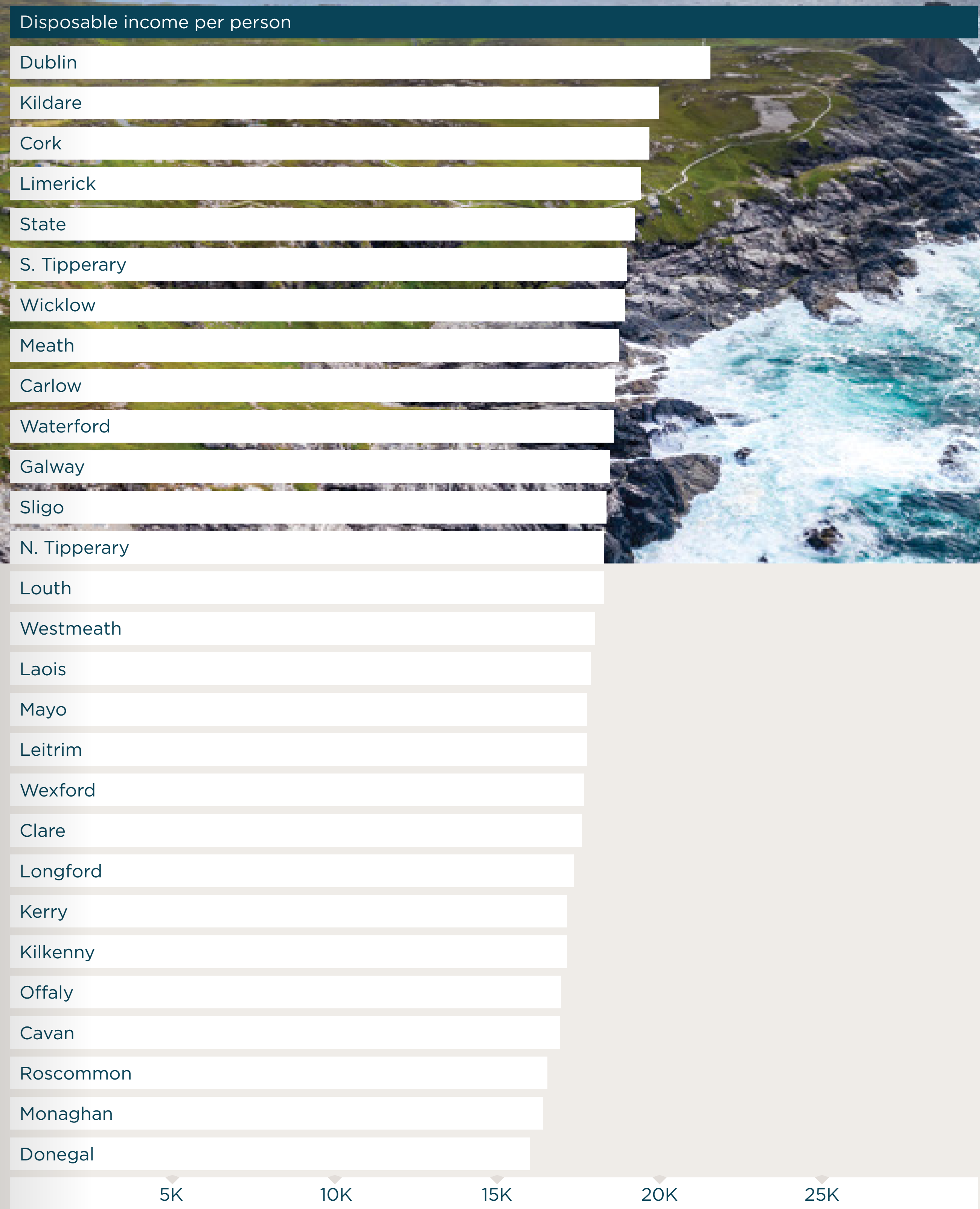
The first is part of the Donegal Metropolitan area which is an urban region of 400,000 inhabitants connecting Donegal, Derry, and Strabane in a triangulation or a “space of relationally” where it can avail from targeted growth from a number of perspectives: and

02

Donegal is the connecting place of the old and the new Irish creating a diversity and vibrancy that could be used to lift the county and the country and present a leadership position in certain sectors in the country through international collaborations

However, whilst this looks to present high potential, the current reality of Donegal is that despite structural progress in the past years it remains behind the rest of the country. See figure 3 on the right.

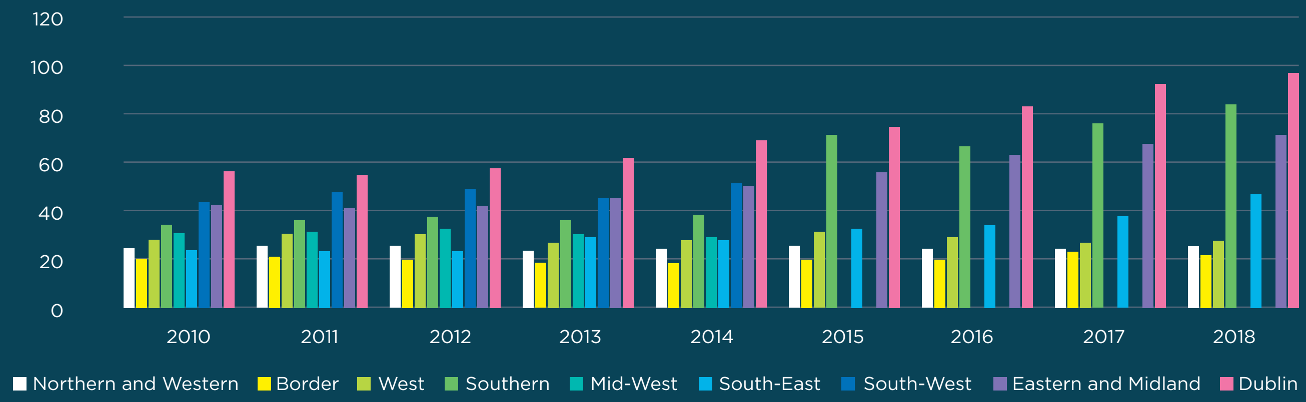
Figure 3: Disposable income per person[2] - 2017 and 2018



[2] Central Statistics Office. National accounts. County Income. Disposable income is used as a proxy for determining potential spending and economic activity relating to salary earning.

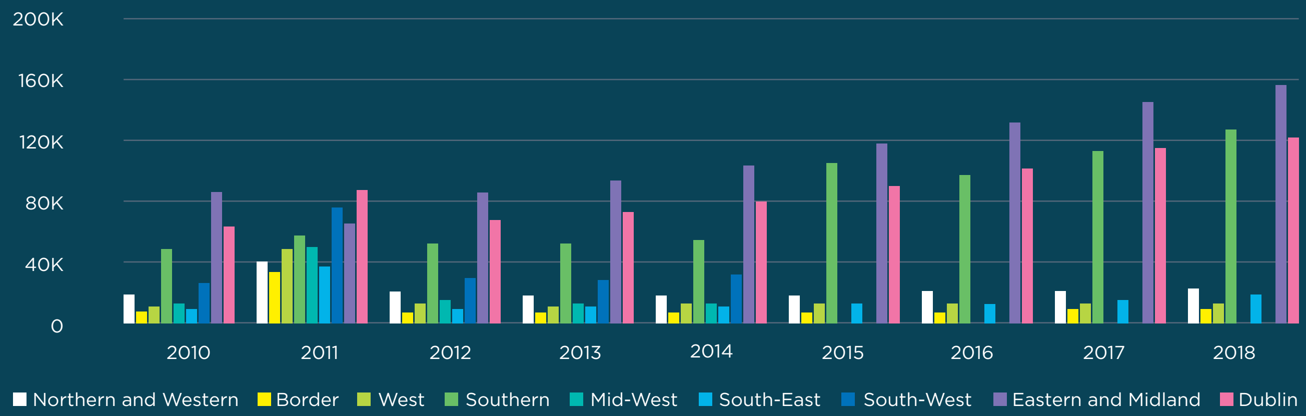
Another means of attesting to this position for Donegal relates to examining GDP growth per person since 2010. Please note that regional data only is available from the CSO and this has been used here. The proxy of this data covers Louth, Monaghan, Cavan, and Donegal. However, when cross referenced with the Northern and Western data, the overlapping county is Donegal and it is apparent that limited progress has been made in the past decade.

Figure 4: GDP per person at a regional level



The situation is exacerbated when reviewing Donegal at a GVA level. Using the same period, it is possible to see that whilst there has been some growth in GDP per person, the Gross Value-Added portion which reflects real enterprise activity of wealth creation, has flatlined in the region and county. The GVA per region creation has remained static and not even in line with GDP growth.

Figure 5: GVA per person at a regional level[3]



In some economies, even in a timeframe of relatively slow GVA or GDP growth in aggregate, it is possible to see that sectors that are thriving and those that may not be. For example, in the advent of the financial crises of 2008 onwards, the construction sector saw immediate negative growth whilst many other sectors did not. However, our analysis of the individual sectors (Appendix 1) demonstrates that this static behaviour in GVA is across all sectors demonstrating that whilst enterprise activity exists, it has not increased in value on a par with the remainder of the country.

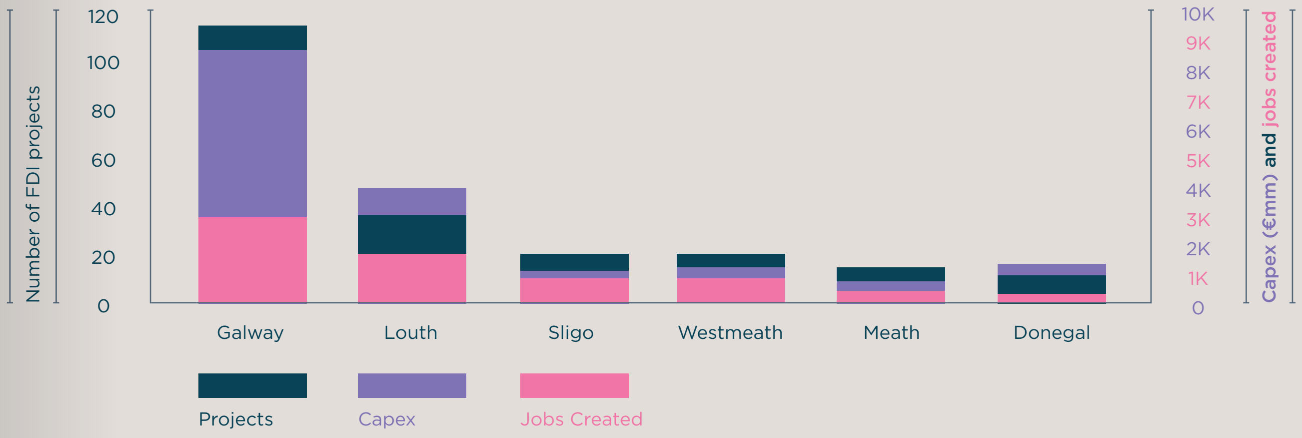
The level of activity in the county can also be represented in another manner. Foreign Direct Investment reflects the attractiveness of a country to receive direct investment from overseas companies. FDI is a function of many things including financial incentives (tax etc.), natural resources, costs of labour, skills, infrastructure[4] etc. Clearly Ireland as a country performs well on many of these. However, in some respects Donegal has underperformed with comparable regions in the country over the same decade as demonstrated in Figure 4.

[3] Central Statistics Office

Figure 6: FDI performance in comparable counties[5]

Overview of FDI into comparator counties

FDI wins January 2010 - January 2020 | Source: FDI market January 2010 - December 2019



204 FDI Projects

Over **€6000m** Capital Investment

17.5K Jobs Created

6 Counties: Jan 2010 - Jan 2020

County	Projects (%)	Capex (%)	Jobs (%)
Galway	54.41	42.37	50.73
Louth	17.65	23.25	22.77
Sligo	8.33	12.42	7.37
Westmeath	8.33	10.01	7.00
Meath	6.86	6.40	3.64
DONEGAL*	**4.41**	**5.54**	**8.48**

*Donegal ***only*** saw 4.41% of projects, it received 8.48% of job creation.

Leading motives for FDI, percentage of number of projects

Total project 100% = 75

- 69.3% Skilled workforce availability
- 25.3% Regulatory environment
- 21.3% Government support
- 13.3% Domestic market growth
- 10.6% Technology & innovation
- 9.3% Quality of life
- 9.3% Language skills

Investment motives for were recorded for 75 of the 204 FDI projects.

Skilled workforce availability was given as a key motive by 69.3% of these, showing that high skilled projects can be attracted outside of Dublin.

Ireland's regulatory environment and government support is positively recognised by investing firms.

"Donegal is a great location for KeyedIn due to the proximity of the Department of Computing at the LYIT and the availability of top talent in the area.
- Chief Technology Officer, Eugene Blaine

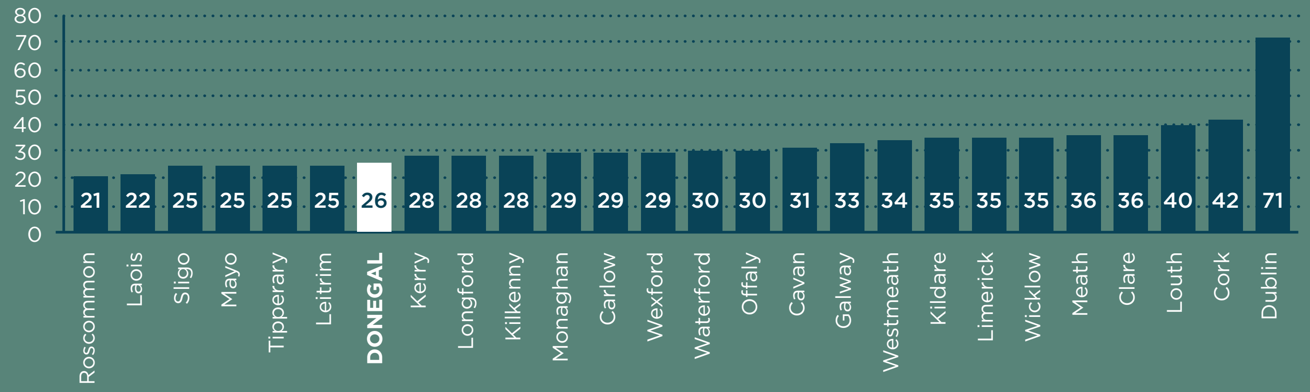
The nature of FDI growth, and indeed any form of enterprise development and growth does not sit in the remit of one single agency or organisation. Rather it is a collaboration of efforts engaging all parties from skills providers to policy makers in the entire environment. This is demonstrated in the feedback provided by the investors and their stated reasons to invest or not.

[4] Empirical Study on Factors Influencing FDI and its Impact on Economic Growth Janakidevi1 and *Usha J. January 2019
[5] FDI markets

In all these elements there is a duality occurring. FDI companies around the world are seeking ideation and talent alongside stable policy and political environments[6]. This has become even more pronounced in a post Brexit and Covid world when there are enough dilemmas to deal with. On the other hand, clusters of companies tend to thrive best where there is high quality demand in their locality – hence the presence of FDI companies who tend to represent the best of global emphasis. There are natural tensions within this duality – no less than pressure on human resources and funding – however, it is evident that a thriving environment is where local indigenous companies and FDI companies co-exist in a mutually reinforcing cluster environment. There has been growth in FDI related jobs in Donegal in the period however considering the GVA development in the county, there has not been sufficient linkages to the entire ecosystem to make a pronounced affect and clearly new projects in other sectors are required.

In addition, it would be expected that Donegal presents high levels of invention and innovation, but comparable scores here also demonstrate a relatively poor performance – and one that is not consistent with the message of a creative DNA within Donegal.

Figure 7: New company formations per 10,000 population by county (Average 2015-17)[7]



Whilst company formation is not an exact means of measuring innovation and invention, it does serve as a proxy measurement for "new activity" and one that is comparable with other countries and indeed similar regions in Europe[8].

Finally, from a regional and state perspective, there is some clear evidence demonstrating where Donegal needs to show greater levels of improvement in employment type to create more value in the local economy. In figure 8, it is shown that Donegal is behind in some critical skillsets such as scientific and technical which tend to support higher GVA activities.

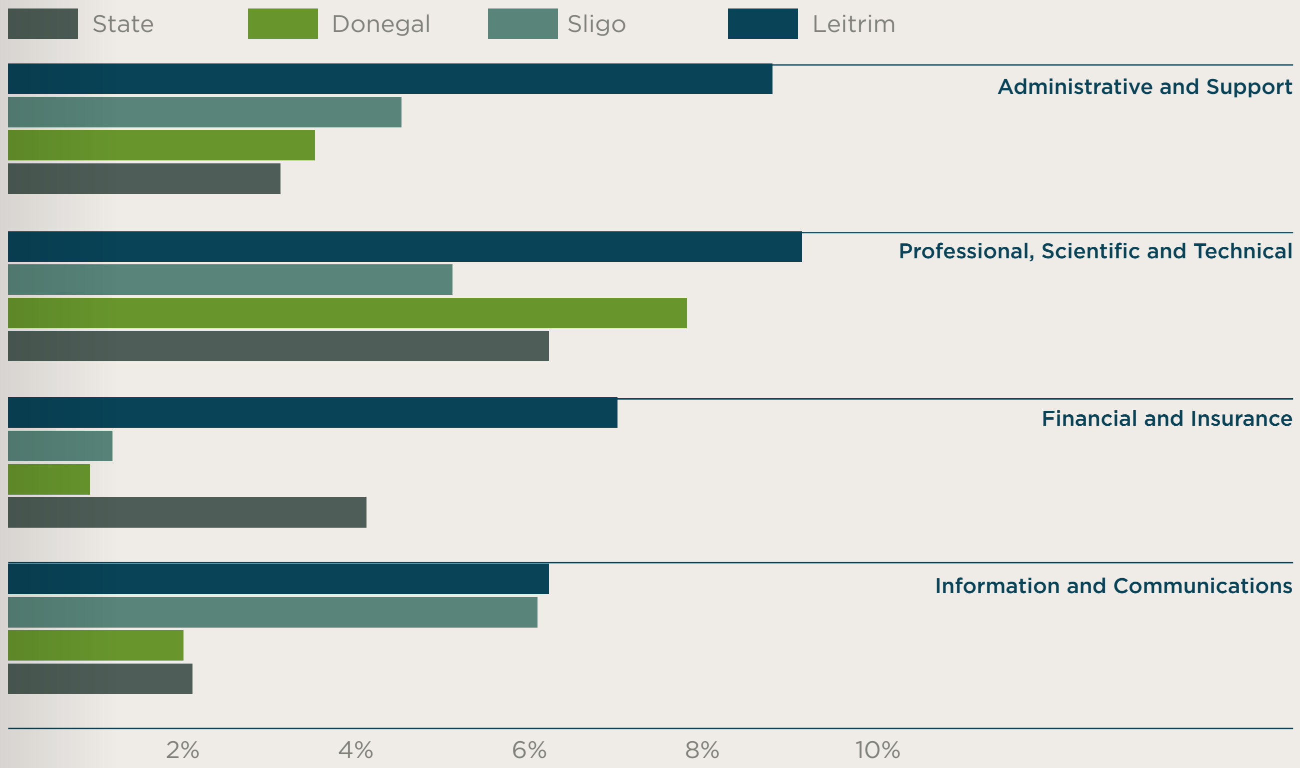
[6] New World Order. Labour, Capital, and Ideas in the Power Law Economy. By Erik Brynjolfsson, Andrew McAfee, and Michael Spence

[7] OCED report references CSO data

[8] SME and Entrepreneurship Policy in Ireland – October 2019

Figure 8: Weight of Knowledge-Intensive Services in Private Sector Employment (2016 Census[9])

Knowledge Based Skills



4.1 Conclusion

The overall analysis of the economy in Donegal is one that is relatively static. Economic activity continues within enterprises across the sectors within the county and there have been noted achievements since 2016 which have been observed by many including:

Figure 9: Notable achievements in Donegal since 2016

01 The commencement of early-stage cluster formation across distinct and viable sector lines

02 The growth in Tourism due to the Wild Atlantic Way

03 The Local Enterprise Office noted interactions in micro and mini enterprise development

04 The formation and alignment of the Metropolitan Area concept with Donegal, Derry and Strabane

05 The evolution of LYIT towards Technical University status which can only be a progressive step

06 The attraction of some centre of excellence capability to Ulster University (Magee Campus)

07 The development of Green and Blue economic messaging and engagement in the county

08 The expansion of FDI projects in conjunction with the IDA

09 The support of indigenous businesses by state agencies such as Enterprise Ireland, Bord Bia, Bord Iascaigh Mhara and Údarás Na Gaeltachta

However, these have yet to yield significant dividends. It is important to recognise that these do take time to demonstrate economic growth but for the moment, despite this activity, the Donegal economy is relatively static and there must be an intervention to change this.

[9] Central Statistic Office 2017

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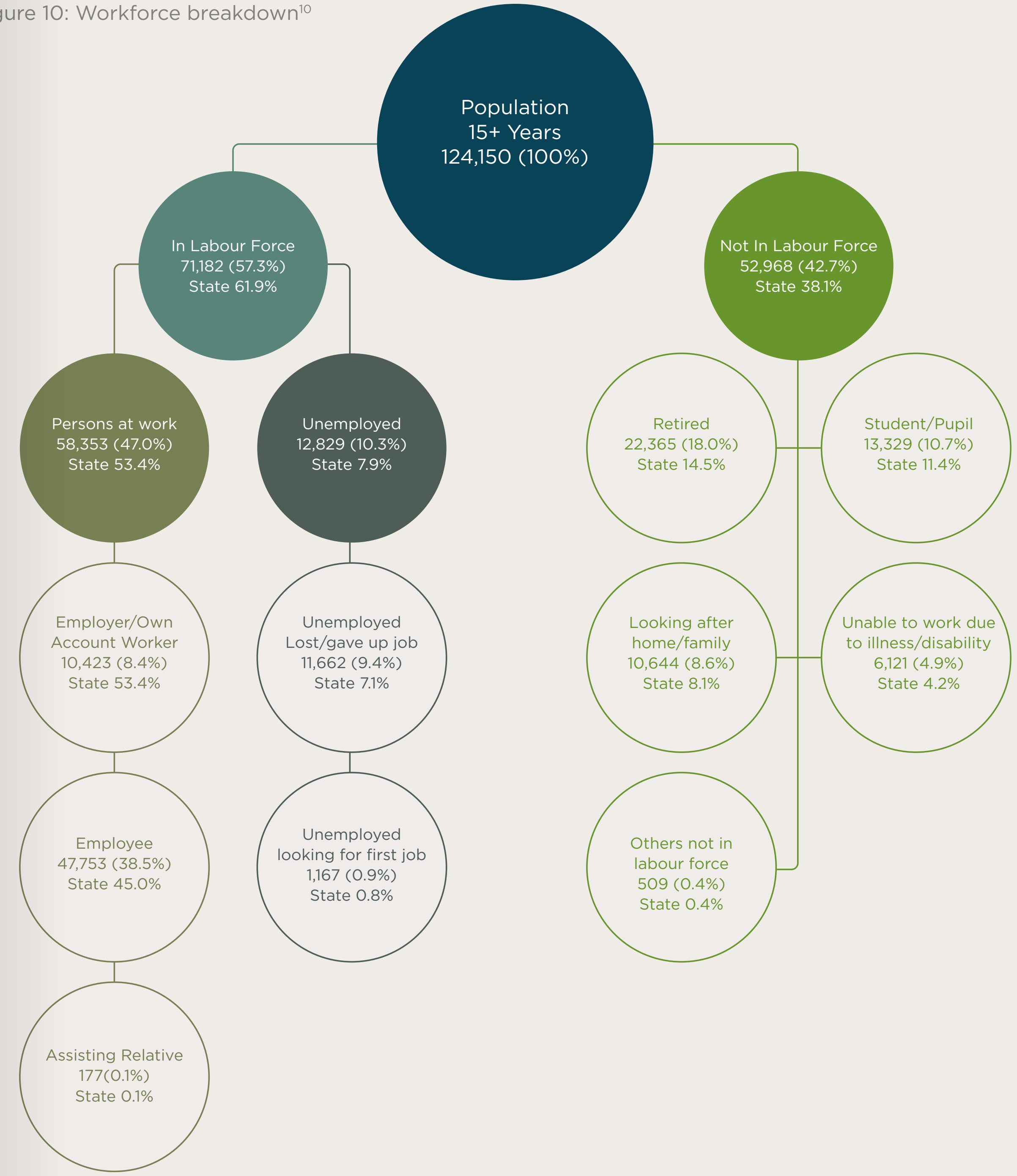
Current Characteristics of Donegal

5.0 Current Characteristics of Donegal

It is important to recognise some of the key demographic characteristics that make Donegal County unique within the context of Ireland. This section looks to understand the potential workforce available to work in enterprises and the nature of that workforce.

5.1 The population breakdown

Figure 10: Workforce breakdown[10]



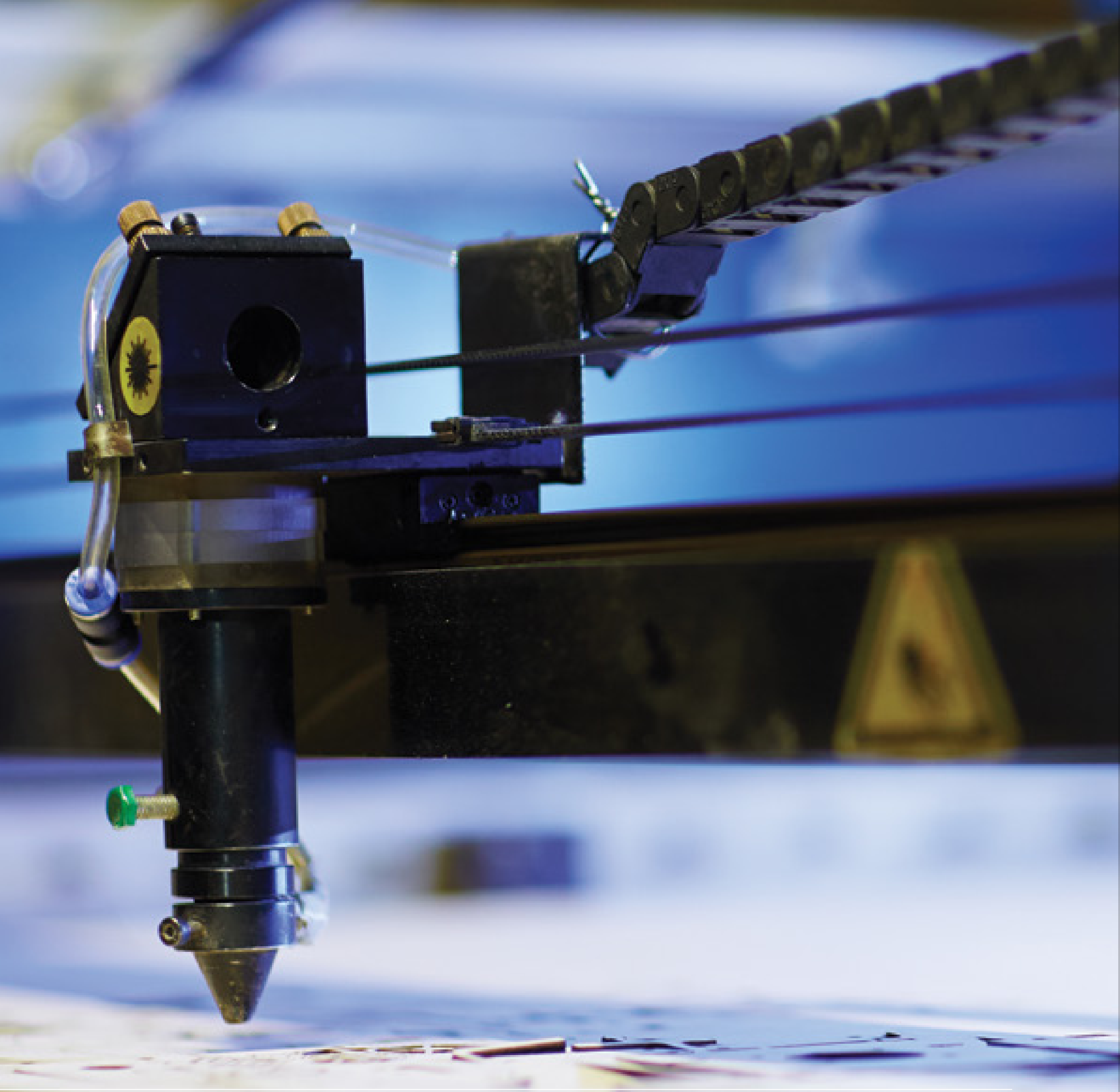
The potential workforce in Donegal is 124,500 with 42% unavailable to work and 57% available to the labour force. Given the breakdown of this aspect of the workforce, it is evident that to grow the economy in Donegal there will need to be a net importation of resources either through attracting back those who have left or inviting new talent to join the opportunities presented there.

The current available workforce will not be sufficient to enable the economy to grow from its current base and in particular capacity around professional and scientific categories will need to be attracted into the county to support the growth of distinct sectors alongside ICT skillsets. Donegal does not currently possess the quantum of skills internally to grow the enterprise base.

[10] Central Statistics Office. Census 2016

This is reflected in several analyses completed in recent years and subsequently supported by all stakeholder interviews conducted. For example, the Skills Needs of Manufacturing in the North West 2019 report completed by the North West Regional Skills Forum in Collaboration with FIT demonstrated starkly the requirements for skills – across a variety of sectors that involved manufacturing such as Medical Technologies etc. The report recognised that need to develop human capabilities and retain them in the region. The profile of Donegal in the light of this Enterprise Plan indicates a short fall in skills occurring.

In addition, the profile of skill available indicate a need to recognise that some skill types are clearly missing – particularly in the profession, ICT, and manufacturing environments. Skills shortages and the challenges faced in hiring appropriate staff were highlighted in the top three issues in 80% of the stakeholder interviews conducted in this strategic enterprise plan with many explaining how they circumvented the issue by their own actions.



5.2 Company Profiles

Figure 11: Company size profiles by employment in Donegal relative to the remainder of the economy[10]

	Under 10	10 - 49	50 - 249	250 and over
Carlow	36.7% (4,635)	Compressed	26.0% (3,284)	Compressed
Cavan	37.4% (6,260)	26.3% (4,413)	23.5% (3,942)	12.8% (2,138)
Clare	25.0% (10,029)	23.8% (6,831)	21.9% (6,283)	19.3% (5,524)
Cork	30.2% (45,283)	23.3% (34,891)	20.6% (30,889)	26.0% (38,932)
Donegal	39.0% (12,683)	32.4% (10,553)	21.7% (7,062)	6.9%
Dublin	16.7% (114,706)	17.0% (117,134)	19.3% (133,238)	47.0% (323,719)
Galway	32.3% (21,034)	25.0% (16,266)	23.7% (15,468)	19.0% (12,366)
Kerry	37.8% (13,226)	27.5% (9,618)	21.3% (7,449)	13.5% (4,729)
Kildare	31.4% (16,497)	22.8% (11,984)	20.8% (10,876)	25.2% (13,240)
Kilkenny	38.6% (7,196)	29.1% (5,424)	20.0% (3,728)	12.2% (2,274)
Laois	47.8% (5,274)	Compressed	16.5% (1,817)	Compressed
Leitrim	45.5% (2,880)	Compressed	21.2% (1,344)	Compressed
Limerick	31.8% (15,236)	27.5% (13,007)	18.8% (8,916)	21.9% (10,387)
Longford	42.5% (3,202)	Compressed	21.2% (1,592)	Compressed
Louth	36.4% (10,477)	29.9% (8,593)	22.8% (6,554)	10.9%
Mayo	37.9% (11,009)	28.9% (8,406)	16.7% (4,845)	16.5% (4,804)
Meath	38.8% (15,236)	29.3% (11,481)	17.6% (6,919)	14.3% (5,604)
Monaghan	33.9% (5,395)	29.4% (4,672)	23.9% (3,796)	12.9%
Offaly	40.1% (5,351)	28.8% (8,406)	18.3% (2,447)	12.8%
Roscommon	46.2% (4,739)	25.5% (2,618)	28.3% (2,907)	
Sligo	33.1% (5,099)	25.2% (3,884)	17.1% (2,615)	24.6% (3,796)
Tipperary	40.6% (12,933)	28.4% (9,049)	13.6% (4,328)	17.4% (5,546)
Waterford	29.4% (8,691)	25.4% (7,531)	15.5% (4,578)	29.7% (8,808)
Westmeath	38.8% (7,204)	29.9% (5,538)	20.0% (3,710)	11.3%
Wexford	37.3% (12,615)	28.5% (9,635)	16.7% (5,627)	17.5% (5,906)
Wicklow	42.8% (12,289)	29.8% (8,249)	14.9% (4,284)	13.5% (3,863)

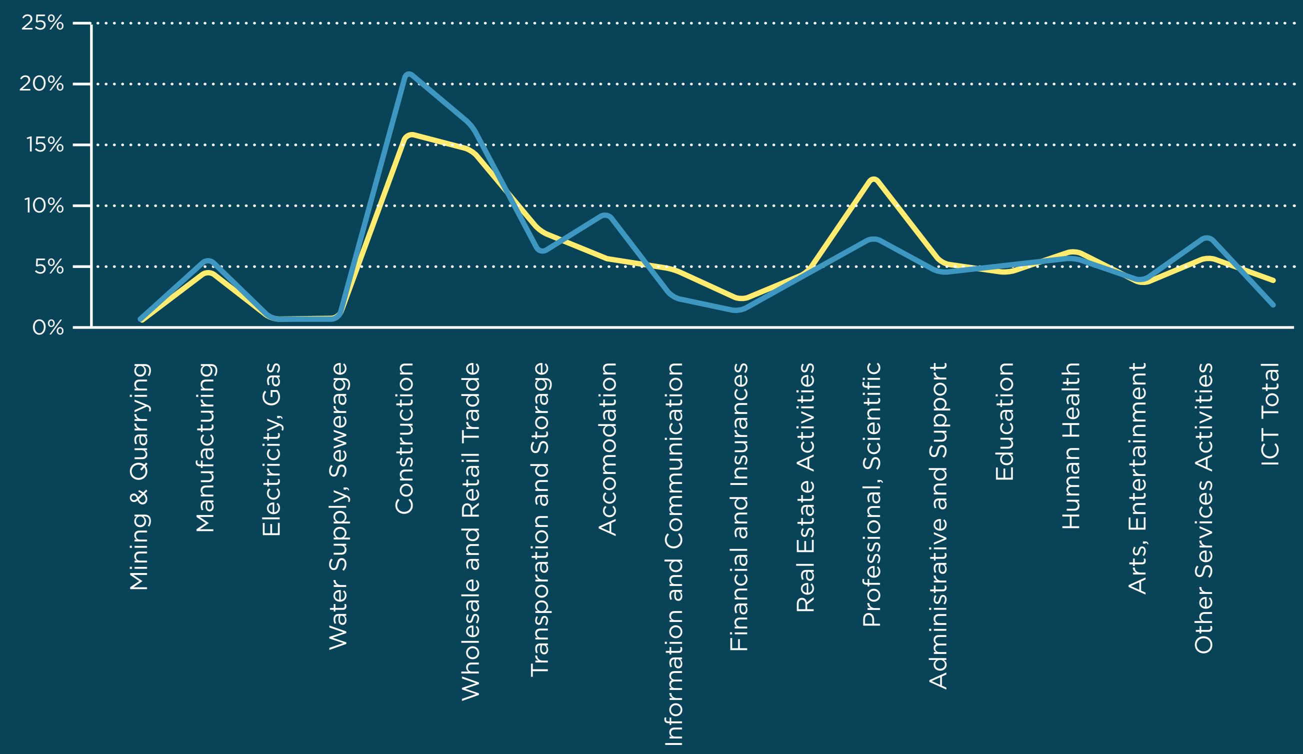
Donegal has a distinct enterprise structure showing many small businesses but that should not preclude growth and development. It is worthwhile noting that in certain sectors, these company sizes are not out of the ordinary and does not preclude the creation of real value to the economy.

[10] Central Statistics Office. Census 2016

5.3 Business Profiles

The active enterprise profile within Donegal appears like the remainder of the country with some noted differences that point to some GVA disparities. The aspects of the profile that would point strongly to GVA difference would relate to Professional and Scientific and a shortage of ICT and Administrative Support functions which could be significant amplifiers of value to the local economy.

Figure 12: Business profiles in Donegal versus the remainder of the country
Active Enterprise by Industry Classification (NACE)



Business Profiles are interesting because although all are important and value adding, their mix has a variation on the local economy. The amplification factor (i.e., the impact economically) of jobs is not always the same. Professional and Scientific, ICT, Financial and Insurance all have a greater pull through impact on other jobs than construction or accommodation. This is not to disregard the importance of any individual job, but simply highlights the importance of a balance in the economy[11].

[11] www.epi.org/publication/updated-employment-multipliers-for-the-economy demonstrates that these sectors have multiplier of 4 or more whereas Tourism etc. brings a multiple of 1.2 on average.

5.4 Skills – Education and Training

Donegal, with Laois, has the lowest admission rate to third-level education (41% compared to national average of 51%) – a factor that is not conducive to the provision of skills for FDI or local industries[12].

LYIT is a core component of the Education environment in Donegal. The development of LYIT is in line with the incremental development of education and learning institutions around the world but particularly in Europe[13].

The education of almost 4,000 students in Letterkenny provides important human capital resources alongside the development of LYIT into a Technical University which is expected to be achieved in 2022. The emergence co-operation between LYIT and industry is evident as is the development of a stronger Research capability as evidenced by the investment in the Institute's CoLab which serves to improve the facilities for start-up companies setting up on campus and the appointment of the Head of Research and Innovation. This has been accompanied by an increase in funded research projects that are expanding their geographical border and contexts[14] such as the Bryden Renewable Energy Centre and increasingly strong cross border collaborations underway in the context of the North West Education Alliance.

The evolution of the LYIT as a "fourth generation" university that drives the innovation ecosystem will become an essential component of the enterprise development environment. This development will build on the recently agreed infrastructural developments such as an Ocean Innovation Centre in Killybegs and should allow greater engagement with industry like the CoLab model in Letterkenny and the digital hubs throughout the county. It is important to note the LYIT initiatives under their proposed response to Brexit which envisaged an investment plan for Donegal and the North West Region. The four key areas for investment in this were aligned to the education resources, natural resources, and existing enterprise resources of Donegal and the North West. The investments areas proposed are in ICT/FinTech, Blue Economy, Personalised Healthcare, and Renewable Energy – all of which are embedded components of this strategic plan. LYIT is currently working with the specific clusters and with partners universities in Northern Ireland and this work finds a complete alignment with the Project Ireland 2040 Technology and Innovation Poles which will scale the Institutes of Technology sector as economic and entrepreneurial actors in the region to engage with businesses to grow and sustain beyond various economic cycles. In Figure 20 of this report, there is an advancement of the model of engagement that this will entail and how the new Technical University will be the fulcrum of the country and regional innovation processes.

The Donegal Education and Training Board[15] is the core provider of a wide and diverse range of services across education and training and operates through schools (15), Further Education Training centres (17), social enterprises etc. The ETB operates a student centric approach and is governed to tune this approach to the requirements of the various industries as they are specified and required. The key areas of training for the ETB are Accommodation and Food Services (20.4%), Wholesale and Retail (26.3%) and Construction (11.4%). It is recognised that there is an emerging cluster around the ICT and Fintech sectors and future potential in other sectors, but this remains to be quantified. The role of the Donegal ETB is as significant in the development of the economy in Donegal as LYIT. They are effectively the two wings on which the economy can develop reflecting the development of capability which are the skeletal structure of any economy.

[12] We note this is observed constantly in stakeholder interviews.

[13] LYIT Strategic Plan: 2019 - 2023

[14] The industry employment forum has not been formed.

[15] Donegal Education and Training Board Service Plan and Inaugural Review of Quality Assurance Further Education & Training Service Self-Evaluation Report 2021

5.5 Government agency involvement

Government agencies in Ireland have a nationally supportive role with regards to enterprise development. At the operational level, the enterprise development agencies, namely: IDA Ireland, Enterprise Ireland, the Local Enterprise Offices, InterTrade Ireland and Science Foundation Ireland are responsible for enterprise promotion[16].

All the Government agencies have a core focus which enables them to build a depth of relevant expertise and understanding of the enterprise cohort for which they are responsible, and to focus their own resources to best effect. The Local Enterprise Offices will operate as a first port of call for companies and provide signposting to the relevant enterprise development agency and available supports and services. The enterprise agencies operate within a wider business environment which has a strong bearing on the ultimate performance of enterprises and on the impact of firm level interventions.

So, for example:

01

During Covid-19, the single most important issue for the Enterprise Ireland client base is access to finance to survive the pandemic. Without an improvement in this situation, the range of instruments available to Enterprise Ireland is likely to have a reduced impact.

02

Maintaining relative cost competitiveness and consolidating Ireland's international reputation are fundamental to the future success in attracting FDI.

03

Continuity in the Government's commitment to invest in Ireland's knowledge and research capabilities is critical to the realisation of SFI's strategic objectives.

The agencies support companies that are primarily exporting or have the capability to do so. In relative terms, activities in exporting sectors have proved to be resilient – particularly for firms that made efforts to enhance productivity and management capabilities. The broad landscape of national agency support tends to follow a pathway for companies that leads to enterprise development and growth.

[16] While the enterprise agencies under the remit of Department engage directly with a wide base of firms, certain segments of the enterprise base are either fully or partially serviced by several other bodies across different government departments (e.g., Fáilte Ireland, Marine Institute, Teagasc, Irish Film Board, Bord Bia, Bord Iascaigh Mhara, Údarás na Gaeltachta). The role of Science Foundation Ireland, whilst indirect in Enterprise Development, has become an essential component of the ecosystem demonstrating significant benefits to the economy and supporting the advancement of scientific capability.

Figure 13: How agencies engage in Ireland to develop enterprises.

The agencies work in their individual mode to create capacity and capability in enterprises to enable them to develop further and into the future. Hence the focus is not always on the company but also on leadership, innovation etc. at a national level – which is where the remit should exist. Collectively, we believe the agencies combined, offer over 140 different supports to companies depending on geography and sector.

Figure 14: The supports to companies in Ireland depending on activity.

Start-Ups (< 18 Months)
- Enterprise Centre
- Incubation Centre
- Local Chambers
- Local Enterprise Office
- City/County Council
- Friends/Family/Mentors
- New Frontiers
- Business Supports
- Local College
- WestBic

Small Business (<10 Employees)
- Local Business Networks
- Local Enterprise Office
- Local Dev. Companies
- Board Bia
- Arts Council
- Údarás na Gaeltachta
- Skillnets
- Microfinance Ireland
- WestBic
- LEADER

SME (>10 Employees)
- Fáilte Ireland
- Bord Iascaigh Mhara
- Enterprise Ireland
- Dept. of Social Protection
- Crowdfunding
- HBAN
- European Reg. Dept. Fund

Export Companies
- Local Enterprise Office
- Enterprise Europe Network
- Enterprise Ireland
- IDA
- European Commission
- SBCI
- InterTrade Ireland
- Peer to Peer Lending
- Bank Finance
- Irish Exporters Association

Generally, these supports are aimed at:

01 Supporting early-stage entrepreneurs with mentoring, funding, networking, and infrastructure.

02 Enhancing productivity through Lean and Transformational Change Programmes.

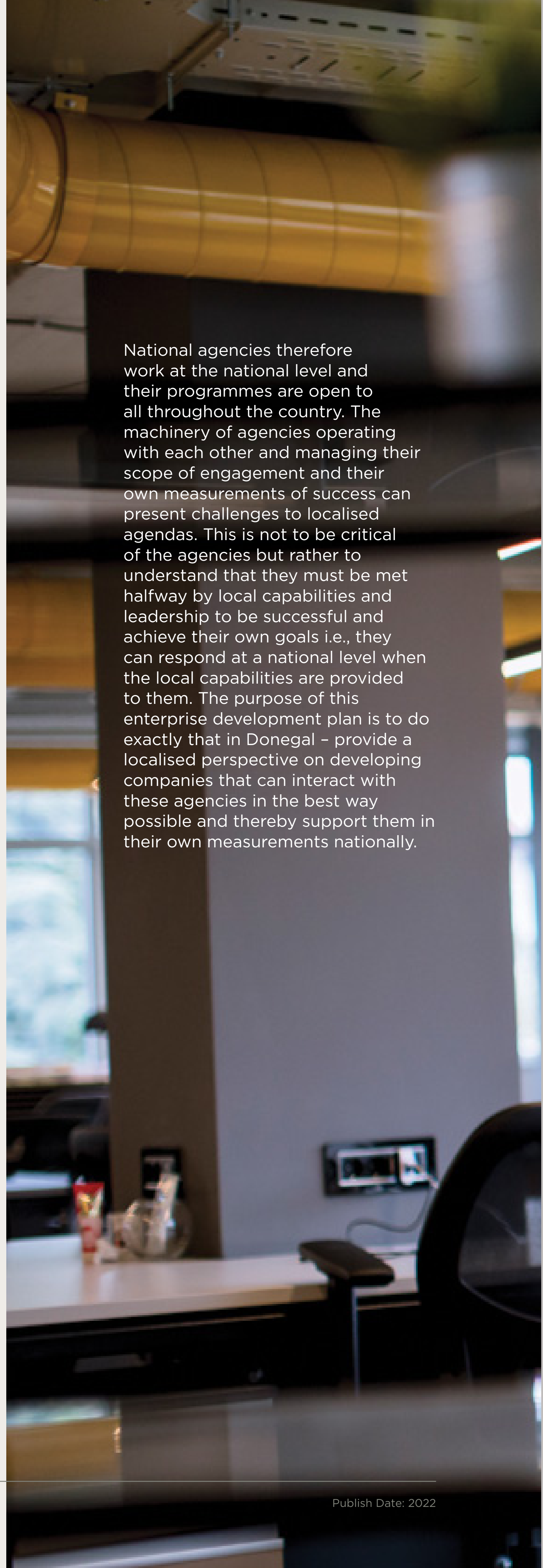
03 Supporting Leadership and Management Development through programmes such as Leadership for Growth.

04 Broadening access to new markets through targeted trade missions, training in International Selling, and establishing more structured trade relations.

05 Broadening the potential client base through open calls for programmes such as the Competitive Fund and the establishment of the newly formed Potential Exporters Division.

06 Widening international reach through overseas marketing and initiatives focused on attracting overseas entrepreneurs to invest in Ireland; and

07 Stimulating increased collaboration and networking, particularly (although not exclusively) in R&D through Technology Centre programmes, pooled innovation vouchers and the recently launched clustering initiative.



National agencies therefore work at the national level and their programmes are open to all throughout the country. The machinery of agencies operating with each other and managing their scope of engagement and their own measurements of success can present challenges to localised agendas. This is not to be critical of the agencies but rather to understand that they must be met halfway by local capabilities and leadership to be successful and achieve their own goals i.e., they can respond at a national level when the local capabilities are provided to them. The purpose of this enterprise development plan is to do exactly that in Donegal – provide a localised perspective on developing companies that can interact with these agencies in the best way possible and thereby support them in their own measurements nationally.

5.6 Conclusion

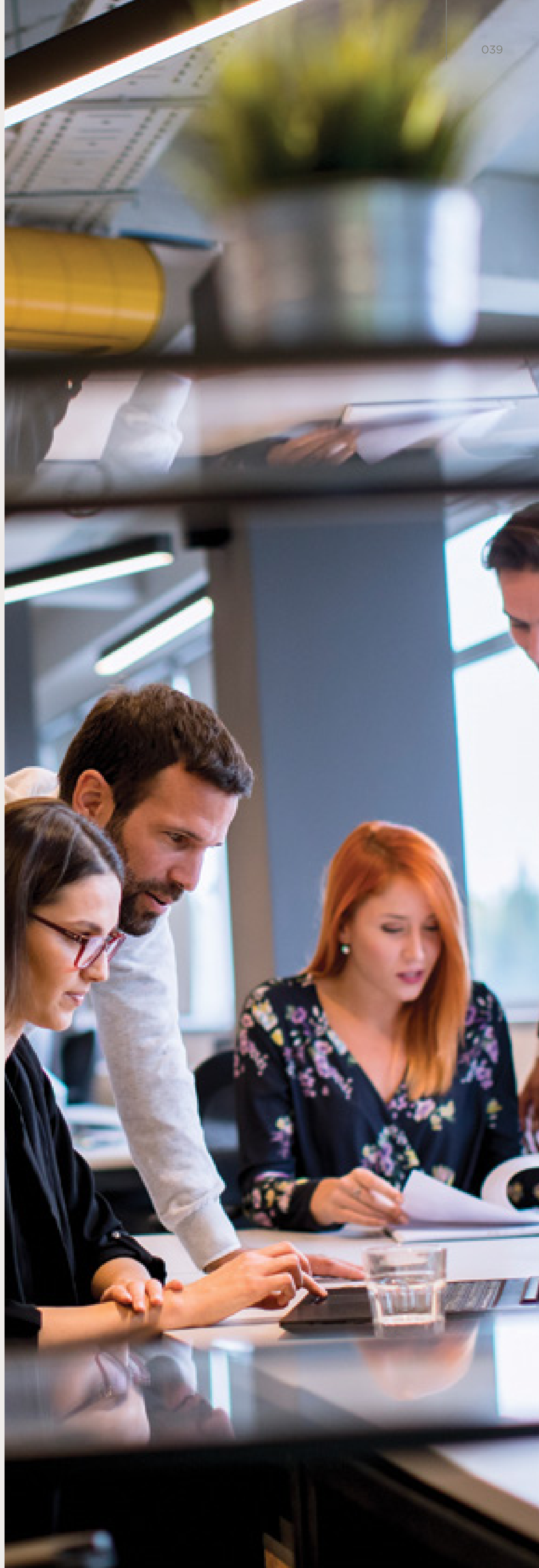
The characteristics of the county are not that different to other parts of the country that have demonstrated economic development and growth. Clearly there is a geographical dimension to Donegal, which has seen it historically isolated, but this dimension now has positive aspects in respect of a larger metropolitan area, access to natural resources and landscapes and sitting on the border of the European Union.

The strategies and plans of the various agencies engaged in the county – relating to Enterprise development, Education, Research and Further Education are articulate and accurate as are those expressed by relevant Government agencies in the county[17].

There remains a fundamental question over the availability and scale of skills into the county. Particularly in those areas where there can be a pull through in value added employment such as engineering, manufacturing, utilities, and scientific and research fields where the multiplier impact on the economy is greater[18]. Given the current profile of Donegal available workforce, to accelerate and develop the economy there is a shortage of specific skills in the county.

[17] It is important to recognise that most agencies have a national remit and must therefore manage their efforts across all counties.

[18] www.epi.org/publication/updated-employment-multipliers-for-the-economy demonstrates that these sectors have multiplier of 4 or more whereas Tourism etc. brings a multiple of 1.2 on average.



006

Stakeholder Assessment

A total of 40+ stakeholders[19] have been engaged in the development of this plan. These stakeholders (Appendix 2) come from:

1. Industry
2. Govt. Agencies & Local Govt.
3. Interested Parties (Diaspora)

All the stakeholders have demonstrated clearly their own functional commitment to Donegal within the remit of their organisations. The commitment to the county from both industry and Government agency is noteworthy.

Figure 15: Stakeholder feedback – key unified pointers

Infrastructure and Remote Working
Accessibility major consideration. Broadband availability in towns, but major issue in rural areas, limiting business. Road access is poor. Airport can be difficult to access. Should consider enabling infrastructure, remote working hubs in rural areas, training centres in communities. Remote working offers an opportunity for rural areas but need services and developing ecosystem.

Diaspora, FDI, Amplifiers
Diaspora needs to be engaged with a 'rallying call'. Entice back to Donegal. Encourage large entrepreneurs to relocate. Look to Dublin network, accountants, solicitors, Diaspora in US & EU connections and networks. FDI to be attracted by Donegal.

Future Enterprise, Innovation and R&D
Green Economy, Blue Economy - Donegal needs to lead the way in sustainability and develop a circular economy. Marine Centre of excellence in Killybegs. More collaboration between companies and cross sectors. Innovation sustainable energies, Hydrogen. Think global. ICT Fintech, Data Science & Cyber.

Education, Skillsets & Talent
Need to ensure young people are retained within the county. LYIT & ETB ongoing interaction with enterprise to provide the skills which are required now and in 10 years time. Parents need to know there are opportunities for their children in the county. Can have an international career in Donegal. Retraining and reskilling. Reach out to communities, more interaction with larger companies. Certain skills not available - marketing, accountancy, data science. Online learning an opportunity. Linkages with US & EU Universities. Relook at apprenticeships more localized approach required, should have training centres located in rural areas and trainees released for shorter periods to make attractive to smaller businesses. Salaries considered low in the region, hard to attract higher skill levels.

BOOST

Confidence, Ambition and Mindset
Low levels of ambition and fear to move out of comfort zone. Not enough role models. Some strong female entrepreneurs, need for more awareness of success. More networking with large successful companies. Should not be afraid to fail. More management, financial and marketing skill mentoring required. Need to think global. Look towards EU and US. Sense of vulnerability, small guy vs big guy. Traditional 'internalised' competitive mind set. Element of begrudgery. More networking with Dublin and private funders. Difficulty transitioning from micro to SME.

Governance and Stakeholder Collaboration
Better communication between stakeholders required. Sometimes territorial regarding ownership of companies. Supports available confusing to business. Some personality issues involved. Poor communication between government bodies. Overlap in performance measurement. Participation but no investment or buy in. Lacks cohesive joint accountable approach. Complimentary activities required. Require a conductor to provide coordinated future strategic leadership. More resources required on the ground for support.

Wild Atlantic Way, Tourism, Food, Creative
More needs to be made from Wild Atlantic Way. Incorporate food, experiences and local enterprise to take tourists off the beaten track. Combine activities with landscape and experience. Greater community and enterprise involvement to attract and retain visitors.

[19] Stakeholders are noted in Appendix 3.

The core feedback points are outlined on the left and relate to activities that are already commencing within the county. Clearly skills and education are significant as is the continued development of future enterprises, innovation, and R&D. All stakeholders reflected on the positive contributions of the nascent cluster development activities and developments such as the Food Coast, Wild Atlantic Way etc. In all cases, it was refreshing that stakeholder could perceive beyond that viewpoint into the next iteration of these developments in the county and expressed an optimism concerning these.

Two consistent pieces of feedback are worth highlighting – the Governance interaction between state players and how they relate to each other and finally the mindset and ambition of the county to push itself forward. The most noteworthy quotations from the interviews have been:

Figure 16: Quotations from stakeholder interviews

- Last 3-5 years the county has changed positively and deliberately but results remain to be seen.
- Donegal needs to be marketed by Donegal - National vs Regional.
- Communication, collaboration, co-operation. These do not exist.
- Green Economy and Blue Economy alongside existing industries offer the route forward.
- Strategic leadership and accountability required from all - need to improve.
- Need to create reasons to go to Donegal beyond a great place to live. The agenda must be economic.
- Donegal needs to be a leader not a follower. It is expecting to be a follower.
- Sustainability should be woven into the county, everything that is done should underpin this.
- Digital Donegal - The future is talent, technology and digital.
- The Diaspora gravitate towards education and enterprise. But they are asked for culture.

007

Donegal 2030: Writing its own enterprise future

7.1 Introduction

In January 2019, the Guardian Newspaper reported that Donegal was one of the leading creative retreats in Europe. The truth is that Donegal has always been a home of creative writers – from the Annals of the Four Masters to McGuinness, Friel, Allingham etc. This richness of creativity and authenticity in within the DNA as is the ability to be comfortable with strangeness or newness and pushing boundaries.

In the arena of enterprise development however, Donegal is silent. It is mostly written about by others who view it from the outside as “forgotten” or “up there”. **This enterprise development strategy therefore seeks to address this point. Uniting the historical DNA, it proposes that Donegal moves from being written about to writing its own future in enterprise.**

7.2 Vision and Mission

This Enterprise Development plan is about placing Donegal in the top 5 counties in Ireland in the next decade and nationally as a recognised centre of innovation for specific sectors with a vibrant and innovative SME and micro business sector.

Vision

The Vision is for Donegal to become a gateway for enterprise and a nationally recognised centre for innovation in a core number of selected sectoral areas utilising the natural assets of the county and integrating/ maximizing its role on the border of the European Union.

Mission

The Mission is to create a vibrant enterprise ecosystem that catalyzes the development of jobs, investment, entrepreneurship, and innovation within Donegal and facilitates a transformation, which is nationally recognised as the top 5 economic hubs in Ireland outside Dublin in distinct sectors.

7.3 The characteristic of the enterprise development environment in Donegal

The enterprise development strategy proposes several changes in the characteristics of Donegal over the next decade:

1. Economic Resiliency:
This should be achieved by the diversification of the economy over 6 focus areas and enriching those sectors by completing the Innovation System in Donegal by itself as outlined in this strategy.

2. Transformative:
Companies will be formed in Donegal and come to Donegal to transform their business in Europe based on the levels of knowledge, design, and skills capability.

3. Capacity Building:
Capacity building is about providing and developing expertise.

4. Outward Looking:
Export markets will be essential, as will a focus on managerial and commercial skills.

5. High Visibility:
Donegal will be marketed as a place to do business.

6. Innovative:
Donegal will demonstrate a national leadership position in the innovation aspect of selected sectors.

7. Evidence-based:
Donegal enterprise development will deal with facts and provides the correct information to benchmarking companies forging relationships with them and proving economic returns.

8. Collaborative Leadership:
The leadership of the county in industry, academia and Government need to work with companies to make them successful in Donegal.

7.4 The implications of this enterprise development strategy

This strategy has been developed with the following implications in mind.

For those who choose to live in Donegal

- More live, work and play opportunities across the county.
- More investments into arts and culture, as well as green space.
- New well-paying employment opportunities closer to home.
- More career options at home offering comparative opportunities to those elsewhere.

For those who do business in Donegal

- Increased ability to attract skilled workers to support business growth.
- Vibrant areas to conduct business and increase foot-traffic in commercial/retail centres.
- Ability to build new business partnerships and access new options for financing.
- Easier access to existing and new global market opportunities.
- Modern smart/infrastructure.
- Enhanced government programmes to support business innovation, growth, and expansion at international and community level.

For Donegal Innovation

- Attract the best research and development skills.
- Build flagship innovation capabilities.
- Create an innovation system in Donegal that links to the rest of Ireland and produces high output per capita in Europe.
- Bring and retain the best talent to the University system in Donegal.
- Allow Donegal to become a location of choice for researchers in key areas of Patient Centric Healthcare, Advanced Engineering and Fintech/ICT with a strong Tourism + product.

7.5 Four pillars of enterprise development

The Enterprise Development Plan is predicated on four pillars of development:

Figure 17: The four pillars of the Enterprise Development Plan

01

-

Attract Investment to Transform Donegal Enterprise Development

Objective

To identify and unlock investment opportunities that will accelerate Donegal's transformation over the next decade.

02

-

Grow Donegal's Innovation Economy

Objective

To transform Donegal into a nationally recognised centre for innovation over the next decade covering foreign investors, social innovation, start up companies with a focus on knowledge intensive companies in the identified sectors.

03

-

Building Distinct & Competitive Business Clusters

Objective

To increase the market competitiveness of individual Donegal based businesses and build the distinctiveness of each Donegal's declared focus business communities.

04

-

Create Jobs and Develop the Workforce

Objective

To create one job per resident worker through retention, attraction and development of Donegal's workforce over the next decade.

Each pillar has distinct programmes, which will support the development of enterprises in Donegal and the metropolitan area, and all the programmes are interconnected.

7.6 Pillar 1:

Attract Investment to transform Donegal Enterprise Development.

There are several distinct activities underpinning this pillar and these can be represented as:

Table 1: Pillar One Activities – Transform Donegal enterprise development.

Activity	Purpose	Goal	Measurement
Data analysis per sector in Donegal	This strategy identifies several sectors where Donegal has clear strengths. However, data elements and spatial elements supporting these sectors in missing in terms of companies, capabilities, research etc. These need to be spatially mapped so that it is available to multiple sources of investment including private, FDI, state and European.	Create a spatial dataset showing all the supply chain strengths in Donegal.	Dataset and visualisation created by December 2022. Commence with first sector by October 2021
Flagship[20] sector projects structured and developed.	There are distinct sectors where Donegal can play a leading national (and ultimately international role). These sectors are identified and described in this document.	Create a nationally identified flagship project lead from Donegal in each sector.	Monitoring employment and GVA growth within each selected sector.
Building FDI propositions to support IDA Ireland with investment attraction in selected sectors	It is recognised that IDA Ireland is a national body and that inward investors will spend as much time locally as with IDA Ireland. The Donegal proposition should be defined and articulated. The nurturing of FDI companies in sectors will develop local demand for SME companies in their supply chain.	FDI proposition to support IDA Ireland and use of diaspora for project pipeline	FDI weighted pipeline for Donegal and measure of success ratios in terms of Projects, Jobs, Capital and GVA.
Working with LYIT to develop innovative projects in the identified sectoral areas using SFI or Shared Island or European Funding.	Once flagship projects are defined it is important to establish research goals that will enable Donegal to take a nationally recognised leadership position. In the advent of Brexit and Covid plus stimulus European funding should be targeted.	Pipeline of projects to be funded engaging Multinational, SMEs and LYIT.	Project capital and SME engagement in projects.
Localised Account Management, from Donegal, to support the IDA in the expansion and new projects from existing investors in Donegal.	Account management is the single most impactful way of attracting new FDI projects through expansion of existing facilities or reinvestment by the current investor. This role is engaged in supporting them with their own organisations and bringing new ideas to them including the introduction of local supply chains and the development of local supply chains to support them.	Account Management meetings to understand requirements and support local expansion.	Added FDI pipeline opportunities and measurement of local SME engagement
Diaspora Engagement	There is a need to invoke the diaspora in the support of the key sector developments in Donegal and to encourage them to engage in these projects from their own organisations elsewhere.	Engagement of diaspora in Cluster development in at least 2 key projects.	Number of diaspora engaged with the cluster development in Donegal.

[20] A flagship sector project is one which picks a systemic challenge in a sector and resolves those challenges using R&D capability intertwined with large and SME companies and enables the development of workforce capability to support the continuation of the project. The construct of such a project is explained in section 7.6.

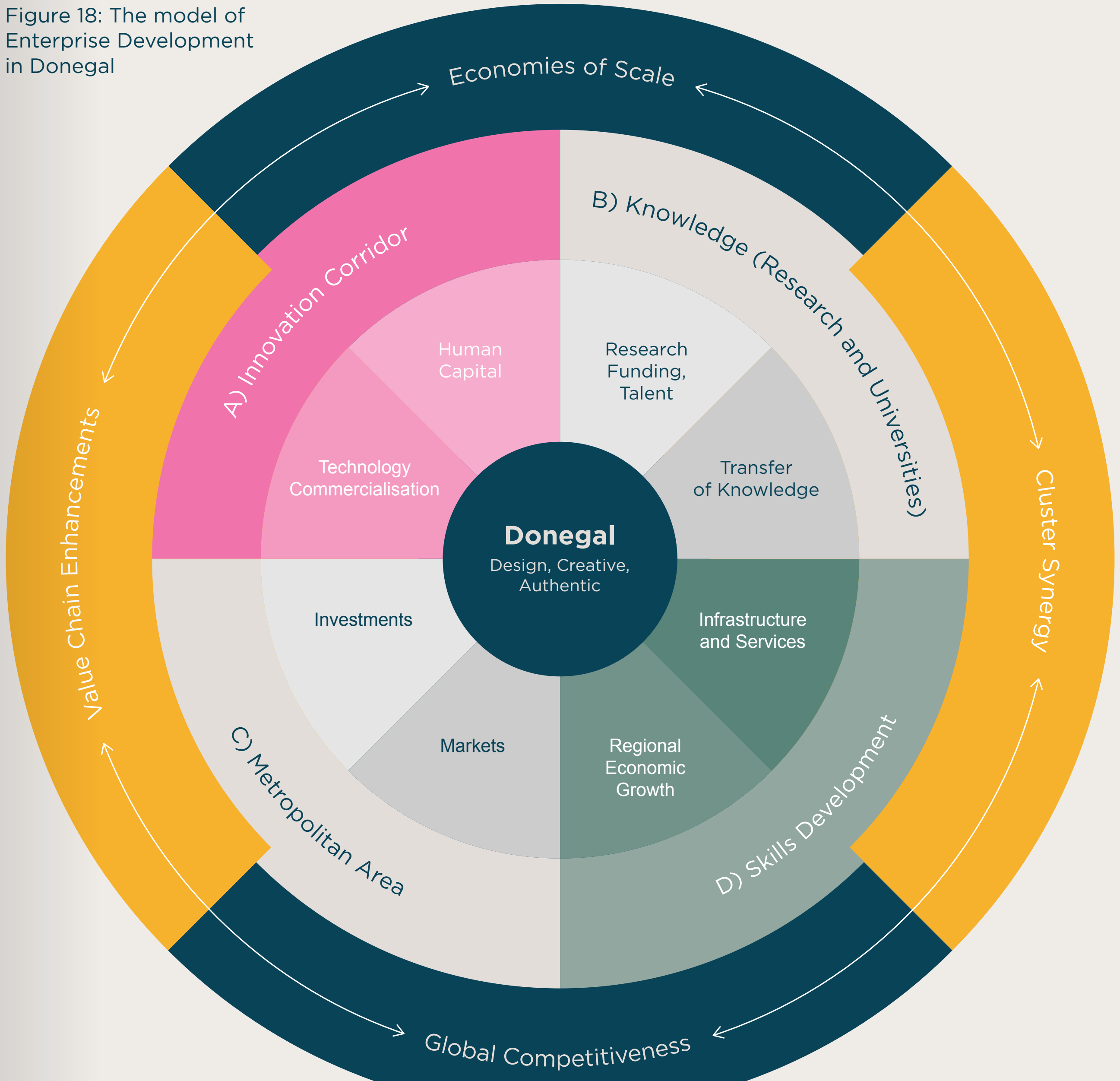
7.6.1 Which sectors

This strategic enterprise development plan envisages Donegal's identity is also shaped by its strategic geographic location for business growth, being a cornerstone of Europe's gateway, investing progressively into innovations, a youthful and diverse population and building on the existing DNA with a focus on knowledge creation allied to design, creativity and authenticity and the following sectors:

1. **Patient Centric Healthcare sector.**
2. **Blue & Green Economy development.**
3. **A Tourism + product.**
4. **ICT and Fintech sector.**
5. **Creative Sector.**
6. **Food and Nutrition (Food Coast +).**
7. **Engineering sector.**

It is understood that all these sectors are interconnected and there will be significant cross-over between them. For example, the ICT sector impacts many of the other sectors and engineering is a core capability in the blue and green economy.

Figure 18: The model of Enterprise Development in Donegal

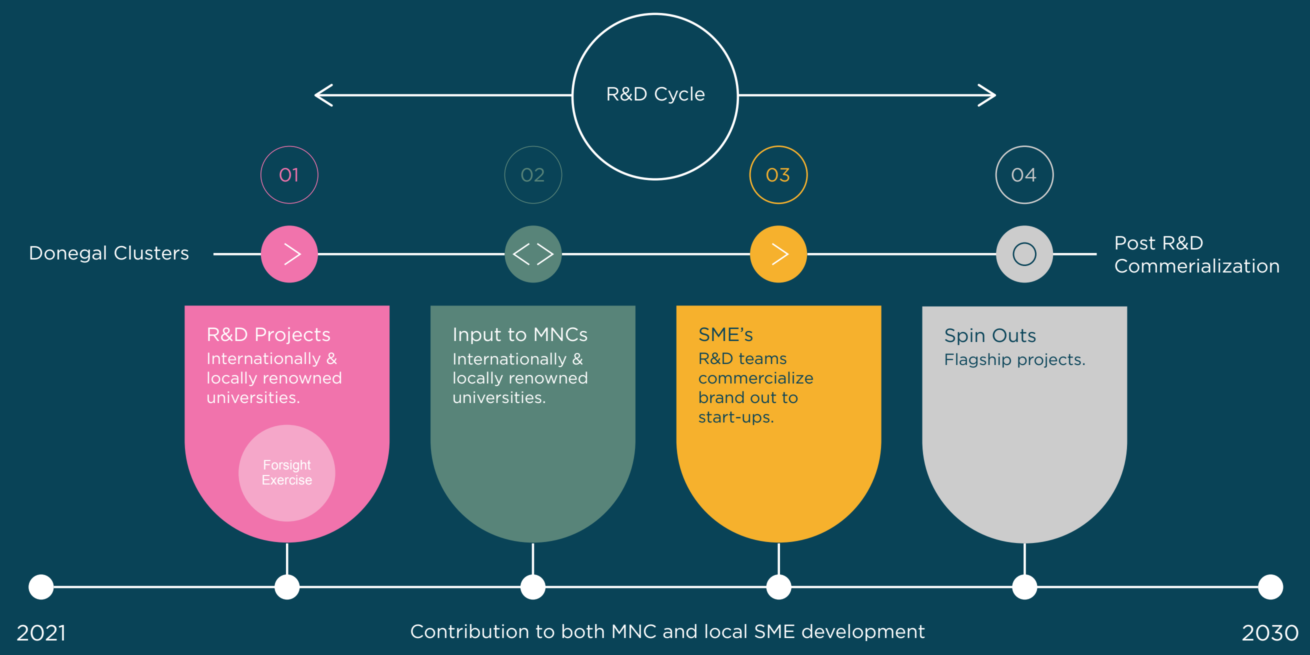


This model of enterprise development will see all the actors in the Donegal County and metropolitan area of the North West City Region being engaged in a value chain of R&D, Multinational Corporation and SME / Micro business collaboration in the key development sector areas. This should enable a productive ecosystem to be developed that combines the best of all these facets of the Donegal ecosystem but ensures that SMEs are included in any significant initiative.

The model in Figure 18 shows that the Donegal can achieve greater economies of scale, improved cluster synergy, improved competitiveness and value chain capability using the North West City Metropolitan area and developing the concept of the an (a) Innovation Corridor that focuses on distinct sectors and beings R&D institutions with large companies and SMEs to resolve systemic challenges in identified sectors

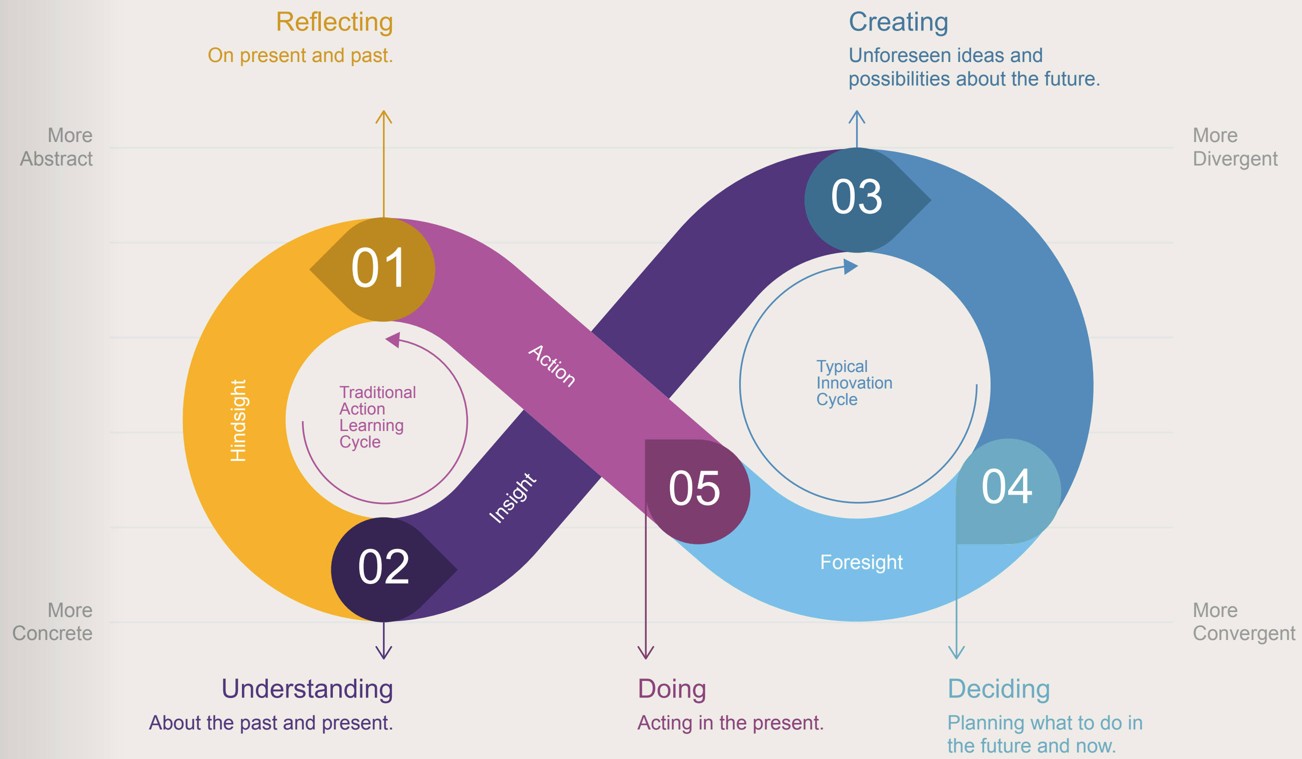
(b) A continuation and focus on developing knowledge that can be distilled into the SME sector (c) the utilisation of the North West City Metropolitan area as a broader demographic base to operate in and finally continuing a focus on skills development. All these aspects and their component activities to be achieved whilst maintaining the core Donegal DNA of Design, Creativity and Authenticity.

Figure 19: Operating Model of Enterprise Development as envisaged in this strategy.



The focus on developmental areas as outlined above will ensure Donegal is offering a value-added product to the economic landscape and in particular benefitting SMEs who are the backbone of the economy there. These models of engagement of industry with academia and Government agencies will present a key challenge in the ambition of the county. To lead, means a key shift in how all actors in the local economy behave. The model in Figure 19 shows how all the institutions need to interact with each other. R&D projects must be linked directly to participation and support from large and SMEs companies within Donegal to address the systemic challenges of the sector. These challenges would be mutually agreed by all parties and the outcomes would be split evenly between the participants. Through this model, it should be possible to achieve a great input into supporting existing multinationals in Donegal, developing SMEs to support that industry, and leading to new, recognised outcomes from the county that contributes at a national level.

Figure 20: New models of engagement for academic institutions in Donegal



This will mean that the industry – academia and Government agency engagements are not only concerned with employment generation but value-added employment generation that enables Donegal to take leadership positions in distinct sectors where it has some form of competitive edge (Appendix 3). Through fostering closer collaborations, it is possible to create this position and enable a broader international perspective to be brought to Donegal.

It is also understood that this will accelerate the development of the academic institutions that are engaged in Donegal (LYIT, Ulster University and others). As demonstrated in Figure 20, these institutions will transition from reflecting and understanding and explaining the past into institutions that envisage, create and work with industry and society to develop the future enterprise landscape by proactively developing companies and capabilities in distinct focus areas. This model of evolution is already underway as can be seen in the development of Technical University status however an acceleration in the transition is envisaged in this plan keeping it in line with the model Technical Universities of Eindhoven, Munich and others that show how this model work for the economic rejuvenation of local economies. This model of engagement of the new emerging TU is in line with the Project Ireland 2040 Technology and Innovation Poles which is intended to scale the Institutes of Technology sector as economic and entrepreneurial actors in the region to engage with businesses to grow and sustain beyond various economic cycles.

This needs to be seen in the context of the fourth industrial revolution as it continues to evolve and has been accelerated with the advent of Covid 19. There is a changing environment between the roles of industry and universities with respect to innovation and it is apparent that there is a new pivotal role for universities as regions of all kinds pursue increased connectivity within their regions to fuel innovation that can make their own geographical proximity more competitive and economically viable. This transition means that across the world the university's new importance becomes related directly to its role of orchestrating innovation networks within the regions they physically occupy – be they rural or urban.

This potential change means that the key functions of research and education – of academics and professionals and leaders is extended to a situation where:

1. Innovators of all kinds can be involved in networked processes of knowledge creation that cut across all aspects of social and economic activity.
2. New formats of producing and sharing knowledge, and of orchestrating multi-partner knowledge creation processes, are integrated with traditional roles of educating students and developing research.
3. There is systematic institutional transformation linked to the advent of innovation-collaborative cultures, in which common values, historical narratives, and strategies connect leaders and innovators from universities, companies and public agencies.
4. Actors from different sectors develop multidisciplinary innovation processes that enable the cross-over of disciplines and creativity and the repurposing of thinking.
5. Co-creation habits are developed enabling themselves and each other to address problems, from long-term and possibly highly disruptive innovation challenges, markets and societal practices to current company or public problems.

We believe this is a situation where Donegal can engage meaningfully in key selected areas.

7.7 Pillar 2:

Growing Donegal's Innovation Economy

Innovation is the single biggest contributor to economic development as it serves the SME sector well and is a key attraction for FDI companies to engage in a geography alongside infrastructural elements such as working spaces, co-creation spaces etc. as outlined in Pillar 1. There are several key strategic actions that Donegal can take to enable its own innovation economy so that it is not simply taking innovation and following from elsewhere. The distinct activities underpinning this pillar can be represented as outlined on the right.

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Table 2: Pillar Two Activities – Growing Donegal's Innovation Economy

Activity	Purpose	Goal	Measurement
Developing skills and capability	This strategy identifies several sectors where Donegal has clear strengths. To build an innovation economy in these sectors as outlined in summary below (and in detail in Appendix 3) will require industry and Government and Academia collaborations but it will also require international collaborations. Depending on the sector, Donegal will need to have the flexibility to engage with the Metropolitan area, other sea faring regions (Norway, Canada) and the USA (software, Fintech) as well as connecting to the remaining clusters in Ireland.	Per sector Donegal must have national and international collaboration and presence per sector[21]. Any systemic sector work must include an international collaboration.	One international collaboration per sector formalised and present in Donegal.
Technology Accelerators	Donegal has run accelerators in the past reflecting the need to bring new ideas and businesses to the county. This strategic plan is proposing Technology Accelerators per sectoral area targeting at least 25% international participants on each accelerator cohort. All Accelerators should last 3 months and there should always be one accelerator in progress at any time.	Creation of 2 new companies per annum in Donegal with a combined valuation of 25 million per sector and employing 25 people within 3 years	Ongoing accelerator programme. 2 companies per cohort existing. Annual market valuation of 25 million and employment 25 within 3 years.
Sector Developments	Donegal to produce specific roadmaps for each sector in the country every 2 years showing where they will intersect with the international roadmap and publishing it to promote the country.	Roadmap per sector in Donegal every 2 years	No. of active roadmaps.
Culture Building Initiatives	Change in business is imperative. Yet many small organisations' initiatives meet with setbacks, delays and even failure. Those that succeed are soon confronted with a painful truth: they are not leapfrogging. At best, the changes they are making are putting them on par with their competitors. As the pace of change continues to accelerate, there is a model of innovation that small organisations can use that gives them the agility and digital capacity to compete. The model is based on building the three steps to successful innovation namely: 1. Building an innovation culture. 2. Build innovative solutions in collaboration with the business. 3. Acquire, partner, or invest in new technologies.	Donegal will run 2-evening seminar every 6 months on how SMEs can adopt an innovation culture and leapfrog their business environment including developing new markets. This to be extended to an annual Scaling /LeapFrog Programmes in addition to the Seminar in the second year.	Project capital and SME engagement in projects.
Meet Ups	Donegal County will organise meetups with a specific theme across all sectors every two months. The meetups will have one international speaker and will address a specific topic relevant to Donegal. The meeting will be done both virtually and in person (when public health guidelines permit.	1 meetings every 2 months	6 meetings per year on a topic relevant to Donegal with a social event afterwards.
Global Entrepreneurship Programme	Donegal will offer to host international entrepreneurs for a 2-year period if they are in each focus area for the county. This is outside the Accelerator programme, and they possess their own funding or are affiliated with a university overseas.	1 International entrepreneur in residence per annum	No. of international entrepreneurs per annum

[20] A flagship sector project is one which picks a systemic challenge in a sector and resolves those challenges using R&D capability intertwined with large and SME companies and enables the development of workforce capability to support the continuation of the project. The construct of such a project is explained in section 7.6.

7.8 Pillar 3:

Building Distinct and Competitive Business Clusters

Business clusters are not simply groupings of business with a short-term perspective such as resource building or otherwise. They are formations of business, academia and government agencies that have a long-term involvement and commitment of members with a focus on the expansion of the sector they are concentrating on – at a global level – even though they act locally only. The advantages of being a member of a cluster is that they have a collective growth benefit which makes it worthwhile and over time, clusters evolve to having a financing aspect, support trade and investment and develop new positive characteristics and directions.

Clusters are not buildings, they are networks. Networks of companies and institutions with a distinct aim:

1. A distinct focus and strategy
2. An emphasis of the development of talent and technology
3. Access to finance and capital
4. The distinct promotion of SMEs and Entrepreneurship
5. Facilities and infrastructure
6. Regulations and ease of doing business.

Points 5 and 6 are already existent in Ireland, the first four points relate directly to activities that can take place and be controlled within Donegal.

Clusters also have distinct growth patterns (which is why they are being recommended). These patterns are demonstrated below:

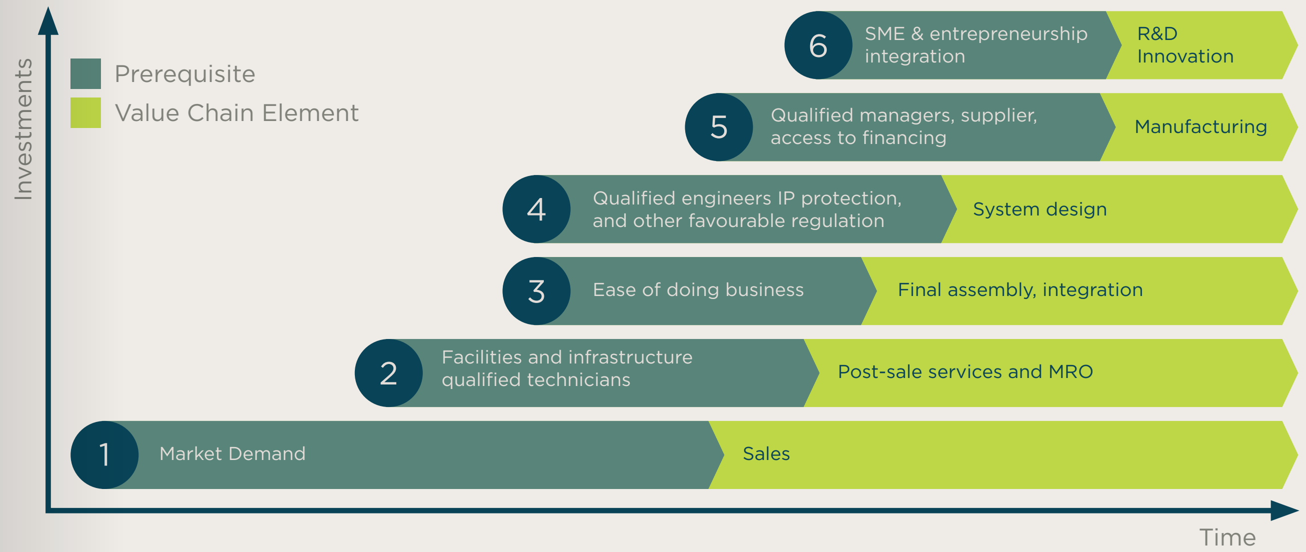
Figure 21: Cluster Growth Patterns

	Stage 01 - **Seed** (Nascent Sector)	Stage 02 - **Value Chain Participation**	Stage 03 - **Domestic Market Maker**	Stage 04 - **Export Leadership** (Consolidated Sector)
Value to Government	Discounts or rebates in the form of pure financial investments (do not rely on contractors' expertise or owned technologies)	Job and infrastructure creation in select sectors	Gross domestic product diversification using capabilities in adjacent segments	Export leaderships via advanced expertise across value chains
Value to Vendor	Contractual burden. Capabilities acquired.	Opportunistic compromise (such as low cost foreign labour)	Emerging high-growth opportunity. Less international dependency.	High value international asset. Control of technology
Example	Rebate in the form of financing agriculture startup	Foreign-domestic joint ventures in flight simulation	Expansion from simulation to assembly and testing in aerospace and automotive	Regional and global leadership in aerospace and automotive exports.
Value Created	Purely commercial value			Economic, commercial value

They commence at a seed level – an idea but quickly develop value chain participation, move to domestic market making and finally export leadership. The analysis of Donegal reveals several nascent clusters that are evolving, and this concentration must continue along the sector lines outlined in Pillar 1 (and Appendix 3).

The evolution of clusters takes time and that is why this recommendation is to continue with existing developments but to strengthen them into the future is important. The natural evolution is as outlined below.

Figure 22: Cluster Evolution – Donegal is at the early stages in many of the existing clusters.



The roadmap illustrated above demonstrates the need for:

01 Long-term involvement and commitment of participants/members (added value)

02 Financing (Private/Public) – International projects

03 Innovation dynamics and innovation management – Game Changers & Transformation

04 Focusing on expansion of sectors – Think Local, Act Global

05 Regional development – SMEs & Start-ups competitiveness

06 Communication Activities leading to strategic Outcomes and

07 No short-term fixes – Long term goals only

The clusters should be continuously formed around the following sectors:

Sector & International Examples	Description	Rationale	Market
Patient Centric Healthcare Surrey City (Innovation Boulevard) – 400,000 people – SFU Health Innovation Hub (Canterbury – 480,000 people – DHB	Patient centric healthcare is the outcome of new precision medicine approaches to effective and meaningful healthcare provision at reduced costs. It incorporates medical device capability allied to an entire portfolio of patient care that enables a stratified medicine approach to patients.	Donegal has the origins of a patient centre healthcare cluster in the companies already present in the county. This is significantly enhanced by the developments in the Thrive project through Ulster University and Altnagelvin hospital which opens a metropolitan opportunity to connect the Donegal resources and assets with this significant stratified medicine project combining the informatic of Derry and LYIT with meaningful healthcare interventions.	The global healthcare market for patient centric healthcare is growing at 16% CAGR per annum and this growth is expected to continue for the next decade. This capability is attractive to FDI and indigenous companies.
Tourism+ Costa Rica New Zealand Tourism	The Donegal tourist industry needs to develop a Tourist+ product for tourism GDP contribution more in line with Tourism Employment levels. This report proposes a Tourism+ product that combines an experience of creativity and arts / sporting details with a complete weeklong package in the county and that this is marketed alongside Fáilte Ireland under the new county branding.	The tourism market has already signalled substantive changes in nature and volume is not always to be equated with value created or generated. The trends in tourist spend and engagement requires a product that is natural but also high tech which this report terms Tourism+.	The inclination of tourists toward local and authentic travel experiences including the consumption of local food products and creative experiences is growing at 10% CAGR per annum. This includes packages that allows tourists to explore local communities, adventure trips in public transportation instead of taxis, dinners at restaurants that use local primary ingredients instead of exotic and imported products and experimenting with local arts and crafts or sports.

Sector & International Examples	Description	Rationale	Market
Blue Economy Blue Growth (Portugal) Blue Economy (Canada)	The Blue Economy includes all those activities that are marine-based or marine-related. This includes established sectors (i.e., fisheries, marine tourism) but also emerging (Ocean Energy, Biotechnology) which bring new opportunities for investment and hold huge potential for the future development of coastal communities.	The traditional areas of focus in Donegal – Fishing and Port activities and coastal Tourism should be continued. Greater support must be added to Fish Farming in Donegal with a stronger focus from the Department of Agriculture on licensing. Although strongly impacted by Covid these should have a prompt recovery apart from tourism which will lag. On the emerging sector side, the focus should be on bioeconomy research and education and biotechnology areas of marine extracts where Donegal can brand new products and services. The direction of focus on these areas should be to partner with others in this area including Canada and Norway.	The emerging areas of the Blue Economy are expected to grow at 6-8% per annum and can serve as attractive industries of the future. These can create smaller companies with immediate export potential.
Food Coast+ The Austrian Food Pyramid New Zealand Food Innovation Network	The Food Coast Donegal is the initiative from the Local Enterprise Office Donegal to support, celebrate and grow the Donegal food sector. The programme has a certification that demonstrates the taste and naturalness of Donegal Food and projects this image for the national and tourism image. This has been an exciting develop for Donegal particularly with the natural certification process and is very much in line with developments in food around the world. Food can be an important contributor to Donegal with a rugged natural coast and an environment conducive for naturalness. The industry crosses over with the Blue Economy, Tourism, and ICT (traceability) and therefore can be seen as an enabler of the entire economy there.	The Food Coast concept should be developed to a Food Coast + concept which looks at research into key areas of Food and Packaging to augment the position of Food from Donegal considering the trends that are occurring. Packaging should be used as a means of creating export potential but also new experiences in food. The focus should be on (i) Integrated Food and Diet and Health which covers personalised diet management and traceability and (ii) New products with enhanced packaging.	We believe these aspects of the Food Market will be growing by 4% CAGR over the next decade and offers opportunities for smaller businesses to create patterns of growth

Sector & International Examples	Description	Rationale	Market
Creative Sector Scotland Canada	Creativity is the highest form of intelligence, and it is an intelligence not easily replicated by machine. In 15-20 years when almost all other industries will be highly automated the creative industries will be even higher valued. It is possible now to predict a creative renaissance as more people find gainful employment in this broader and in-demand creative space. Creative industries like fashion, music, and writing will become more democratized and diverse with niche options and a greater array of creative individuals. The overlapping of the Creative Sector with the Tourism + sector outlined above should not be underestimated.	The existing Creative Sector plan to be continued with the integration of the creative sector in Donegal with digitalisation must be explored to allow it to reach a greater audience, become more accessible and enable greater value to be created. Inevitably, the Creative sector will be the largest wealth creating sector as costs and capital equalise.	The creative industries sector accounts for 7% of the world's GDP, growing at an annual rate of 8.7%. Most cultural goods are exported by developed nations. The development of the creative industries sector is not only an engine to increase the share of developing countries in world trade but can also directly benefit rural communities by generating income, creating jobs, and empowering artists and people.

Sector & International Examples	Description	Rationale	Market
ICT/Fintech Multiple Countries	The fundamental driver in the industry is skills and this remains the core bottleneck in the industry worldwide. The new technologies mean that skills unique to humans such as creativity, teamwork, empathy, and innovative thinking will become increasingly more valued by employers. ICT is now an enabler of all technologies and will be seen playing a role in Tourism, Creative, Patient Centric Healthcare amongst others. It is not uncommon now to see ICT professionals working in many other organisations none more so than Financial Services where Fintech is fundamentally altering the way an economy works and replacing main street banking with new forms of banking.	Whilst the need for generic ICT skills is essential for all sectors in Donegal, we are advocating a focus on the Fintech Insurance market. The rise of fintech, changing consumer behaviour, and advanced technologies are disrupting the insurance industry. Additionally, Insurtechs and technology startups continue to redefine customer experience through innovations such as risk-free underwriting, on-the-spot purchasing, activation, and claims processing. The key focus will be on: Changing the channel: Partnerships with product makers and distributors and embedding insurance into other products and services may enable customers to select products that best fit their lifestyle. Underwriting by machine: Technology advancements including AI innovations and algorithms will likely individualise risk selection and pricing, and customers can select products based on a wider range of price points. Rise of the flexible product: Time-flexible, event-driven, modular, and adjustable coverage may evolve to accommodate life stage, lifestyle, and wellness changes among consumers. E-Z life insurance: Given the growth and shopping patterns in emerging markets, insurers who introduce flexible term products, and master digital distribution without compromising underwriting are likely to win in the marketplace.	A significant global marketplace is emerging in Fintech Insurance. This market is expected to grow at 36% per annum over the next decades and dovetails nicely with the Tourism and Patient Centric Healthcare sectors.

Sector and International Examples	Description	Rationale	Market
Engineering/ Advanced Manufacturing Multiple countries 	Donegal has a legacy engineering/ manufacturing sector which plays a crucial role in the economy. Generally, manufacturing is a driver of innovation and technological advance, provides employment across a broad range of skills levels, and generates additional indirect jobs throughout the economy. Although there is extensive mythology that manufacturing is dying, this is not the case. However, it is changing in that it is becoming more complex with a very different set of capabilities than before.	The focus area of the sector should be precision engineering and manufacturing which can represent a significant development opportunity for the sector. The world of manufacturing is moving to localised, modular manufacturing with intensive use of machines and ICT. The focus of Donegal should be to shift towards that emphasis which enables smaller companies to participate in the value chain. Significantly, Donegal is close to Northern Ireland which has a strong precision engineering supply chain across several sectors including Aerospace amongst others. The development of ProfitNet is seen as a critical enabler in this positioning.	The growth of the precision engineering market is expected to be 10% over the next five years.

Table 3: Pillar Three Activities – Building distinct and competitive business clusters in distinct sectoral areas.

Activity	Purpose	Goal	Measurement
Capacity Building – 10-year horizons	The purpose of this plan is to plot and increase the capacity and capability of each cluster in a defined cluster plan. The plan (like the one that exists for the engineering cluster) should demonstrate a growth pattern similar to the roadmap in Figure 17.	One roadmap plan per cluster to be updated annually.	Annual plan to be updated with measurements of success determined.
Value Chain Initiatives	A key component of cluster development is to engage SMEs and entrepreneurs to enter the value chains within their sector. A natural starting point for this is Donegal and the Metropolitan area but also extending to the remainder of Ireland, UK, and Europe. Clusters should be plotting how this can be achieved and outlining organisation capacity building (see above) to support these aims.	Value Chain initiatives should target a growth of 10 Donegal's SMEs per sector into value chains per annum.	Number of SMEs engaged in value chains per cluster.
Diaspora Engagement	There is a need to invoke the diaspora in the support of cluster development in Donegal. Many have left the county and pursued successful careers in other locations but should be invited to engage in cluster development in Donegal.	Engagement of diaspora in cluster development in at least 3 clusters.	Number of diaspora engaged with the cluster development in Donegal.

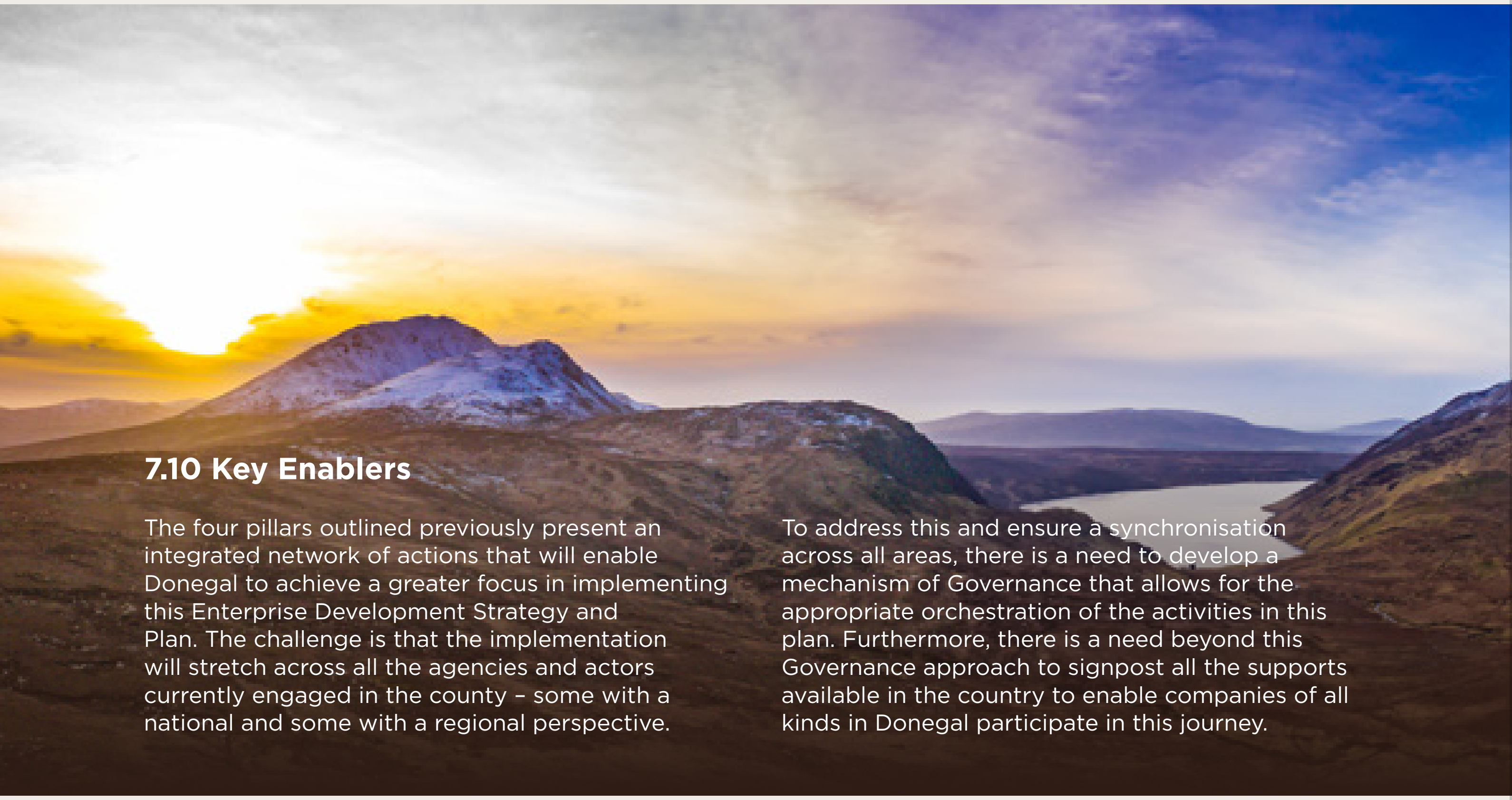
7.9 Pillar 4

Creating the jobs and developing the workforce

The analysis of the Donegal labour market has indicated a real need for new capacity and capability within the workforce. Historically, Donegal has been a net exporter of talent and this trend must be reversed to enable growth and further enterprise development. The importance of skillsets existing and being developed in the workforce are essential alongside the need to attract new skills into the county.

Table 4: Pillar Four Activities – Creating the jobs and developing the workforce

Activity	Purpose	Goal	Measurement
Retention Strategies	Rather than lose people to outside the county it is important to develop people for roles within the county. A "Sure Start" programme would ensure that if people underwent a certain programme of training, they would be immediately able to avail of at least 12 months employment based on commitment from employers.	Develop a Sure Start programme that links Training and Development to a guaranteed employment start.	Measure the project intake and numbers involved.
Attraction of resources	In the Covid period, we are aware that individuals are seeking new ways of life, possibly returning home. Donegal needs to promote opportunities beyond the concept of remote working, which is not. enough The Donegal place brand can be used for specific campaigns in this regard.	It is recognised that Donegal needs to actively use the new brand to attract people to come and live in the county. A marketing campaign for this should be established and measured.	Measure the number of people from outside Donegal now residing in Donegal.
Skills Development	It is apparent that skills drive all sectors in enterprise development, and it is also apparent that these are not always technical skills but rather combinational skills that combine technical and commercial capabilities.	Develop a concept of Further Education training that can be applied directly to addressing multidisciplinary skillsets.	Number of jobs created, and training interventions provided.
Immigration	Target broader EU countries for specific skills sets required in Donegal to develop the innovation economy there.	Identify specific skills sets and target countries for those skill sets.	No. of immigrants attracted.
New Business Start-Ups	Run international competitions offering support to international start-up companies in the selected sectors to come and establish in Donegal.	Develop a robust triage system to test applicants and engage the best.	3 per annum.



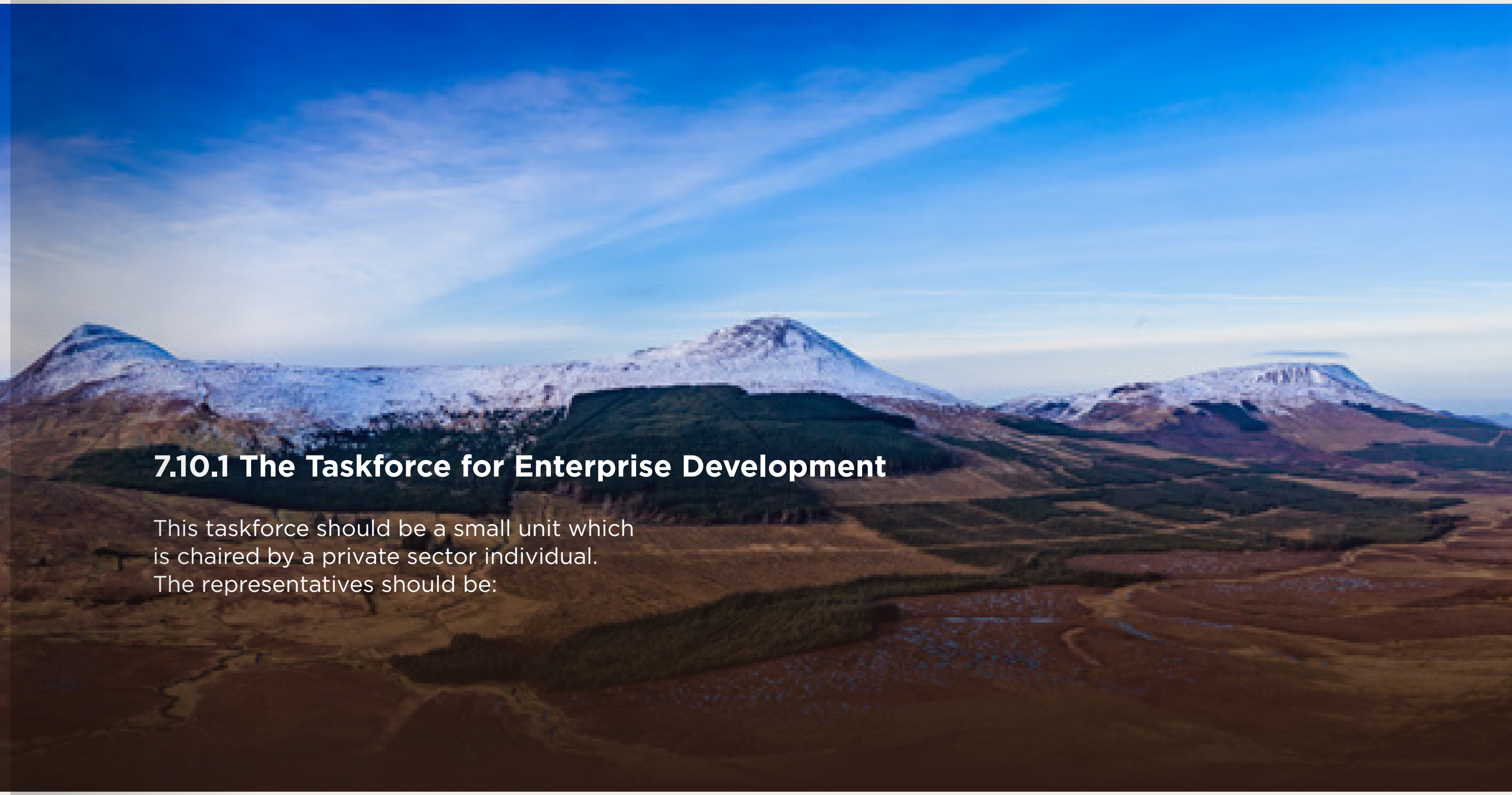
7.10 Key Enablers

The four pillars outlined previously present an integrated network of actions that will enable Donegal to achieve a greater focus in implementing this Enterprise Development Strategy and Plan. The challenge is that the implementation will stretch across all the agencies and actors currently engaged in the county – some with a national and some with a regional perspective.

To address this and ensure a synchronisation across all areas, there is a need to develop a mechanism of Governance that allows for the appropriate orchestration of the activities in this plan. Furthermore, there is a need beyond this Governance approach to signpost all the supports available in the country to enable companies of all kinds in Donegal participate in this journey.

Table 5: Actions to enable the four pillars operate

Activity	Purpose	Goal	Measurement
Taskforce for Enterprise Development	There is a core Governance issue to be addressed in Donegal. Currently there are many agencies engaged and many cross-cutting agendas. Inadvertently, there can be silos created between various bodies even though innovations and development may sit at their intersections as opposed to mainstream. The focus here is to create a commission to steer the implementation of this plan and to measure the outputs achieved. It is proposed to have a Commission chaired by a private sector individual in Donegal with a secretariat from the Local Enterprise Office. This commission would cover all the agencies engaged in Donegal and ensure that the plans agreed are being implemented, measured and co-ordinated appropriately. The Commission would meet quarterly and report quarterly.	Commencement of a commission of Enterprise Development that sets objectives and targets for each participant with a view to achieving substantive growth in the county.	Taskforce to meet 4 times every year to review progress and publish an annual report.
Government Services Concierge	There are many schemes within the Irish enterprise landscape that present real, and substantive supports to Irish businesses – large and small. Sometimes, the landscape can be confusing to small businesses, and they are not availing of all the supports they can attain. The purpose here is to provide a Donegal centric one stop shops to signpost companies to relevant supports – this may include supports in the Metropolitan area or elsewhere. Many supports do not have a direct client engagement and it is important that these are made clear to companies.	Signposting to Irish and European supports for businesses in the distinct sectors in Donegal	No. of SMEs in Donegal signposted into new or international funding.



7.10.1 The Taskforce for Enterprise Development

This taskforce should be a small unit which is chaired by a private sector individual. The representatives should be:

Role	Who	Tasks	Time Commitment
Chairperson	Private sector individual with international experience and rooted in Donegal County.	Chair taskforce to agenda, facilitate the establishment of objectives and reporting. Invitation of various groups to present to the Taskforce on specific activities within the Strategic Pillars.	3 days / month
Secretariat	Local Enterprise Office	Agenda settings, minute taking, co-ordination of task lists, action lists and follow up	15 days / month
Representative	State Bodies	IDA, EI, BIM, Fáilte Ireland, Bord Bia, Teagasc, LYIT, ETB and DCC.	2 days / month
Representative	Private sector leads from key sectors in Donegal as outlined in plan	Representing key sectors at the Taskforce and engaging with industry in the sector afterwards with the secretariat support.	5 days / month

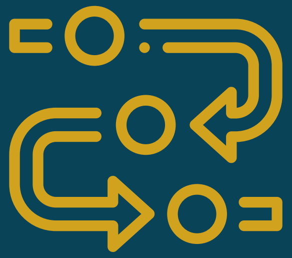
Each pillar of the Strategic Plan will have a specific team assigned to it. Each team will consist of 5 individuals of which 3 will come from the private sector, 1 from the support sector and 1 from either LYIT or Donegal ETB.

The team will use the same secretariat and be responsible for driving the specific actions and measurements under each pillar as specified in this report. This approach to Governance has been seen to work in location such as Surrey City, British Columbia, Canada, and various regional initiatives in New Zealand. The mechanism is also used in the UK through the Local Enterprise Partnerships and in other regional economies in Europe.

7.11 Measuring Success

Each of the actions for the pillars has a distinct measurement associated with it. The overarching component of measuring the success of this enterprise development plan also requires two perspectives. The goal of increasing the Attractiveness of Donegal requires reporting to demonstrate the impact of the programmes and will reflect a transition from a recession- driven emphasis on job creation via business attraction and retention to a focus on wealth generation and asset building, especially among communities that have not enjoyed the benefits of economic recovery.

The core areas for measurement will be:



Business dynamics

Business dynamics indicators go beyond job creation or investment to measure business churn, innovation, productivity, and global activity. Business dynamics indicator categories address:

- Business formation, growth, and survival
- GVA per sector growth
- Level of attractiveness of the county based on FDI inflows and outflows, job creation etc.
- Level of attractiveness in tertms of RDI
- Sector, demographic, or geographic characteristics

Job quality and worker prosperity

Economic development leaders seek indicators that recognise that all jobs are not equally beneficial to the economy and that many areas need better jobs, not more jobs. Job quality indicators tend to be:

- Wage related
- Benefits based
- Focused on skills development and career pathways
- Demographically or geographically targeted

Each individual pillar has a workplan with proposed measurements for each aspect and we would advocate that these are measured every 6 monthly (not yearly). However, there should also be top level measurements which we are proposing for the taskforce, and these are to be measured on a quarterly basis.

Figure 23 Outcomes and KPIs

KPI	Measurement	Frequency	Significance
New Business Created	New Business Licenses	Quarterly	Demonstrates level of new activity
Sector Growth	Revenue	Quarterly	Show development in each sector
	Jobs	Quarterly	
	GVA	Quarterly	
	R&D	Annually	
Flagship Project Progress	No. of companies engaged (MNC, SME, Micro)	Annually	Show leadership position developing.
	Spend per annum	Annually	
Development Curve	Number of companies who export per sector	Annually	GVA development
	% Of GDP on R&D per sector	Annually	
	% Of companies developing new products / services per sector	Annually	

Conclusion

8 Conclusion

This Enterprise Development Strategy and Plan document outlines the Donegal County commitment to transform Donegal and the Metropolitan area into a nexus for commerce as well as a nationally recognised centre for innovation in distinct areas. The entire document is centred on the need for a collaborative effort involving the entire business community and an investment commitment from both the public and private sector.

This Strategy and Plan will require significant leadership and civic commitment but the rewards of pursuing this challenge are significant. Over the next decade, the Strategy is proposing investments into programmes and research and development that will create:

01

A national leadership position for Donegal in key identified sectors where it can enable Ireland to take an international leadership position.

02

New technical, business, and technology job opportunities for Donegal residents.

03

Business opportunities especially in the key priority investment areas.

04

Offer partnership opportunities for local businesses to expand their operations locally and internationally.

05

Distinct and competitive local business clusters in all of Donegal's business communities.

All of this requires a governance structure that enables relevant levels of consultation and orchestration between all the actors engaged in the county. The strategy and associated plan see a new type of network emergent in Donegal that shows the changes in the relationships between universities, governments, and businesses. The new network also includes a fourth institutionalised actor being added to the system, namely the public, citizen groups, users, or students, which participate as partners rather than just addressees of this strategy and plan.

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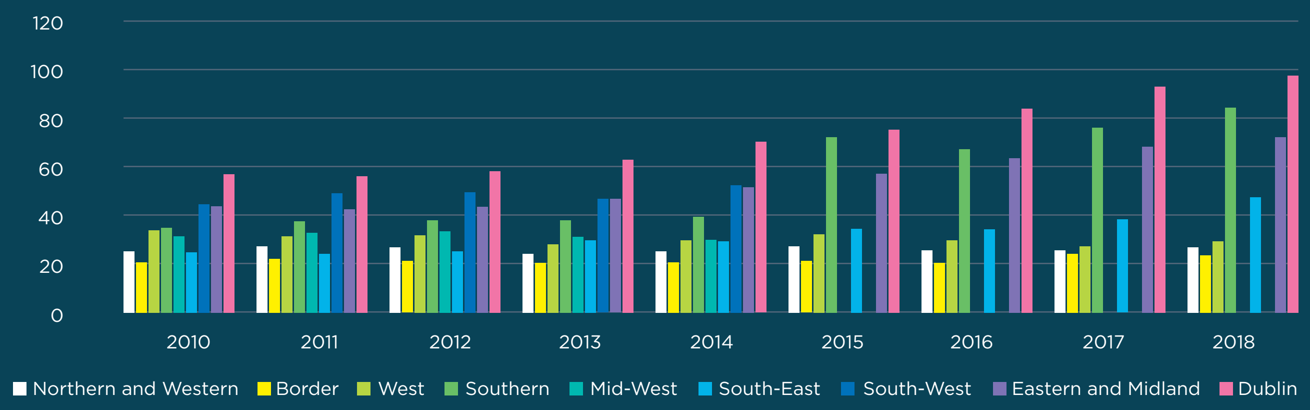
Appendix 01: Economic Analysis

Most of the measurements show that Donegal has stayed static whilst the rest of the country has moved on to some degree or another.

Figure 24: GDP per person[22] (CSO)

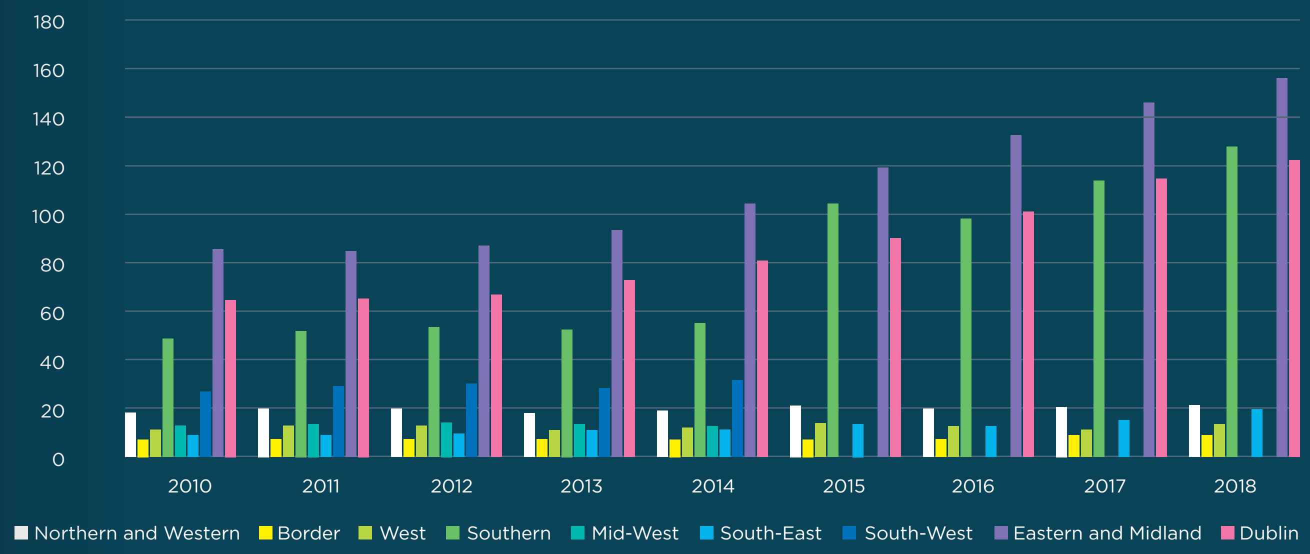
Year	Northern & Western	Border	West	Southern	Mid-West	South-East	South-West	Eastern & Midland	Dublin
2010	24,715	20,327	28,634	34,462	30,596	24,013	43,619	43,051	56,292
2011	26,583	21,630	30,942	36,840	31,861	23,866	48,332	41,822	55,479
2012	26,349	20,801	31,232	37,630	32,745	24,495	49,154	42,920	57,308
2013	23,887	19,884	27,411	36,993	31,056	29,354	45,875	45,967	62,298
2014	24,823	19,863	29,188	38,716	29,345	28,559	51,566	50,819	69,289
2015	26,521	20,738	31,611	71,383	*	33,751	*	56,589	74,532
2016	25,045	20,110	29388	66,463	*	33,844	*	62,794	83,314
2017	25,304	23,450	26,935	75,606	*	37,909	*	67,824	92,552
2018	26,301	23,205	29,026	83,970	*	46,694	*	71,256	97,107



And the situation is somewhat disimproved by GVA measurements demonstrating that value creation has remained static and not in line with GDP growth.

Figure 25: GVA per region[23] (CSO)

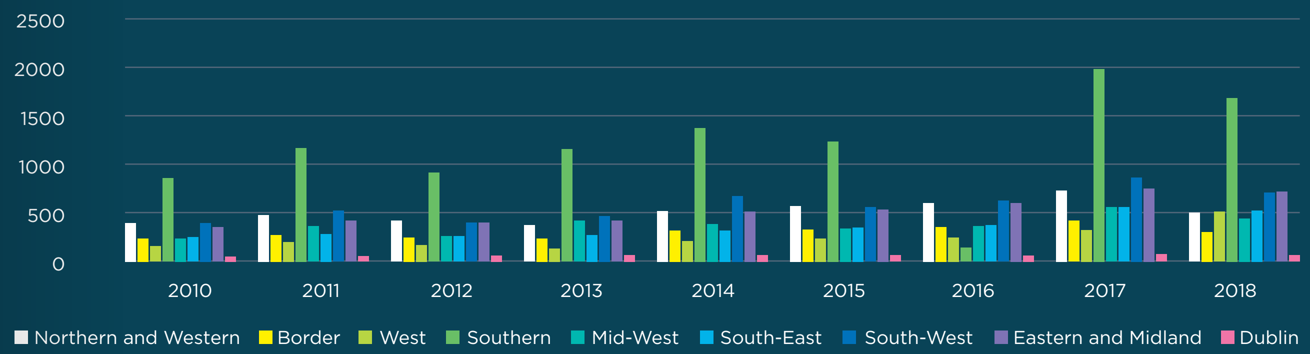
Year	Northern & Western	Border	West	Southern	Mid-West	South-East	South-West	Eastern & Midland	Dublin
2010	18648	7236	11412	48161	13117	8836	26208	85667	64600
2011	20266	7720	12546	51700	13569	8890	29242	84128	64323
2012	20170	7454	12716	53027	14003	9162	29862	86693	66697
2013	18335	7145	11190	52269	13316	110009	27944	93096	72698
2014	19152	7174	11977	54989	12648	10767	31575	103461	81275
2015	21070	7713	13357	104396	*	13102	*	118627	90024
2016	20067	7543	12524	98033	*	13250	*	132760	101492
2017	20601	8938	11663	113313	*	15081	*	145704	114561
2018	21783	8997	12786	128026	*	18897	*	155724	122279



This flatlining is also reflected in the distinct sectors in the county due to trend information.

Figure 26: GVA – Agriculture and Fisheries (CSO)

Year	Northern & Western	Border	West	Southern	Mid-West	South-East	South-West	Eastern & Midland	Dublin
2010	388	235	153	865	228	242	395	345	52
2011	474	272	202	1171	336	283	522	424	53
2012	419	246	174	917	258	263	397	396	57
2013	372	234	138	1154	419	269	465	420	55
2014	527	313	214	1383	348	325	674	517	56
2015	567	331	236	1246	340	254	552	541	57
2016	599	347	253	1360	364	374	622	598	57
2017	742	423	319	1989	557	561	871	751	70
2018	498	297	201	1695	448	534	712	714	67



[22] Please note that regional data only is available from the CSO and this has been used here. The proxy of this data covers Louth, Monaghan, Cavan and Donegal. However, when cross referenced with the Northern and Western data it is clear that the overlapping county is Donegal and limited progress has been made in the past decade.

[23] ibid

Figure 27 GVA – Manufacturing, Building and Construction

Year	Northern & Western	Border	West	Southern	Mid-West	South-East	South-West	Eastern & Midland	Dublin
2010	5600	1712	3888	18648	4243	1815	12590	14820	9063
2011	7315	2244	5071	22300	4939	2069	15293	12563	8045
2012	7162	2196	4966	22877	5316	2270	15291	12827	8318
2013	6912	2222	4690	20727	4437	3634	12656	16064	10805
2014	6959	1907	5052	21396	3411	2560	15425	20008	13931
2015	8365	2051	6314	67416	*	3659	*	25090	14314
2016	6959	1894	5065	59732	*	4480	*	33379	20859
2017	6067	2638	3459	70957	*	5885	*	32361	22805
2018	6929	2636	4293	77511	*	8051	*	35980	23244

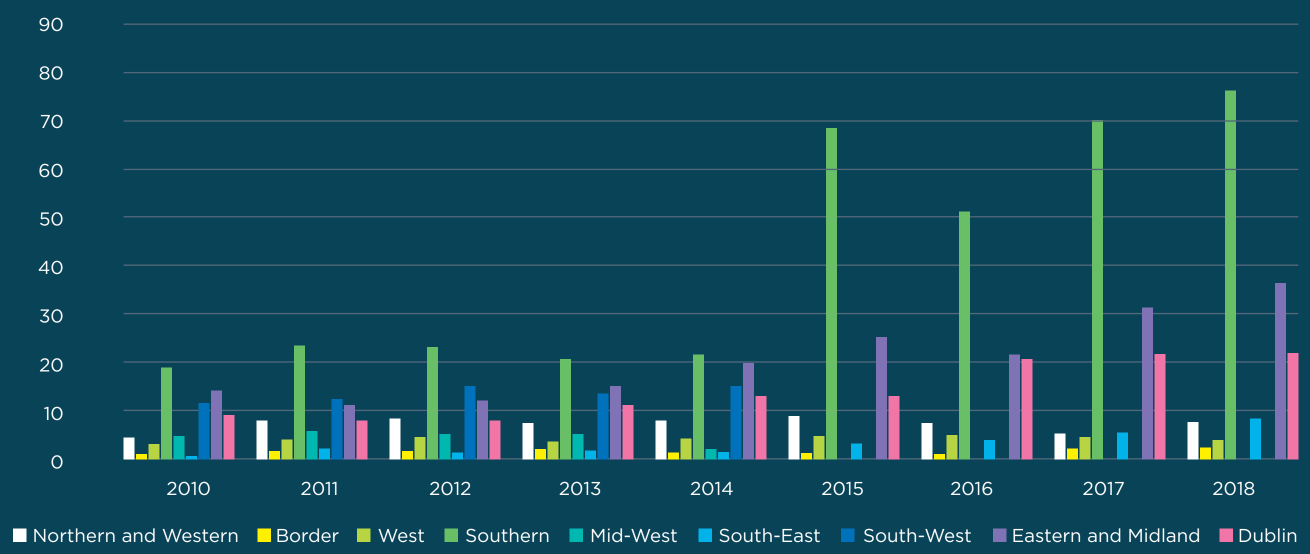
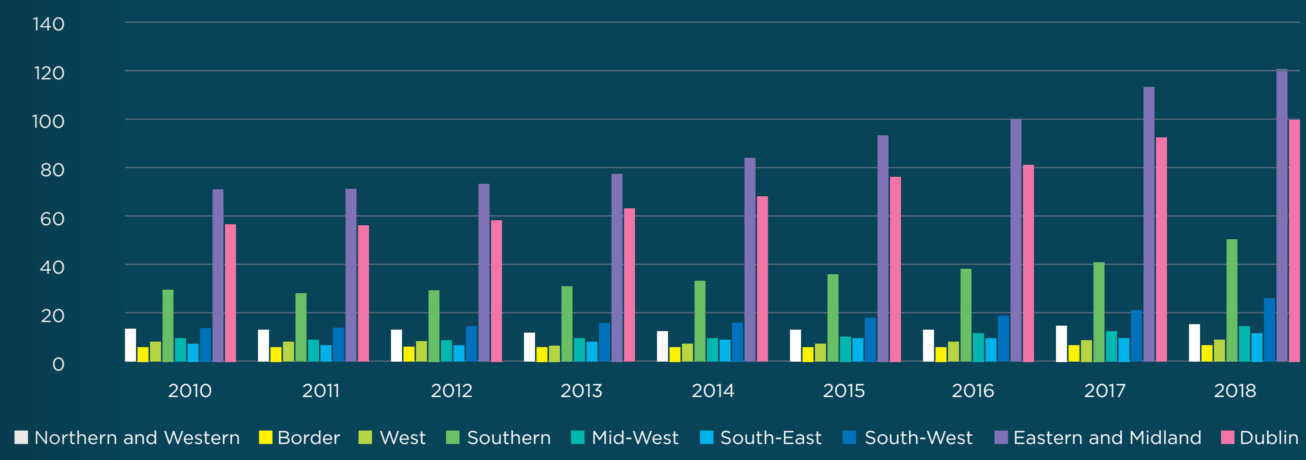


Figure 28: GVA – Market Services

Year	Northern & Western	Border	West	Southern	Mid-West	South-East	South-West	Eastern & Midland	Dublin
2010	12,667	5,292	7,375	28,667	8,652	6,782	13,233	70,538	55,511
2011	12,330	5,148	7,182	27,855	8,166	6,474	13,251	70,533	55,760
2012	12,387	4,938	7,449	28,701	8,289	6,537	13,875	72,600	57,653
2013	11,132	4,720	6,412	30,619	8,518	7,154	14,947	77,023	62,160
2014	11,806	5,007	6,799	32,612	8,945	7,960	15,707	83,692	67,833
2015	12,159	5,339	6,820	35,842	9,620	9,102	17,119	93,118	75,745
2016	12,594	5,334	7,260	37,355	10,629	8,452	18,274	99,346	81,005
2017	13,782	5,885	7,897	40,475	11,635	8,648	20,192	112,732	91,797
2018	14,517	6,130	8,387	49,761	13,842	10,451	25,468	120,174	99,866

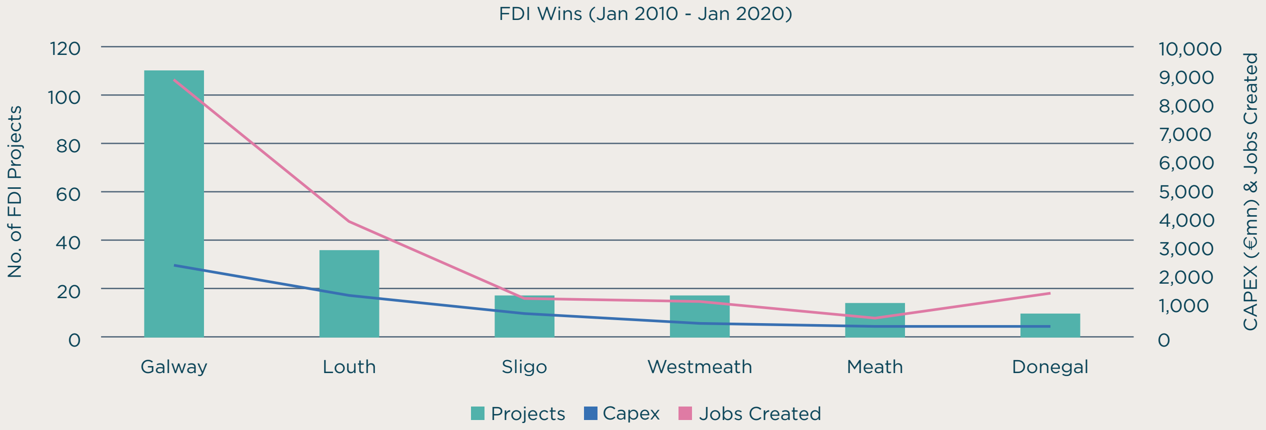


And the attractiveness of the county must be transformed into new projects. This static performance demonstrates a negative GVA impact.

The performance of existing FDI projects on job creation is noted but the dearth of new projects points to the same degree of static performance.

Figure 29: FDI Comparison Into Donegal

Overview of FDI into Comparator Counties



County	Projects (%)	CAPEX (%)	Jobs (%)
Galway	54.41	42.37	50.73
Louth	17.65	23.25	22.77
Sligo	8.33	12.42	7.37
Westmeath	8.33	10.01	7.00
Meath	6.68	6.40	3.64
Donegal	**4.41**	5.54	**8.48**

- Between January 2010 and January 2020, a total of 204 FDI projects were recorded entering the six selected counties. These projects represent a total capital investment of over €6,000mn and led to the creation of over 17,500 jobs.
- While Donegal saw only 4.41% of projects, it received 8.48% of job creation.

Leading Motives for FDI: Percentage of number of projects **Total Project 100% = 75**

69.3%	25.3%	21.3%	13.3%	10.6%	9.3%	9.3%
Skilled Workforce Availability	Regulatory Enviornment	Government Support	Domestic Market Growth	Technology & Innovation	Quality of Life	Language Skills

Investment motives were recorded for 75 of the 201 FDI projects.

Skilled workforce availability was given as a key motive by 69.3% of these, showing that high skilled projects can be attracted of Dublin.

Ireland's regulatory environment and government support is positively recognised by investing firms.

"Donegal is a great location for KeyedIn due to the proximity of the Department of Computing at the Letterkenny Institute of Technology and the availability of top talent in the area." said Chief Technology Officer Eugene Blaine

The significant of skills above all else demonstrates the challenges being confronted by Donegal in this regard.

Figure 30: The breakdown of projects reflects a relatively poor showing from Donegal[24]

Destination City	County	Projects (%)	CAPEX (€mn)	Jobs (%)
Galway	Galway	97	2,374.3	7,910
Dundalk	Louth	24	1,166.9	3,032
Athlone	Westmeath	15	602.8	1,195
Sligo	Sligo	15	741.5	1,273
Drogheda	Louth	11	248.8	923
Letterkenny	**Donegal**	**6**	**162.2**	**692**
Navan	Meath	4	63.1	206
Loughrea	Galway	3	10.0	76
Ashbourne	Meath	2	2.9	12
Dunboyne	Meath	2	21.4	95
Gort	Galway	2	17.3	60
Mullingar	Westmeath	2	6.4	36
Oranmore	Galway	2	84.3	365
Tuam	Galway	2	34.4	150
Ardee	Louth	1	6.5	48
Ballinasloe	Galway	1	6.3	100
Donegal	**Donegal**	**1**	**136.8**	**200**
Finiskilin	Sligo	1	10.4	11
Gweedore	Donegal	1	10.0	125
Kells	Meath	1	10.9	20
Slane	Meath	1	44.8	82
Stamullen	Meath	1	33.5	50
Not Specified	Not Specified	9	297.6	916
Total		**204**	**6,086.1**	**17,577**

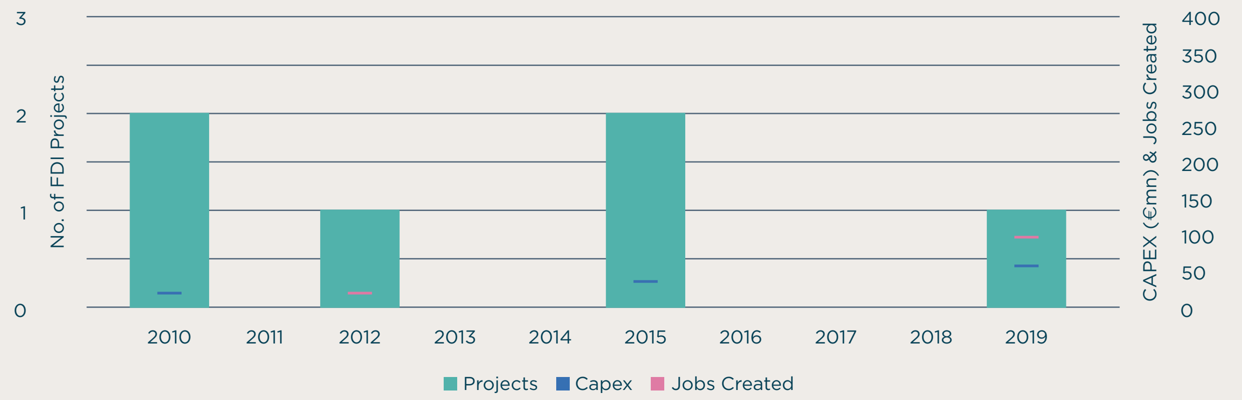
Destination City	County	Projects (%)	CAPEX (€mn)	Jobs (%)
Dublin	Dublin	1,047	26,769.5	78,700
Cork	Cork	151	3,566.2	10,982
Limerick	Limerick	70	1,733.2	5,483
Waterford	Waterford	38	1,029.5	2,497
Total		**1,306**	**33,098.3**	**97,662**

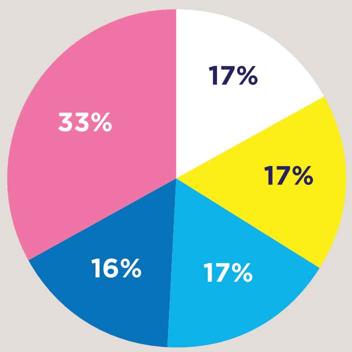
- Within each destination county, the majority of FDI over the last decade has landed in its major town/city.
- Letterkenny, as Donegal's main urban centre, is the county's representative but has underperformed against key competitors.
- Although significant FDI projects can be seen outside of these hubs (e.g. Abbot Labs' 2017 expansion of it's manufacturing CoE outside of Donegal Town).
- Nationally, Dublin City remains the major destination for FDI, with other Irish cities having to create key areas of specialism or USPs in order to compete

[24] FDI Markets

Figure 31: ComparativePerspective[24]

Letterkenny, although the main destination for FDI into Donegal, has struggled to gain significant results over the last decade.

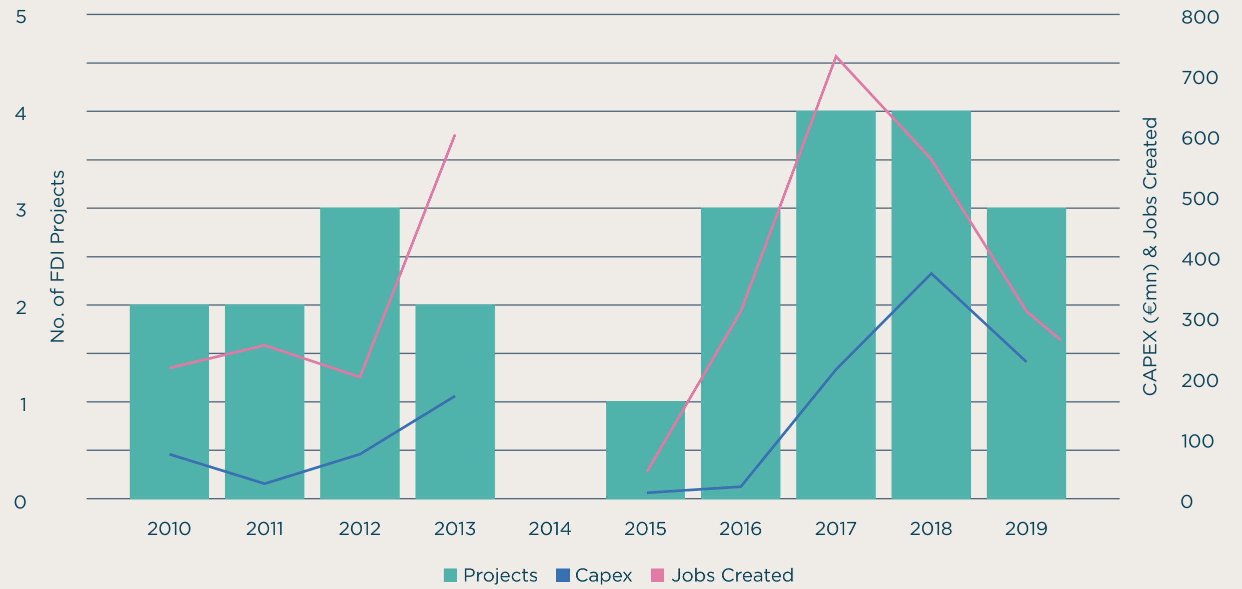


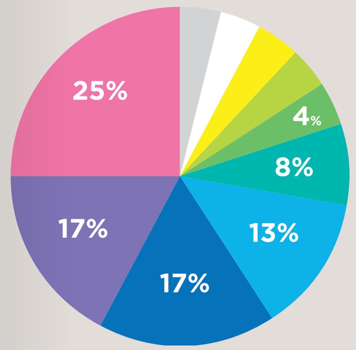


With so few FDI projects landed over the last decade it is difficult to identify genuine sectors of strength for future attraction activities. However, software & IT services, combined with Financial Services have accounts for 50% to date which points to key sectors of interest and importantly resilient sectors.

Renewable Energy, Plastics, Financial Services, Communications, Sofware & IT Services

General FDI success rate has improved in recent years with multiple wins between 2016-19 in Pharma and business services.

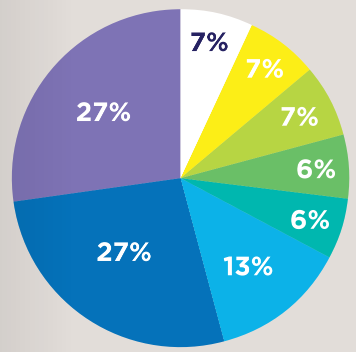




Dundalk has a number of sectors of strengths, including business services, consumer products, pharma and software & IT services.

Industrial Equipment, Leisure & Equipment, Food & Beverages, Communications, Biotechnology, Plastics, Sofware & IT Services, Pharmaceuticals, Consumer Products, Business Services

Sporadic and cyclical – 2018 saw a peak of 6 new FDI projects but 2016-17 saw zero new projects recorded.



Sligo's recent FDI attraction has been based primarily on life sciences (pharma and biotech), software & IT financial services.

Industrial Equipment, Electronic Components, Communications, Business Services, Biotechnology, Financial Services, Sofware & IT Services, Pharmaceuticals

[24] FDI Markets

Figure 32: Donegal - Scale of Micro Enterprises

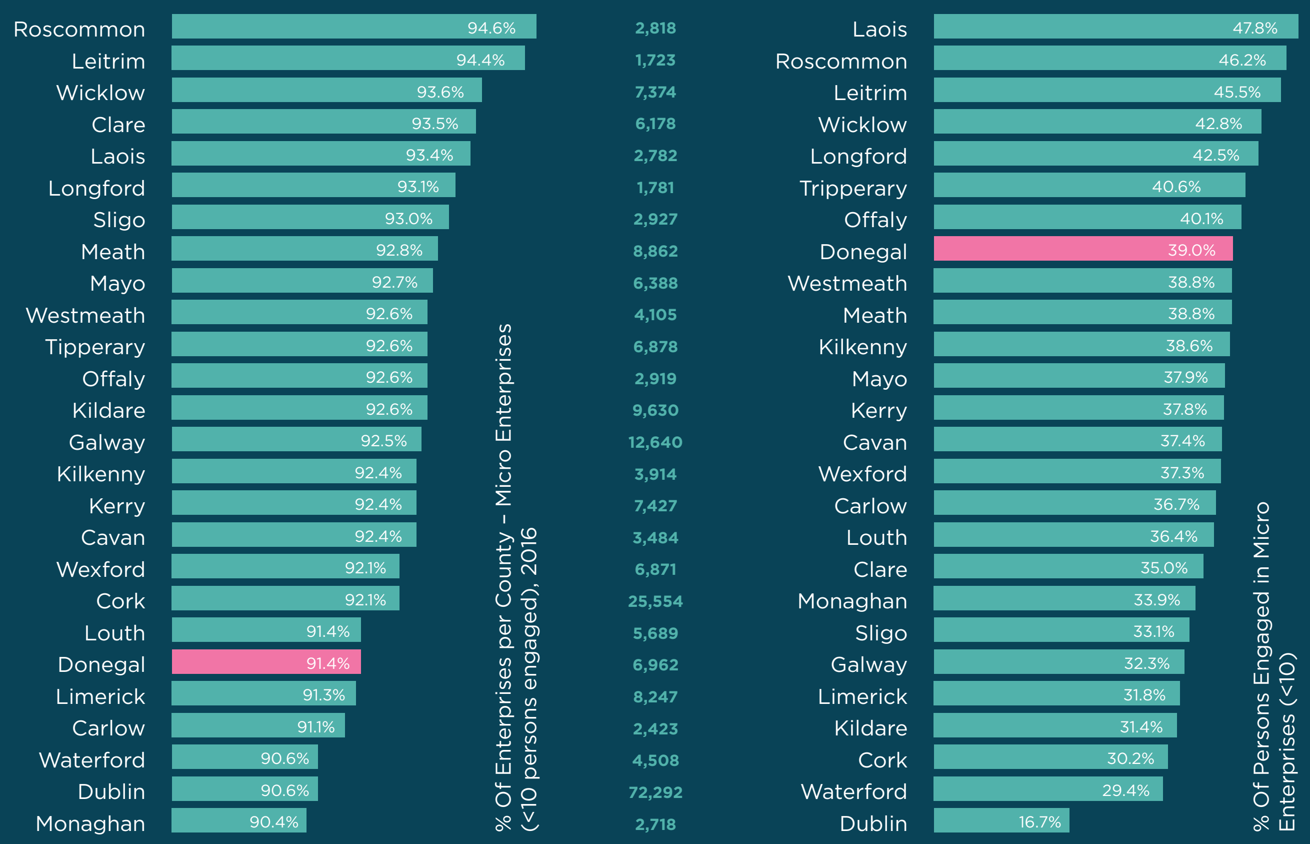


Figure 33 Scale of Small Enterprises in Donegal

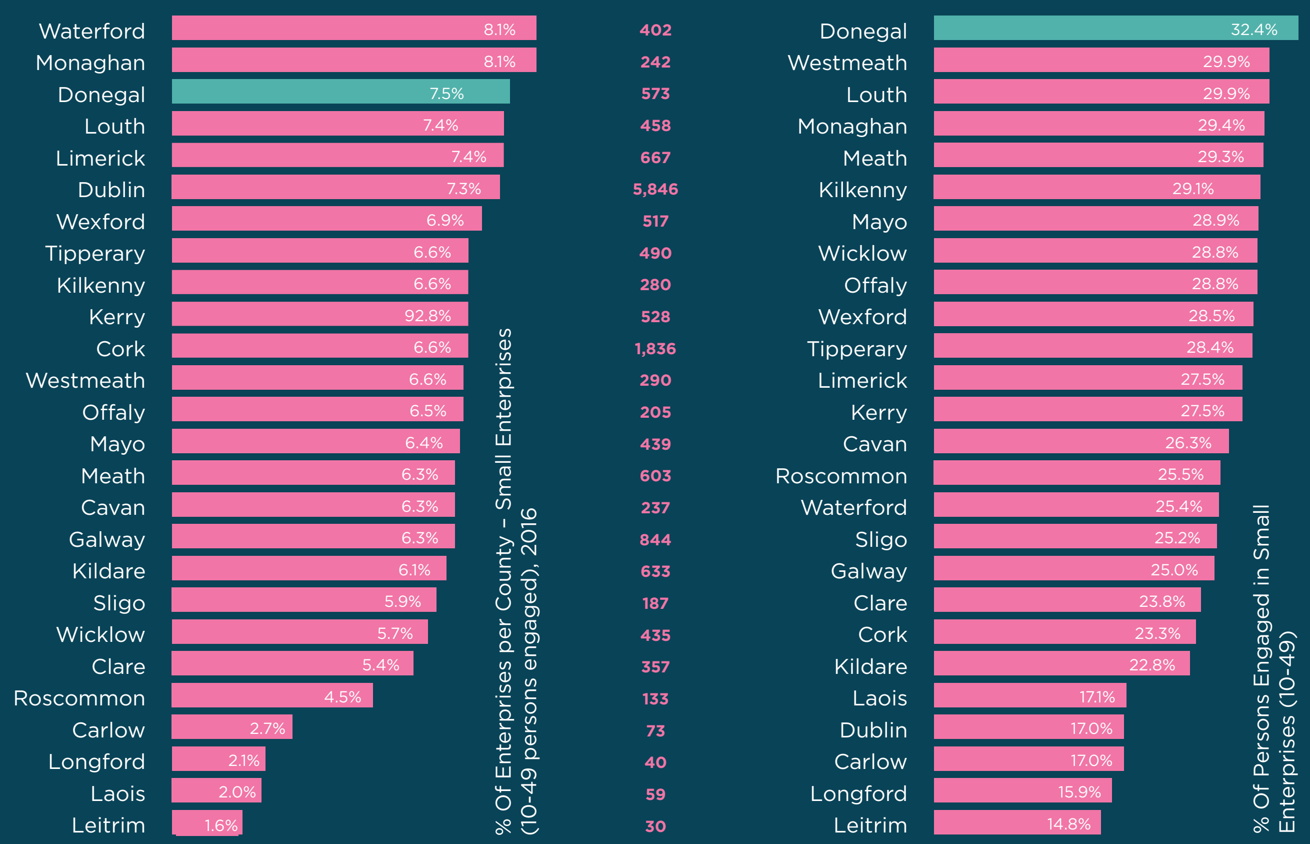


Figure 34 Scale of Medium Enterprises in Donegal

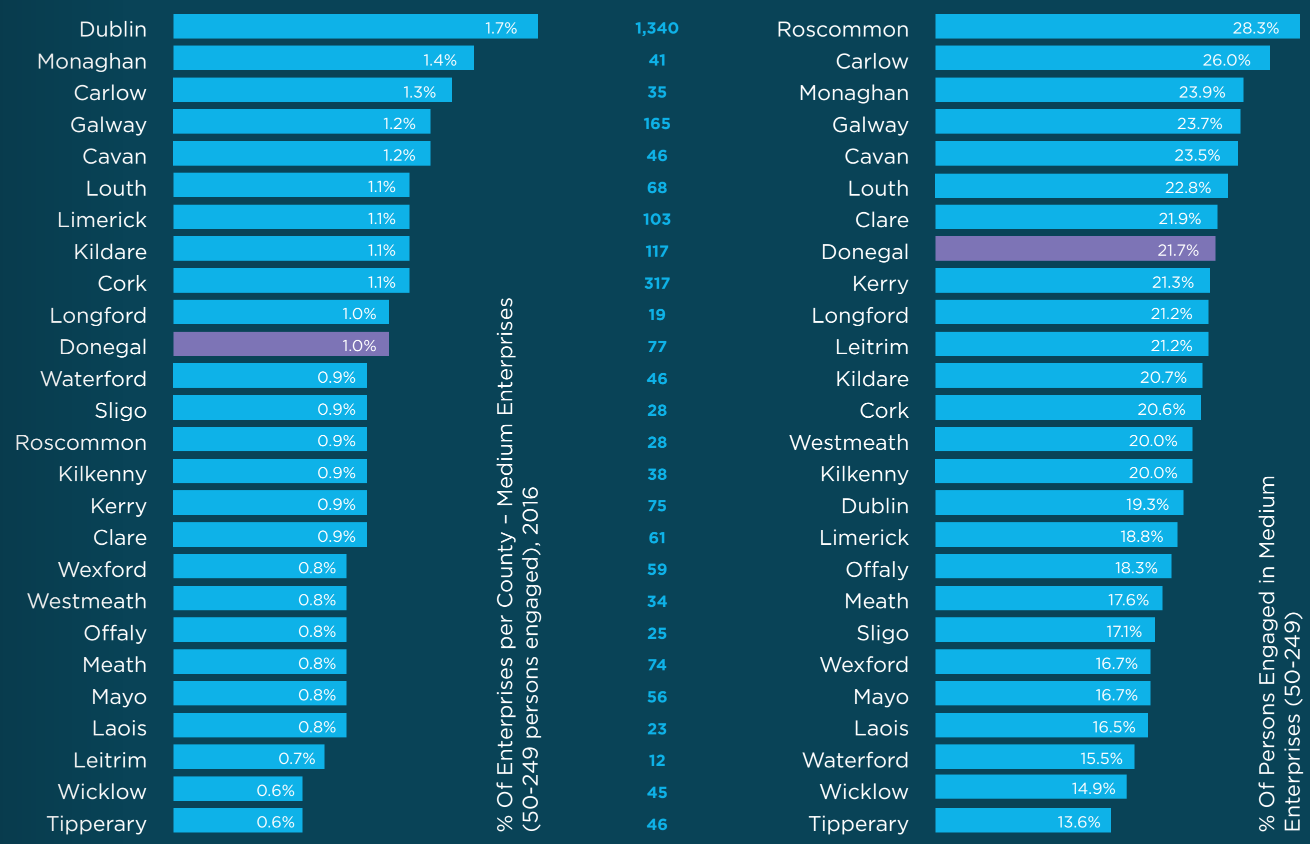
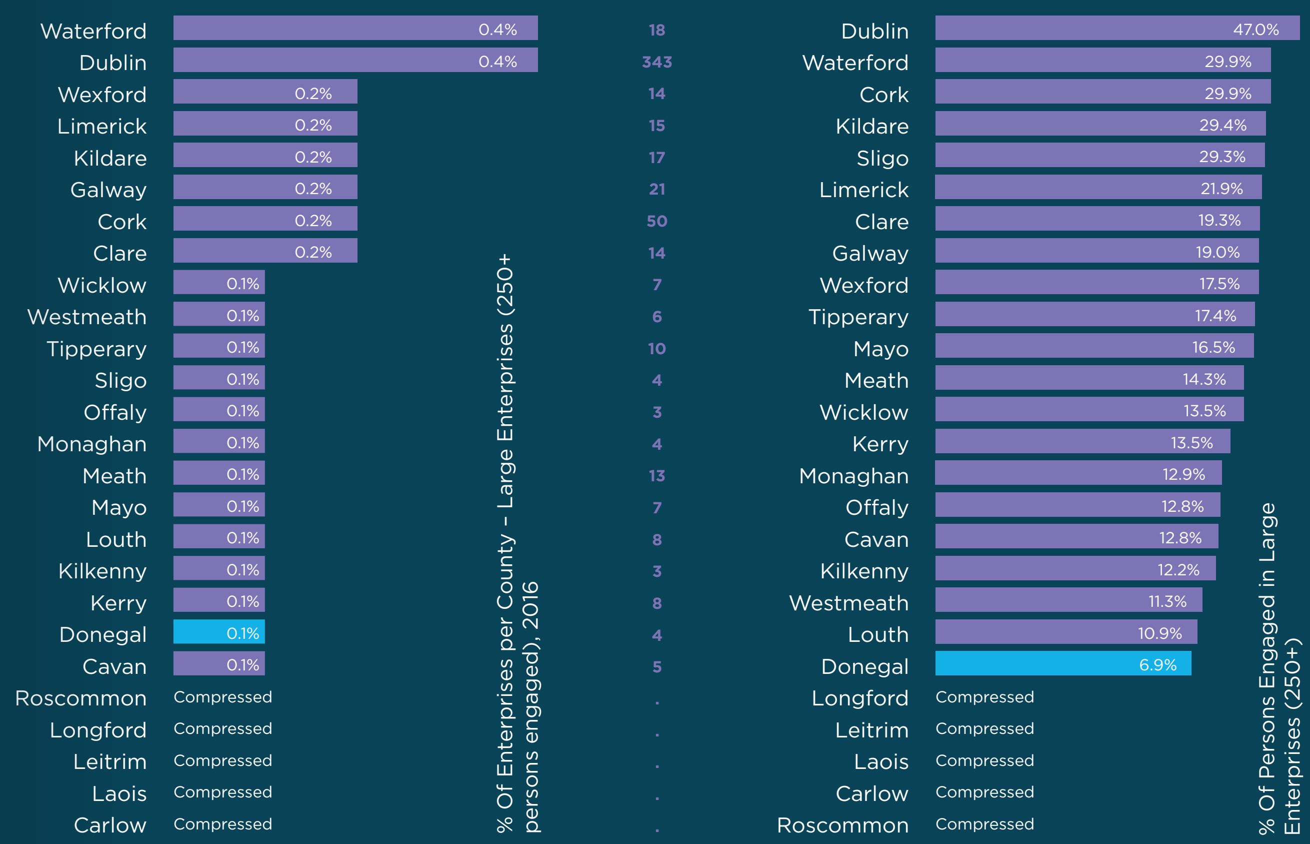
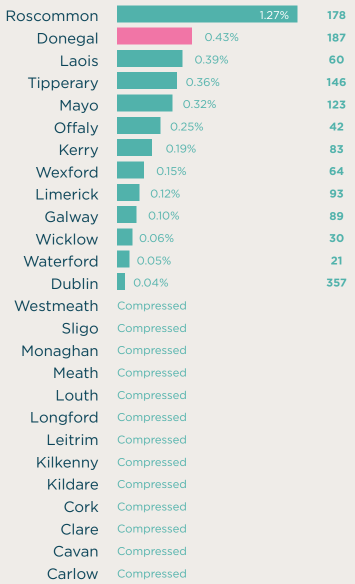


Figure 35 Scale of Large Enterprises in Donegal

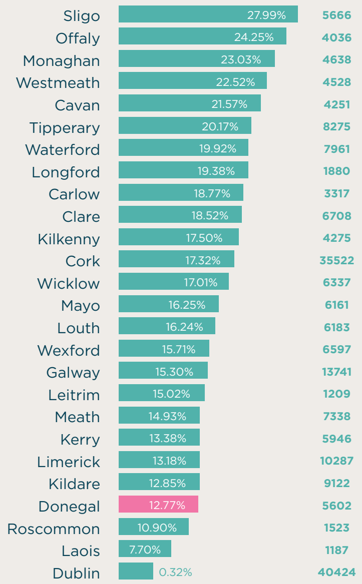


Donegal Employment Profile

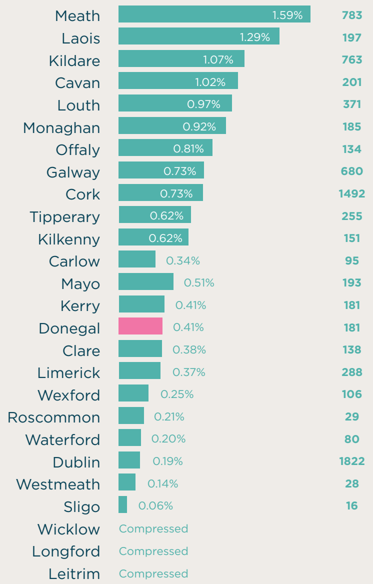
Figure 36: Employment Profile – Manufacturing and Water



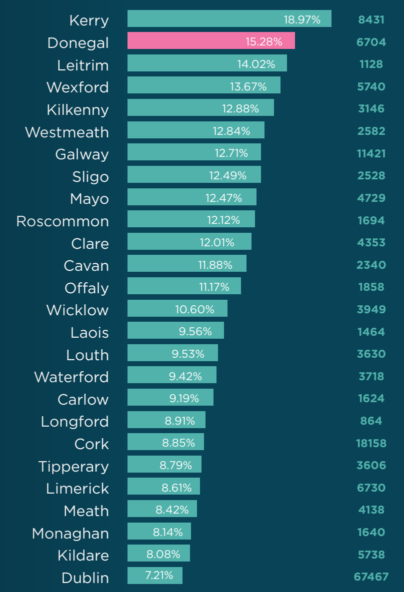
% of Persons Engaged in Mining and Quarrying by County – 2016



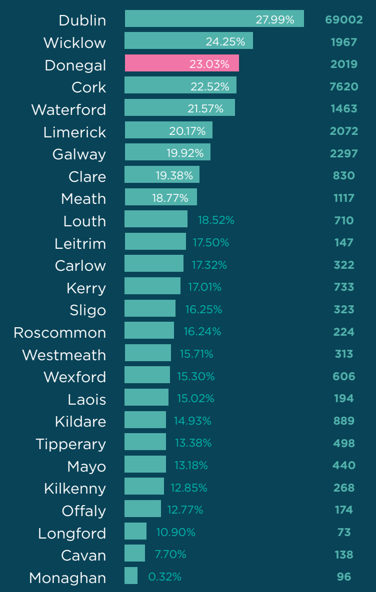
% of Persons Engaged in Manufacturing by County – 2016



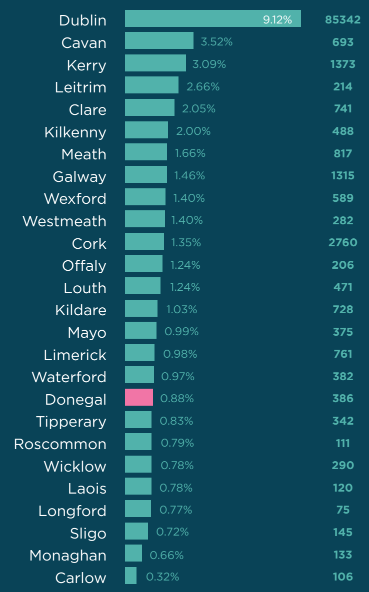
% of Persons Engaged in Water Supply, Sewerage, Waste Management and Remediation Activities by County - 2016



% of Persons Engaged in Accommodation and Food Services by County – 2016

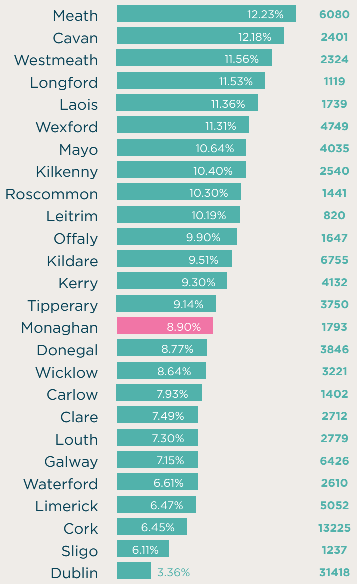


% of Persons Engaged in Information and Communications by County – 2016

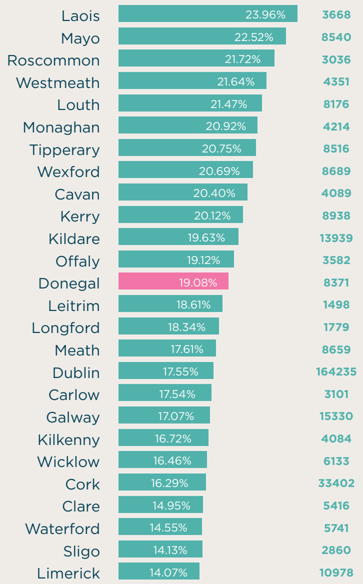


% of Persons Engaged in Financial Insurance activities excluding activities of building companies by County – 2016

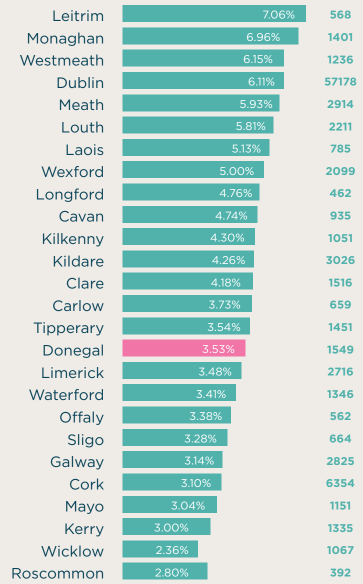
Figure 37: Employment Profile – Construction and Transportation



% of Persons Engaged in Construction by County – 2016

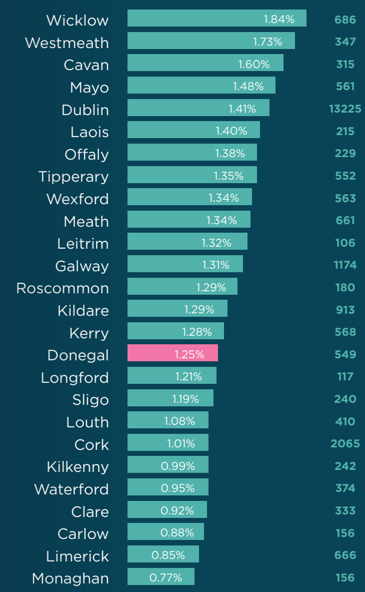


% of Persons Engaged in Wholesale & Retail, Repair of Automobiles by County – 2016

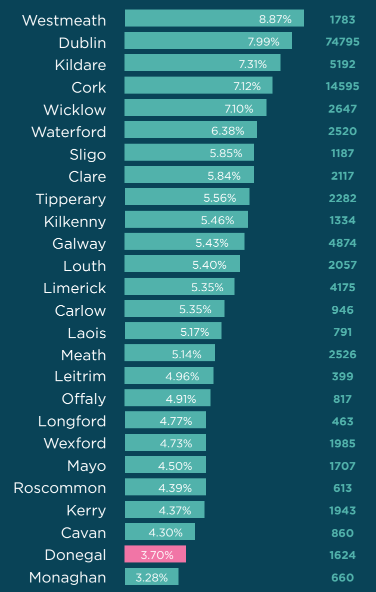


% of Persons Engaged in Transportation by County - 2016

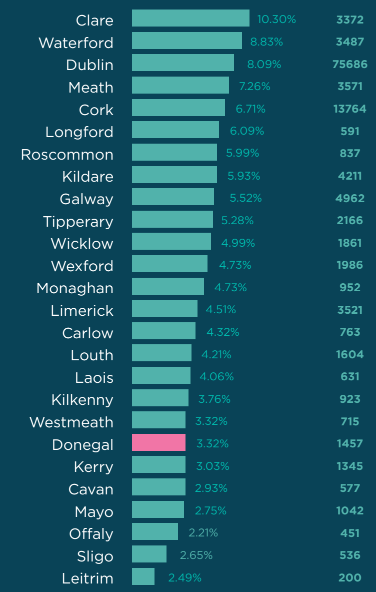
Figure 39: Critical Services



% of Persons Engaged in Real Estate Activities by County – 2016

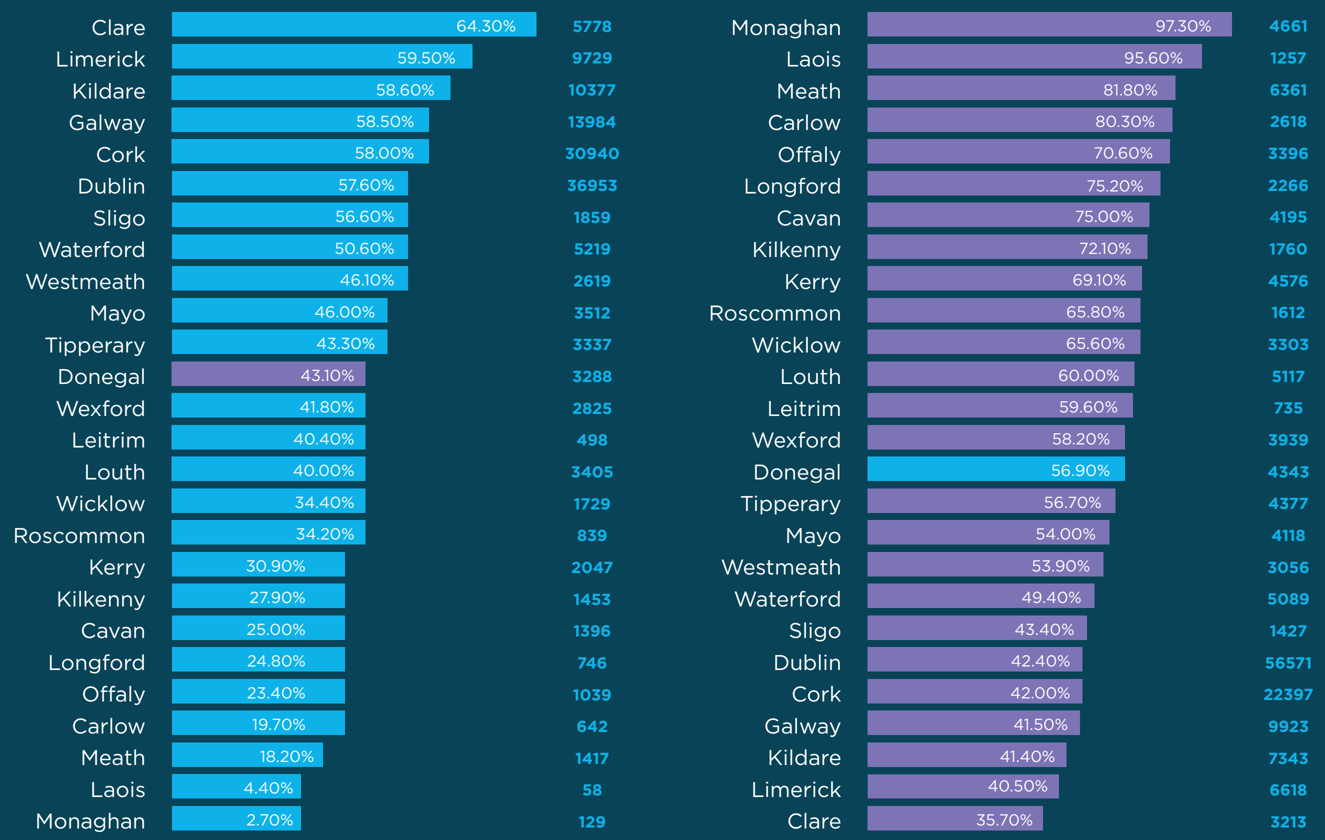


% of Persons Engaged in Professional, Scientific and Technical Activities by County – 2016



% of Persons Engaged in Admin and Support Service Activities by County – 2016

Figure 40 FDI versus Indigenous Employment



State Assisted Employment - Dept of Business, Enterprise and Innovation, Employment Survey - Permanent and Full Time Jobs (Foreign Owned Companies 2016)

State Assisted Employment - Dept of Business, Enterprise and Innovation, Employment Survey - Indigenous Permanent and Full Time Jobs (Irish Owned Companies 2016)

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Appendix 02: Cluster Development

10 Appendix 2: Cluster Development

In this enterprise development plan, the concept of cluster is used several times, as it has been also with stakeholders. It is important to understand what a cluster is and what it is not. Clusters are geographic concentrations of interconnected companies and institutions in a particular field. They encompass an array of linked industries and other entities important to competition. They include, for example, suppliers of specialised inputs such as components, machinery, and services, and providers of specialised infrastructure. Clusters also often extend downstream to channels and customers and laterally to manufacturers of complementary products and to companies in industries related by skills, technologies, or common inputs.

Finally, many clusters include governmental and other institutions—such as universities, standards-setting agencies, think tanks, vocational training providers, and trade associations—that provide specialized training, education, information, research, and technical support.

Clusters are not the same throughout the world. They vary based on their historical legacy, the geography in which they are based and the demographics of that geography. Irrespective of the type of cluster that exists, they all follow a particular lifecycle, which supports a concept of initiation based on some degree of historical legacy, be that Foreign Direct Investment or a specific strategic decision. However, clusters do follow a specific lifecycle once they are initiated and the most critical step in the lifecycle in rejuvenation.

The characteristics of a cluster tend to be:

01 Industry driven, academia inspired, and government supported.

02 Championed by dedicated leaders.

03 Focused on creating a sustainable robust ecosystem and not just job gains.

04 Centered around one significant project in the ecosystem.

05 Possessing of physical infrastructure and resources even if they are dispersed.

Clusters do not emerge over night and take years to develop and following a general pattern of behaviour although this patter can be transitioned at different speeds26. The key success criteria are normally:

01 Focused on the local expansion of companies within a global sector.

02 Innovation management is structured within the cluster and driven by the academia institution who is responsible for the innovation culture.

03 Long term commitments, involvement and horizons of the membership ensuring longevity.

04 Regional in perspective it involves local SMEs and Start-Ups whilst looking to global challenges.

05 Research and Development is focused on systemic challenges.

Clusters matter because of what they do to members of the cluster. Depending on the source of impact, clusters are seen around the world to be responsible for improving competitiveness and capability, increase average wages, producing more client facing firms and businesses, faster growing companies, and more start-ups. These factors tend to be a multiplier impact in clusters. Business associations are part of a cluster, but they do not make one.

The impact of clusters is because being a member means more access to finance, infrastructure, higher levels of innovation and insight into technology, more customers and improved human capital in the cluster. It does also mean there is high levels of competitiveness and employee attraction but these support and challenge conditions work.

Despite the multiple origins of clusters, they all share some specific requirements:

- The need for a Government to provide a flexible and responsive framework so that the cluster can thrive and grow in whatever direction it needs based on market economics. This framework includes an education system that is flexible enough to respond to the changing needs of the cluster, a regulatory framework that supports the cluster and a taxation/incentive-based schemes that endorse innovation and entrepreneurship.
- The need for extensive Research and Development institutions (Universities and professional research units) capabilities within the environment which link intensely with industry and the framework to be established that allows for this collaboration in an open and transparent manner.
- The need for financing, both public and private, that can be leveraged in a collaborative manner through an entire lifecycle of a company i.e., formation, growth, etc.
- The need to be able to attract relevant technical resources that can fulfill the capacity and capability needs of the cluster. Where necessary, these capacities and capabilities may need to be imported from outside of the geography.
- The need to develop a culture within the cluster that promotes and encourages risk taking, entrepreneurship and new firm creation.
- The need for a local demand market that can provide initial references through procurement, critical initial revenue for innovative companies and learning opportunities. Where this market is not natural, a Government should seek to emulate this role.
- The need for an infrastructure that leverages the operation of the cluster without providing it with additional obstacles. The infrastructure expression applies to roads, telecommunications, housing, and schools.

Clusters develop and evolve over time and become more pronounced as they develop human capital. Buildings and infrastructure are an important part but by themselves they do not suffice. Clusters are primarily driven by intellectual capability aligned to commercial strength.

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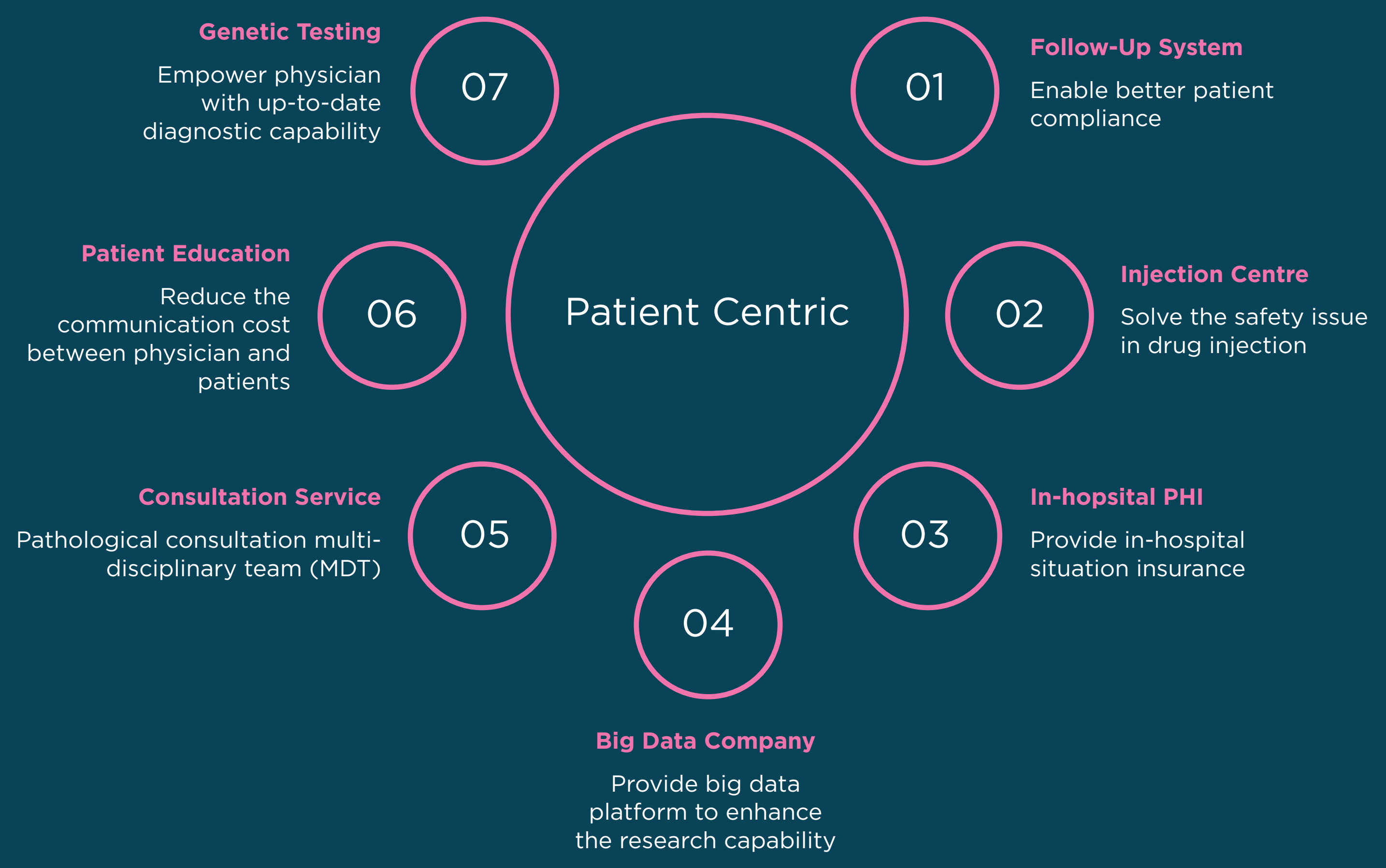
Appendix 03: Developing Key Sectors for Donegal

11.1 Development Sector 1: Patient Centric Healthcare

Patient centric healthcare is the outcome of new precision medicine approaches to effective and meaningful healthcare provision at reduced costs. It incorporates medical device capability allied to an entire portfolio of patient care that enables a stratified medicine approach to patients.

Figure 41: Patient Centric Healthcare



The health care industry is witnessing a paradigm shift from clinical-centric to patient-centric care. Patient-centric approach plays a pivotal role in a patient's well-being by providing optimal and quality health care. Due to the trend of digitization and advancements in technology there is inclination towards patient-centric care. Patient-centric health care apps help in providing information and delivering services to patients regarding their health, thereby improving patient's health. It offers access to health information and easy connectivity between patients and doctors. The entire industry is underpinned by interconnected ICT and engineering capability and is estimated at USD 144 billion with a CAGR growth of 16.1% per annum.

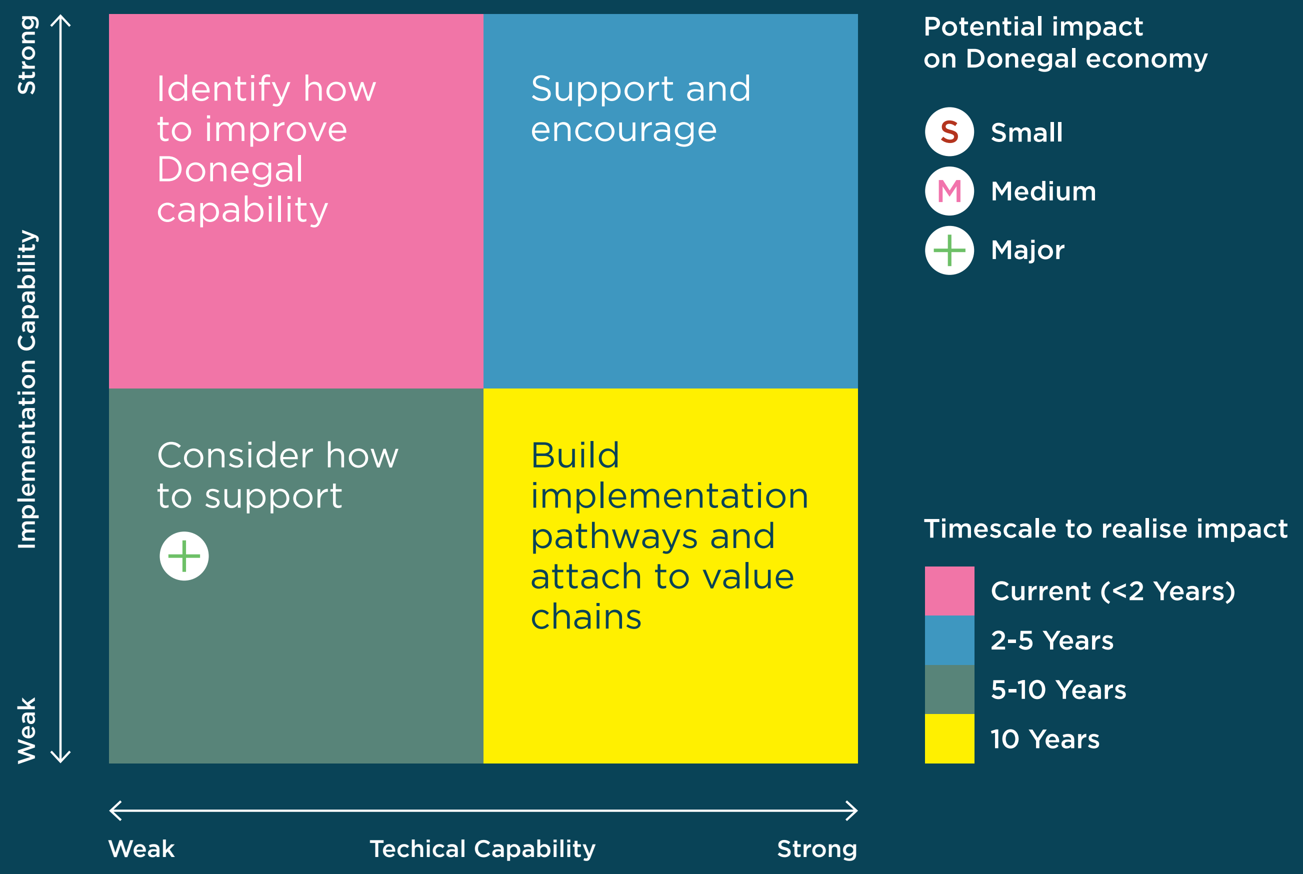
The market has a significant size worldwide and Europe is no exception to this. The intensity of developments of the market will be increased by the Covid-19 experience and future healthcare demands. Currently, it offers up a broad number of opportunities for national and international leadership particularly in the cross-fertilisation area of the ICT sector and services.

Donegal possesses real capability and potential in this area having the foundation businesses within the country as outlined below:

Table 6: Some leading companies and institutions that can contribute the development of this opportunity

Randox	Abbott	Medisize	Donegal Clinical & Research Academy
Randox Teoranta is a world leading blood-science diagnostics R&D, engineering and manufacturing company located at Dungloe, Co. Donegal. Focused on preventative healthcare and the early and accurate diagnosis of disease, Randox research, develop and manufacture a wide range of laboratory capabilities, which are exported to 145 countries worldwide. Part of the global Randox Group, Randox Teoranta is a highly innovative life-sciences and engineering R&D and manufacturing centre which plays a key role in improving clinical decision making worldwide, thereby saving lives. Randox is committed to Co. Donegal and plan to expand staffing levels in Dungloe to 540 by 2020. www.randox.com	The Abbott Diabetes Care (ADC) site was established in 2006 in Co. Donegal. The facility spans 7,500m2 on a 27-acre site outside Donegal Town. The Site currently manufactures and distributes the worldwide supply of Abbot FreeStyle blood glucose test strips and employs a highly skilled workforce of approx 250 people. The site has been recognised nationally and internationally as one of the "Great Places to Work" ADC actively contributes to the local community with employees volunteering and supporting locally based charities and schools. ADC has achieved zero-waste-to-landfill status and is ranked in the top three EHS Abbott sites worldwide.	Phillips-Medisize Corporation Headquarters is in Wisconsin, USA and employ over 3,400 people in 14 locations throughout the US, Mexico, China, and Europe including 250 staff at its Letterkenny facility, which was established in 1981. Phillips-Medisize is a global-leader in outsource design, development, and technology-driven manufacturing of a wide range of products for Anaesthesia, Critical Care, Neonatology, Emergency, Homecare and Radiology. The company has annual sales of over $600 million with 80% of the total revenue coming from drug delivery, medical device and diagnostic products including insulin pens, glucose meters, specialty inhalation drug delivery devices, single-use surgical devices and consumable diagnostic. www.phillips-medisize.com	In 2010, Letterkenny General Hospital's Department of education became a constituent part of the NUI, Galway Medical School. Owning to the success of the department, the Hospital is now in the process of developing a state-of-the art clinical research and educational facility adjoining Letterkenny General Hospital. The Donegal Clinical and Research Academy will be the lead site in Donegal for medical education at undergraduate and postgraduate level and will accommodate a growing number of post medical trainees, nurses, midwives, therapists, medical scientists, and fulltime medical students. This will also enable the Academy to develop and extend its award-winning medical education courses and increase its international educational liaison. The Academy currently runs educational courses in both Spain and Portugal. Donegal Clinical and Research Academy provides a focal point for sharing knowledge enhancing the education of students and ultimately providing the people of our county region and country with greater access to healthcare professionals. www.dcra.ie

Figure 42: Donegal Patient Centric Healthcare positioning



How our evaluations work

In reviewing the sectors in Donegal, we used an evaluation technique that matches Technical Capability against Implementation capability. Capability involves a degree of subjective judgement; however, it is not about presenting a grading structure. It simply seeks to present a snapshot of existing capability in the country.

In this evaluation, we subjectively measured all sectors according to two specific parameters:

1 Technical Capability

2 Implementation Capability

All capability is mapped according to these categories and from there a matrix of capability is determined per sector. This matrix is represented in figure 46. The capability scoring (discussed below) allows for the positioning of capability in one of the quadrants above. This informs of the strength of the technical capability and as to whether it should be exploited further or needs to be strategically considered in terms of new support, supplementary support etc. The implement capability informs us of the strength of exploitation and whether this needs to be further supported by scientific support or considered strategically in terms of investment etc. clearly, the ideal situation is for all capability to exist in the upper right-hand quadrant, and this is the case is developed economies where they are interesting synergies between the scientific capability being developed and the exploitation pathways. However, the reality in most economies is that there is a mixture of capabilities and all need to be constantly considered for investment or further support. The squares in the diagram are used to position the specific capability identified and these tell another aspect based on their size. Their size relates to the economic impact of the capability (it could be possible to have deep technical capability with high implementation capability but with no real economic impact as the market is weak). Additionally, the colouring of the square informs of the timescale to realise the economic impact of that capability. For example, developing functional food capability has real economic impacts but only in a five-to-10-year horizon, whereas improvements in packaging or processing can be realised in two years.

We measure technical capability on a scale of 1 to 5 as follows:

5: World Class Technical Capability – only one of 5 – 10 companies or institutions with this capability

4: Amongst the best companies / institutions in Europe.

3: One of a few companies / institutions in Ireland or Europe with this capability.

2: One of several companies / institutions in Ireland with this capability.

1: No advanced technical capability.

We measure implementation capability on a scale of 1 to 5 as follows:

5: World class competing with global markets with global competitors and elements of supply chain in Donegal

4: Major company using the technology with capability in Donegal.

3: Donegal company using the technology with components in Donegal.

2: Donegal company using the technology but no supply chain in Donegal.

1: No implementation pathway by itself.

Our evaluations are based on our own experience in this report and at some point, should be monitored and further developed by Donegal on an ongoing basis.

Our evaluation suggests that there is a significant potential in this sector in Donegal once the technical capability is deepened through new project engagements. On this basis, the advent of the Thrive project through Ulster University and Altnagelvin hospital opens a metropolitan opportunity to connect the Donegal resources and assets with this significant stratified medicine project combining the informatics capability of the Magee campus and LYIT with meaningful healthcare interventions.

Figure 43 : Transformation Healthcare Research Innovation Value Based Ecosystem (Health Research Institute)

Innovation Research Centers for Sustainability
Create a Blood Cancer Research and Innovation Centre
Dr Kyle Matchett (Academic Lead),

Create a Centre for Neuromuscular Health
Dr Stephanie Duguez (Academic Lead), Dr Collette Donaghy (Clinical Lead), Dr Bill Duffy (Informatics Lead)

Centre Orthopaedic and Rheumatic Health
Dr Gibson (Academic Lead), Dr Philip Gardner (Clinical Lead), Dr John Wong (Surgical Lead)

Centre for Personalised Medicine & Multimorbidity (NIMRAD) - Expansion
Professor Tony Bjourson (Academic Lead), Prof Aaron Peace (Clinical Lead)

Create a Cardiovascular Research and Improvement Science Centre
Professor Aaron Peace (Clinical Lead), Dr Victoria McGilligan (Academic Lead)

Create a Centre for Brain Health
Dr Elaine Murray/Dr Paula McClean (Academic Lead)

Supported by:

Personalised Medicine Data Analytics Unit
Drs Watterson, Shukla, Duddy, Zhang-Collaborative with CARL

Health Improvement Product Development Centre
All NICSM Staff & Collaborative with CIDRA

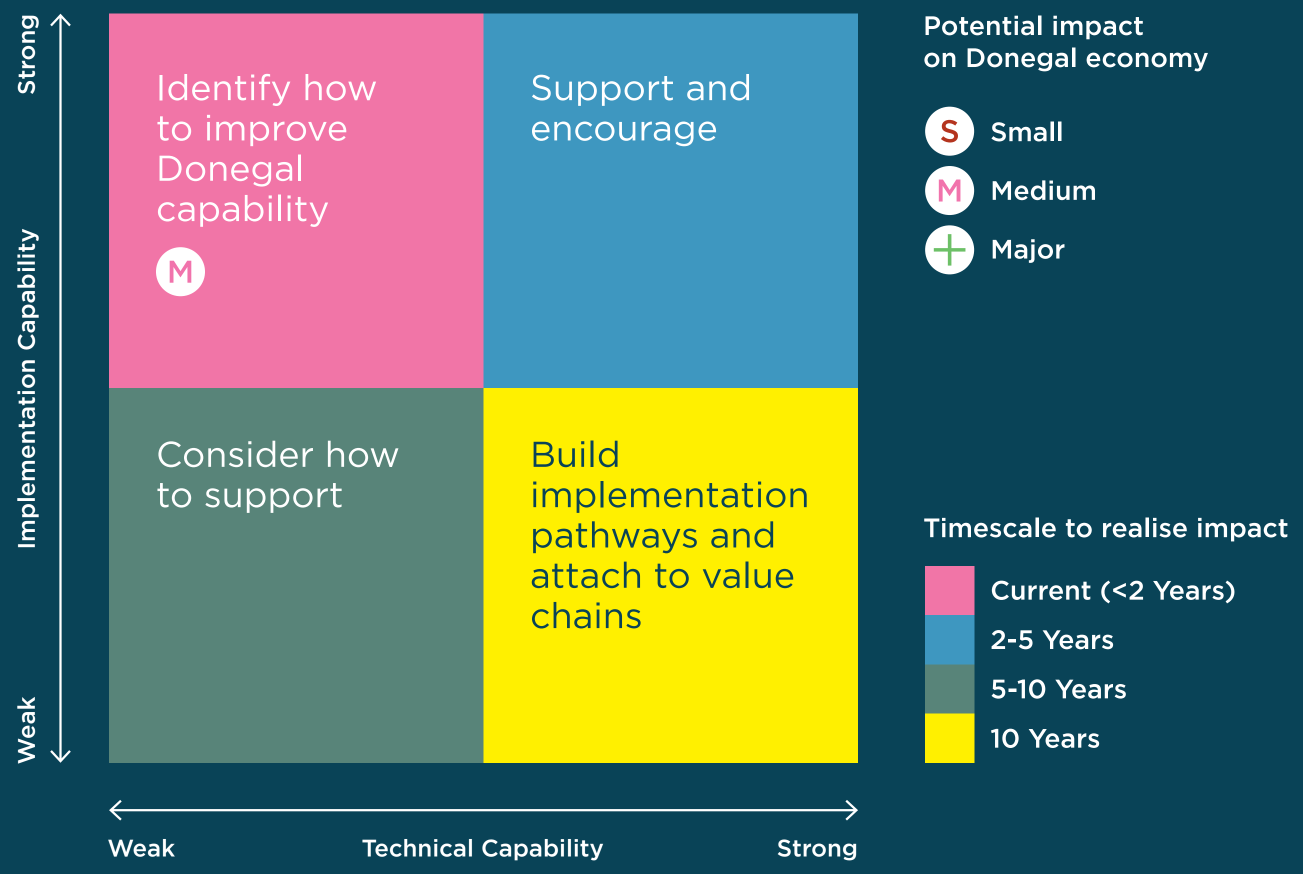
The concept of Thrive and its connectedness to the entire Healthcare infrastructure underpins the necessity of Donegal engagement combining both FDI and indigenous companies to the value chain to be developed there and using this as a means of attracting investment into the county.

Figure 44: Thrive offers a generational opportunity for all facets of Donegal business to be involved.

11.2 Development Sector 2: Tourism +

Donegal has done well to benefit from the Wild Atlantic Way Tourism initiative from Fáilte Ireland and subsequent developments in connecting the WAW to the Causeway initiative will yield even more benefits. Tourism[27] levels are increasing in Donegal but even more can be done as the nature of some of this Tourism reflects volume with relatively low levels of spend or commitment.

Figure 45: Tourism Capability can be deepened to improve the value contributed to the economy.



[27] Tourism is an important sector in the global economy. Today, 10.4% of the world's GDP and 7% of the world's total exports come from tourism. The industry is worth over US$ 1.1 trillion.

Tourism has been growing year on year worldwide compelled by a few significant factors. Currently, pre Covid, Donegal experience some 600,000 visitors (300,000 international)[28]. Tourism dependency in the County is 16 -18% of businesses which is the third highest in the country. This is in the global context of growing tourism worldwide which are compelled by the following drivers (Figure 20).

The value of tourism to Donegal remains a key point given the value and dependency of the county on tourists however it is clear that more value is required from existing tourists.

Figure 46: The factors changing global Tourism[29]

01	Affluence of travellers	Rising GDP in emerging markets and the expansion of a wealthy middle class creates more disposable income. The share of disposable income spent for tourism increases proportionally with income, e.g. upper middle income level spend 4.7% on tourism while high income level spend 10.5%.
02	Awareness of opportunities	Increase connectivity through the internet and other media creates consumer interest in destinations (e.g. travel shows) and awareness of how to get there (e.g. price comparison sites), further intensifying "crowding effects".
03	Ease and convience of travel	The ease of internet bookings, cheaper air services and package deals, as well as improved overall transport infrastructure opening up destinations, facilitate travel. IATA expects air travel passengers to double by 2035 (domestic and international).
04	Mindset shift	A more leisure-orientated culture compared to previous generations allows for more tourist travel (e.g. 'wanderlust' philosophy, bucket lists). Millennials value experiences over ownerships of goods, with 70% citing funding travel as motivation to work (second to basic necessities).
05	Global ageing	Longer life expectancy leading to more travelling years; the retired elderly have more free time year round, are healthier and more able today to use that time travelling. By 2025, 1 in 8 international trips will be taken by a retiree, market that will almost double in the coming decade.
06	Rise of staycations	Preference for less planning, shorter distance and therefore less effort led to increased demand for within reach tourism behaviour. Google trends show that searches for staycations has increased annually by 10% since 2012.

[28] Donegal County Council Tourism Strategy 2017-2020

[29] 2019: Google trends; WTTC, World Bank, Forbes US survey of Millennials, Harris study, Visa International Travel Insights

Whilst Covid-19 has impacted tourism in the short term, our own analysis demonstrates that the rebound will be significant with an accelerated emphasis on three key trends coming to the fore.

Figure 47: Key Trends in Tourism post Covid[30]

01	Customers are increasingly seeking experimental offerings to create memorable moments.	Destinations should explore the full range of niche offerings and identify where they want to play, including adventure, bird watching, cruises, cultural immersion, cycling, eco tourism, food travel, golf, marine, movie site seeing, weddings, wellness and surfing.
02	Hotels are being transformed into destinations; beyond pure accommodation providers.	Destinations should consider alternative hotel experiences, and develop destination hotels: • Leading segment • Distinctive architecture and offering Luxury segment has increased demand for seclusion Destinations should develop integrated residential and hospitality resorts
03	Technology is increasingly becoming at the heart of the travel experience.	Destinations should leverage technologies to • Promote healthy living • Enable a seamless travel journey • Personalise and customise experiences

These factors are changing how tourism value is realised and in truth, some types of tourists are simply worth more than others. The analysis of Mastercard aggregated data[31] worldwide showed that the tourism sector comprising hotels, restaurants and other hospitality services made up 30% of expenditures on a trip. The remainder were experiences – sport, leisure, arts, crafts, and healthy living. This was also related to a timing question of vacation time with most of the spending coming after day 3 in a location and increasing thereafter.

The indexation of Tourist spend[32] showed that Ireland spend index remained static the since 2012 thereby pointing to an opportunity to develop a Tourist + product that considers a market of tourism where the numbers may be less, but the value would be greater. For example, Golf tourists spend 2.5x ordinary tourists and cultural tourists learning arts and crafts spend 3.0x.

The Donegal tourist industry needs to develop a Tourist+ product aligned to the trends of Figure 18 and determine a proper and comprehensive means. It is believed that this can align tourism GDP contribution more in line with tourism employment levels – something that Ireland is seeking to improve at any rate.[33] This report proposes a Tourism+ product that combines an experience of creativity and arts / sporting details with a complete week long package in the county and that this is marketed alongside Fáilte Ireland.

[30] Press Search and interviews
[31] Mastercard Aggregate Data: Centre of International Development: Harvard University
[32] ibid
[33] OECD Tourism Trends and Policies 2020

11.3 Development Sector 3: Blue & Green Economy

Although separate sectors in themselves, for the purpose of this strategy there is merit in combining the Blue and Green economy in Donegal. This is due to the evolution of Killybegs, which has evolved since the 1990s to be well placed for servicing offshore energy exploration and the development of renewable energies along Ireland's West Coast and indeed Europe's Western approaches. The 2015 report[34] on the Killybegs Marine Resources Innovation Centre (KMRIC) and demonstrated the triple helix of the LYIT Campus, the port itself and the integration of the metropolitan area showing the range of possibilities open to it[35].

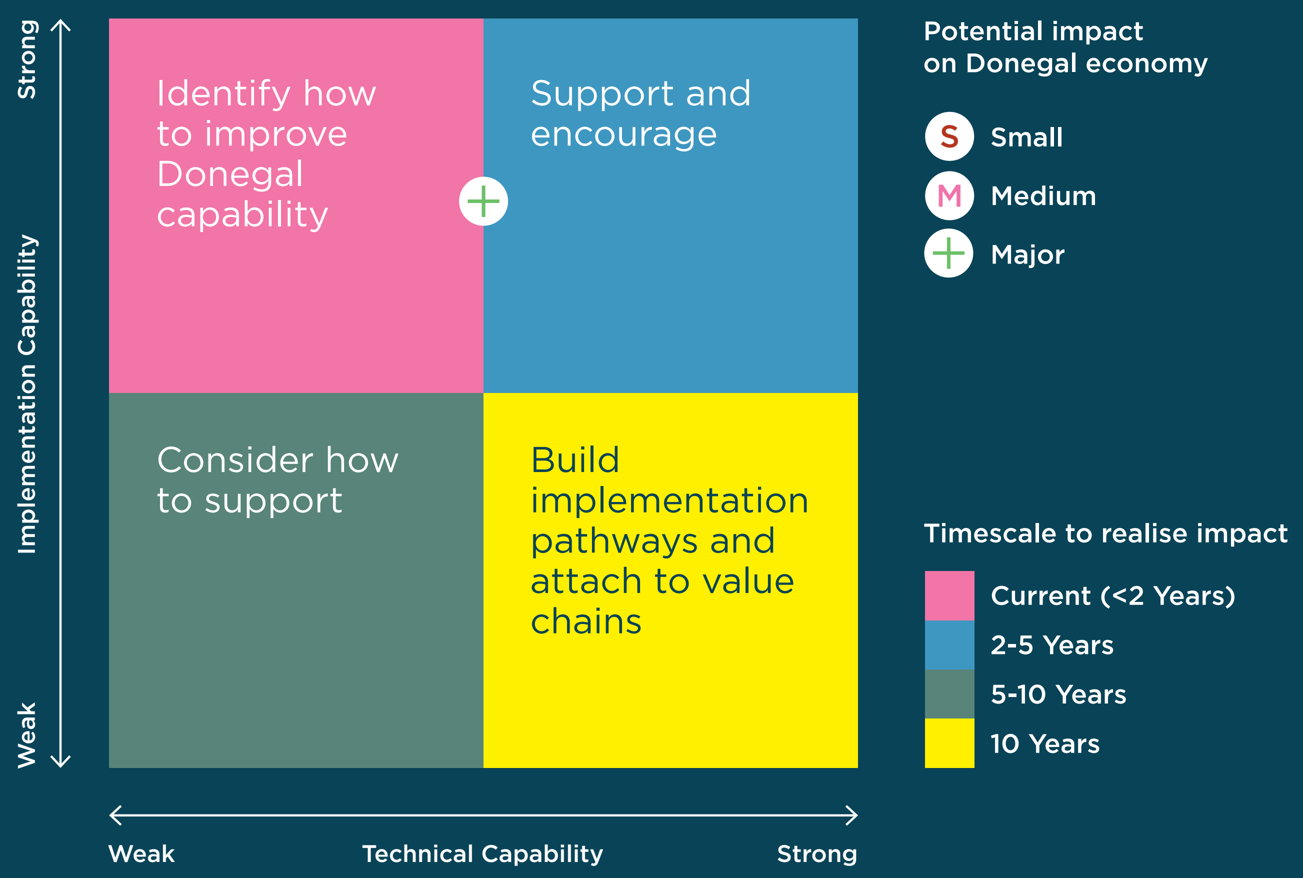
Furthermore, engagement in international endeavours such as the Atlantic Smart Port Blue Acceleration Network can only deepen the potential capability of the ports in Donegal whilst New Action Plan in the Atlantic commitment from the EU demonstrates the opportunities that have been taken and remain to be taken over the next years.

Table 7: Key companies in the Blue Economy in Donegal with key assets

SeaQuest Systems	**Marine Harvest Ireland**	**Errigal Bay**	**Swan Net Gundry Ltd.**	**Irish Fish Canners**
Seaquest Systems is a leading-edge company in the design and manufacture of fish pumps and hydraulic systems for fishing and offshore vessels. Based in Killybegs the company has many years of experience working with a wide variety of vessels. From 10-metre potters to the top pelagic vessels The company's products are recognised throughout the industry for their excellence of design, sturdy construction, and superior performance, meeting the high demands of customers worldwide. SeaQuests Systems is an internationally renowned company in its field and has customers in Europe, Russia, Asia, America and well as closer to home in Ireland. ***seaquest.ie***	Marine Harvest Ireland is Ireland's largest producer of farmed Atlantic Salmon and works to provide sustainable seafood of assured high quality. Marine Harvest was established in Co. Donegal (originally as Fanad Fisheries) in 1979 and has grown significantly since its inception. The company now operates in 8 locations across Donegal as well as in 4 other Atlantic coast counties – Mayo, Galway, Cork & Kerry. The company currently employs over 280 people in Ireland and utilises over 600 Irish suppliers to contribute over €15 million to the local economy. ***marineharvest ireland.com***	Errigal Bay Founded in 1962, is Ireland's largest processor of Wild Atlantic Shellfish sourced from the purest waters of the North Atlantic. Errigal employs 170 people at its BRC certified facility in Meenaneary Carrick where the shellfish products are processed, packaged, chilled and frozen before distribution. The company exports its premium quality seafood products including crab, scallop, whelk, prawns, lobster, and shrimp to leading retailers, wholesalers and food service customers in Europe, Asia and North America. Errigal Bay has a rich history in the local community with some families now in their third generation since the foundation of the company. ***errigalbay.com***	Swan Net Gundry Ltd. Was formed in 2002 as a merger between Swan Net Ltd and Gundry's Ltd., Ireland's two leading networking firms, to become one of the strongest net firms in the world. The company offers a comprehensive range of products and services for mid-water trawling, bottom trawling, gill netting and fish farming. Swan Net Gundry Ltd. Also design manufacture and supply safety & sports nets and nets for use in agriculture and horticulture. Having its headquarters in Killbegs allows the company to maintain direct contact with customers and visitors to Ireland's premier fishing port. ***swannetgundry.com***	Irish Fish Canners is based in Dungloe on the Atlantic Coast and represents the very best of the fish canning. The company is the largest and only fish canning facility in Ireland. The company's location ensures access to the world freshest and finest fish, and because of added value, the business has now evolved into a major canned seafood provider to several world-class leading brands in global markets. Irish Fish Canners aim to ensure the longevity and sustainability of the business for future generations and their commitment to sustainability has been recognised and supported by Bord Bia. ***irishfishcanners.ie***

[34] Killybegs: Ireland's Gateway to Our Ocean Wealth
[35] This concept is like that illustrated in figure 13 above.

Figure 48: Blue Economy Evaluation



It is worthwhile to note however that the European Blue Growth Strategy is focusing on 5 key elements.

1. Fisheries
2. Marine Tourism
3. Ocean Energy
4. Biotechnology
5. Seabed Mining

The first four of these elements would be satisfied in the Killybegs Ocean Wealth Hub with associated applied and academic research taking place in the Innovation Centre from LYIT. The EU Innovation Strategy has 4 categories of operation:

1. Innovation Leader
2. Innovation Follower
3. Moderate Innovator
4. Modest Innovator

Currently, Ireland, and Donegal is considered sitting between "Moderate Innovator" and 'Innovation Follower' – a relatively poor place to be. Adopting a model as outlined above with specific focus areas and integrating a collective approach to research, large and small companies should move Ireland to an Innovation Leader in Fisheries and Biotechnology and Tourism with Ocean Energy remaining as a follower. We believe the opportunity to develop the Blue Economy sits in collaboration with peer locations in other countries who are sharing common objectives such as Canada and Portugal where a similar Blue Economy aspiration exists and the requirement of raising GVA in the industry whilst preserving a natural resource is an essential driver[36].
The focus in these themes should be to select the components of the Blue Economy where it is felt that Donegal can work externally to take a leadership position.

[36] Ireland's Ocean Economy June 2019, NUIG

Table 8: Blue Economy Components

Type of activity	Ocean service	Established Industries	Emerging Industries	New Industries	Drivers of future Growth
Harvesting of living resources	Seafood	Fisheries	Sustainable fisheries		Food security
			Aquaculture	Multi-species aquaculture	Demand for protein
	Marine biotechnology		Pharmaceutical chemicals		R&D in healthcare and industry
Extraction of non-living resources, generation of new resources	Minerals	Seabed mining	Deep seabed mining		Demand for minerals
	Energy	Oil and Gas	Renewables		Demand for alternative energy sources
	Fresh water		Desalination		Freshwater shortages
Commerce and trade in around the ocean	Transport and trade	Shipping			Growth in seaborne trade
		Port infrastructure and services			International regulations
		Tourism			Growth of global tourism
	Tourism and recreation	Coastal development			Coastal urbanisation
			Eco-tourism		Domestic regulations
Response to ocean health challenges			Technology and R&D		R&D in ocean technologies
			Blue carbon (i.e., coastal vegetated habitats)		Growth in coastal and ocean protection and conservation activities
			Habitat protection, restoration		
				Assimilation of nutrients, solid waste	

Donegal has an established marine industry which comprises of traditional marine sectors such as shipping, seafood, tourism in marine and coastal areas, offshore energy, marine manufacturing & engineering and marine retail services. Interestingly, these segments of the ocean economy represent 93% of the total turnover and 94% of total employment. The top three sectors in terms of value and employment continue to be shipping, marine tourism and seafood.

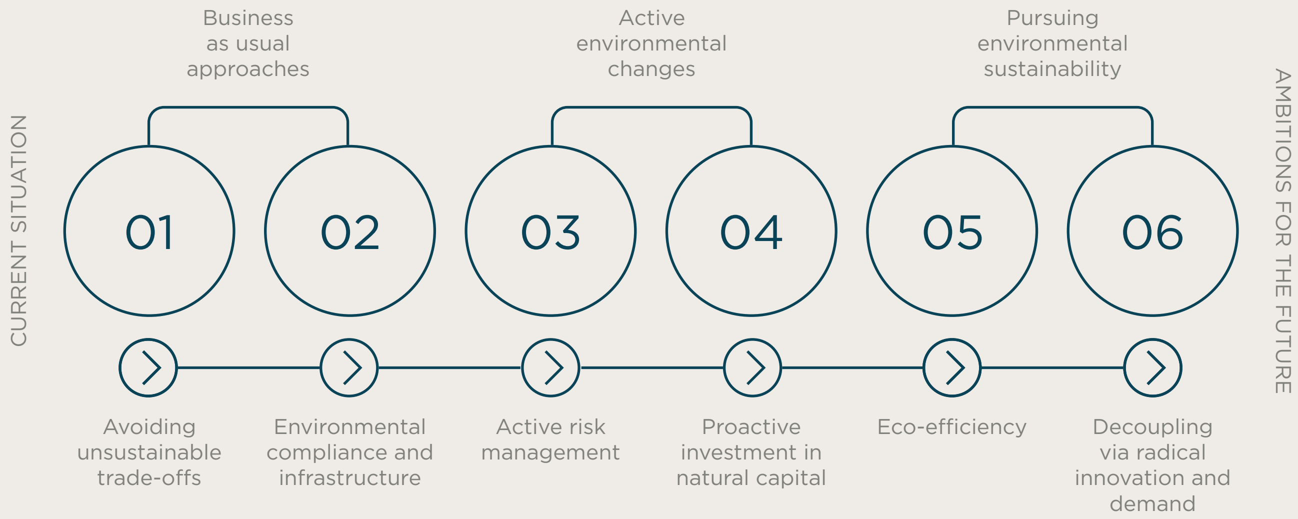
The new and emerging marine industries – comprised on marine renewables, marine biotechnology, advanced marine products, and services represent 7% of the turnover and 6% of employment in Ireland's ocean economy. Of the emerging industries marine commerce and the marine biotechnology and bio-products industries experienced the largest increases in turnover and GVA in the 2016-2018 period. These products offer significant value in terms of remediation and support into the future.

Green Economy

A green economy is one that provides economic opportunities and improved human well-being in harmony with the sustainable management of all natural resources. The transition to green rural economies is about improving people's lives and livelihoods in rural areas, balancing natural resource use with maintaining incomes, and trading the risks of making a change with the opportunities that change will bring. It is now apparent that the Green economy operates of the basis of using natural resources to their full extent but in their natural cycle. There is no single model of the 'green economy' worldwide although comparator countries do show varying initiatives that indicate there are multiple forms of locally specific green-economy activity. The key principle is that the 'green economy' is about seeking economic opportunities from socially and environmentally sustainable practices and vice versa. Making the transition to the green economy in rural areas requires political will, technological developments, and encouragement from market pressures. In all cases, the transition is likely to take place through a sequence of progressive steps that lead towards an evolving understanding of what the Green economy should look like.

A core dimension of the Green economy relates to low carbon initiatives where businesses, individuals and the environment prosper through the management and stewardship of carbon, using fuels more efficiently, storing carbon in soils and biomass, and using low carbon technologies to generate products, services, and energy. However, it is important to note that the term 'low carbon' refers to more than just carbon dioxide (CO_2). It is used also to mean the reduction of all greenhouse gas (GHG) emissions, such as nitrous oxides and methane.

Figure 49: Transition to a Green Economy



Carbon provides the basis for agricultural and forestry production, in the form of organic matter in soils. Converted to biomass it forms commodities in the form of food, materials (Such as hemp) and fibre (including wood and reed). It also provides energy in the form of fuels used to run businesses and machinery, and power homes. But this dependence on carbon also brings with it some questions and challenges, such as how to maintain and increase existing carbon stocks, how to be more efficient in its use and what are the consequences of doing so.

Aspects to be considered in this regard relate to:

01

Low-carbon agriculture

The low-carbon economy is about developing economic activity which has a minimal output of greenhouse gas (GHG) emissions into the biosphere.

02

Rural Modernisation and efficiency

Technology developments and improvements mean that today it is possible to do more with the resources we have available.

03

Renewable Energy

One of the main transition points in a low carbon economy is in changing the way energy is generated.

An essential part of the transition to the green rural economy is making sure that the primary production sectors of agriculture and forestry are both economically and environmentally sustainable for the long-term. This means not just ensuring that current good practice is adopted more widely but taking innovative and imaginative approaches to the challenges facing the farmers and foresters in Donegal who manage most of the land.

This indicates that in the future, beyond the three points outlined above, the Green economy will need to focus on:

01

Adding Green Value

Adding 'green value' is about using the environmental benefits provided by a farm or forest in a way that adds economic value.

02

Extracting Green Value Added

Extracting 'green' added value often requires and/or leads to new forms of contact and relationship between producers and consumers

03

Efficient and sustainable use of land

Using rural land efficiently and sustainably means protecting the soil and biological systems on which production depends.

04

Opening new areas of endeavour such as modern agroforestry

Integrating woody vegetation with crop and/or animal systems can provide interesting ecological and economic benefits.

Our international survey showed that the key success factors of engaging in a transition to a Green Economy would involve:

01

Co-operation based approaches

Cooperation can be an important driver of the transition towards greener rural economies.

02

Managing Land at the landscape level

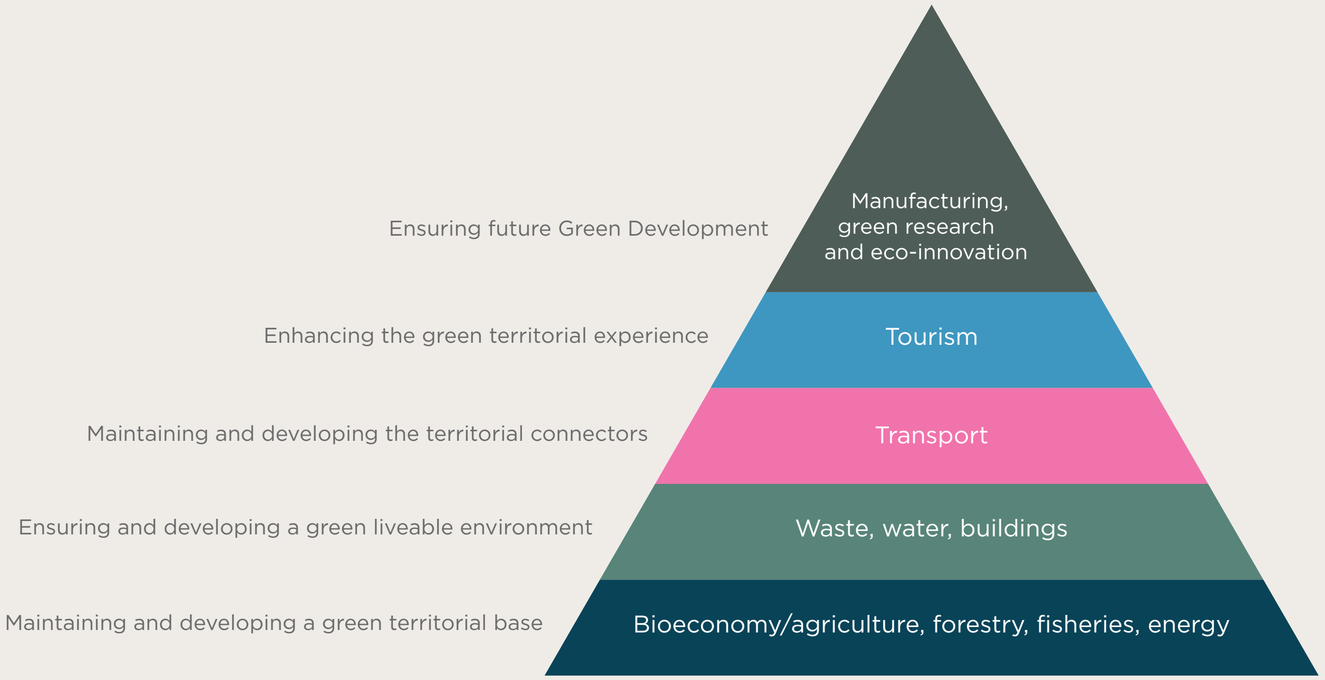
It can be more effective to manage land at the landscape scale to address challenges that are trans-boundary in nature.

03

Green Hubs

Some of the most interesting cooperative approaches are where different actors and sectors come together to develop new supply chains and business models. Hubs often take the form of industrial units or spaces where different processors and producers can come together to exploit new and complementary resource streams. They can also include a diverse range of actors, including universities and research institutes, business organisations, producers, and other local entrepreneurs. For small operators or businesses, green hubs can be an important way.

Figure 50: How the Green Economy is changing other sectors



Switching to the Green Economy is thought of as relating to Fisheries, Forestry and Agriculture and Energy but it does travel up the pyramid and change other sectors such as Transport, Tourism and ultimately innovation and manufacturing.

Donegal has already commenced initiatives in the Green Economy space that need to be noted. In conjunction with the work of LYIT, there are already critical initiatives that were started and supported such as:

Renewable Energy Network (REN NET)

REN NET is the regional cluster of small businesses working in the renewable energy and Green Economy fields. It aimed to increase the vitality of these businesses by enhancing networks between themselves and larger industry players and developing support structures with local authorities and other public agencies and institutions.

Biomass Development – Forest Link

Biomass energy, in the form of wood fuel, is an ideal source of renewable heating as it is cost-competitive and carbon neutral. County Donegal has the potential to produce biomass and there have been initiatives aimed at maximising the use of wood energy and adding value to Donegal's biomass resource by building a sustainable local supply chain.

Non-Food Use of Land

The Non-Food Use of Land project, led by the CDB Agricultural Sector Forum and including cross border partners, explored the potential for energy production from agricultural land. It looked at a variety of potential energy crops including Willow, Oil Seed Rape, Miscanthus, Hemp, Flax and Reed Canary Grass. The project also looked at the potential of Anaerobic Digestion and other renewable energy sources such as Wind and Hydro Power.

Co2Free Project

The Co2Free project, led by the ERNACT network, brings partners together from nine regions across Europe to address the problem of climate change. It aims to share models of best practise from the different regions in the areas of renewable energy, green ICT, ICT for energy efficiency and sustainable transport.

ANSWER Project (Agricultural Need for Sustainable Willow Effluent Recycling)

This INTERREG IVA programme, involving Donegal County Council and other partners in the region, aims to explore the potential for using energy crops such as willow as a means of dealing with sewage waste.

Into the future and developing on the models proposed in this report we believe there is a need for Donegal to put forward a Green Hub like those undertaken in Finland and New Zealand and to focus this Hub on Food Production and Rural Land use. We believe that such as development can also be used as a Tourism attraction and engage international attention in developing the rural economy from a Green perspective. We would advocate that Donegal creates a Green Roadmap similar to Figure 50 and brings together all the various strands of development to present a practical and viable Green Economy enterprise structure.

11.4 Development Sector 4: Food Coast +

The Food Coast Donegal is the initiative from the Local Enterprise Office Donegal to support, celebrate and grow the Donegal food sector. The programme has a certification that demonstrates the taste and naturalness of Donegal Food and projects this image for the national and tourism image.

This has been an exciting development for Donegal particularly with the natural certification process and is very much in line with developments in food around the world. Food can be an important contributor to Donegal with a rugged natural coast and an environment conducive for naturalness. The industry crosses over with the Blue Economy, Tourism, and ICT (traceability) and therefore can be seen as an enabler of the entire economy. In addition, Food enhances export potential depending on type and packaging.

Figure 51: Food Coast Evaluation

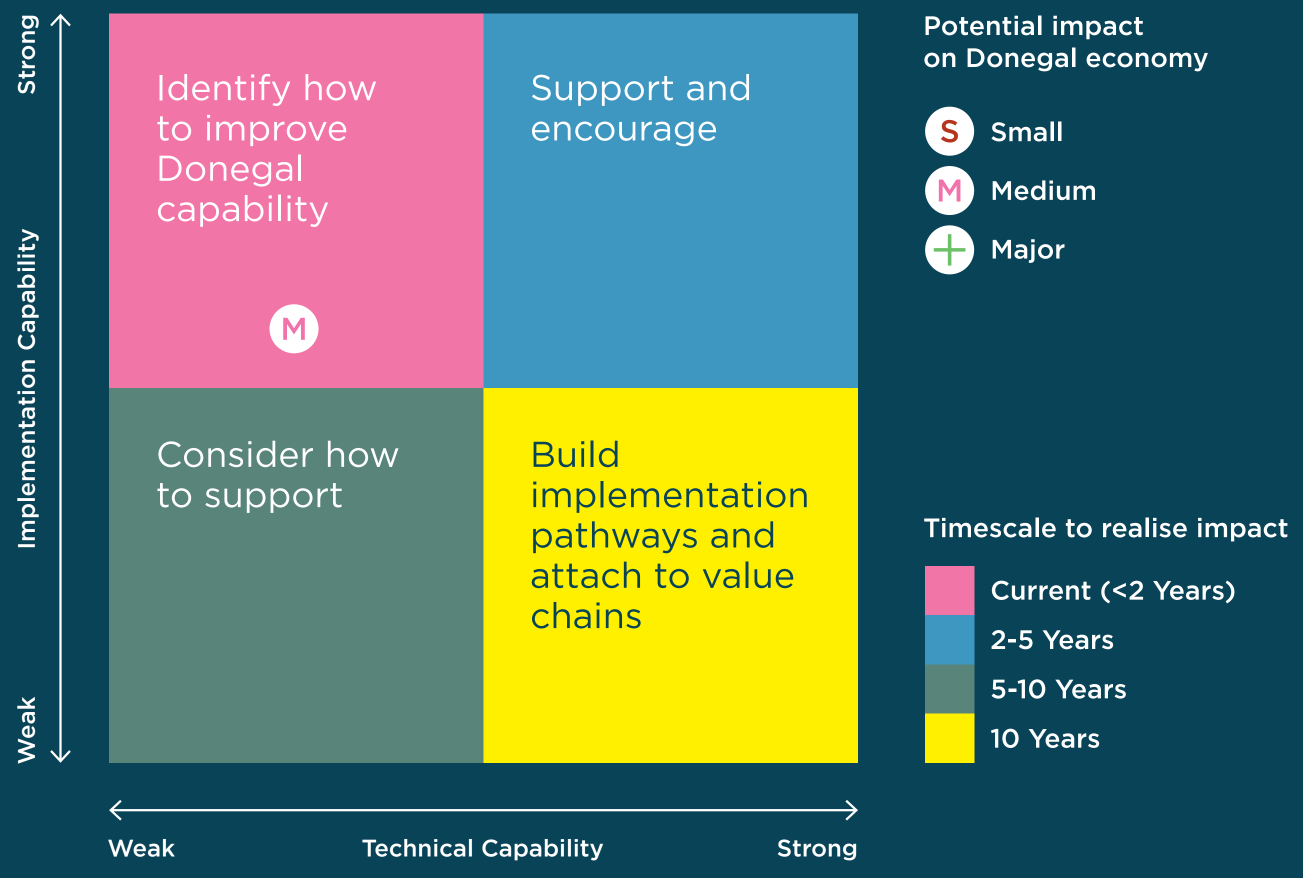


Table 9: Key companies in the Food Coast in Donegal with key assets

Nomadic Group

Nomadic Diary is part of the Donegal Investment Group and has been producing fantastic oats & yogurt snacks and yogurt drinks in the Crossroads/Killygordon since 1998.

The company has gone through many changes since its inception and currently exports over 90% of produce mainly to the UK market. Many of the company's customers are international companies such as Tesco, Asda, Boots, Morrison's and WH Smith as well as being stocked at many airports.

Nomadic Dairy plans to double its turnover within the next 3 years from its plant in Co. Donegal with the support of their skilled local workforce.

www.nomadic-dairy.com

Mulrines

Mulrines is Ireland's premier juice production company. Established in 1919 and located in Ballybofey, Mulrines now employs a workforce of more than 150 people.

Mulrines is an innovative company and owns several established and popular fruit juice brands. Its major programme of investment in new technology and the latest automated juice production equipment, combined with research into new products and packaging solutions, has earned the company recognition throughout the food and drink industry.

The company strives to be responsive and adaptable and has achieved a string of high-profile awards for their innovative products.

www.mulrines.ie

The Food industry has undergone significant changes in the past decades with changing consumer sentiment pushing an agenda for food that opens real possibilities for the Food Coast – principally:

01

Transparency

Clean labeling ingredients and ethical and responsible ingredient sourcing the demands for a transparency supply chain and product labeling is now increasing. The focus has been driven by a need to ensure that there is an openness about organic, additive free and showing the sustainability of a product.

02

Plants

There is a growing plant-based trends which is now moving food produce to the next level. Plant based proteins and structures in food are now driving the growth in the market. The growth rate in plant based is 36% in 2020 and it would now appear that 1 in 5 are seeking plant-based alternatives.

03

Immune

The pandemic has also taken the consumer trend of prioritizing immune health to the next level. This trend is fully expected to continue into 2021 with ongoing anxiety stemming from the Covid19 outbreak. In fact, three in five consumers shared that they are increasingly looking for food and beverage products that support immune health.

04

Science and Nutrition

Technology is addressing demands for food & beverage with enhanced nutritional value, sustainability, or ethical impact. The future of food manufacturers is leveraging the expertise available in the industry to meet consumer expectations, especially when it comes to overcoming the challenges associated with taste and health eating.

05

Innovation

Innovation in food and packaging is essential and important. People and in particular, tourists are interested in new sensory experiences in food that is healthy and natural.

06

Modern Nostalgia

Many people have experienced times of unease, unrest, and uncertainty and this drives consumers to seek comfort in foods that remind them of happier, less turbulent times. As the world continues to fight the pandemic and, hopefully, begins to heal in 2021 we expect the trend to continue. Authentic dairy flavours and mouthfeel to dairy free and "better for you" products are driving demand.

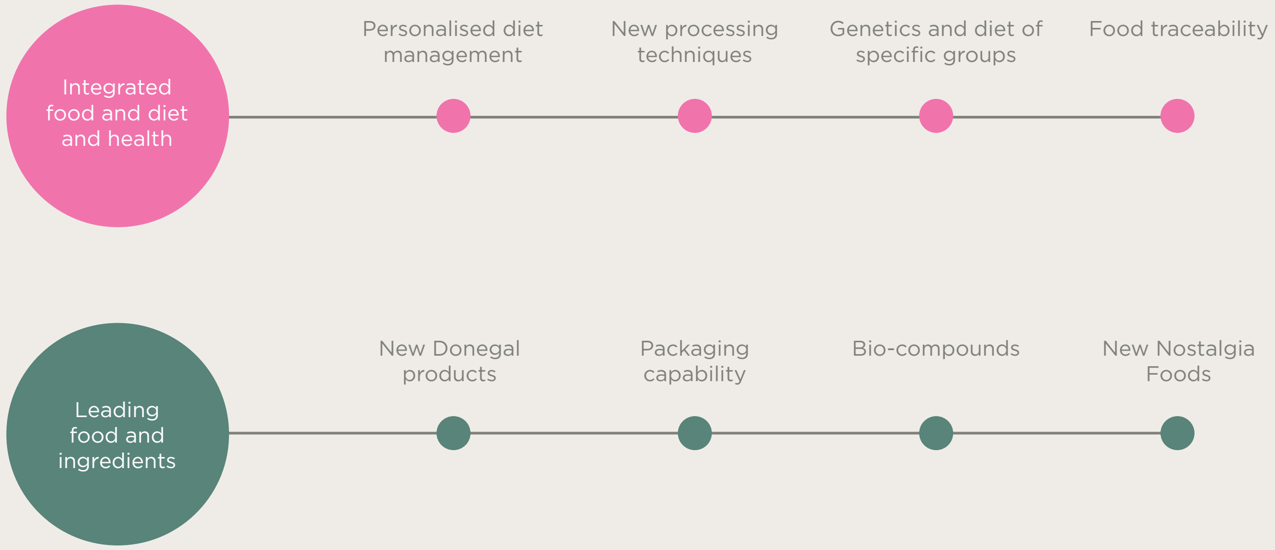
07

Small & Authentic

People are now seeking food companies with a story – a food concept that enables them to understand who is making the food and their background and structure.

The Food Coast concept should be developed to a Food Coast + concept which looks at research into key areas of Food and Packaging to augment the position of Food from Donegal considering the trends that are occurring. Packaging should be used as a means of creating export potential but also new experiences in food.

Figure 52: Potential Focus areas for the Food Coast +

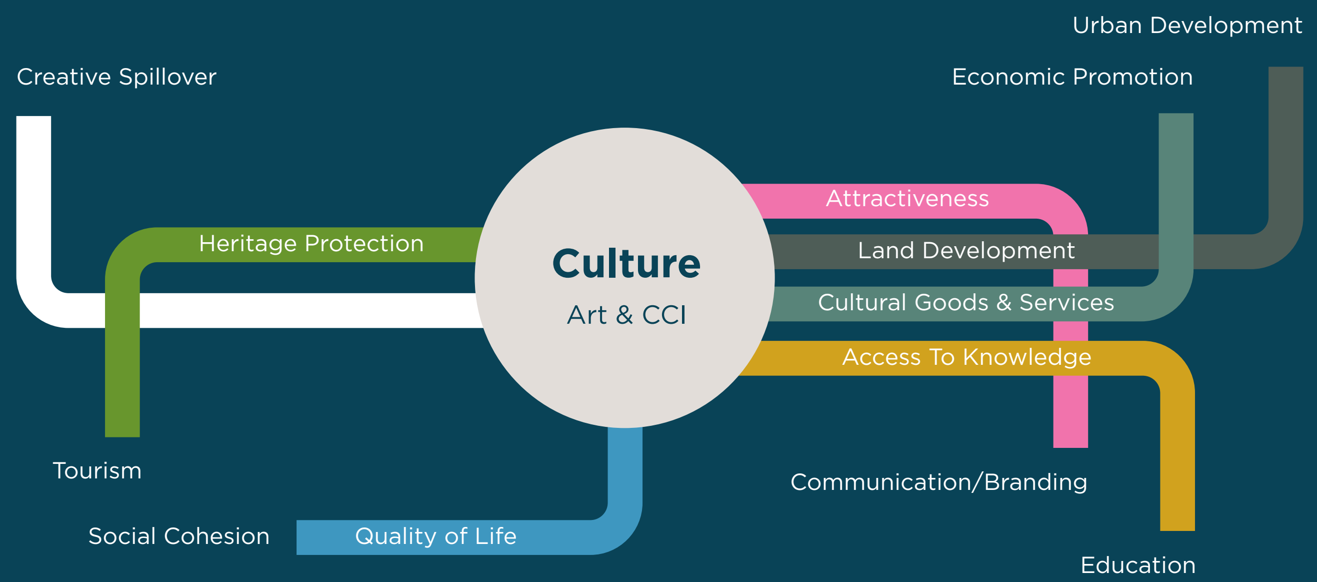


11.5 Development Sector 5: Creative Sector

Creativity is the highest form of intelligence, and it is an intelligence not easily replicated by machine. In 15-20 years when almost all other industries will be highly automated the creative industries will be even higher valued. It is possible now to predict a creative renaissance as more people find gainful employment in this broader and in-demand creative space. Creative industries like fashion, music, and writing will become more democratized and diverse with niche options and a greater array of creative individuals. The overlapping of the Creative Sector with the Tourism + sector outlined above should not be underestimated.

It is possible to think that the creative industry will be immune from the digital revolution, but this is not so. Machines will not be able to create stories that speak to souls any time soon, or devise strategy but there are parts of the creative business – buying and testing, for example – that will be overtaken by machines within the next five years. Low-end creative will be the next to go and there will be tools that assist designers, something like a grammar-check for design. Ultimately, design follows rules just like grammar does[37]. However, the creative sector must be seen as multi-faceted and an asset to all other sectors in the county[38]. It is possible to draw pathways between the creative sector and all other facets of the Donegal economy as presented below.

Figure 53: The creative sector works with all parts of the economy



[37] Leonardo Da Vinci
[38] We understand that this is not acknowledged at a national level in Ireland.

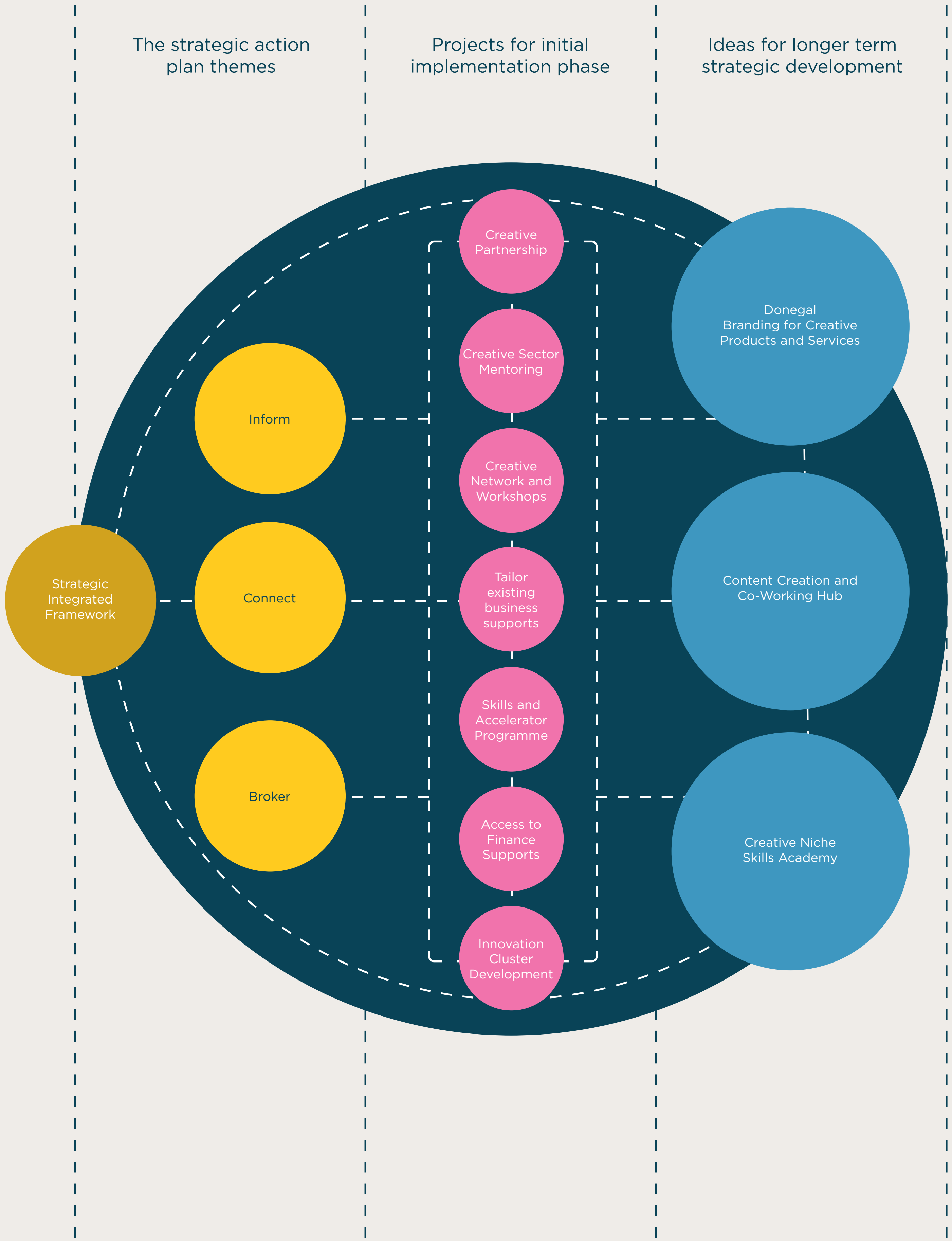
Creative Donegal is a branding of a strategic plan that is multi-faceted across the county and developed off the strong legacy of all types of creativity in the county. The initial Strategic Action Plan (2015) provided a flexible framework for collaborative action to support creative entrepreneurship in Donegal. The core purpose is to realise the creative business opportunity, set in the wider policy context of supports for Cultural and Creative Industries (CCI). The plan set out the rich asset base for creativity in Donegal and how the potential of the sector could be unlocked. Critically, all stakeholders agreed that the initiative must be driven by creative stakeholders, working collaboratively with support agencies, to enable the right conditions for creative entrepreneurship in the County.

The strands were outlined as follows:

Figure 54: Creative Sector in Donegal

This strategic plan developed was comprehensive and needed to be seen in a 10-year window and somewhat extended due to the pandemic. However, the integration of the creative sector in Donegal with digitalisation must be explored to allow it to reach a greater audience, become more accessible and enable greater value to be created. Inevitably, the creative sector will be the largest wealth creating sector as costs and capital equalise.

Figure 55: The Creative Coast Roadmap



This strategic plan needs to be continued with one additional element – the cross over to industry and digitisation. Most industries around the world are engaging with the creative sector to understand and recognise how value can be brought to their products in terms of usability, acceptability, and consumer understanding. Whilst this may appear strange at first, there is much evidence to support this position from the well-known Apple product integration with the arts to produce fonts and usability testing to the UK Fashion Industry which now surpasses the car or steel industries in turnover and employment.

The future is being shaped now by artificial intelligence, biotechnology, and nanotechnology. The Human Genome project mapped the entire human genome in 2003 for $2.7 billion. By mid-2015, it cost $1500 to map an individual genome. As these technologies develop and become accessible to more and more individuals, human behaviour as a collective is also changing, we become more isolated, our concepts of identity are challenged, and we relate to each other differently than before. The creative industry plays a critical role now and in the future in facilitating those transformations with organisations, communities, and institutions. By democratising design and sharing our methods for creative problem solving and innovation with each other, there will be new and innovative opportunities for collective transformation for the better. The Donegal Creative community needs to find a place in this world through research and market positioning and then broadcasting that depth to the world.

11.6 Development Sector 6: ICT/Digital

Ireland is currently the EMEA headquarters for many of the world's largest tech companies. Many of the jobs in these sectors are in historic sectors of Software Development, Data Science/Analytics and Technical Support whilst the new sectors of Cloud Computing, Cybersecurity, Blockchain, Artificial Intelligence (AI), Robotic Processing Automation (RPA) and the Internet of Things (IoT) are all showing substantive growth other areas that are expected to experience strong growth in the next five years.

The fundamental driver in the industry is skills and this remains the core bottleneck in the industry worldwide. The new technologies mean that skills unique to humans such as creativity, teamwork, empathy, and innovative thinking will become increasingly more valued by employers. ICT is now an enabler of all technologies and will be seen playing a role in Tourism, Creative, Patient Centric Healthcare amongst others. It is not uncommon now to see ICT professionals working in many other organisations none more so than Financial Services where Fintech is fundamentally altering the way an economy works and replacing main street banking with new forms of banking. The FinTech sector is a Government priority and Ireland is renowned as a world-leading centre for the FinTech industry and the new disruptive technologies such as Blockchain. Today, Ireland is a gateway for international technology businesses seeking to enter or serve the European Market and is home to many of the world's leading FinTech employers. A combination of factors, such as government support, the existing technology ecosystem a large pool of talent, to name but a few, make Ireland an attractive location for FinTech businesses & entrepreneurs who are looking to succeed.

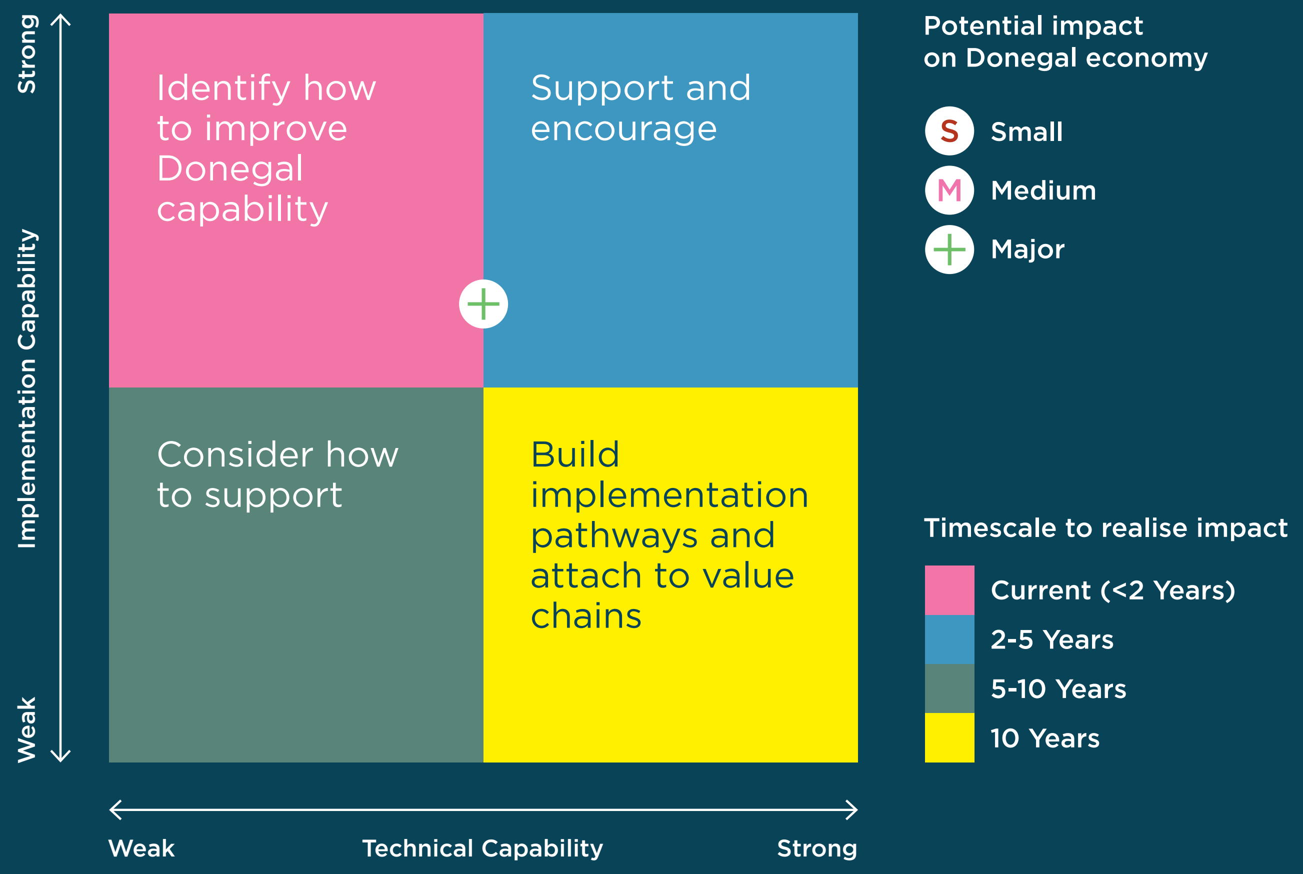
Donegal does possess some relevant ICT and Fintech companies although there is significant scope for growth in these sectors should the human capital resources exist. All the information received from the sector demonstrates a real challenge to find skills and this presents the opportunity to attract new people in the sector from other countries[39]. The ICT sector accounts for the highest share of new employment permits issued each year, illustrating the challenges that employers are facing in filling positions in this sector.

[39] The skills need of the ICT and FinTech Sectors in the North West 2018 Skill Audit undertaken by the North West Regional Skills Forum in Collaboration with FIT.

Table 10: Key companies in the Donegal ICT sector with key assets

Pramerica	UnitedHealth Group	SITA	Northwest Regional Science Park @ Colab
Pramerica was founded in Co. Donegal in June 2000 and has over 1,250 employees. The company is a business and technology operations subsidiary of US based Prudential Financial Inc – a financial services leader with assets of more than $1.1 trillion and which has operations in Asia. Pramerica consists of two diverse business groups. Pramerica Systems provide a complete range of development quality assurance and systems engineering services to Prudential Financial Inc Pramerica also provides a wide range of Professional Business Solutions to Business groups across the U.S. in areas such as technical support, financial, legal, and actuarial services. *pramerica.ie*	UnitedHealth Group is an American health care company, which was voted "World's Most Admired Company" in the Insurance and Managed Care category, by Forbes magazine, for the last five consecutive years. It acquired PacifiCare in 2006, and has since grown exponentially, due to its low operating costs, access to a large, skilled labour supply and the quality of life its offers employees. With a current workforce of over 650 employees, the site in Letterkenny is now the largest in the Europe, Middle East and Africa region. It continues to expand in the healthcare and IT arenas. *unitedhealthgroup.com*	Air transport IT specialist SITA currently employs more than 140 employees at its development centre in Letterkenny. SITA designs and implements mission-critical enterprise applications that are used every day in the global air transport industry from airport operations to passenger systems and baggage management. Almost every airline and airport in the world does business with SITA SITA's portfolio covers every aspect of the industry from managed global communications to passenger, flight and aircraft operations, border management and air-to-ground communications. With a presence at more than 400 airports around the world, SITA provides a unique service to its 450 air transport industry members and 2,800 customers in more than 200 countries. *sita.aero*	CoLab, based at LYIT, is a stimulating and supportive incubation centre and is the key dimension of LYIT's commitment to supporting the growth of a regional innovation ecosystem in the Northwest. CoLab is home to 30 high-growth, technology-based, internationally trading enterprises, employing 120 people. LYIT's postgraduate researchers and research centres are also located here, where there is a focus on researching subjects of regional importance. The Northwest Regional Science Park project resulted in a doubling in size of the existing CoLab facility and opened for business in summer 2015. LYIT and Colab are proud to be the partners with Northern Ireland Science Park (NISP) in this cross-border project, which involves brining the world renowned NISP brand, operating model and support programmes to the Northwest region, and represents the first step in the development of an All-Island Association of Science Parks. *co-lab.ie*

Figure 56: The ICT capabilities in Donegal are strong but need for skills is the compelling element.



The Remote Working Strategy for Business[40] whilst targeted at all sectors sees a natural synergy with the ICT sector and could be an important steppingstone for business model changes in the next years as it is unlikely that full central office usage will resume. The Remote Work in Ireland Report in December 2019 would never have anticipated the urgency of Covid 19 in the changes brought about. The report considered the prevalence and types of remote working solutions in Ireland, the attitudes towards them and influencing factors for employees and employers when engaging with these solutions. The need for this guidance intensified with the onset of the Covid pandemic in 2020 and following an extensive public consultation process 'Guidance on Remote Working' was published by the Department of Business, Enterprise, and Innovation. This has become the National Remote Work Strategy 'Making Remote Work' which sets out the Government's commitment to facilitating increased remote work adoption in a way that reaps the many benefits and mitigates potential negative side-effects by removing barriers, developing infrastructure, providing guidance, raising awareness, and leading by example. However, there remains much to be done in demonstrating clearly to business the actual business case for this type of engagement. At the moment, this is being done in a top-down manner but the viewpoint from this strategy is that Donegal needs to "pitch" this opportunity in a pragmatic but structured manner to ICT companies throughout Ireland. At the same time, there must be a shift in the industry – academia engagement moving beyond skills provision to research that drives innovation in the community and becomes attractive for companies to engage in Donegal as a place for their business. This is already happening in some instances but must be moved to happening at scale. There is a need to identify with the industry specific areas of focus, which can complete a value chain of research, application and industry within Donegal.

[40] Donegal County Council April 2021

11.7 Development Sector 7: Engineering/Manufacturing

Donegal has a legacy manufacturing sector which plays a crucial role in the economy. Generally, manufacturing is a driver of innovation and technological advance, provides employment across a broad range of skills levels, and generates additional indirect jobs throughout the economy. Although there is extensive mythology that manufacturing is dying, this is not the case. However, it is changing in that it is becoming more complex with a very different set of capabilities than before.

In a post covid world, changing consumer demands, the pace of advances in technologies, environmental concerns and intensified globalisation and competition are driving new models of manufacturing.

European research has identified three types of factories at the forefront of these new models, each with different primary characteristics, namely:

Smart Factories

Smart Factories offer agile manufacturing (flexibility and short-time cycles) and customisation involving process automation control, planning, simulation and optimisation technologies, robotics, and tools for sustainable manufacturing; Smart factories are underpinned with Lean and ICT systems, characterised as energy efficient, reliable, and cost-effective production operations.

Virtual Factories

Virtual Factories are global networked operations built on pervasive ICT systems. Seamless integration of intelligence from all aspects of the business (regardless of where located and including external partners and suppliers) facilitate and drive decision-making. In simple terms, a complex global network of operations functions as one.

Digital Factories

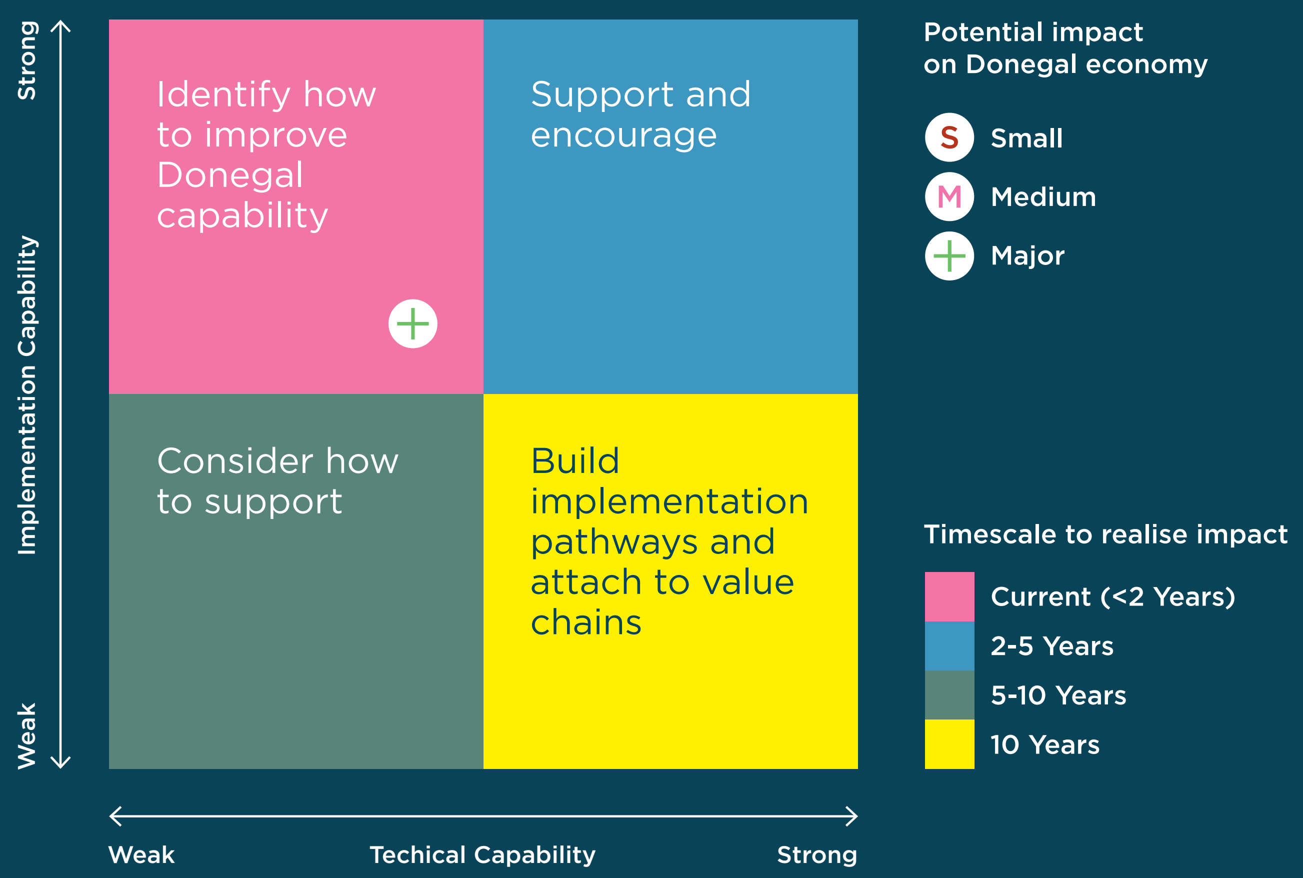
Digital Factories offer greater simulation, modeling, evaluation and knowledge management and deliver enhanced Product Lifecycle Management (PLM) from the product concept level through to manufacturing, maintenance and disassembly/recycling; and facilitate better real-time decision making and quality control throughout the production process.

Figure 57: Donegal Manufacturing Examples

Moll Industries Ireland	Optibelt	Zeus	E&I Engineering Ltd
Moll Industries Ireland is an independent Irish company owned by Helen and Michael Masterton and based in Donegal Town. It is an award winning custom medical injection moulding and contract manufacturing company for life science and high-tech products. The company positions itself as an expert manufacturing partner and outsourcing solution for these industries and has achieved international regulatory certification to the medical device standard ISO13485. Moll Industries Ireland has continually increased employment and revenue and aims to create a wealth which will provide lasting legacy to its local community. mollindustriesireland.com	Urethane Belting products can be found in the inner workings of some of the world's leading power transmission and industrial machinery brands. The German company's Letterkenny, Co. Donegal facility produces a range of high quality drive belts for a variety of applications from ATM machines right the way up to heavy drilling equipment for the mining industry. That US market access was key to the decision to locate the original rubber production plant in Letterkenny.	Zeus is the world's leading polymer extrusion manufacturer and material science innovator. Zeus specialises in providing high performance extruded tubing solutions to many industries. The company continually works to develop and improve processes and to design advanced products that meet the rapidly changing demands of the medical, science, technological and manufacturing fields. From bioabsorbables and non-fiber membranes to wires and cables, the company is an innovator in many industries. Zeus chose Letterkenny as its European base to ensure that it's European customers receive a quick turnaround and taking into consideration the quality of life that Letterkenny would offer its employees. zeusinc.com	E&I Engineering Limited was founded in Derry, Northern Ireland by Philip O'Doherty. Specialising in manufacturing electrical power distribution equipment, its customer base was primarily in Ireland and the UK. Since then E&I Engineering has expanded their engineering expertise and invested in a purpose built facility in Burnfoot, Co. Donegal, now employing 485 staff. The company's first global venture saw the establishment of PowerBar Gulf in the UAE in 2009. This enabled the company to develop partnerships in Europe, Asia and Australia. E&I Engineering USA Corp was formed in 2014 in South Carolina and will serve markets in North and South America, Canada with the creation of 250 jobs. e-i-eng.com

Indeed, the capability in some other sectors whilst not labeled manufacturing are underpinned by manufacturing capability and strength. There is a real potential in developing this capability and extending the manufacturing range in Donegal as it underpins so many other sectors.

Figure 58: Donegal Manufacturing Capability



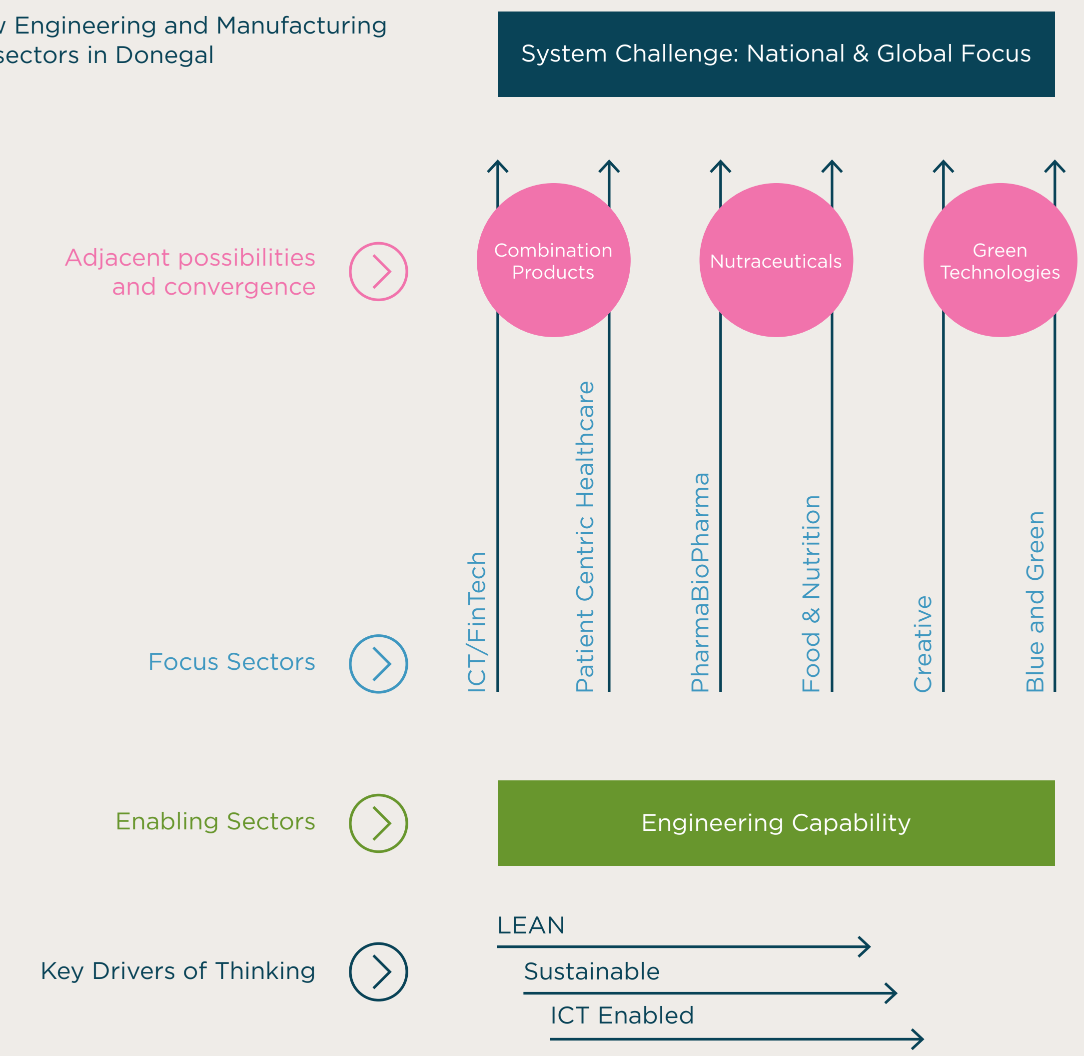
The emergence of the ProfitNet Model in Donegal alongside the engineering cluster and the plans to grow participation from 17 to 40 organisations is to be supported and further driven. The cluster needs to form more completely to ensure that the changing nature of manufacturing with the implications for all firms in terms of how they operate and in how they do business can be absorbed.

In particular, the cluster needs to recognise that:

- Customer responsiveness is crucial – needing agility and flexibility on the 'factory floor', market led product development and customised solutions.
- Companies increasingly need to collaborate to compete; and
- New ways of working are needed that harness the full potential of each person in the workplace.

This cluster can not stand still and the shift towards new and increasing complexity with the convergence of sectors and technologies requiring multidisciplinary skills; the need for adaptive, flexible production processes to cater to increased customisation; the shift toward nanoscale; increased collaboration and the sharing of resources and broader networks across companies and countries. These changes offer significant opportunities for the future of manufacturing globally – and for Donegal, although they involve disruptive changes to established business practices and to ways of working. Naturally however, this transition and development will involve working with local sources of innovation (LYIT) and national bodies also.

Figure 59: How Engineering and Manufacturing will enable all sectors in Donegal



DONEGAL

IT'S IN OUR DNA

Oifig Fiontair Áitiúil

Local Enterprise Office

The Strategic Enterprise Plan will be implemented by the Local Enterprise Office Donegal in conjunction with all of their partners.

If you have any questions regarding this Enterprise Plan, please get in touch using the contact details outlined on the right.

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