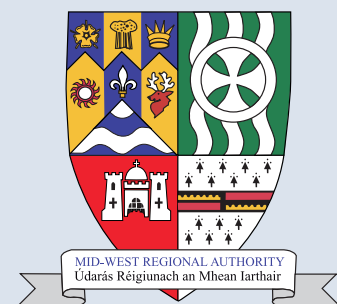




RESEARCH & INNOVATION STRATEGY for the Mid-West Region of Ireland 2014 - 2018



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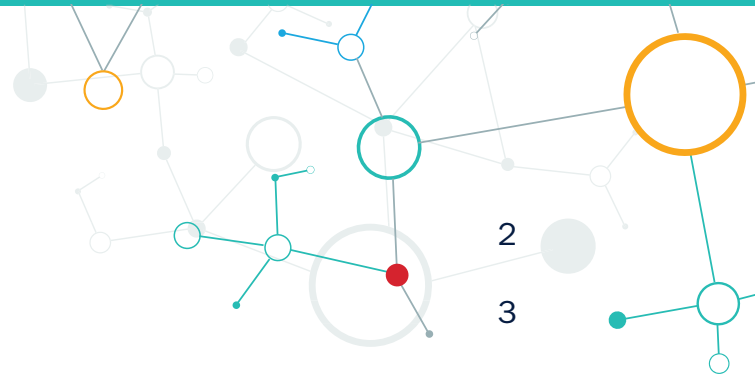
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Foreword



I welcome the development of this Research and Innovation Strategy for the Mid-West Region, which is the first of its kind in Ireland. This Strategy has been prepared at a time of great change across Europe and Ireland as we look towards a bright future of growth and prosperity. European policy has set the context for a new period of smart, sustainable and inclusive growth, and one which seeks to bring research and innovation (R&I) to the fore to stimulate creativity and entrepreneurship and to achieve higher levels of employment right across Europe.

Ireland is embracing a new chapter in its development; an era of intensive growth, stimulation and innovation. Ireland remains one of the most

globalised economies in the world; although a small nation we are well placed to compete with larger economies around the globe. However, as a globalised economy we know that we need to continuously adapt and be creative to meet consumer demands and the needs of industry. Innovation drives economic growth and is critical to our future prosperity.

The development of this Strategy at a regional level is opportune as it will take advantage of the reform of both regional and local government. With this in mind this Strategy seeks to ensure that R&I becomes a priority at both a regional and local level, and that this prioritisation occurs in the context of local authorities being devolved statutory powers for economic development. The Strategy also addresses the need for Higher Education Institutes and business support agencies to improve engagement and collaboration with each other, with industry and with civil society.

Finally, this Strategy provides policy recommendations and actions at the Mid-West regional level which are required to strengthen R&I in the Region and to capitalise on new growth and innovation in our Higher Education Institutes, incubation centres, government agencies and authorities, in our communities and in the industries which form the bedrock of this region. It is important that these recommendations are embedded in the actions of the new economic development structures of the local authorities and the priorities and development strategies of State agencies, Higher Education Institutes and business support organisations operating in the Region. This Strategy forms an evidence-based context for the Mid-West Region's R&I priorities.

Cllr. Oliver Garry

Cathaoirleach of the Mid-West Regional Authority

Executive Summary

Introduction

Research and innovation (R&I) are the cornerstones of national and regional economic growth. When properly supported they allow new methods, technologies and service to develop and grow, enhancing the strengths of the Region and ultimately contributing to business and employment growth. Greater collaboration amongst the actors involved in research and innovation has the potential to maximise the innovative capacity and outputs in the Region. This Research and Innovation Strategy for the Mid-West Region aims to provide a greater focus on the particular strengths and opportunities in the Mid-West and lays the foundations for strong and focused collaborative research and innovation activity in the Region. This Strategy provides an evidence-base and policy context which is intended to inform future investment and development and ensure that maximum regional benefits are obtained from future R&I developments. This strategy embodies a holistic approach aimed at bringing all the R&I stakeholders together to create a truly innovative region that can compete globally.



Vision

The vision of this Strategy is to achieve a Mid-West Region with an innovation-driven culture that is internationally recognised for its research excellence and that is at the forefront of generating and utilising new knowledge for economic and social progress.

Objectives

The vision and aims of this Strategy will be achieved through the implementation of a number of key objectives, namely:

- To set the policy context for research and innovation in the Region and to encourage and facilitate the implementation of European and national policy at a regional and local level.
- To establish the current level of research and innovation resources and activities in the Mid-West Region.
- To develop and utilise highly successful approaches in order to increase the level of research and innovation activity in the Region.
- To identify the areas of greatest strategic potential in the Mid-West Region and to present a series of recommended actions in relation to these areas in order to maximise the knowledge-based development capacity and potential of the Region.
- To support the move towards an Open Innovation¹ environment, where businesses and researchers interact more freely, and to ensure that the relevant policies are in place to support and encourage this cultural shift.
- To create and further improve communication mechanisms between public support agencies, academia, industry, entrepreneurs and civil society on key information pertaining to the achievement of a culture of innovation.

Policy Context

Both policy development and funding opportunities at European and National levels are increasingly focused on research, innovation and smart specialisation as a means of achieving a robust and dynamic economy. Investing in research, innovation and entrepreneurship is at the heart of the Europe 2020 Strategy and funding is increasingly being directed towards boosting growth and creating jobs through greater competitiveness. Much of the EU funding is now contingent upon compliance with a pre-condition called 'Smart Specialisation / RIS3' for supporting investments (ex-ante conditionality). This ex-ante conditionality requires

EU Member States and regions to have a Smart Specialisation / RIS3 Strategy in place that will build on each country's strengths, competitive advantage and potential for excellence and will focus policy supports and investment on key national/regional priorities. In Ireland, the Department of Jobs, Enterprise & Innovation / Forfás have prepared a National Smart Specialisation Strategy which will meet the ex-ante conditionality requirements of the EU. However, with funding becoming increasingly dependent on evidence-based strategies that demonstrate regional strengths and how those strengths will be developed going forward, there is a clear need for a regional-level strategy for the Mid-West. This Strategy will ensure that future developments capitalise upon the strengths of the Region and keep apace of industry moves towards smart specialisation, open innovation and strengthened collaboration.

The Mid-West Region

Historically the Mid-West Region has always been to the forefront of the research and development but its competitiveness has been reduced in recent years. This is evident from increased levels of unemployment, Gross Value Added (GVA) which is below the national average and low numbers of High Potential Start-Ups in the Region. Uptake of supports to promote innovation such as Innovation Vouchers and the Innovation Partnership Programme has also been relatively low.

However, the Mid-West has significant research and innovation resources which provide a strong foundation for future growth. The Higher Education Institutes in the Region have an extensive research and innovation remit and are continually progressing and expanding in these areas. Agencies such as Enterprise Ireland, IDA Ireland and Chambers Ireland provide invaluable business and innovation support. There is also a strong network of innovation support centres such as Nexus, the Hartnett Enterprise & Acceleration Centre, Community Enterprise Centres and Enterprise Ireland/IDA Technology Centres providing extensive services in the Region. This Strategy builds on these existing research and innovation structures to promote collaboration and innovation as a means of regaining regional competitiveness.



1 Open Innovation 2.0 – The Dublin Declaration, May 2013

Opportunities for Future Growth

The research and innovation sector is constantly evolving and in order to compete at a national and international level, the necessary policies and structures must be in place to allow the Region to grow and to keep abreast of international trends. In order to achieve the vision for the Region a series of key areas where there are opportunities to capitalise on the research and innovation capacity of the Mid-West Region have been identified, namely:

- Smart Specialisation
- Cluster Development
- Open Innovation
- Support for Entrepreneurs and Innovators

Further support and development of these four areas have the potential to make a significant contribution to the Mid-West research and innovation landscape and to the growth of the regional and national economy.

Smart Specialisation

Smart specialisation is a strategic approach based on more effective spending of public resources, concentrated on certain domains of knowledge or expertise. These domains are selected through careful analysis of the existing capabilities, assets, competences and competitive advantages of the area which allows the Region to focus on its strengths. Smart specialisation focuses investment and supports on these identified regional strengths thus ensuring value for money in times of tighter budgets and scarce public resources while at the same time supporting the creation of knowledge-based jobs and growth. The following sectors have been identified in this Strategy as most likely to benefit from smart specialisation policies and investment in the Mid-West:

- ICT/Electronic Manufacturing
- Medical Technologies
- Logistics and Supply Chain Management
- Energy and Environmental Products and Services

This Strategy sets out a series of actions relating to required future research, collaboration with key stakeholders to identify and remove barriers to development and monitoring to evaluate the impacts of investments.



Cluster Development

Cluster development involves identifying the Region's core competence and putting formal structures in place to maximise the potential of that competence. Clusters represent more than the physical co-location of related industries; they are sector-specific innovation systems bringing together all relevant actors within a collaborative strategy. The aim of a cluster is to achieve innovation and productivity through collaboration.

This Strategy establishes the key elements that must be put in place to support cluster development and sets out the actions required to progress cluster development in the Mid-West Region such as conducting the relevant research in advance of the development of a cluster, the employment of a dedicated Cluster Facilitator and the establishment of a formal monitoring framework.

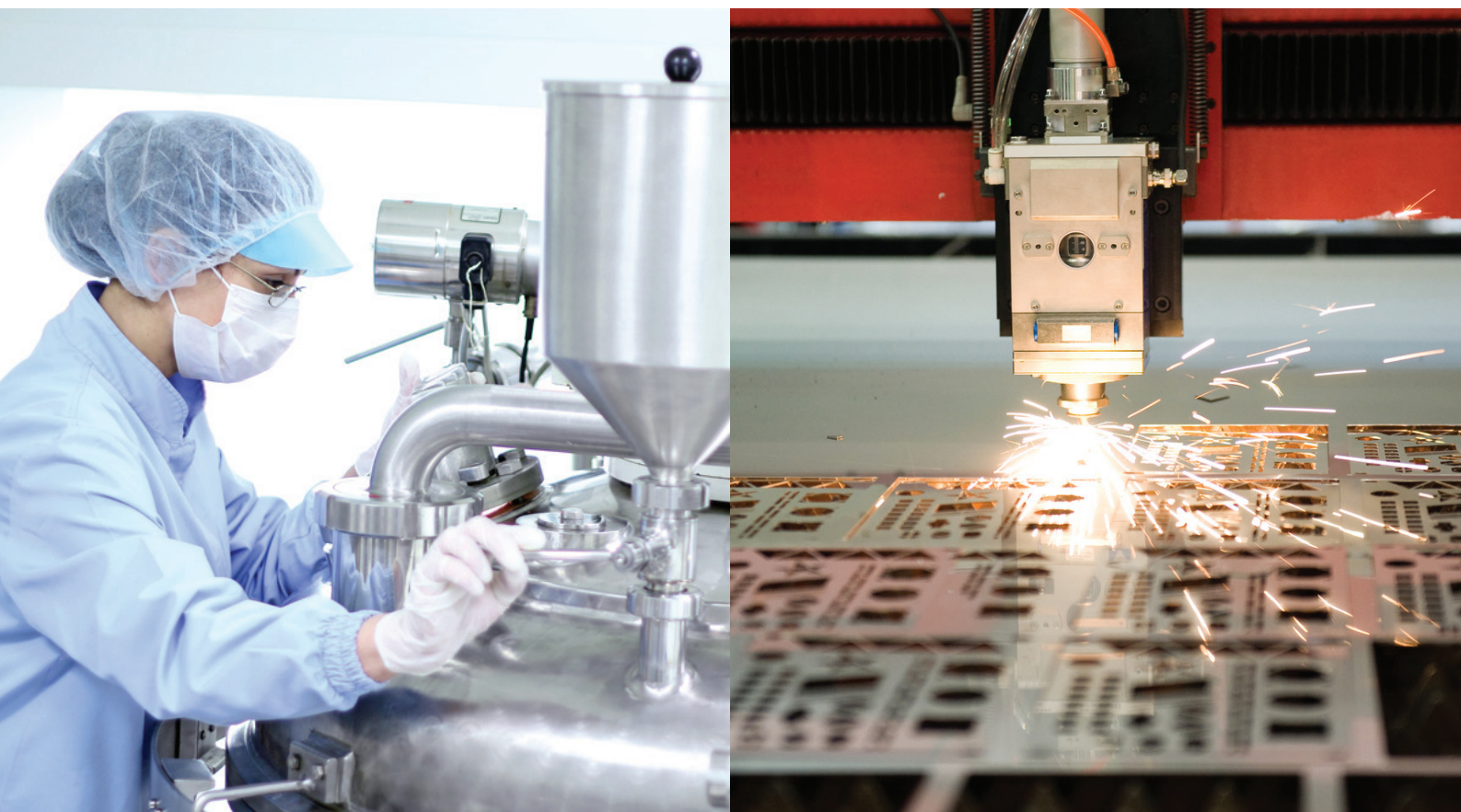
Open Innovation Culture

Open innovation is a process designed to accelerate innovation through collaboration. Under this approach a company/innovator/Higher Education Institute will work with external partners on new ideas to generate new business opportunities. The adoption of an open innovation approach between companies, academia and innovators in a region can assist businesses to find new technologies, access additional competence, find new ideas, reduce costs by working in partnership, access new markets and reduce time to market for new products and ideas. Achieving Open Innovation requires a cultural change. This Strategy therefore recommends actions to advance this change over time such as seeking a National Open Innovation Strategy, the organisation of events to increase awareness and raise interest in the benefits of open innovation and encouraging education on open innovation in second and third level education.

Support for Entrepreneurs and Innovators

Smart specialisation, cluster development and open innovation all have the potential to make a significant contribution to economic growth in the Mid-West. However a key element of all three developments is the generation of innovative new concepts and ideas and the establishment of new businesses in the Region. This Strategy sets out a series of support structures that are necessary to encourage innovation and entrepreneurship such as knowledge transfer, technology transfer, investment forums, start-up and commercialisation support and increased awareness amongst new and existing businesses of the supports that are available. This Strategy recommends a number of actions to increase support for entrepreneurs and innovators including the development of a Regional Investor Forum, the provision of training for SMEs on the public procurement process and removing barriers which may prevent businesses from accessing existing supports and services.





Implementation & Monitoring

This Strategy sets out a clear process for implementation and monitoring. At a regional level the Mid-West Regional Authority will be incorporated into a new Regional Assembly in the near future with the new Assembly assuming responsibility for planning and participation in EU projects at a regional level. The recommended implementation mechanisms will ensure that the implementation of this Strategy will not be affected by the restructuring of the regional authorities.

The implementation of this Strategy will be overseen by a new working group of the Regional Planning Guidelines Implementation Steering Committee. The working group will have a coordinating role, ensuring that other agencies and organisations in the Region fulfil their role and positively contribute to the achievement of the recommendations and actions set out in this Strategy. Given the extensive work already being undertaken to promote research and innovation in the Region, and the aim of this Strategy to increase innovation through greater collaboration, the Higher Education Institutes, Innovate Limerick Ltd., Limerick Economic Forum, the existing business support agencies, local authorities, Local Enterprise Offices and Chambers of Commerce all have an important role to play in the implementation of this Strategy. In order to monitor the extent of implementation that takes place, and the impacts of that implementation, a series of research and innovation indicators are also set out in this Strategy.

Conclusion

This Strategy supports educators, researchers, entrepreneurs, SMEs, multi-national companies, policy & decision makers and business support agencies by promoting research and innovation and building on the existing business and innovation support structures in the Region. The Mid-West Region has the potential to become an innovation leader, to empower innovators, entrepreneurs and existing businesses to develop new opportunities, making the Region a European and world leader in terms of R&I capacity and performance. This Strategy is a first step on the path to a vibrant, sustainable and dynamic research and innovation sector in the Mid-West Region.



Ireland is one of the most globalised economies in the world and is **ranked first globally** as the best country in which to do business

Chapter 01

Introduction

1.0 Introduction

Ireland is one of the most globalised economies in the world² and is ranked first globally³ as the best country in which to do business. These rankings reaffirm Ireland's pro-business environment and highly educated workforce, which is the youngest in the EU (Eurostat). Globally, we are ranked in the top 20 countries for the quality of our scientific research⁴. Furthermore, from a societal perspective, UNICEF regards Ireland as one of the top 10 countries in the world in which to grow up.

According to the EU Innovation Scoreboard 2014 Ireland continues to be a *"High Innovation follower"*. Countries such as Denmark, Finland, Germany and Sweden are *"Innovation Leaders"* with innovation performance well above that of the EU average; Ireland, along with Austria, Belgium, France, Luxembourg and the United Kingdom are *"Innovation followers"* with innovation performance above or close to that of the EU average. The scoreboard bases the assessment on indicators such as firm investments, finance & support, intellectual assets and outputs and employment in knowledge-intensive activities⁵. This analysis recognises that Ireland's innovation strengths are in human resources and economic effects while our weaknesses relate to finance and support, and firm investments.

Furthermore, the IMD World Competitiveness Yearbook 2014 puts Ireland at number 15 in an overall global competitiveness ranking and Ireland achieved top ranking position in:

- Availability of skilled labour
- Flexibility and adaptability of workforce
- Attitudes to globalisation
- Investment incentives

These global and European rankings present a snapshot of the current economic and social climate and are testament to the resilience and strength of Ireland as the country emerges from a deep global recession with renewed vigour. They demonstrate the national capacity for education, research and innovation and the attractiveness of Ireland as a place to live, work and do business.

At both an Irish and European level commitment has been made to the creation of a new growth model which will be smarter, more sustainable and will provide greater inclusivity for all citizens. This model for future growth will be robust and will allow Ireland to compete on a world stage. It focuses on smart specialisation and the introduction of targeted funding programmes. The EU has also recommended the preparation of national/regional smart specialisation strategies (RIS3 strategies) that will build on each country's strengths and focus policy supports and investment on key national/regional priorities. In Ireland, the Department of Jobs, Enterprise & Innovation (DJEI) / Forfás have prepared a National Smart Specialisation Strategy.

This Research and Innovation Strategy for the Mid-West Region aims to complement the objectives of the National Smart Specialisation Strategy. Historically the Mid-West Region has a strong history of innovation. The establishment of Ireland's first Regional Development Company and Shannon Free Airport Development Company Ltd. in the Region highlight the leading role that the Mid-West has played in research and innovation in the past. However, in recent years the Region has lost competitiveness and this Strategy represents an opportunity to rejuvenate the regional research and innovation sectors for the benefit of the local, regional and national economy.



This Strategy will provide a greater focus on the particular strengths and opportunities in the Mid-West and will lay the foundations for strong and focused research and innovation activity in the Region. Research and Innovation (R&I) already plays a strong role in the progression of economic growth in the Mid-West. This Strategy provides an evidence-base and policy context which will inform future investment and development and will ensure that maximum regional benefits are obtained from future R&I developments. This strategy embodies a holistic approach aimed at bringing all the R&I stakeholders together to create a truly innovative region that can compete globally.

1.1 Purpose & Objectives of the Regional Strategy

1.1.1 Vision

A Mid-West Region with an innovation-driven culture that is internationally recognised for its research excellence and that is at the forefront of generating and utilising new knowledge for economic and social progress.

1.1.2 Aims of the Strategy

The aim of this Regional Research and Innovation Strategy is to set out the Mid-West Region's current research and innovation profile and to work with all relevant stakeholders to present a shared vision for the Region in terms of its research and innovation priorities up to 2018. The Strategy establishes a framework to allow the Region to become more competitive, both nationally and internationally, and to build on its strategic position as a leading high-growth location recognised for its knowledge base and research excellence.

Research and innovation are dynamic areas and in recent years there has been a move towards smart specialisation and the benefits that can be accrued from fostering a culture of open innovation. This Strategy aims to set out the actions that are needed in the Mid-West Region in order to generate a move towards smart specialisation and open innovation and to maximise the regional benefits of research and innovation activities. This Strategy identifies unique opportunities for development and growth, based on the assets and capabilities of the region.

1.1.3 Objectives of the Strategy

The overall aims of the Strategy will be achieved through the implementation of a number of key objectives, namely:

- To set the policy context for research and innovation in the Region and to encourage and facilitate the implementation of European and national policy at a regional and local level;
- To establish the current level of research and innovation resources and activities in the Mid-West Region;
- To develop and utilise highly successful approaches in order to increase the level of research and innovation activity in the Region;

2 Ernst & Young Globalisation Index

3 Forbes 2013

4 Thomson Reuters Essential Science Indicators

5 Innovation Union Scoreboard 2014



- To identify the areas of greatest strategic potential in the Mid-West Region and to present a series of recommended actions in relation to these areas in order to maximise the knowledge-based development capacity and potential of the Region;
- To support the move towards an Open Innovation⁶ environment, where businesses and researchers interact more freely, and to ensure that the relevant policies are in place to support and encourage this cultural shift;
- To create and further improve communication mechanisms between public support agencies, academia, industry, entrepreneurs and civil society on key information pertaining to the achievement of a culture of innovation.

1.2 Conclusion

This Strategy has been prepared in order to form a strong foundation and clear vision for the future research and innovation development of the Region. The social and economic prosperity of a region is based on a diverse range of interactions. This diversity provides a broad economic base, ensuring that a region does not become over-dependent on a single industry. This Strategy, through the objectives relating to clustering and obtaining critical mass, does not aim to narrow the economic base of the Region; rather it aims to ensure that we capitalise upon our resources and strengths and focus on areas where we have the potential to become industry leaders. It promotes diversification of the knowledge-based economy into technologies, products and services that are closely related, thereby ensuring maximum benefit from future investments in the Region.

⁶ Open Innovation 2.0 – The Dublin Declaration, May 2013

Research, innovation & smart specialisation

are widely recognised to be central elements in the creation of a robust and dynamic economy



Chapter 02

Policy Context

2.0 Introduction

In order for the EU, Ireland and the Mid-West Region to enter into a period of strong and sustained economic growth, it is essential that policy and investment decisions are focused on emerging global growth areas. Research, innovation and smart specialisation are widely recognised to be central elements in the creation of a robust and dynamic economy. Both policy development and funding opportunities at a European and a National level are increasingly focused on these development areas and it is essential that the Mid-West Region capitalises on the opportunities that are presented by these high level policies and funding streams.



2.1 European Policy Context

2.1.1 Europe 2020

The *Europe 2020 Strategy* aims to confront Europe's structural weaknesses through the progression of three mutually reinforcing priorities:

- Smart growth, based on knowledge and innovation;
- Sustainable growth, promoting a more resource-efficient, greener and competitive economy;
- Inclusive growth, fostering a high-employment economy and delivering economic, social and territorial cohesion.

Investing in research, innovation and entrepreneurship is at the heart of Europe 2020 and a crucial part of Europe's response to the economic crisis. It is also considered to be of vital importance to have a strategic and integrated approach to innovation that maximises European, national and regional research and innovation potential.

As part of the Europe 2020 Strategy, the European Commission has adopted the 'Innovation Union' flagship initiative. It sets out a comprehensive innovation strategy to enhance Europe's capacity to deliver smart, sustainable and inclusive growth and highlights the concept of *smart specialisation* as a way to achieve these goals.

2.1.2 EU Multiannual Financial Framework (MFF)

The EU Multiannual Financial Framework (MFF) has a total budget of €960 billion across approximately 70 programmes and covers the period 2014-2020. This framework has a strong emphasis on expenditure aimed towards boosting growth and creating jobs through greater competitiveness, building on the Europe 2020 concept of smarter, more sustainable and inclusive growth. Ireland will have access to funding under a number of European Structural Investment (ESI) funds such as the European Regional Development Fund (ERDF), the European Social Fund (ESF) and the European Agricultural Fund for Rural Development (EAFRD). Funding for many programmes under the MFF is now contingent upon compliance with 'Smart Specialisation/ RIS3' pre-condition (ex-ante conditionality) which requires EU Member States and regions to have a Smart Specialisation /RIS3 Strategy in place that will build on each country's strengths, competitive advantage and potential for excellence and will focus policy supports and investment on key national/ regional priorities.

2.1.3 EU Cohesion Policy 2014-2020

The EU Cohesion Policy will be the EU's principal investment tool for delivering the goals of Europe 2020. It will invest up to €351.8 billion in Europe's regions, cities and the real economy, which is over 36% of the total Multi-Annual Financial Framework. Progression will be assisted by the targeted investment of the European Regional Development Fund (ERDF) in key priorities such as support for small and medium-sized enterprises.⁷

2.1.4 HORIZON 2020

Horizon 2020 is the financial instrument of the EU which implements the 'Innovation Union', a Europe 2020 flagship initiative aimed at securing Europe's global competitiveness. The total budget for Horizon 2020 is €79 billion which represents the single largest R&D fund globally. The Irish Horizon 2020 target is €1.25 billion over the next seven years and builds on earlier Framework Programmes (FP). Ireland derived approx. €626 million from FP7 in the period 2007 - 2013.

Horizon 2020 is a means to drive economic growth and create jobs through investment in research. The goal is to ensure Europe produces world-class science, removes barriers to innovation and makes it easier for the public and private sectors to work together in delivering innovation.

2.1.5 COSME

COSME is the EU programme for the Competitiveness of Enterprises and Small and Medium-sized Enterprises (SMEs) in the period 2014 to 2020⁸. COSME has a total budget of approximately €2.3 billion and aims to support SMEs by providing better access to finance, access to markets, support for entrepreneurs and creating more favourable conditions for business creation and growth.

2.2 National Policy Context

2.2.1 National Targets to address Europe 2020

The targets set out in the Europe 2020 have been translated into national targets for Ireland so that progress towards the goals can be monitored. The following table illustrates the current situation of Ireland vis-à-vis the Europe 2020 targets and reflects, where available, the relevant targets included in the Ireland National Reform Programme (NRP)⁹.

Europe 2020 Headline Target	Current National Situation	National 2020 Target as per National Reform Programme
3% of expenditure on research and development	1.8%	2%
75% of the population aged 24-60 should be employed	64.1%	69-71%
The share of early school leavers should be under 10%	10.6%	8%
At least 40% of 30-34 years old should have completed tertiary education	49.4%	60%

Table 2.1 Europe 2020 Headline Targets & Targets set out in the National Reform Programme

2.2.2 National Action Plan for Jobs

The Irish Government Strategy for Job Creation and the commitments under the Department of Jobs, Enterprise and Innovation (DJEI) Action Plans for Jobs 2012-2014 have identified the need to target areas that are most likely to create economic value and jobs. The Action Plan for Jobs is a multi-annual Action Plan series to improve supports for job-creating businesses and to remove the barriers to employment creation across the economy.

The Action Plan for Jobs 2014 identifies building competitive advantage through innovation as a key priority for stimulating the Irish economy over the next five years.

2.2.3 Forfás Innovation Networks Report 2004

The Forfás Innovation Networks Report highlights the importance of strong network development. Innovation Networks allow small and medium sized companies to gain the advantage of scale. They also play a vital role as a conduit of knowledge within an overall national innovation structure. Innovation occurs most frequently in collaboration and that tacit knowledge, which is gained at the interface between organisations, is an important source of innovation.

2.2.4 National Smart Specialisation Strategy

Smart specialisation is a strategic approach to economic development which targets support to research and innovation activities. It forms the basis for ESI Fund interventions and is an ex ante condition for all Member States.

“Smart specialisation involves a process of developing a vision, identifying competitive advantage, setting strategic priorities and making use of smart policies to maximise the knowledge-based development potential of any region, strong or weak, high-tech or low-tech.”¹⁰

At a national level, Ireland’s National Smart Specialisation Strategy (RIS3) is embodied in the Research Prioritisation Exercise Report which was agreed by Government in 2012 and will be subject to peer review in 2014 with other EU countries and the European Union. This Strategy for the Mid-West draws on the national-level strategy and identifies regional strengths, priorities and opportunities.

The Research Prioritisation Report identifies a number of priority areas around which future investment in publicly-performed research should be based. The report informs the National Smart Specialisation Strategy/RIS3 and recommends 14 priority areas of focus (see Appendix 2). The research and findings contained in the report, as they relate to the Mid-West Region, have been taken into consideration in the preparation of this Strategy.

7 http://europa.eu/rapid/press-release_MEMO-13-1011_en.htm

8 http://ec.europa.eu/enterprise/initiatives/cosme/index_en.htm

9 <http://www.wheel.ie/sites/default/files/Consultation%20Process%20on%20Partnership%20Agreement%202014%20-%202020.doc>

2.3 Regional Policy Context

2.3.1 Mid-West Regional Planning Guidelines

The focus of the Mid-West Regional Planning Guidelines 2010-2022, as they relate to the issue of economic development, is to enhance those areas where the Region has performed less well and to concentrate on those sectors of economic activity where, for reasons of location, infrastructure or natural resources, it has a competitive advantage. This Research and Innovation Strategy aims to achieve that focus by identifying and building upon the strengths of the Mid-West Region.

2.3.2. Mid-West Area Strategic Plan 2012-2030

The Mid-West Area Strategic Plan 2012-2030 (MWASP) aims to ensure that the Mid-West Region, and Limerick City as its capital, will realise its potential as a gateway region both nationally and internationally. The future of the Region will be based on sustainable, economic, social equity and environmental drivers, which together will deliver an enhanced quality of life. MWASP sets out an economic strategy for the Region which sets out recommendations in 10 key areas that are considered to be critical to the development of enterprise and economy in the region (Figure 2.1)



Figure 2.1 Areas in which Economic Recommendations are Focused
– Mid-West Area Strategic Plan 2012-2030

10 <http://s3platform.jrc.ec.europa.eu/home>

2.3.3 Limerick 2030 Economic & Spatial Strategy

Limerick 2030 is an economic and spatial plan for Limerick City and County. From an economic growth perspective the aim is to ensure that the City and County focus on market sectors where a competitive edge exists, maximising the amount of foreign direct investment secured, supporting innovation, enterprise and start-ups, and developing and diversifying the skills and knowledge of the population. The Strategy sets down a number of innovation projects aimed at anchoring an open innovation system that extends and adds value to Limerick's innovation infrastructure. The Plan aims to ensure the creation of highly productive knowledge-based employment and to offer a competitive proposition to potential investors by virtue of its skills and research and development assets. Limerick City & County Council will deliver these projects and support regional innovation through the establishment of a new public-private partnership company - 'Innovate Limerick Ltd.'

2.3.4 City & County Development Plans

In addition to National and Regional-level plans and strategies, City and County Development Plans also play an important role in promoting economic development, research and innovation. In the Mid-West Region the City and County Development Plans contain policies and objectives to support and facilitate research and innovation-related development. They also proactively assist economic development through the preparation of new plans and strategies focused on economic development such as the Strategic Integrated Framework Plan for the Shannon Estuary.

2.4 Conclusion

The large number of policies and strategies at European, national and regional level which aim to promote economic growth through research and innovation investment and growth are testament to the importance of R&I development to our national and regional economic future.



The focus is now shifting towards smart specialisation and targeted financial investment, with funding becoming increasingly dependent on evidence-based strategies that demonstrate the strengths of a region and how those strengths will be developed going forward. There is a clear need for such a strategy in the Mid-West Region to ensure that developments that take place in the future capitalise upon the strengths of the Region and keep pace of industry moves towards smart specialisation, open innovation and strengthened collaboration.

Figure 2.2 Policy Context Overview



The Mid-West Region

has a strong research
base and an international
profile as a high quality
place to do business

Chapter 03

The Mid-West Region

3.0 Introduction to the Region

The Mid-West Region represents the geographical areas of County Clare, Limerick City and County and North Tipperary. Based on the evidence as set out below, the Region has a strong research base and an international profile as a high-quality place to do business, with many companies availing of the skilled workforce, research capabilities and access to markets.

The population of the Mid-West Region, according to the 2011 Census, is 379,327 persons, which represents approximately 8% of the population of the State. The Limerick/Shannon urban conglomeration has been identified as a Linked Gateway in the National Spatial Strategy 2002-2020. Ennis has also been identified as a Hub town¹¹ with surrounding towns and villages supporting the regional economy. These strong national-level designations illustrate the current strength and future development potential of the Mid-West Region.



The Regional Indicators Report 2013 indicates that the Mid-West Region has an employment rate of 62.9% (based on population in the 20-64 age cohort). This is below the national target of 69-71% and the Europe 2020 target of 75%. Hence there is capacity to increase industry and enterprise activity and to expand the employment base in the Mid-West Region.

3.1 Infrastructural Connectivity

The Mid-West Region has global trading links and excellent connectivity to international markets via Shannon International Airport and the port facilities on the Shannon Estuary. These port facilities include Foynes Port which has been designated as a European TEN-T Core port. The ports of the Estuary are the third largest in Ireland by tonnage. The national road and rail networks of the Region have seen significant development with the opening of the Limerick-Galway rail line, the M7 motorway to Limerick and the Limerick Tunnel under the Shannon River. This network provides connectivity to Galway, Cork, Waterford and Dublin.

3.2 Enterprise Activities in the Mid-West Region

Figures from the CSO (2011) Business Demography highlight that the number of active enterprises in the Mid-West Region is approximately 18,150, with a breakdown comparative to the population of each county administrative area. Limerick accounts for the largest number of active enterprises at 7,156. Figures indicate that SMEs comprise 99.8% of the total active enterprises in the Region and account for over 80% of the total people employed by enterprises. Large enterprises (>250 employees) account for less than 1% of the total active enterprises; however, they account for 20% of total employees in enterprises. Large enterprises and foreign direct investment (FDI) are both a significant economic contributor and employer in the Mid-West Region.



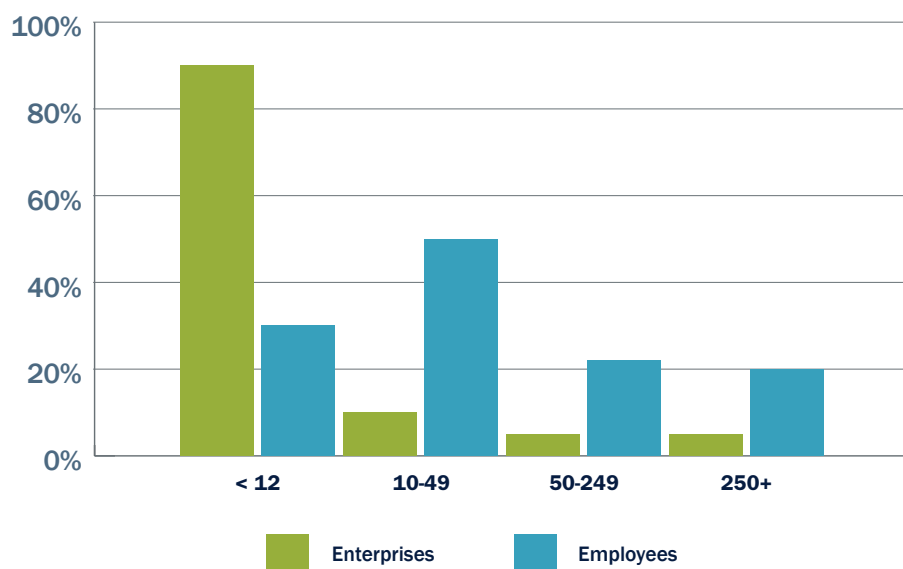


Table 3.1 % Breakdown of Enterprises & Employees in the Mid-West Region
Source: CSO Business Demography 2011 & MWRA Analysis

CSO figures from Q1 2012 indicate that industry was the largest employer in the Mid-West Region, employing 16% of the total workforce, with a further 14% employed in the wholesale and retail sector. The public sector (PAD, health and education combined) employed approximately 36,000 persons, accounting for almost 25% of the total workforce. High value-added sectors such as professional, financial and IT activities accounted for 12% of the Region's employment (See Table 3.2).

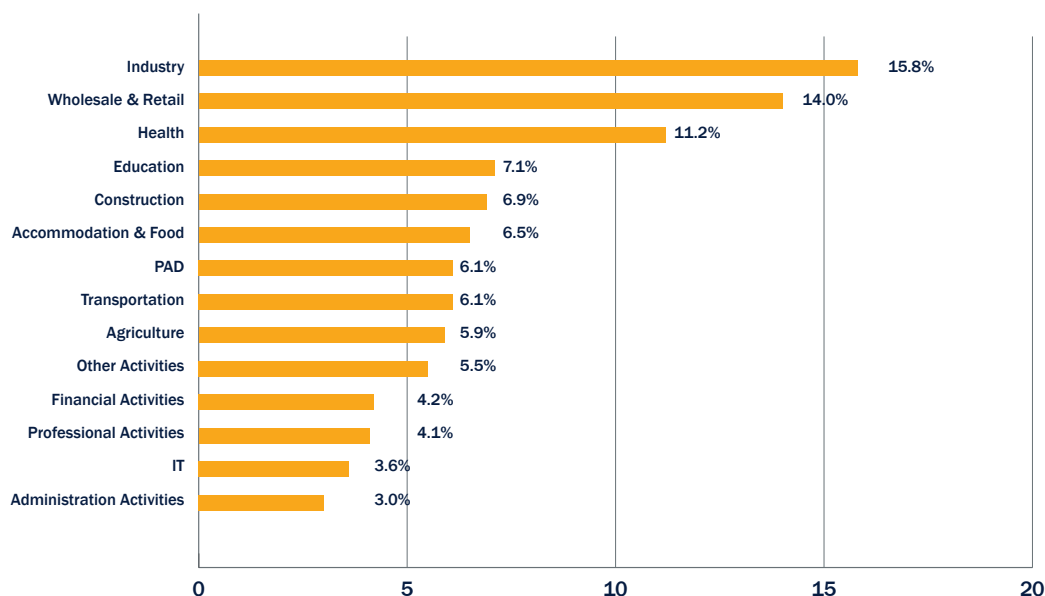


Table 3.2 Mid-West Employment by Sector Q1 2012, based on FÁS Regional Labour Market Bulletin 2012 & CSO Figures

11 Limerick/Shannon Gateway and Ennis Hub as identified in the National Spatial Strategy & Mid-West Regional Planning Guidelines

12 Source: Higher Education Authority

The available data indicates that while the FDI sector is of vital importance to the growth of exports and high-end employment, the economy of the Region is also highly dependent on the indigenous SME sector for growth and employment. Therefore while it is important for the Region to improve collaboration and innovation amongst large-scale and FDI industries, it is also critically important to ensure that there is greater SME engagement in research and innovation activities in the future.

3.3 Gross Value Added

Gross Value Added (GVA) is a productivity metric that measures the difference between the value of final output and the value of intermediate consumption. It provides a value for the goods and services that have been produced, less the cost of all inputs and raw materials that are directly attributable to that production. The Regional Indicators Report 2013 provides a comparison of GVA in the Mid-West Region relative to the other regions in the country. This comparison shows that the Mid-West Region contributes 7.2% of national GVA in contrast to 8.3% of national population, indicating that there is significant potential for enhanced contribution when compared to other Irish regions.

Furthermore, CSO figures from 2011 for the Mid-West Region indicate a GVA at basic prices of €25,982 per person which is below the national average of €32,224. There is a need to address this productivity gap of €6,242 per person in the Region, as productivity will be a key driver of future economic growth.

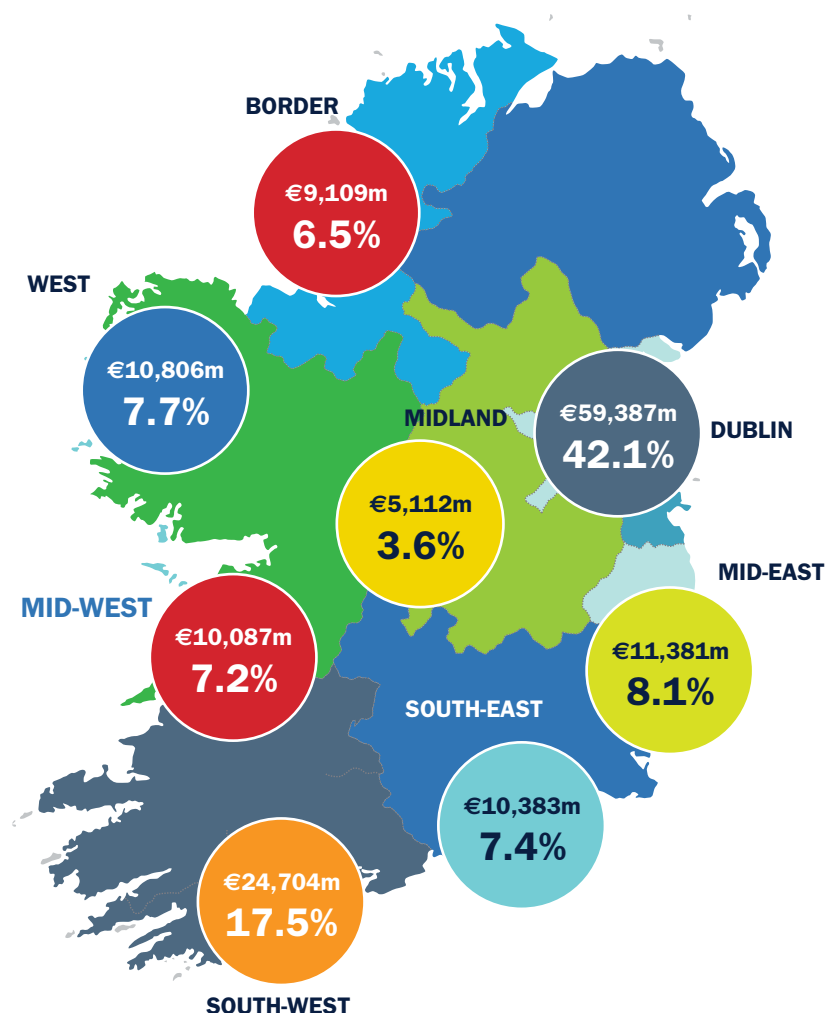


Figure 3.1 GVA Contribution in each Region
Source: Regional Indicators Report 2013

3.4 Educational Attainment

The Mid-West Region has a high level of educational attainment. The Regional Indicators Report 2013 shows that 62% of 30-34 years olds in the Mid-West Region have completed tertiary education. This exceeds both the European target of 40% and the national target of 60%. Furthermore, figures from the Higher Education Authority indicate that there is a high level of post-graduate research being undertaken in the Region.

No. of PhD Graduates in the Mid-West Region 2008-2010			
	University of Limerick	Mary Immaculate College	Limerick Institute of Technology
2008-2009	102	5	1
2009-2010	95	8	0
2010-2011	129	6	1

Table 3.3 Number of Phd Graduates – Mid-West Region 2008 - 2010

The number of graduates from Higher Education Institutes in the Mid-West who secure employment in the Region is an indicator of academic and business performance. Limerick Institute of Technology has the highest proportion of graduates remaining in the Region at 53% (based on 2012 figures). Currently 28% of graduates from the University of Limerick are being retained in the Mid-West Region. In comparison to other rural regions the Mid-West is improving its retention ability by matching both undergraduate and postgraduate courses with market demand. Graduate profiles with the highest retention rates are in business and humanities, science, engineering and IT¹³. The Region therefore has a young, well-educated workforce which is a significant resource in the progression of regional research and innovation.

3.5 Current level of innovation in the Mid-West Region

National and regional investment in research, development and innovation is of paramount importance and a significant level of investment has been made in the Region in recent years, albeit at a lower level than that of our regional and European counterparts. A number of performance indicators for the Mid-West Region in terms of research, development and innovation have been examined to establish the current level of investment and growth.

3.5.1 Innovation Vouchers

Enterprise Ireland's Innovation Voucher initiative was developed to build links between Ireland's public knowledge providers (i.e. Higher Education Institutes, public research bodies) and small businesses. Innovation Vouchers are available to assist a company to explore a business opportunity or problem with a registered knowledge provider. Since the scheme began in 2007, the Mid-West Region has experienced a low take-up of the Innovation Voucher scheme relative to other regions. With 8% of the national population, the Mid-West Region has taken up 7% of the total number of innovation vouchers given between 2007 and 2013 (Figure 3.2¹⁴). By comparison, the South-East Region currently has 11% of the national population and, despite having no University

¹³ LIT Graduate Overview, 2012 & UL Final Destination Report, 2012

¹⁴ Figures relate to the number of businesses that received Innovation Vouchers rather than the number of innovation vouchers utilised in HEIs in the Region.

in the Region (there are a number of other Higher Level Institutes), has over double the amount of innovation vouchers for the same period (16%). There is therefore, considerable capacity to increase take-up of this initiative in the Mid-West Region.

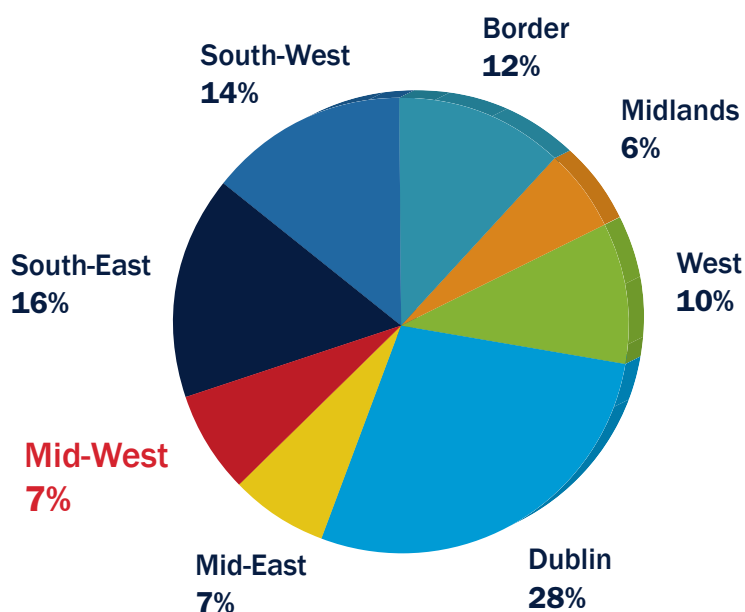


Figure 3.2 Regional take-up of Innovation Vouchers 2007-2013

3.5.2 Innovation Partnership Programme

The Innovation Partnership Programme, coordinated by Enterprise Ireland, can provide up to 80% of the cost of research work to develop new and improved products, processes or services, or generate new knowledge and know-how. Grants are available for collaborative projects between companies and research teams within Higher Education Institutes.



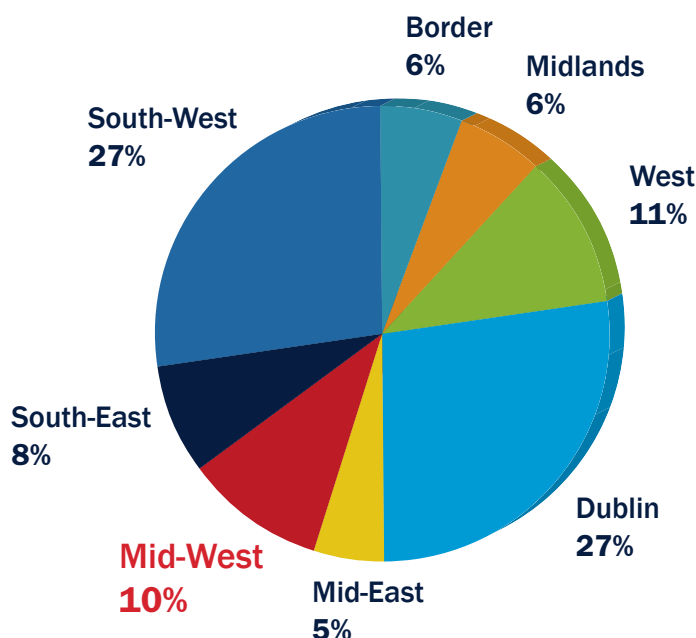


Figure 3.3 Regional take-up of Innovation Partnerships 2008-2013

The Innovation Partnership Programme has been one of the key national incentives to promote research and innovation in recent times. The Mid-West Region has generally had a good level of take-up in relation to this programme (Figure 3.3¹⁵) but significant potential exists for greater participation in this Region.

Case Study: Benefits of Involvement in the Innovation Partnership Programme

Samco Agricultural Manufacturing Ltd, based in Adare, Co. Limerick, is currently working with UCD Lyons Estate farm on an Innovation Partnership programme jointly funded by Samco and Enterprise Ireland. This project has been highly beneficial to Samco. UCD have developed a process whereby the dairy sector in Ireland can demonstrate the advantages of feeding maize grown under the Samco System in a quantifiable milk return yield per value of forage maize fed. This in turn has allowed Samco to increase the sales of its product line both in Ireland and abroad. The project has also set up a framework for future structured R&D work to be carried out in the company which has allowed Samco to employ a strong R&D team within the company and increase staff accordingly. It also demonstrated how R&D work can increase sales, job creation and profitability in a company.

¹⁵ Figure 3.3 illustrates the number of companies in the Region than participated in the Programme rather than the amount of investment made in the Region due to the implementation of the Programme.

3.5.3 High Potential Start Ups

High Potential Start-Ups (HPSUs) are start-up businesses developing an innovative product or service for sale on international markets with the potential to create 10 jobs and €1m in sales within 3 to 4 years of starting up. The number of High-Potential Start-Up in a region is broadly indicative of the level of innovative activity taking place. High potential start-ups are major contributors to job creation and economic prosperity. HPSU activity in the Mid-West Region has been low in recent years. In 2012 there were only 6 HPSUs in the Mid-West Region out of 88 nationally. This equates to 6.8% of the national total (See Table 3.4). This is partly explained by low FDI levels in the Mid-West and the fact that HPSU activity tends to emerge from local, highly-experienced FDIs.

	Dublin	South -West	West	Mid -West	Other	Total
Software & Services	38	7	2	2	8	57
Industrial & Life Sciences	12	2	1	4	7	26
Food & Consumer Products	1	1	0	0	3	5
Total	51	10	3	6	18	88
Competitive Start Fund	34	3	6	4	11	58
New Frontiers - Programme	3	2	1	1	5	12

Table 3.4 Number of High Potential Start Ups per Region 2012 (Source: Enterprise Ireland)

Enterprise Ireland's Competitive Start Funds provide young companies with vital early stage funding to test the market for their products and ideas, while New Frontiers is Enterprise Ireland's national entrepreneur development programme for innovative, early-stage start-ups. The uptake of both of these by entrepreneurs in the Mid-West Region was low in 2012 compared to other Irish regions.

3.5.4 Business Expenditure in Research and Development (BERD)

Overall, Ireland's BERD in 2011 accounted for 1.17% of GDP, below the EU average 1.2% and well below the OECD average of 1.59% of GDP. The BERD of Enterprise Ireland supported companies indicate the Mid-West Region performs lower than some of its regional counterparts. In 2012, 66 companies engaged in R&D spend of >€100,000, 12 companies engaged in R&D spend of >€1 million and 4 companies engaged R&D spend of >€2 million. There is significant capacity for greater numbers of businesses to avail of research funding opportunities that are currently available. While it is not possible to compile a complete snapshot of BERD in the Region, the figures outlined in Table 3.5 indicate the investments made by Enterprise Ireland companies.

Region	R&D >€100k Spend	R&D >€1m Spend	R&D >€2m Spend
Dublin / Mid East	403	75	32
Midlands	34	1	1
Mid-West	66	12	4
North East / North West	67	8	3
South/South East	155	26	10
West	72	12	5
Total	797*	134	55

Table 3.5 BERD Spend by Region by EI Companies (Source: ABR 2012)

3.5.5 Intellectual Property (IP)

Patents, trademarks and designs are also useful indicators of a region's innovative performance. In the Mid-West Region in 2012 there were 53 applications for patents, 71 for trademarks and 5 for designs. This indicates a high level of innovation at a regional level.

County	Patents	Trademarks	Designs
Limerick	21	56	0
Clare	25	15	5
Tipperary ¹⁶	10	26	11
Mid-West	56	97	15
Source: National Patents Office Annual Report 2012			

Table 3.6 Regional Patents, Trademarks and Designs 2012

3.5.6 EU Programme Funding participation in the region

A further indication of the Region's R&I performance is the level of participation on European Union funding programmes during the period 2007 – 2013. These programmes include INTERREG, FP7, CIP COSME, Intelligent Energy Europe and Leonardo. A regional analysis of participation rates and funding of companies has highlighted that the Mid-West is ranked 5th in terms of number of companies involved in FP7 projects in this period, with approximately 32 companies participating. The Mid-West region ranks in 6th position of the eight regions in terms of the amount of funding to companies. Dublin, South-West and the Mid-East regions account for the highest level of funding to companies. There is a need for greater awareness amongst companies in the Region of the benefits of participation in EU projects.

¹⁶ Figures given are for Co. Tipperary in its entirety. Sub-division of data into North & South Tipperary areas not available.

Case Study: Benefits of participation in EU Projects

Tyndall National Institute was established in 2004 under a formal agreement between University College Cork and the Minister for Enterprise, Trade and Innovation. Located in Cork City it is one of Europe's leading research centres in Information and Communications Technology (ICT) research and development and is the largest research facility of its type in Ireland. Tyndall was established to support industry and academia in driving research to market.

Tyndall has over 460 researchers, scientists, engineers and support staff, including 135 graduates from many disciplines including Chemistry, Bio-Chemistry, Physics, and Engineering with 200 industry partnerships and customers globally and approximately 30 researchers in residence from some of these companies. In 2013, Tyndall was participating in over 85 EU co-financed projects and was coordinating 26 of them. Overall Tyndall secures approximately 85% of its funding through competitively-won contracts nationally and internationally and has an estimated turnover of approximately €30 million each year.

Tyndall are presently seeking suitable calls and partners and are coordinating a number of project bids with multi-nationals and SMEs for European funding opportunities including Horizon 2020. This is a collaborative approach whereby Tyndall is the coordinating mechanism for industry participation on a variety of EU programmes and other funding opportunities. This approach supports the building of relationships within this sector, through enhanced collaboration and partnership on projects.

3.6 Conclusion

Industry development and expansion is a continually evolving process and the facilitation of this evolution is central to sustainable economic growth in any region. Research and Innovation are core components and must be developed and expanded in order to enable economic growth in the Mid-West Region. The evidence available indicates that there are strong R&I structures in the Region at present, with a skilled workforce and a range of support options. However, the Region is not reaching its full potential. GVA is well below the national average and there is potential for greater uptake of the supports that are available and for greater business expenditure on R&I. This Strategy aims to address these issues to ensure continuous and sustained improvement to regional R&I performance in the future.



The Mid-West Region has a **strong research and innovation base** from which to grow



Chapter 04

Existing Research & Innovation Resources in the Mid-West Region

4.0 Introduction

The Mid-West Region has a strong research and innovation base from which to grow. This base is a significant asset in terms to the potential for future economic growth and the progression of employment-related development in the Region. The presence of a number of highly regarded Higher Education Institutes (HEI) and numerous national and international businesses and industries, many of whom have a research and innovation remit, gives the Region a strong foundation on which to base future growth. There are also range of research centres, business development programmes and incubation facilities in the Region. Additionally, the national enterprise and innovation support agencies, such as Enterprise Ireland, IDA and the Local Enterprise Offices, provide a wide range of services which help to promote a culture of innovation in the Mid-West.



4.1 Higher Education Institutes

4.1.1 University of Limerick – Research Strengths

The University of Limerick (UL) recognises the mutual benefit that flows from engagement between the Mid-West Region and the University's research goals. They aim to actively create synergies and critical mass through the establishment of research institutes and centres; engage in strong collaboration with strategic partners and ensure that the results of their research are rapidly translated to action. Interdisciplinary research convergence and critical mass are reflected through UL's research institutes and centres. Research Institutes represent the highest level of research infrastructure within the University, and provide focused support for research, both within faculties and across faculties. University of Limerick currently has four research institutes, namely:

- The Materials and Surface Science Institute (MSSI), which undertakes research focused on the design of materials for health, transport, energy and clean technology;
- The Stokes Research Institute, where research is conducted in the field of micro-scale mechanical engineering, principally micro-thermofluids and micro-scale solid mechanics;
- The Irish Software Engineering Research Institute (LERO), a global leader in software engineering research; and
- The Institute for the Study of Knowledge in Society (ISKS), which supports research on political, social and cultural change, and on identity and social order, locally, regionally and globally. The Institute has a commitment to improving the way that academic knowledge impacts the wider community.

Additionally the Charles Parsons Initiative (CPI) consolidates the work and expertise of several UL-based research centres focused on sustainable forms of energy, while a new Clinical Education & Research Facility at the University Hospital Limerick campus will provide for the necessary education and research services required by the UL Graduate Medical School. The newly established Synthesis & Solid State Pharmaceutical Centre (SSPC) based at UL will position Ireland as a global hub for the pharmaceutical industry.

In 2012, UL entered into seven IP commercialisation agreements with a number of companies including indigenous Irish companies like ALR Innovations, Clada Medical, The Rosetta Foundation and Poly-PICO technologies. To date the Nexus Innovation Centre has also far exceeded its initial targets by supporting the formation and growth of 32 new high-tech start-up companies and over 75 new high-value jobs, 9 student cooperatives and 10 JobBridge scheme placements.

4.1.2 Limerick Institute of Technology (LIT) – Research Strengths

R&I is a strategic focus at Limerick Institute of Technology. There are a number of research centres/groups based at LIT Limerick and LIT Tipperary, as follows:

- The ACORN Research Group – focused on the engineering of sustainable solutions for industrial, commercial and utility applications;
- Shannon Applied Biotechnology Centre (ABC) – a commercially-focused research centre with programmes to explore natural products for novel bioactive substances of value to the Healthcare, Forensic, Pharmaceutical, Food, Cosmetics, Agricultural, Environmental and Bio-Energy Industry;
- The Centre for Rural and Sustainable Development – focused on the socio-economic aspects of sustainable development and the application and dissemination of sustainable energy technologies and processes in the wider society;
- The FoodDS Development Centre – brings together a multidisciplinary team of researchers with commercial specialists so as to provide a centre of excellence in food research, capable of food development and innovation to the benefit of the Regional and National economy;
- The Limerick School of Art and Design – carries out a wide range of research activities in the Art and Design fields and is ranked in the top 50 Fashion Schools in the world.

Research Groups also address a wide range of research topics. These groups include CHIMERA which comprises a multidisciplinary group of scientists with demonstrated research excellence in all forms of microbial cell factory research including traditional microbial substrates (bacteria, yeast and fungi) but also in microalgal and cyanobacterial as well as tissue culture and mammalian cell culture technologies.

4.2 Higher Education Collaborations

4.2.1 Higher Education Authority's Proposed Regional Clusters

The Higher Education Authority's (HEA) Report to the Minister for Education and Skills on System Reconfiguration, Inter-institutional Collaboration and System Governance in Irish Higher Education provides for a major programme of structural reform including institutional mergers and much greater levels of institutional collaboration, with the creation of a series of regional clusters of institutions. The vision for regional clusters is that they will function to create dynamic and innovative 'regions of knowledge' capable of increasing regional capacity, capability and global competitiveness in order to contribute significantly to social, cultural and economic development. They will do this by exploiting the strengths of individual institutions within the cluster and by maximising their collective capacity which will be greater than the sum of their individual strengths. They will offer a high quality and better-integrated set of services to students, businesses and communities. For the Mid-West HEIs, clustering with the West HEIs from Galway-Sligo-Letterkenny will bring significant critical mass and competitive advantage in terms of research capacity.

4.2.3 Shannon Consortium

The Shannon Consortium, which was formed in 2006, is a collaboration between the University of Limerick, Limerick IT, IT Tralee and Mary Immaculate College. The Consortium's vision is to transform the Higher Education landscape in the Region with each partner contributing according to its distinctive, yet complementary, strengths. The aims of the Consortium are to co-ordinate and develop specific innovations in the region, thus achieving a greater impact on students and staff than is possible by any individual institution acting alone. Collaborative action is key to ensuring economies of scale across the Consortium. The Consortium liaises with other educational

stakeholders in the Region such as the Education and Training Boards and adult learning providers to ensure a coherent and focused approach to advancing the social and economic goals of the Region, which encompasses the Limerick-Shannon Gateway and the Tralee-Killarney Hubs.

4.2.3 Technology Gateway Programme

Enterprise Ireland's Technology Gateway Programme has established a nationwide network of 12 industry-focused Gateways based in the Institutes of Technology, one of which is located at the Shannon ABC Research Centre at LIT. Each Gateway delivers technology solutions for industry through innovative collaborative projects and provides an open access point for industry. They also provide technology expertise and technology solutions which are industry-relevant.

4.2.4 Enterprise Ireland/IDA Technology Centres

The current Programme for Government has highlighted the importance of introducing companies to the research expertise in Higher Education Institutes in order to generate innovative technologies which in turn will lead to job creation. Funding has been provided to establish industry-led technology centres. The centres are a joint initiative between Enterprise Ireland and IDA Ireland which allows Irish companies and multi-nationals to collaborate. Technology Centres are based in a University with support from partner colleges to deliver on the research needs of the companies. There are currently 15 industry-led research centres working in fields such as IT Innovation, Bio-refining & Bioenergy, Data Analytics and Manufacturing Research. Two Research Centres are hosted by the University of Limerick: The Irish Centre for Composites Research and The Pharmaceutical Manufacturing Technology Centre. The University also participates in a number of other research centres. Limerick Institute of Technology is currently involved in the International Energy Research Centre.

Case Study: Collaboration between Industry and Higher Education Institutes

The Enterprise Research Centre in the University of Limerick has worked in collaboration with industry on a number of research initiatives. In recent years a multidisciplinary research team worked with Galway-based company Aeroneb to develop a programme of research to provide essential solutions for improving the performance of their medical devices. The solutions which were successfully achieved were based on a combination of industrial experience and fundamental materials science.

4.3 Industry Linkages & Procurement

The development of industry linkages is important to achieve business growth and is of particular importance in securing new contracts and procurement opportunities. While there are extensive linkages in the Region at present, the majority are informal in nature. The value of the Irish public sector procurement market in 2013 was estimated at €12 billion (7,500 tenders) which provide the single biggest opportunity for SMEs. A recent study has highlighted that 75% of all Irish public sector tenders are won by companies in Leinster. On a county by county basis, Dublin achieved a success rate of 62% while Cork won 8% of all tenders in 2013. Limerick won approximately 4%, Clare 2% and Tipperary 1%. The report highlighted that 46% of the SMEs surveyed would participate in tender bids if they had more market intelligence around opportunities. With growing public procurement opportunities in Europe and globally, Ireland is a low-level participant in this area. Less than 2% of Irish companies have successfully won European tenders since 2003¹⁷. In a programme

entitled 'Growth through Procurement' Enterprise Ireland has increased funding towards developing industry linkages to support SMEs to collaborate and develop partnerships to successfully bid for Irish, European and international public procurement and government tenders.

4.4 Support Agencies & Organisations

National enterprise and innovation support agencies make a significant contribution to research and innovation in the Mid-West Region. They ensure that entrepreneurs and existing businesses receive the support that they need to grow and to contribute to the regional and national economy.

4.4.1 Enterprise Ireland (EI)

Enterprise Ireland is the government organisation responsible for the development and growth of Irish enterprises in world markets. They work in partnership with enterprises to help them to start, grow, innovate and win export sales on global markets. Through the provision of funding, training & support, infrastructure & accommodation and the development of linkages and networks, EI support sustainable economic growth, regional development and secure employment.

4.4.2 Industrial Development Agency (IDA)

The IDA is responsible for the attraction and development of foreign investment in Ireland. One of their key roles is to build links between international businesses and third level education, academic and research centres to ensure the necessary skills and research and development capabilities are in place.

4.4.3 Science Foundation Ireland (SFI)

SFI is the national foundation for investment in scientific and engineering research. SFI invests in academic researchers and research teams who are most likely to generate new knowledge, leading-edge technologies and competitive enterprises in the fields of science, technology, engineering and maths.

4.4.4 Local Enterprise Offices (LEOs)

Reform of the local authority system across Ireland has allowed local government to play a stronger role in promoting economic development as a statutory function. This is due to the economic impact of its functions generally, its links with enterprise, its local knowledge and leadership, economic initiatives and its local development and enterprise functions. LEOs are located within the local authority structure and have combined the resources of the former City/County Enterprise Boards with the local authority business support units. They deliver services and supports to micro and small business sectors on behalf of Enterprise Ireland.

4.4.5 Chambers Ireland

Chambers Ireland is a national business representative organisation with a Mid-West network of offices in Limerick, Shannon, Ennis, Roscrea, and Thurles. They provide support and work to create an improved business environment for both new and existing businesses. They also provide employee training and up-skilling space and information for businesses on the state supports and services that are available to them. Regionally they work to provide networking opportunities and business information events and they also work with key influencers and decision-makers on behalf of their members on issues that are impacting on their businesses.

17 Source: www.tenderscout.com

18 Enterprise Ireland and The National Association of Community Enterprise Centres Report 2014

4.5 Mid-West Regional Innovation Network

In addition to the research and innovation supports and services currently offered by the Higher Education Institutes and State Agencies in the Region, there is also an extensive network of innovation centres and support providers who assist at all levels from spin out, start up, primary incubation, second stage incubation, acceleration, and ongoing support for small to medium enterprises (SMEs). Examples of the range of supports provided within this network include NEXUS – a ‘community supportive’ environment for graduates who require support to start their own business; the Hartnett Enterprise and Acceleration Centre (HEAC) – an on-campus incubator for innovation and growth driven business start-ups in the Mid-West Region; the National Franchise Centre (NFC) – a centre of excellence in Ireland for capturing the successful framework and methodology of franchising; the Croom, Thurles and Newcastle West Community Enterprise Centres which are operated / work closely with LIT in the establishment and growth of new enterprises. Community Enterprise Centres (CEC) are of particular importance, with recent studies showing that they have created over 9,300 jobs nationally in the last decade and over 40% of companies that develop in CECs go on to export their products and services¹⁸.



Figure 4.1: Existing Enterprise Support Centres in the Mid-West Region

Case Study: Collaboration between Industry and Higher Education Institutes

The Croom Community Enterprise Centre opened in May 2013 and offers 17 flexible units, 3 meeting rooms and 1 training room to cater for the needs of small and medium businesses and start-ups across a variety of sectors. The Centre has partnered with Limerick Institute of Technology through the Enterprise Ladder Programme to host training programmes and provide space for potential graduate companies of the programme. The centre provides traditional office rental, personalised reception services, virtual office support, administration support and many other tailored business solutions to support start-up companies.

4.6 Conclusions

As outlined in this Chapter, the Mid-West Region is well-served in terms of research and innovation support and development infrastructure. However, further work and collaboration is required if the Region is to reach its full potential. This Strategy aims to build on the existing R&I structures in the Region for the benefit of the wider economy. Cluster development and an open innovation environment have proven to be highly successful approaches in other regions and, as outlined in the following chapters, this Strategy aims to progress their development in the Mid-West. Smart specialisation and the provision of support to innovators and entrepreneurs are of equal importance, ensuring that research and innovation translate into tangible and marketable products and functions. The vision and recommended actions contained in this Strategy aim to make these key areas in making a successful research and innovation culture a reality in the Mid-West Region.



The Mid-West Region must ensure that the necessary policies and structures are in place to allow the Region to **grow and to keep abreast of international trends**

Chapter 05

Opportunities for Future Growth

5.0 Introduction

The profile of the Region that has been set out in earlier sections of this Strategy has provided a baseline regarding the current research and innovation activity taking place. It identifies that the Region has many strengths and resources but also indicates that there is significant capacity for further growth.

The research and innovation sector is constantly evolving and in order to compete at a national and international level, the Mid-West Region must ensure that the necessary policies and structures are in place to allow the Region to grow and to keep abreast of international trends. In order to achieve the vision for the Mid-West Region a series of key areas where there are opportunities to capitalise on the research and innovation capacity of the Region have been identified, namely:

- Smart Specialisation
- Cluster Development
- Open Innovation
- Support for Entrepreneurs and Innovators

Further support and development of these four areas has the potential to make a significant contribution to the Mid-West research and innovation landscape and to the growth of the regional and national economy.

5.1 Smart Specialisation

5.1.1 What is Smart Specialisation

Smart specialisation is a strategic approach based on the more effective spending of public resources, concentrated on certain domains of knowledge or expertise. The goal of smart specialisation is to transform regional economies around new knowledge-based activity domains. Those domains are selected through careful analysis of the existing capabilities, assets, competences and competitive advantages of a region which allows the region to focus on its strengths. In a small country like Ireland it is particularly important that sectoral priorities are established in specific areas as the country is unlikely to have the capacity to accommodate and service multiple clusters across a wide range of sectors. Smart specialisation is based on the premise that spreading investment too thinly across several frontier technology fields risks limiting the impact in any one area.

5.1.2 Potential Regional Benefits

Developing and implementing smart specialisation policies has multiple benefits for a region. Firstly, smart specialisation is of particular benefit when financial resources are limited. Governments need to focus scarce resources on a small number of areas and measures that have genuine potential to create sustainable jobs and continuous growth. Smart specialisation focuses investment and supports on identified regional strengths thus ensuring value for money in times of tighter budgets and scarce public resources while at the same time supporting the creation of knowledge-based jobs and growth. Moreover, by focusing on what gives a region its



greatest competitive potential, smart specialisation helps to position the region in specific global markets/niches and international value chains. It also ensures that research and innovation resources reach critical mass i.e. sufficient momentum to become self-sustaining.

The implementation of smart specialisation policies ensures the promotion of knowledge spill-over and technological diversification in the region. The most promising way for a region to promote its knowledge-based growth is to diversify into technologies, products and services that are closely related to existing dominant technologies and the regional skills base. Knowledge spill-over is most successful if it is within related industries (as opposed to a diversity of unrelated sectors). Through the prioritisation of complementarity between related economic activities, and finding better ways to combine their strengths, smart specialisation can work to create new industrial capabilities in areas with high growth potential.

This does not, of course, mean that individual enterprises will be prevented from establishing in specific areas or that they will not be supported in doing so. The personal choices of entrepreneurs and their executives can have a significant impact on locational choice. The smart specialisation approach refers to the way in which some publicly-funded resources will be clustered in particular geographic areas.

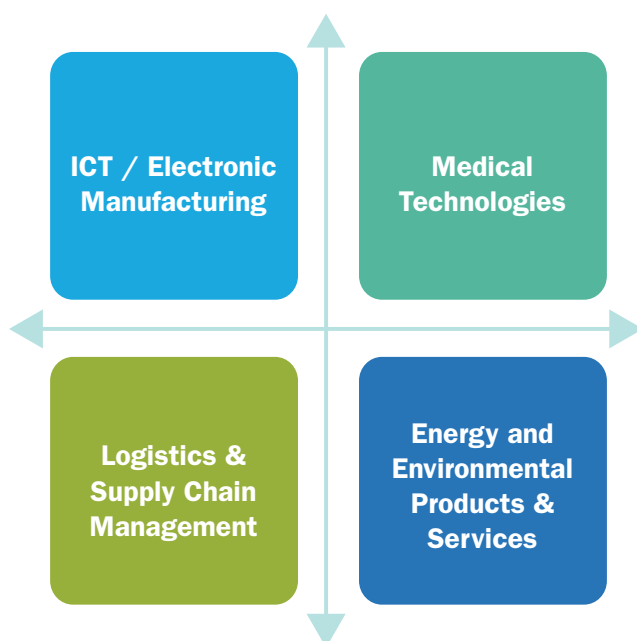


Figure 5.1 Identified Industries for Smart Specialisation in the Mid-West Region

5.1.3 Identifying Regional Priorities

Key filters for prioritisation are identifying the principal assets and infrastructure in the Region, potential for sectoral diversification, development of critical mass or potential within each sector and the identification of the Region as a node within global value chains. A large amount of research has been carried out by various different sources in relation to the key assets, infrastructure and industry strengths in the Mid-West including the areas in which it would be most beneficial to focus investment in the coming years.

Based upon:

- a) The Forfás Regional Competitiveness Agenda 2009;
- b) Limerick 2030: An Economic and Spatial Plan for Limerick;
- c) Data pertaining to employment, turnover and exports in the Region from the Central Statistics Office and;
- d) The research strengths of the Higher Education Institutes in the Region.

The above sectors have been identified in this report as most likely to benefit from smart specialisation policies and investment in the Mid-West.

5.1.4 Actions Required to Progress Smart Specialisation

In order to further progress smart specialisation in the Mid-West and to ensure that the Region accrues maximum benefit from industry supports and investment the following actions are recommended:

- To carry out further detailed analysis of the identified industries to establish their research needs, their potential for innovation, diversification and greater levels of collaboration and the potential for the Region to capitalise from knowledge spill-over;
- To work with businesses in the identified sectors to establish the barriers to business expansion and research & innovation in the Region;
- To work in coordination with key stakeholders in the Region e.g. local authorities, Higher Education Institutes and business support agencies such as Enterprise Ireland to ensure that funding is focused on removing the identified barriers to development;
- To monitor the impact of analysis and investment, particularly in the areas of employment, productivity, the commercialisation of research outputs and the establishment of new related industries, in order to establish the impacts of the investments made.

5.2 Cluster Development

5.2.1 What is a Cluster

Clusters represent the next step in the process of regional prioritisation. Smart specialisation identifies the key regional assets and the sectors on which investment and development should be focused. Clustering is the next stage in the process, identifying the Region's core competences and putting formal structures in place to maximise the potential of those competences.

A cluster is a geographical location where a high level of specific resources/competences are found which thereby creates a distinctive sustainable competitive advantage over others (Porter 1998). Clusters represent more than the physical co-location of related industries. Clusters are sector-specific innovation systems, bringing together all relevant actors within a collaborative strategy. The table below sets out the most common types of industry co-location.

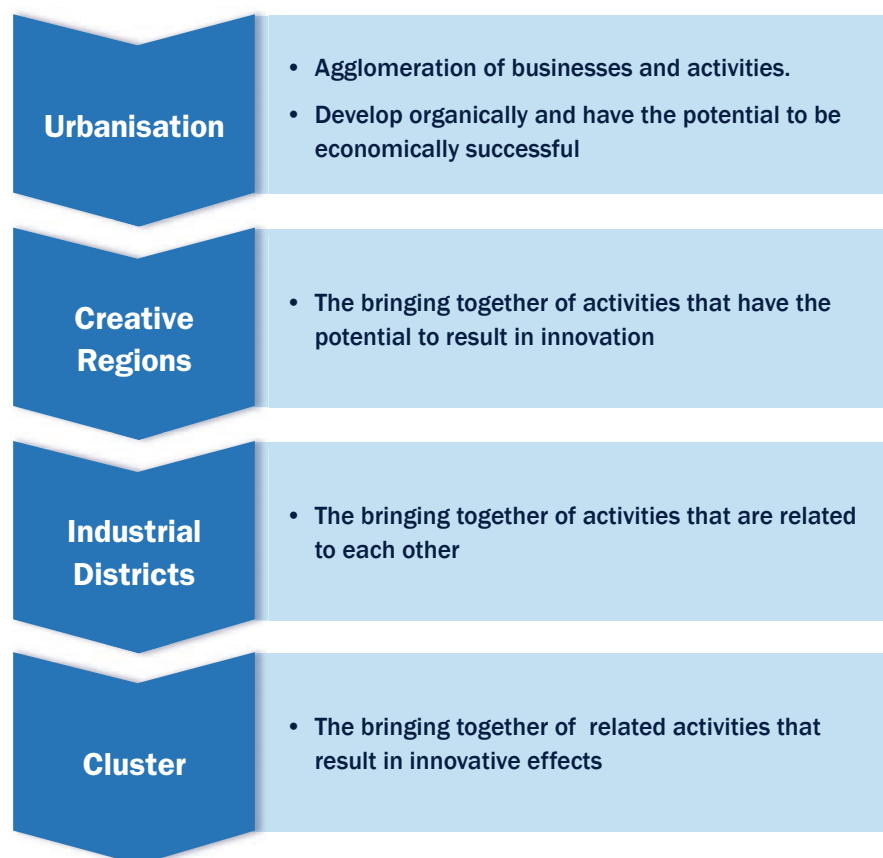


Table 5.1 Types of Business Collaboration

It is important to differentiate between smart specialisation and the development of a cluster. Smart specialisation focuses on specific innovation-intensive sectors whereas clusters apply to a broader set of sectors / actors in the economy. A cluster must be based around the core competencies of the region. This is a critical element of their successful development. There must be an existing critical mass of industries in order to support cluster development. A cluster is therefore a means of evolving and progressing an existing regional strength rather than a means of developing a new sector in a locality. The aim of cluster development is to achieve innovation and productivity through collaboration.

There are a number of different actors in each cluster:

- Industry/businesses – are at the core of every cluster;
- Public bodies/government agencies – make policy decisions and undertake actions that are important for the cluster;
- Higher Education Institutes – provide training, research and development;
- Organisations – industry organisations, organisations promoting collaboration etc.;
- Media – can work to promote / create an image of a region;
- Finance sources – smart money that is particularly aimed at the cluster.

Figure 5.2 below illustrates the transition that is required for cluster development in a region. On the left all of the organisations and agencies exist in a region but it is purely a physical agglomeration. They are highly sheltered from each other and there is no interaction. The right is more dynamic where people and organisations are linked in various ways. There are fora to allow people to meet and innovation takes place in the paths and bridges that are built between actors. On the left there is co-location but there is no true cluster dynamics. On the right there is co-location but there is also beneficial interaction between the actors.

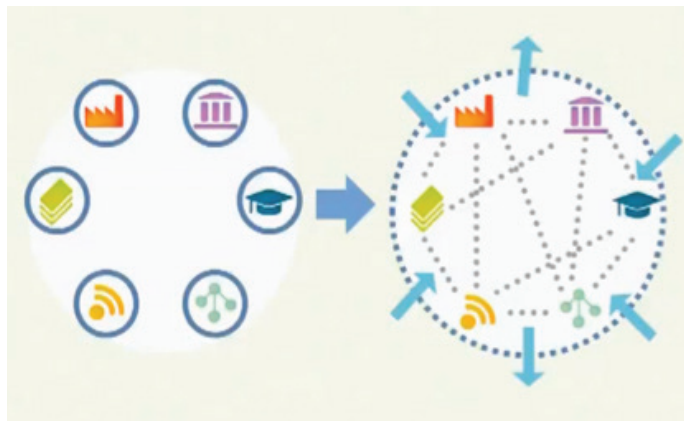


Figure 5.2 – Moving Towards Cluster Development (Source: European Cluster Observatory)

5.2.2 Potential Regional Benefits

Cluster development brings many potential benefits to a region. The development of a cluster builds a strong regional brand,

which in time has the potential to become an international brand. This will attract companies, people and resources to the region. Cluster development builds the competence of the companies involved, giving them the skills to grow. Clusters therefore build strong competitive companies with the capacity to work with innovation in an international arena.

Clusters also attract the development of new businesses. Research conducted in Sweden indicates that it is beneficial for new firms to be in an environment where there are a lot of other firms in the same sector. Figure 5.3 illustrates this fact, showing the outcome of a survey of new business start-ups within established clusters.

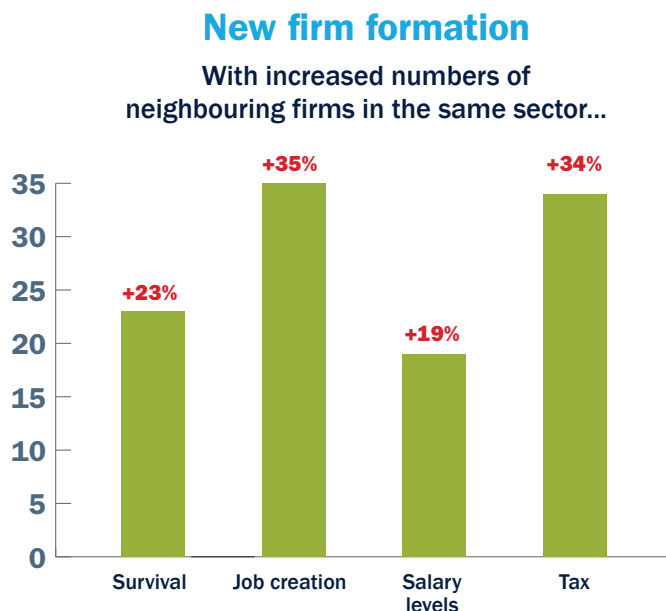


Figure 5.3 Survey of new firms locating in clusters in Sweden (Source: European Cluster Observatory)

5.2.3 Development of a Cluster

There are a number of identified phases in the establishment of a successful cluster. Cluster development is most commonly planned rather than occurring organically. While similar businesses commonly co-locate, specific structures must also be in place before such physical proximity can be considered to be a functional cluster.

Prioritisation: It is essential that clusters are developed on the region's strongest competence. Detailed research and analysis must be conducted to ensure that this competence is correctly identified. The sector selected for cluster development must already represent a significant percentage of the regional value chain and must have the potential for future development and to make a further contribution to the region.

Policy Support: A national clustering policy is essential to provide support and structure to cluster development. Additionally, there is a requirement for policies to ensure the creation of the type of environment that companies need in order to grow e.g. policies pertaining to funding, infrastructure etc.

Funding: Successful clusters are run like business entities and must have a secure funding source. Private/public funding partnerships have worked well in other regions. Over time governance and funding moves more towards the actors involved in the cluster and public funding is reduced or phased out so that the businesses take ownership of the cluster.

Structures to Support Collaboration: A successful cluster must have a cluster manager / facilitator to act as a process leader. Good facilitation is required for collaborative opportunities to be identified. Initially companies will be working in isolation and it takes time to change to a culture of engagement. Government agencies can also play a key role in the initial facilitation of company interaction and setting the cluster direction. Companies, businesses and academic institutions collaborate for a reason so it is necessary to find a genuine reason for them to come together. Once they start to work together trust between the actors will begin to build and deeper levels of collaboration will develop. Cluster development is generally based on the triple helix model.

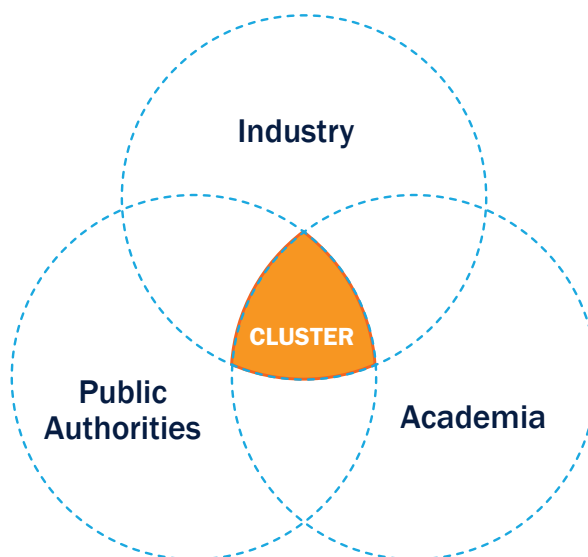


Figure 5.4 The Triple Helix Model of Cluster Formation

Monitoring: It is essential that the impacts of the cluster are measured so that the benefits of investment can be demonstrated. Company investment in the cluster is one of the key indicators of the success of any cluster initiative. Also, in order to be considered successful there must be benefits for the wider region and not just for the companies directly involved in the cluster.

5.2.4 Actions Required to Progress Cluster Development in the Mid-West

There are significant potential regional benefits of cluster development. However, while the co-location of business may initially be an organic process, the formal development of a cluster is most commonly a planned process that requires the involvement of public agencies. The following actions are recommended to secure the development of a successful cluster in the Mid-West Region:

- To proactively seek the development of a National Cluster Policy;
- To promote the Cluster Development Strategy for the Mid-West Region contained in this document as a template for the National Cluster Policy;
- To increase education and public awareness in the areas of cluster structure, cluster development and the regional benefits of clustering;
- To carry out the necessary prioritisation research and analysis in the Mid-West Region to identify the core regional competence;
- To secure public funding to engage a Cluster Facilitator to identify regional opportunities for collaboration and to develop initial linkages between relevant actors;
- To establish a formal monitoring framework through which progress towards the creation of a successful cluster, and subsequently the impacts of the development of the cluster, can be assessed.

Case Study: Cluster Development

Energy Cork is an industry-driven cluster pursuing coordinated actions to strengthen enterprise and employment within the energy sector in the Cork region. Supported by Cork City Council and Cork County Council through their respective Economic Development Funds, Energy Cork was conceived by Cork Chamber with a view to building on the unique opportunities for the region to secure competitive advantage in the energy sector. There are currently over 20 members in the cluster with a number of officers from public agencies and private companies on its Steering Group as well as a Chairman and a Treasurer. Energy Cork has a full time manager as part of its staffing structure.

In 2014 Energy Cork, with the support of South West Regional Authority, were successful in securing €250,000 as part of the Climate Knowledge Innovation Community (Climate KIC) Outreach Programme to directly support Irish organisations innovating in the low-carbon sector. Climate-KIC is one of Europe's largest public-private innovation partnerships focused on climate change.

Source: www.energycork.ie

5.3 Open Innovation Culture

5.3.1 What is Open Innovation

Open innovation is a process designed to accelerate innovation through collaboration. In a global age of increased competition and more individualised customer demands, constant innovation is needed for businesses to grow and expand.¹⁹

Open innovation can add competitive advantage and drive value through the identification and exploitation of complementary capability that cannot be achieved fully internally. Under this approach a company will work with external partners on new ideas to generate new business opportunities. In an open innovation culture the focus is to move away from a single large company and towards a network of innovative partners.

Case Study: Open Innovation Culture at General Electric (GE):

GE recognises that finding solutions to the world's toughest problems through advanced manufacturing techniques and processes requires collaboration. By crowdsourcing innovation, both internally and externally, GE is improving customer value and driving advancements across industries. By sourcing and supporting innovative ideas, wherever they might come from, and applying GE's scale and expertise, GE's approach to open innovation is helping to address customer needs more efficiently and effectively.

Source: www.ge.com/about-us/openinnovation

5.3.2 Potential Benefits to the Region

A culture of open innovation can make a significant contribution to the development potential of a region. It offers the opportunity for businesses to identify and exploit complementary capability. The adoption of an open innovation approach between companies, academia and innovators in a region can assist businesses to:

- Find new technologies
- Access additional competence
- Find new ideas
- Reduce costs by working in partnership
- Access new markets
- Reduce time to market for new products and ideas

¹⁹ http://www.ifm.eng.cam.ac.uk/uploads/Resources/Briefings/v1n4_ifm_briefing.pdf

5.3.3 Actions required to foster a Culture of Open Innovation in the Mid-West

While clear benefits can arise from a regional move towards open innovation, effecting a cultural change is a long term process. Actions must therefore be put in place to advance the change over time. The following actions are recommended to assist this cultural change in the Mid-West Region:

- To proactively seek the development of a National Open Innovation Strategy;
- To work with Innovate Limerick Ltd. and the Local Authorities in the Mid-West to develop a calendar of open innovation events in the Region throughout the year such as open forums and thematic workshops to actively promote open innovation and attract interest from industry, investors and academia;
- To organise an Annual Regional Open Innovation Networking Event with representatives from Higher Education, funding agencies and business owners/entrepreneurs to encourage interaction and communications between the relevant parties;
- To encourage and support multi-national companies in the Region to develop their own Open Innovation Strategies or to activate their existing Corporate Open Innovation policies in their operations in the Mid-West Region;
- At a national level, to lobby for a review of all third level courses to consider the inclusion of specific teaching modules on entrepreneurship and open innovation;
- To ensure that the Student Enterprise Programme currently undertaken by the Local Enterprise Offices continues to promote a culture of innovation amongst young people in the Region;
- To develop the legal and financial competencies within the Region that will facilitate the opportunity to avail of the benefits of Open Innovation approaches;
- To lobby nationally for policy guidance in relation to data protection, IP and competition policy to support an open innovation environment for all.

Case Study: The Creative Dublin Alliance

The Creative Dublin Alliance is a network led by the Dublin City CEO, with members drawn from the most senior level in local government, commerce, industry, education, state agencies and the not-for-profit sector. The purpose of the Creative Dublin Alliance is to develop, manage and promote Dublin's international reputation as a city where innovation and creativity thrive. In 2013 the Alliance managed a year-long 'Innovation Dublin Festival' to promote open innovation by businesses, Higher Education Institutions and communities. The year-long festival built on the success of previous events that have been organised through the work of the Alliance since 2009.

Source: www.creativedublinalliance.ie/about-cda/

5.4 Support for Entrepreneurs & Innovators

5.4.1 Introduction

Smart specialisation, cluster development and open innovation all have the potential to make a significant contribution to economic growth in the Mid-West. However a key element of all three developments is the generation of innovative new concepts and ideas and the establishment of new businesses in the region. Given that 99.8% of active enterprises in the region are SMEs, support for entrepreneurs and innovators is essential to ensure that this sector evolves and continues to grow. It is also essential in order to ensure the mutually beneficial exchange of information and business growth that will arise from the move towards an open innovation culture and the focus on smart specialisation and cluster development.

5.4.2 Key areas of Support

In order to support innovation and new business development there are a number of key areas in which support should be provided in the region:

Knowledge Transfer - Knowledge exchange or knowledge transfer seeks to organise, create, capture or distribute knowledge and ensure its availability to future users. The establishment of Knowledge Transfer Networks (KTNs) is highly beneficial. It brings together people from businesses, universities, research, finance and technology organisations to stimulate innovation through knowledge transfer.

Technology Transfer – Technology transfer is based on securing commercial opportunities for researchers and research institutions. The transfer of skills, knowledge, technologies etc. from research or education institutes to a wide range of users promotes scientific and technological development and the future expansion of these concepts in this Region is closely linked to the achievement of a culture of Open Innovation. The Technology Transfer Office in the University of Limerick plays a key role in this area in the Mid-West Region.

Investment Forums – Investment forums make a valuable contribution to innovation and business growth by providing an opportunity for entrepreneurs and innovators to pitch their ideas to potential investors. They also provide an opportunity for networking between researchers, entrepreneurs, start-ups and innovative companies, students and investors. They perform a valuable role in attracting private sector investment to a region but there are currently limited opportunities for businesses and individuals to present their initiatives to potential investors in the Mid-West Region and a formal investment forum is required.

Start-Up and Commercialisation Support – there are a wide range of agencies in the region providing invaluable support to entrepreneurs and business owners. Local Enterprise Offices, Enterprise Ireland, community-based enterprise centres and centres/programmes such as Nexus, New Frontiers, LEAP and TESS all provide vital services to support business development in the region. Innovate Limerick Ltd. will also provide essential business and innovation support in the region. It is important that this level of start-up and commercialisation support continues in order to help innovators to market their goods and services. Incubator space is also important but must be complemented by business support services to ensure that use of the space is proactively assisting business development and expansion.

Better Communications – Good communication and a high level of awareness of the available supports is a key component of the promotion of business development and innovation in a region. A KPMG commissioned study in 2013-2014 has found that there is a very low level of awareness among companies of options for improving business performance such as collaboration with HEIs on innovation projects. Increased awareness of the business development supports and options that are available is essential to strong regional growth.

5.4.3 Actions Required to Further Support Entrepreneurs & Innovators in the Region

In order to support the development of new businesses and innovation and to promote the expansion and evolution of existing businesses the following actions are recommended:

- To work with the Higher Education Institutes in the Region to maintain and enhance their long term commitment to knowledge transfer and commercialisation activities;
- To proactively seek national incentive mechanisms to promote the transfer of IP from Higher Education Institutes to entrepreneurs and innovators;
- To secure the development of a Regional Investor Programme for all stages of business growth. A key function of the Programme shall be the hosting of periodic investor forums, providing the opportunity for businesses/innovators to showcase their proposals to potential investors;
- To work with Innovate Limerick Ltd. to provide incentives to cultivate Limerick as a 'Start-Up City';
- To ensure that Local Enterprise Offices and other business support agencies provide mentoring and skills training to entrepreneurs to enable them to pitch ideas and to devise business plans for investors;
- To encourage collaboration between Local Enterprise Offices, Enterprise Ireland and the Office of Government Procurement to provide training to SMEs on the public procurement process and to encourage collaboration and linkages between SMEs to enhance their capacity to win tenders;
- To increase awareness amongst business-owners and entrepreneurs in the Region about the existing supports and services that are available and to remove barriers that may be resulting in a low level of take-up of these support options;
- To support and assist in the development of new business networks to enable collaboration to occur;
- To ensure that the current high level of new-business and innovation support is continued in the Region and that further '2nd phase growth' business development supports are developed and implemented;
- To ensure that commercialisation support is provided to a wide range of businesses. Technology commercialisation in particular should focus not just on global markets but also on new-to-the-country or new-to-the-firm technologies of significant economic and social value.



Promoting a more collaborative
culture through strong
leadership and **commitment**
to drive innovation and
entrepreneurship
in the Region

Chapter 06

Strategy Implementation

6.0 Introduction

Many different types of collaboration and partnerships already exist right across the Research and Innovation spectrum in the Mid-West Region, as has been illustrated in this Strategy. However, there is a need to promote a more collaborative culture through strong leadership and commitment to drive innovation and entrepreneurship in the Region.

Stakeholder engagement has been the cornerstone of the preparation of this Strategy. Stakeholders have participated extensively in its design, with the Mid-West Regional Authority performing a coordinating role. Stakeholder involvement will also be the cornerstone of the implementation of this Strategy. At a regional level the Mid-West Regional Authority will be incorporated into a new Regional Assembly in the near future with the new Assembly assuming responsibility for planning and participation in EU projects at a regional level. In light of these new structures it is of particular importance to develop multi stakeholder governance mechanisms which will help to create and further develop synergies between public support mechanisms, academia and industry. This will ensure that the implementation of the actions recommended in this Strategy will not be affected by the restructuring of the regional authorities.



6.1 Mechanisms for Implementation

Establishing the mechanisms with which to implement the Strategy is a key component in achieving the stated aims. No single agency can successfully implement the actions set out; it requires a collaborative effort with clear policy and guidelines set at national and regional level.



Figure 6.1 Bodies / Agencies with a Role in Implementation

Regional Planning Guidelines (RPG) Implementation Steering Committee²⁰: It is recommended that a working group of the RPG Implementation Steering Committee Group is established to prioritise the actions contained in this Strategy at a regional level and to oversee their implementation. The working group will also have a coordinating role, ensuring that other agencies in the Region, as discussed below, fulfil their role and positively contribute to the achievement of the recommendations and actions set out in this Strategy. The structure of the working group should be based on the Quadruple Helix Model, as per Figure 6.2²¹, to ensure that all relevant groups are included in the implementation process. Once the new Regional Assembly structures are in place the working group will assign responsibility for implementation of each of the actions set out in this Strategy to the relevant body/agency in the Region (NUTS III region).

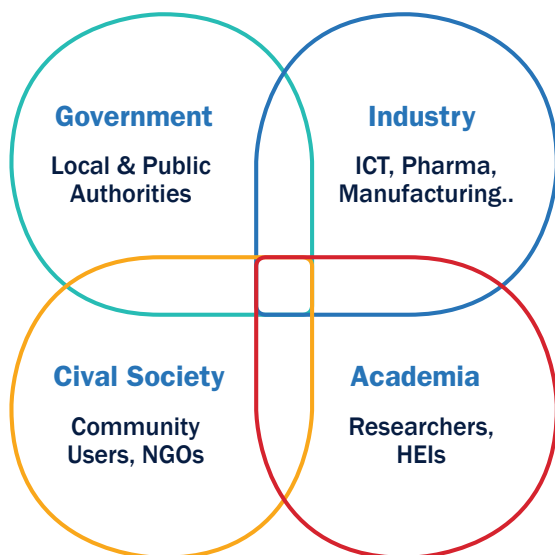


Figure 6.2 Quadruple Helix Implementation Model

In addition to the working group of the RPG Implementation Steering Committee, there are a number of other agencies and organisations in the Region who have a significant role to play in the implementation of this Strategy.

Higher Education Institutes:

University of Limerick and Limerick Institute of Technology have a key role to play. It is recommend that they continue to engage with other HEIs, private industry, business support agencies and Innovate Limerick Ltd. to ensure that opportunities for research, development and innovation are identified and capitalised upon. It is also recommended that further

opportunities for collaboration and knowledge transfer are proactively sought. In this context it is recommended that the opportunities offered by Horizon 2020 and by the Knowledge Alliances and Sector Skills Alliances of the Erasmus+ Programmes are particularly investigated.

Enterprise Ireland and IDA Ireland: The wide range of supports available from Enterprise Ireland and IDA Ireland has been highlighted in this Strategy. It is recommended that these agencies continue to work to raise awareness and increase up-take of the supports that are available to businesses in the Region. It is also recommended that they work in collaboration with Innovate Limerick Ltd. to develop a suitable Investor Forum Programme for the Region.

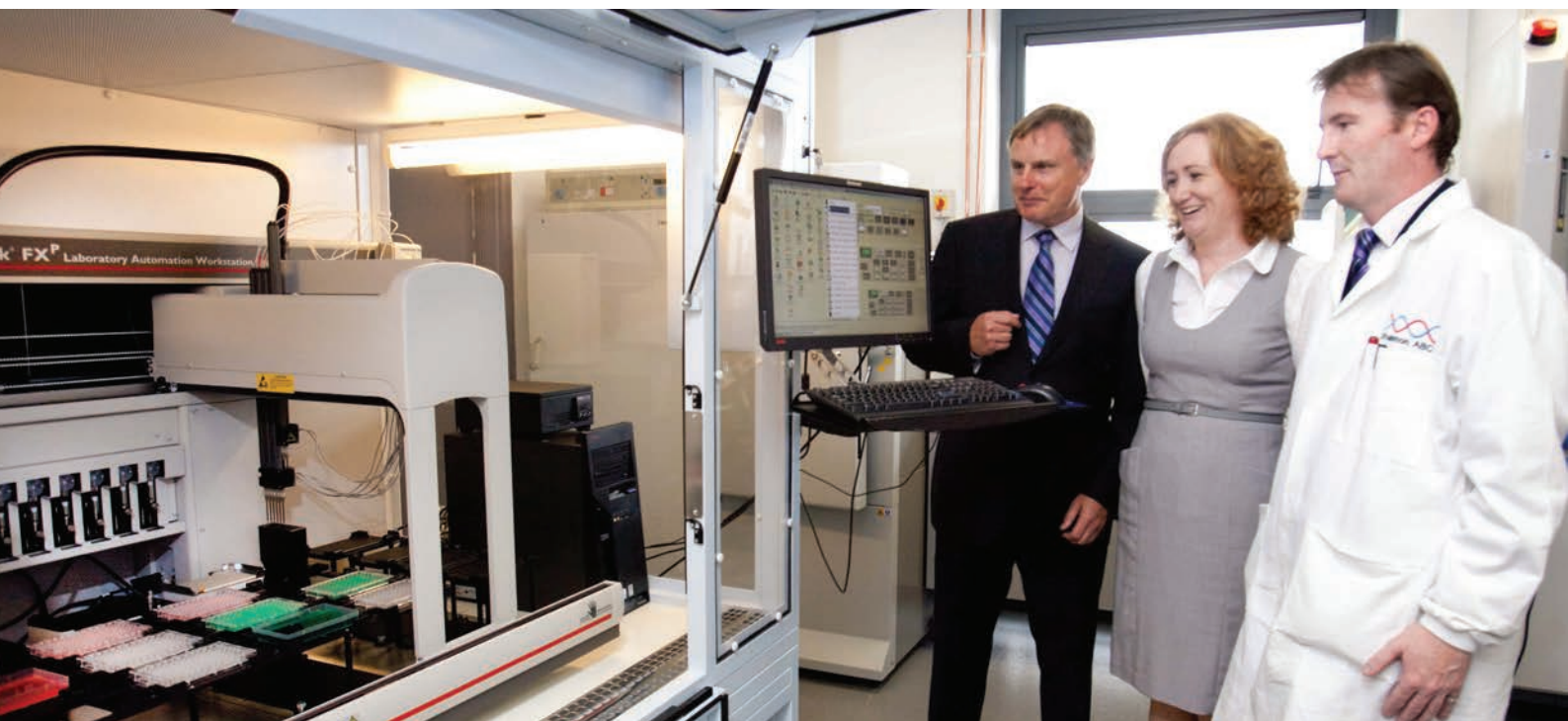
Local Authorities: Local Authorities have an essential role to play in ensuring greater collaboration at a regional and local level. EU Funding Programmes such as Horizon 2020, COSME, LIFE+ etc. have the potential to bring large-scale benefits to the Region and many are focused on areas such as SME expansion into new markets, translating research into commercialisation and looking towards innovation activities for new products and services. Going forward, and having regard to revised regional governance structures, it is essential that local authorities play a stronger role in attracting EU funding and projects to the Region and dedicate specific staffing resources to proactively bid for projects and to communicate the value of funding programmes.

Local Enterprise Offices: The Local Enterprise Offices have a key role to play in providing supports to entrepreneurs and existing business owners and also in raising awareness about those supports and increasing the profile of entrepreneurship as a career path. It is recommended that the LEOs also work with SMEs to support their participation in Horizon 2020 calls and projects. Assistance should be available to support SMEs to access the finance and support available through the EU COSME Programme. It is important, however, that the LEOs work in close co-operation with the HEIs in the Region who have both experience and expertise in this area to ensure that the work of the LEO complements the existing role of the HEIs in accessing EU funding under a variety of programmes.

Innovate Limerick Ltd.: Limerick City & County Council have established Innovate Limerick Ltd. to integrate the innovation activities of both the Limerick 2030 Economic and Spatial Plan and the Limerick Regeneration Framework Implementation Plan to deliver on this socio-economic innovation agenda. It is recommended that a Regional Research and Innovation component is included within the new Company Board's remit with a focus on how Limerick, as the main economic driver of the

20 Or Equivalent Committee under the new Regional Assembly structure

21 Source: <http://dice2013.wordpress.com/>



Mid-West Region and designated Gateway with Shannon, can drive Research and Innovation regionally with a view to progressing smart specialisation, cluster development and the creation of an open innovation environment and culture.


Limerick Economic Forum: The Limerick Economic Forum is a high-level body with key decision-makers that should have a substantial role to play in implementing this Strategy in the Limerick area. The members of the forum can work to ensure that the actions recommended in this Strategy are prioritised both in the county and regional context and within their individual organisations.

Local Economic & Community Plans: It is recommended that clear support is given to the implementation of the Research and Innovation Strategy for the Mid-West Region in the economic pillar of the Local Economic and Community Plans (LECP), which will be prepared by each local authority in the Region in accordance with the provisions of the Local Government Reform Act 2014. One of the objectives of the LECPs is the promotion of economic development in the functional area of the local authority. Economic development, in the context of the LECP, includes supporting the enhancement of local innovation capacity, including investment in research and development capacity, technology transfer, up-skilling and re-skilling. The remit of the LECPs will be primarily local in context and this Research and Innovation Strategy will provide a framework to ensure that local-level actions make a positive contribution to research and innovation at both a local and regional level.

Chambers of Commerce: As representative bodies for the enterprises in the Region the Chambers of Commerce have a particular role to play in facilitating communication between enterprises and other stakeholders in the region and in assisting to devise strategies to achieve the desired outcomes.

6.2 Conclusions

As already illustrated the Mid-West has significant research and innovation capacity but there is an acknowledged need for increased collaboration, both horizontal and vertical, and partnership-building between all the stakeholders in the Region. The recommended actions set out in this Strategy are the building blocks from which further collaboration and partnership can arise, bringing benefits to all sectors of the regional economy. The proposed new working group of the RPG Implementation Steering Committee will provide the governance mechanism necessary to ensure the implementation of this Strategy in the coming years. The working group will ensure that each agency and body with a role in research and innovation development in the Region contributes to the achievement of the actions set out in this Strategy.



Through **on-going monitoring & evaluation** by the various partners with a role in the implementation of this Strategy it will be possible to assess the level of implementation that has been achieved

Chapter 07

Monitoring & Evaluation

7.0 Introduction

It is essential that a formal monitoring and evaluation structure is put in place so that the impacts of the implementation of the Strategy can be properly assessed. Monitoring of this Strategy will be implemented through a number of different mechanisms:

RPG Implementation Steering Committee: The proposed new working group will play a key role in the implementation of this Strategy. This group should meet quarterly and evaluate the on-going progress with regard to the implementation of the actions contained in this Strategy.

Regional Spatial & Economic Plans: It is recommended that regional research and innovation indicators are included in the preparation of the Regional Spatial and Economic Plans. These indicators should be based on the four themes of this document (smart specialisation, cluster development, open innovation and support for entrepreneurs and innovators). They should be developed and tested by an expert group / consultation process to ensure their relevance and reliability. An annual review of the indicators should then be undertaken by the RPG Implementation Steering Group.

Until such time as these indicators are developed, a series of interim indicators have been set out in Table 7.1 below. These indicators can be used to assess growth in research and innovation in the Region until such time as formal research and innovation indicators are devised as part of the preparation of the Regional Spatial and Economic Strategy. These indicators should be evaluated on an annual basis where possible.

Baseline Data: The initial sections of this Strategy form a baseline assessment of the current research and innovation activities and strengths in the Region. The compilation of this information will allow for future assessment of the improvements achieved through the implementation of the actions set out in this Strategy.



Research & Innovation Indicator	2015	2016	2017	2018
Regional GVA				
Business Expenditure on Research and Development				
Total funding to Irish-owned enterprises from EU Horizon 2020				
Total funding to foreign-owned enterprises from EU Horizon 2020				
Total funding to Public Sector from EU Horizon 2020				
Number and value of claims under R&D tax credit				
Financial support provided by Enterprise Ireland to enterprises to support applications to EU Horizon 2020				
Number of new research-active High Potential Start-Ups				
Number of indigenous enterprises participating in EU Research Programmes				
Number of foreign-owned enterprises participating in EU Research Programmes				
Number of Innovation Vouchers redeemed				
Number of companies engaged in research with HEIs via Innovation Partnerships				
Number of companies involved in Enterprise Ireland/IDA Technology Centres				
Number of PhD level graduates				
Number of patent applications				
Number of entrepreneurs/ start-ups/ spin outs supported with capital from private sources in the region through the investor forum.				
Number of entrepreneurs provided with mentoring/training by LEOs to enable them to develop business plans for investors				

Table 7.1 Interim Research & Innovation Indicators

7.1 Conclusion

Through on-going monitoring and evaluation by the various partners with a role in the implementation of this Strategy it will be possible to assess the level of implementation that has been achieved and the local and regional impacts of that implementation. It will also allow an assessment of the return that has been achieved in relation to investments made and allow for the identification of areas that are underperforming relative to their potential and capabilities and where further focus and investment of resources are required.

Appendix 1 – Stakeholder Engagement

Stakeholder Engagement

In order to inform the development of this Research and Innovation Strategy, a wide consultation process was undertaken. The following stakeholders were engaged:

- **One-to-one meetings with:**

- Enterprise Ireland
- NEXUS Innovation Centre
- Limerick Institute of Technology
- Enterprise Research Centre
- Cook Medical
- University of Limerick
- Technology Transfer Office
- Vistakon
- IDA Ireland
- Nestle
- Limerick Chamber of Commerce
- Forfás

- **Presentations to the Mid-West RPG Implementation Steering Group:**

11th December 2013 & 9th April 2014

- **Mid-West R&I Stakeholders Workshop:** 4th February 2014

- **Presentations to the Mid-West Regional Authority Monthly Meeting:**

5th February 2014 & 7th May 2014

- **Innovate Limerick Ltd. Workshop:** 23rd April 2014

Appendix 2 – National, Regional and Local Level Strengths

Report of the Research Prioritisation Steering Group, 2011

This report provides a list of fourteen Priority Areas for research prioritisation at a national level, these areas are listed below:

- Priority Area A - Future Networks & Communications
- Priority Area B - Data Analytics, Management, Security & Privacy
- Priority Area C - Digital Platforms, Content & Applications
- Priority Area D - Connected Health and Independent Living
- Priority Area E - Medical Devices
- Priority Area F - Diagnostics
- Priority Area G - Therapeutics: Synthesis, Formulation, Processing and Drug Delivery
- Priority Area H - Food for Health
- Priority Area I - Sustainable Food Production and Processing
- Priority Area J - Marine Renewable Energy
- Priority Area K - Smart Grids & Smart Cities
- Priority Area L - Manufacturing Competitiveness
- Priority Area M - Processing Technologies and Novel Materials
- Priority Area N - Innovation in Services and Business Processes

Forfás Report

The 2009 Forfás report 'Regional Competitiveness Agenda Volume II - Realising Potential Mid-West' highlighted six sectors for growth in the Region:

- Medical Technologies - and the increasing convergence with ICT;
- Food - taking advantage of depth of capabilities, natural resources, and changing consumer demands;
- Internationally Traded Services - building on emerging growth opportunities;
- Logistics and Supply Chain Management - taking advantage of infrastructures and local skills;
- Energy and Environmental products and services - based on natural assets and R&D capabilities;
- Tourism - based on historic strength, existing infrastructure and natural and cultural amenities.

Limerick 2030: An Economic and Spatial Plan for Limerick

Limerick 2030 sets out nine broad sectors which will drive the Limerick and Mid-West economy over the next 10-15 years. This Economic and Spatial Plan outlines nine sectors for further consideration:

- ICT /Electronics
- High Tech Manufacturing/Engineering
- Logistics /Distribution
- High Value Food & Drink
- Life Sciences
- Business and Professional Services
- Tourism, Sport & Leisure
- Secure investment in emerging sectors New Enterprise Growth
- Low Carbon Sector
- New Enterprise Growth
- Cultural, Creative and Digital Media

Mid West Regional Planning Guidelines Priority Areas

- The Life Sciences, Biotechnology and Medical Technology
- ICT including Software
- Logistics and Supply Chain Management
- Food Sector & Agri-business
- Tourism and Leisure
- Renewable and Sustainable Energy
- Agriculture

Photographs courtesy of LIT, Westpark Shannon and Shannon Airport.



Mid-West Regional Authority

Friar's Court, Abbey Street, Nenagh, Co. Tipperary

Email: info@mwra.ie

Tel: 067 33197

www.mwra.ie