SOUTH-EAST REGION
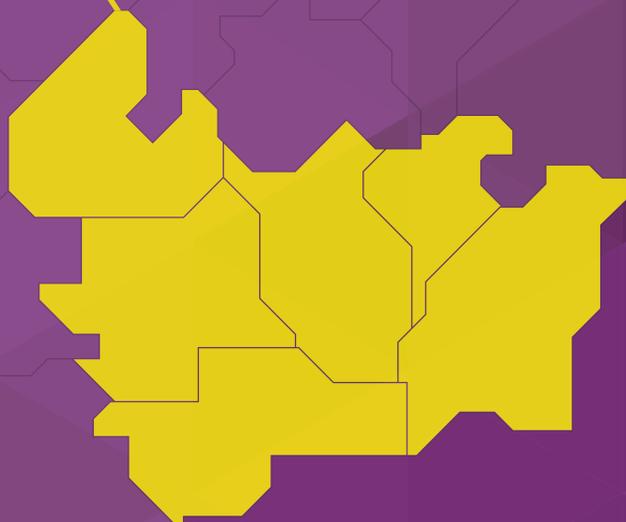
ACTION PLAN FOR JOBS

2015-2017

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Foreword by the Minister for Jobs, Enterprise and Innovation, Richard Bruton, T.D.

One of the Government's key priorities when it came in to office was to halt the haemorrhage of job losses and rebuild a sustainable economy based on enterprise, innovation and exports. The Action Plan for Jobs has been the Government's key policy instrument to support job creation and enterprise growth. The first Action Plan, published at the start of 2012, set an ambitious target of increasing the number of people in employment by 100,000 by 2016. Employment figures published by the Central Statistics Office for the first Quarter of 2015 show that we have exceeded this target more than 18 months ahead of schedule.

However, while we have made great progress in addressing our unemployment and competitiveness challenges and in building a new, sustainable enterprise economy driven by skills, innovation and success in markets, not all regions are experiencing the full benefits of economic recovery. We need to sustain the momentum and stretch ourselves further if we are to achieve sustainable full employment and ensure that all parts of our regions benefit from the recovery.

The South East region was particularly badly impacted by the downturn, with the rate of unemployment reaching over 20.1 per cent at peak. Reflecting the severity of the impact on the region, I published the *South East Employment Action Plan* in December 2011 and established an implementation group, the *South East Forum*. Through the collaborative approach of all stakeholders in the region the unemployment rate dropped to 11.9 per cent at the end of 2014. This pace of progress needs to be accelerated through targeted supports for enterprise and job creation.

Vibrant and competitive regions are important, not just from an economic perspective, but also from a societal point of view. Growing the economic base of regions supports social cohesion and provides opportunities for families to continue to live and work in their local communities.

The Government's 2015 Action Plan for Jobs includes a commitment to develop and publish a suite of regional Action Plans to support enterprise growth and job creation. The Action Plans will complement and contribute to the Local Economic and Community Plans to be developed by the Local Authorities and the regional Spatial and Economic Strategies to be developed by the new Regional Assemblies.

All regions in Ireland have potential for economic growth. It is critical that we focus on the potential within regions to position them as key contributors to Ireland's national growth and the creation of employment. Regions differ from each other in terms of potential, critical mass, stage of development, nature of sectoral strengths, skills profile and innovative capacity.

This Action Plan for Jobs for the South East covers the counties of Carlow, Kilkenny, Tipperary, Waterford and Wexford. The core objective of the Plan is to support the creation of extra jobs in the region through the delivery of 194 collaborative actions focusing on increasing the number of startups, developing the capacity of existing enterprises, and capitalising on the strengths and opportunities of the region.

This Action Plan has been developed on the basis of a series of consultations with stakeholders in the region, identifying particular strengths and opportunities in the South East. Like the national Action Plan for Jobs, the Plan for the South East sets out a series of commitments on the part of public bodies, complemented by some actions from the private sector, which will support enterprise

growth and job creation. Further actions will be added on an on-going basis, as new initiatives and commitments emerge, reflecting the dynamic nature of the new regional Action Plans. It is the cumulative effect of these measures - and the collaboration which they will bring about in their delivery - which will make a real and lasting impact on the jobs potential of the region.

While my Department has facilitated the compilation of this Action Plan through engagements with stakeholders in the South East, ownership of the Plan – and ensuring its delivery - rests with the people, businesses, and public bodies in the South East region. I want to thank all of those who made a contribution to the development of the Plan and look forward to their continued participation in the process.

To further support enterprise growth and job creation in the regions, the Government will provide up to €250 million over the next five years to support the regional Action Plan process. €150 million of this funding will support an IDA property programme, while up to €100 million will be made available through Enterprise Ireland for three separate competitive calls for proposals which will support innovative and collaborative approaches to support jobs creation across the regions.

Richard Bruton, T.D.
Minister for Jobs, Enterprise and Innovation

SOUTH EASTERN REGION

Roscrea
Nenagh
Thurles
Castlecomer
Carlow
N81
Tullow
N78
M11
KILKENNY
Gorey
Kilkenny
N80
Tipperary
TIPPERARY
M9
CARLOW
Bunclody
Cashel
N10
Callan
Enniscorthy
N24
N76
N30
N11
Cahir
New Ross
N25
M8
Clonmel
Waterford
Rosslare
WATERFORD
Wexford
WEXFORD
N25
Lismore
N72
Dungarvan

CORK

Motorways	────────	✈ Airport
Primary Routes	────────	⚓ Seaport
Other Routes	────────	● Gateways
Railways	·········	● Hubs
		⚓ Fishing port

SUPPORTING JOBS GROWTH

Unemployment in the South East is down from over 20.1% in 2012 to 11.9% at end 2014.

5.1% Q1 — 2007
20.1% Q1 — 2012
11.9% Q4 — 2014

Source: CSO
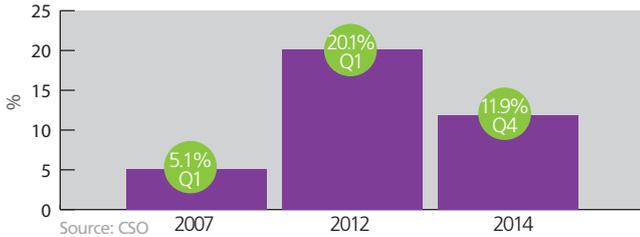
18% INCREASE

In 2014 employment in firms supported by the **S.E. Local Enterprise Offices** increased by 934 to 6,268, an increase of +18% on 2013*.

23,200

204,500 people at work out of a labour force of 232,200 in Q4 2014, with additional 23,200 employed from the South East Region since the launch of the Government's Action Plan for Jobs in Q1 2012.

Source: CSO Q1 2015 (excludes Tipperary North)

12,445

From 2013 to 2014 direct employment in **IDA firms** is up by 194 on 2013 to 12,445 jobs, with an additional 8,712 indirect jobs in the economy

Source: DJEI SPD, *includes Tipperary North and South

20,717

In 2014 direct employment in **Enterprise Ireland** firms increased by 795 on 2013 to 20,717, with an additional 26,932 indirect jobs in the economy

Source: DJEI SPD, *includes Tipperary North and South

BUILDING COMPETITIVE ECOSYSTEMS AND CLUSTERS

€ millions

1500
1200
900
600
300
0

1,272.5m
1,495.0m

2011   2013
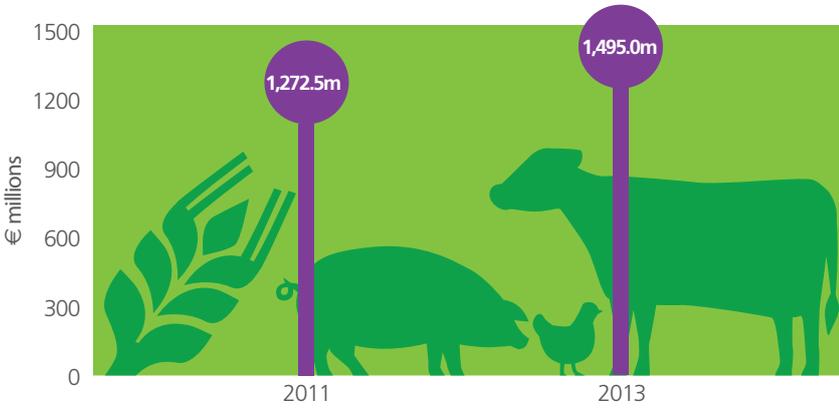
Agricultural Output in the South East increased by +17%, from €1,272.5m in 2011 to €1,495.0m in 2013, with the SE accounting for 20.6% of national agri-output.

Source: CSO

Sectoral Share of IDA Employment in SE Region

20%
17%
9%
2%
32%
20%

- Bio-pharmaceuticals
- Content, consumer and Business Services
- Engineering, Industrial and Clean Technologies
- International Financial Services
- International Financial Services
- Medical Technologies

Source: 2014 DJEI SPD

Third Level Enrolments
in South East 2014/'15 in Carlow and Waterford IoTs

16,400*

Source: HEA   *Full and Part-time

ENROLL NOW

Sectoral Share of EI Employment in SE Region

18%
43%
39%

- Services
- Manufacturing
- Food

19

19 innovation startups supported by EI in 2013-14

27.2€ million

€27.2m invested by EI in SE in 2013-14

Overseas Visitors to the South East increased by +9% between 2011 to 2013, from 823,000 to 897,000.

+9%

€222m
€185m

+20%

● 2011   ● 2013

Revenue from overseas tourists in the South East increased +20% between 2011 and 2013, from €185m to €222m.

Source: CSO, DJEI & EI.

Executive Summary

The APJ – Regional strategy seeks to build on the successful APJ national plan which, each year, looks at how Government and industry can collaborate to improve the environment for enterprise to grow and jobs to be created. The APJ – Regional (APJ-R) approach looks to bring together key stakeholders in each region with a view to agreeing a set of Actions to improve their region's enterprise capability and hence jobs prospects.

This APJ – Regional Plan for the South East region builds on the work of the *South East Forum* established by the Minister for Jobs, Enterprise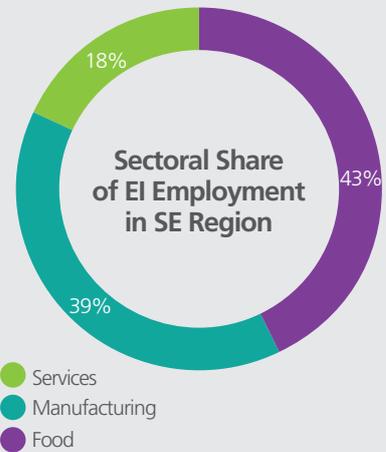 and Innovation in 2012, which set about the task of rebuilding the economy of the South East to a more sustainable, export oriented and higher value-added base. The *Forum* and the *South East Employment Action Plan* demonstrated the impact that placing a spotlight on a region can have. The South East Employment Action Plan served as a precursor from which valuable lessons were learned both for the region itself and the broader approach to developing Action Plans for all regions. Now we want to amplify this and build on new opportunities arising from a number of additional reforms including:

- the growing impact of the Local Enterprise Office network developed through the close cooperation between EI and the Local Authorities;

- the fresh mandate of the new Education and Training Boards in Carlow, Kilkenny, Tipperary, Waterford and Wexford, who like the Higher Education Institutions (HEIs) are now focused on developing a stronger link with their local enterprise base;

- the strengthening of the Regional Offices of IDA and EI with a new focus in their respective national strategies on regional job growth; and

- the emergence of a stronger policy framework to underpin sectoral opportunities with a strong profile at regional level.

The economic crisis hit South East's job numbers badly with the loss of 37,800[1] jobs from Q1 2007 to Q1 2012. However, through the focused collaborative approach as part of the South East Forum and a range of reforms delivered in the region, over the period Q1 2012 to Q4 2014 the unemployment rate has fallen from 20.1 to 11.9 per cent, the numbers employed have increased by 23,200 from Q1 2012 to Q4 2014, to reach 204,500 at work.

The primary objective of this APJ-R is to realise the potential to have a further 10-15 per cent at work in the South East region by 2020 so as to ensure the unemployment rate is within the 1 per cent of the State average. This goal will contribute to the overall ambition of creating sustainable full employment in Ireland from 2018 onwards.

The economic structure of the South East region is going through a transformation, as it builds on its strong industrial heritage to capture the opportunities for enterprises to grow in markets by adapting to advances in new technologies and increasing skills and innovation levels. This APJ-R for the South East seeks to take advantage of particular areas of opportunity for the region by building on the success of sectors such as tourism, agri-food and seafood, manufacturing and business services to grow competitive clusters in the areas that have real potential to grow jobs over the coming years such as in precision engineering and food nutrition, ICT, business processes and financial services, pharmaceuticals and medical devices.

The assets and strong sectors and clusters in the region provide a basis on which to build for the future. The South East is a city-region of scale with a population base of 574,750, across five counties, three strong higher and further education institutions in the region, greatly improved

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[1] **CSO employment data from the QNHS for the South East includes Tipperary South but not Tipperary North – all other agency and LEO data includes Tipperary North and South combined.**

digital and physical access from the region in particular with the completion of the M11 this year, three significant sea ports and a regional airport. The proximity of the region to enterprise clusters and labour markets of Dublin and the South West, together with the region's natural resources, reputation for creativity and product design, and tourism and heritage assets from the Vikings and Normans to the homestead of President Kennedy also provide a platform for realising the extra jobs potential.

The challenge is to increase the rate of entrepreneurship and startups, raise productivity levels and create a competitive ecosystem for enterprise to flourish and invest in the region. There are over 60 IDA Ireland supported firms in the region employing 12,445 people and there are 20,717 employed in over 570 EI supported businesses across the five counties. Manufacturing is a key strength of the region, with two-thirds of EI client employment in increasingly sophisticated manufacturing. In addition, there are 1,067 firms supported by Local Enterprise Offices in the region employing 6,268 and employment increased by 934 jobs or 18 per cent in 2014. Furthermore, there are 390 enterprises in the South East, including many businesses of scale, registered as client enterprises with the Design & Crafts Council of Ireland (DCCoI).

Some of the higher profile projects and Actions that will drive the jobs increases over the coming years in the South East are:

- **Entrepreneurship**:   **+30 per cent new businesses**

    Promoting and supporting entrepreneurship across all sectors in the South East, through the EI New Frontiers programme, support for incubators and Community Enterprise Centres, mentoring and support for high potential startups and increasing their successful flow through regions enterprise hubs. The LEOs will put a strong focus on promoting female entrepreneurship, targeting up to 50 per cent female participation on Start-Your-Own Business (SYOB) courses;

- **Competitive Sector Ecosystems:**   **+20 per cent increase in jobs in export-led sectors**

    developing world-leading sector clusters and ecosystems in the South East, led by industry, to drive the sectoral transformation in the South East, with dedicated groups in the key areas of precision engineering, FinTech and business services, agri-food and drink, biopharma and medical devices and seafood;

- **Agri-food:**   **+85 per cent exports to 2025**

    increasing agri-food output to 2025 both at farm level and through increased value-added processing of products for markets, through new measures to promote innovation and networking in the region in food production, together with new initiatives to promote product development and market access, for microenterprises in particular, and the development of an Artisan Food Hub;

    exploiting the full potential of the region to be a leader in 'agri-technologies' through the industry-led development and deployment of cutting edge ICT, animal nutrition, agri-analytics and engineering solutions, 'from farm to fork', throughout the supply chain and the hosting of an international Food Tech Summit with the South West as part of a collaborative agri-development strategy for the Munster region;

    increasing the output and value-added of the Seafood sector in the region, through new initiatives to develop the scale, skills and product innovation levels, with a target to increase value-added of seafood products to 50 per cent of output from 30 per cent currently;

- **Tourism:**   **+300,000 overseas tourists and 5,000 associated jobs**

develop the South East as a key destination as part of **Ireland's Ancient East** experiences, with new measures to develop a skills pipeline to meet the demand of a growing sector and achieve a target to grow overseas tourism numbers by a third to 2025, with consequent direct tourism jobs growth from foreign earnings in the South East as well as spin-off employment in related sectors;

co-ordinating international tourism marketing across the counties in the region to promote the South-East as a destination as part of Ireland's Ancient East;

Promoting the greater use of ICTs in the tourism and hospitality sector for service promotion, management and delivery;

- **Drive for Talent**

  - Establishing a new Regional Skills Forum to ensure closer collaboration between employers and the education system in identifying and meeting the skills needs of the region and promoting the range of roles and career paths available in the region;

  - Utilising the strong education and training base of Carlow and Waterford Institutes of Technology together with LIT in Tipperary to support the development of the region to deliver on the technical and advanced skill needs of enterprises and to act as a key driver for an open innovation system that is characterised by high levels of collaboration and connectivity between enterprise and the further and high education system; and

  - **Technological University for the South-East:** Continue to build on the progress achieved through the process of engagement and consultation undertaken in relation the development of a Technological University for the South East

- Developing **Smart Specialisms** as new sources of growth in the South East, in particular where the region has both a research base and an enterprise base that can exploit emerging technologies from that research including:

  Advanced manufacturing. Actions are set out to accelerate the adoption of advanced manufacturing technologies in the region, including in research and deployment of 3D and additive manufacturing, supporting enterprise investment and deployment and research in higher education institutions;

  Big Data and Internet of Things with a focus on **precision-agricultural** production and agri-analytics through linking to ICT smart specialisation, Teagasc and the company base in the region;

  Design, establishing a Digital Design Centre 'Design+' in Carlow and other centres of excellence in the region including developing Waterford as a centre of excellence in glass and crystal design, Kilkenny as a centre of excellence in jewellery and Thomastown as a centre of excellence in ceramics;

  Digital Media, building on the design excellence in the region through developing a Digital Media Hub in Tipperary with LIT;

  Medtech and lifesciences, promoting innovation and entrepreneurship by developing a lifesciences innovation network and hub in the region and pursuing the development of a Pharmaceutical Research and Incubation Centre;

  BPO and FinTech with a focus on research and initiatives in ITC and WIT on service design, management and innovation;

  The development of the above specialisms will be underpinned by the development of a smart specialisation strategy for the region as part of €2.3 million EU **eDIGIREGION**

programme in the South East, which will have a focus on new and emerging technologies for the region including Internet of Things and FinTech.

▪ **Scaling and Exporting:**

Developing the capacity of the existing base of companies to scale up their business and win new markets through achieving a 'one-step-up' in productivity, innovation and competitiveness performance; developing a focused programme to partner SMEs and MNCs and increase the rate of transition of LEO-clients to the EI portfolio of exporting firms; supporting exporting through promoting access to EI hot-desks in overseas markets, rolling out export awareness events and supports for pre-exporting companies and increasing support for cross-border trading on the island of Ireland;

▪ **Inward Investment:**   **+44 new FDI projects and investment in advanced buildings**

Developing the **value proposition** for the South East and strengthen the capacity of the region to attract outside investment, with a target to increase the number of IDA investments by 30-40 per cent; completing construction of **new advanced technology and industrial buildings** in Waterford and Carlow; and stepping-up collaboration in the overseas promotion of the region through ConnectIreland; and, strengthening enterprise connectedness with South East twin-towns and twin-cities in the US;

▪ **Industry engagement:**   **+30 per cent increase in enterprise engagements**

Stepping-up of collaborations and links between businesses and research in the region and through spin-outs/spin-ins.

Local authorities in the region will also work collaboratively with other stakeholders to seek to accelerate the roll-out of broadband in the region, to streamline and increase the efficiency of the planning process and the development of new initiatives for the retail sector.

A key requirement for continued success is the ongoing strengthening of business networks in the region, through Chambers, Ibec and other representative groups. The commitments to collaboration throughout this Plan will place a priority on engagement with enterprise and enterprise stakeholders so as to ensure that approach adopted to implementation of this Plan leads to a sustainable uplift in private sector-led initiatives in the region.

In total there are 194 Actions for the South East Region. In part the implementation of some of the initiatives will be dependent on the success in securing additional funding, such as through the competitive calls for projects launched in 2015, involving both public and private sector bodies, which can improve the enterprise potential of each region.

The Plan will be a living document and new actions will be added over time as existing actions are delivered, and new Actions or opportunities present themselves. This Plan will be overseen by a joint public and private sector South East Strategy and Implementation Group including senior executives from enterprises in the South East, LEOs, IDA, Enterprise Ireland, SFI, local authorities, Údarás na Gaeltachta, InterTrade Ireland, the Design and Crafts Council of Ireland, the Education and Training providers and DJEI. The Group, under the auspices of a national Steering Group Chaired by DJEI, will review half yearly reports on Actions delivered or delayed. These Progress Reports will be published by the Department of Jobs, Enterprise and Innovation.

1. Introduction

The Action Plan for Jobs for the South East Region is about building on the capabilities and strengths of the region, covering counties Carlow, Kilkenny, Tipperary, Waterford and Wexford, to develop a more dynamic, internationally competitive and sustainable enterprise economy that can provide well paid jobs and secure sustainable full employment over the long term. Good progress has been made since the launch of the national Action Plan for Jobs process four years ago and the South East Forum, with the rate of unemployment in the SE region has fallen from 20.1 per cent in Q1 2012 to 11.9 per cent in Q4 2014.

The objective of this SE Action Plan is to ensure that the environment for business in the South-East Region develops to its full potential and that businesses in the region receive the support they need to establish, prosper and grow jobs and living standards. The objectives and actions are to achieve impacts in terms of jobs, sales and exports, entrepreneurship and startups, innovation and market penetration and access to talent. The objectives identified in this Action Plan can be further developed and implemented through the emerging Regional Spatial and Economic Strategy for the region, which will guide development in the interests of the region as a whole.

The message from the stakeholders consultations in the region was that fundamental to achieving these impacts is the need to strengthen and deepen regional collaboration – that is through local authorities, enterprise support agencies, County and regional bodies, higher education institutions and training bodies, the private sector, industry and enterprise and communities coming forward with innovative ideas to boost job creation in their area and working together to deliver on those actions.

DJEI and its agencies are committed to working with regions in identifying regional strengths, assets and areas of competitive advantage in order to support businesses to startup, invest, succeed, expand, and export.

The South East has a dynamic and broad based enterprise sector. There is a strong industrial heritage and a range of world-class manufacturing activities ranging from precision engineering, medical technologies and food and drink products (including functional foods) and seafood, and significant potential in tourism and in medical devices, together with a recovering retail sector, and strong locally traded services sector serving consumer and business markets. The region also has a burgeoning internationally trading services sector, in particular in business process outsourcing and FinTech, precision agri-services and business process outsourcing. There are many initiatives underway within the region to stimulate innovation, and given the nature of its existing enterprise and research base, collaboration by a cross section of industry sectors may present real opportunity for differentiation capitalising on convergence opportunities.

The South East is an increasingly innovative region, as evidenced by the rate of startups and the growth in R&D at firm level. HEI's in the region have a strong record of collaborating with enterprise through national schemes such as Innovation Partnerships and Innovation Vouchers, are partners in two national SFI Centres, (Connect and the Solid State Pharmaceutical Cluster SSPC 2), have structured engagement channels through to senior engineers and scientists at regional firm level through the Technology Gateway governance model and have a solid track record of participating in EU Framework programmes most notably in the area of the Future Internet and regional innovation policy.

The region has a renowned entrepreneurial culture, from strong family businesses in traditional sectors to successful entrepreneurs and startups in high-tech areas. Entrepreneurs are playing their part in driving the region forward.

The business representative community also plays an important role in supporting enterprises grow and prosper that are ambitious for their members and the region and are key partners for this South East Action Plan.

Among the key objectives of the Action Plan are to:

- Increase and sustain startups;

- Attract new inward investment;

- Expand and scale existing companies;

- Expand research infrastructure and capability enhancing collaboration between the HEIs, public sector organisations and regional enterprise;

- Build on existing strengths and develop new opportunities; and

- Develop social and community employment.

The establishment of the *South East Forum* in 2011 was as a result of a major and unexpected company closure, i.e. the *Talk Talk* call centre, with the loss of 575 jobs. This company had been one of the most significant employers in Waterford City. In addition, in 2011, the South East Region had the highest unemployment rate in the State. These reasons provided the rationale for the Minister for Jobs, Enterprise and Innovation developing the *South East Region Employment Action Plan,* which was published in December that year.

The *South East Forum* was charged with pursuing the implementation of that *Plan*, which comprises representatives of key State stakeholders from the region. This was a unique opportunity for key Agencies and bodies to work together in a coordinated way to actively pursue the initiatives to facilitate development and job creation in the region. The Forum served to drive economic development and address blockages. As noted above, there has been significant progress in terms of job creation by the development agencies, with notable successes by both IDA Ireland and Enterprise Ireland. In addition, infrastructural improvements, progress on educational initiatives and several other developments have also been achieved.

In February 2015, the Taoiseach, Tánaiste and Minister for Jobs, Enterprise and Innovation announced details of a 5-year, €250 million strategy aimed at accelerating the jobs recovery in every part of the country. The funding will be made available through IDA Ireland and Enterprise Ireland.

Set out below are those proposals made by stakeholders in the region at both Consultation Forums which took place earlier this year. The actions are not a report of activities (business as usual) but rather present new initiatives or retargeted activities directly linked to some of the shared objectives. It is recognised that for the Action Plan to succeed many of the stakeholders in the region will need to play a leadership role in setting ambitions and overseeing delivery.

Like the national Action Plan for Jobs process, the merits of the Plan will be in the contribution made by all stakeholders, with the sum of the parts making a greater impact than the individual elements could do on their own. This Plan reflects the contributions of all Government Departments to enterprise and job creation by highlighting and including specific plans and actions to be taken for each region over the next 3 years.

This Action Plan is being developed at NUTS III level and will dovetail with and contribute to the statutory plans being developed by the Local Authorities and the new Southern Regional Assembly. The new National Planning Framework (NPF) and Regional Spatial and Economic Strategy (RSES) are due to be in place by 2016, to promote the sustainable economic development of the region and the provision of social, community and physical infrastructure at the right locations so as to meet the needs of the region and improve quality of life for all.

2. Profile of the South East Region

2.1 Demographics and Labour Market

The South East Region consists of Carlow, Kilkenny, Tipperary, (recognizing the recent fundamental changes that have taken place merging South and North Local Authorities) Waterford and Wexford. In 2011, the population of the South East region was 567,900 accounting for 12.4 per cent of the total population of the State. The population of the region grew by some 7.9 percent between 2006 and 2011 (see Table 1 in Appendix A). The CSO predicts that over the period 2016-2031 the population will increase annually by 0.5 per cent in the South East region[2].

Table 1: South East Population, 2006 & 2011

County	Population Census 2011	Population Census 2006	Percentage change 2006-2011
Waterford	113,795	107,961	5.4
Wexford	145,320	131,749	10.3
Kilkenny	95,419	87,558	8.9
Carlow	54,612	50,349	8.5
South Tipperary	88,432	83,221	6.3
North Tipperary	70,322	66,023	6.5
Total South East	**567,900**	**532,861**	**7.9**
State	**4,239,848**	**4,581,269**	**8.1**

Source: CSO

Waterford City had the largest urban population (70,647) in the region which accounted for some 14 per cent of the total population. The other large urban centres in the region include Wexford (55,611), Kilkenny (35,329), Carlow (26,719) and Clonmel Borough (15,793).

There were some 47,779 people on the Live Register in the South East region in January 2015, down from 52,175 recorded in the same month in 2014. This represents a fall of more than 9 per cent. Over 34 per cent of the total numbers on the Live Register in January 2015 resided in Wexford while the corresponding figure for Waterford was 24 per cent (see Table 2 in Appendix 1). Much progress has been made in reducing the unemployment rate from 20.1 percent in Q1 2012 to 11.9 percent in Q4 2014.

The region has experienced relatively strong levels of population growth in recent years. Increases in population have typically occurred within, or in close proximity to, the main urban centres, while growth in northern parts of the region reflects the extension of the Dublin commuter belt (into areas of north Carlow and Wexford). Age cohort analysis shows that almost one-fifth of the region's young

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2 http://www.cso.ie/en/releasesandpublications/er/rpp/regionalpopulationprojections2016-2031/#.VVHavtJ0yDY

adult population (aged 15-19) migrate from the region as they pass from late teens to early twenties.[3]

The age structure of the region is similar to that of the State overall with the majority (30 per cent) being in the 26-45 year old age category. There is a decline in the population aged 16-25 years old (12 per cent) followed by a recovery in the younger age group of less than 15 years old reflecting the increasing birth rates in more recent years. Across all levels of education, the South East region lags behind the national average with 23 per cent having a third level qualification (state 29 per cent)[4]. Graduates from the South East are far more likely to find employment outside of their county of origin with the main urban areas of Dublin, Cork, Galway and Limerick retaining the majority of graduates from those counties.

Table 2: Number on Live Register, 2014 and 2015

County	Live Register January 2012	Live Register January 2015	% of National Live Register January 2015	% of National Live Register January 2015
Carlow	6,837	5,948	1.65%	1.65%
Kilkenny	7,552	6,078	1.69%	1.69%
Tipperary South	9,325	7,864	2.19%	2.19%
Waterford	14,516	11,509	3.20%	3.20%
Wexford	19,524	16,380	4.56%	4.56%
Total	**57,754**	**47,779**		

Source: Central Statistics Office

Figure 1: Unemployment Rate (%) South East Region and State and Numbers Employed Q1 2007-2015
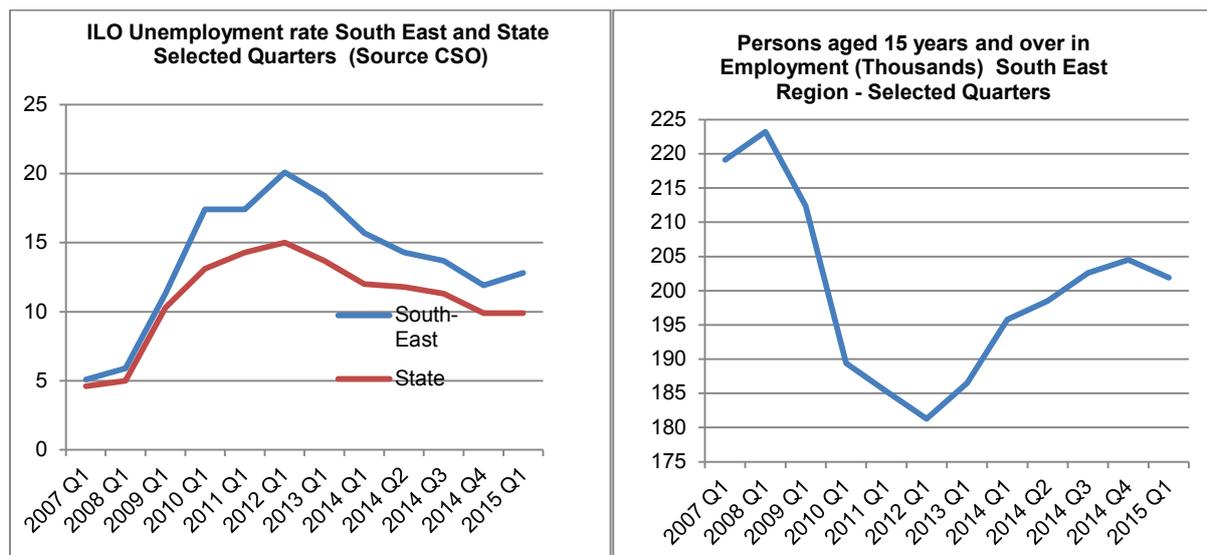
Source: Central Statistics Office

3 CSO 2009 Population & Migration Estimates

4 CSO Census of Population, 2011

Table 3. South East Employment by Sector, 2007-2014 (selected Quarters)									
Persons aged 15 years and over in Employment (Thousand) NACE Rev 2 Economic Sector									
South East Region						Change Between Q1 2007 and Q1 2012		Change Between Q1 2012 and Q1 2015	
	2007 Q1	2012 Q1	2013 Q1	2014 Q1	2015 Q1	(,000)	%	(,000)	%
All NACE economic sectors	219.1	181.3	186.5	195.8	201.9	-37.8	-17.3	20.6	11.4
Agriculture, forestry , fishing (A)	20.0	16.1	19.7	20.8	18.4	-3.9	-19.5	2.3	14.3
Industry (B to E)	40.0	30.4	30.5	26.1	31.9	-9.6	-24.0	1.5	4.9
Construction (F)	30.9	10.7	13.0	12.7	14.7	-20.2	-65.4	4.0	37.4
Services (G to U)	127.7	124.1	123.2	136.1	136.5	-3.6	-2.8	12.4	10.0

Source: CSO StatBank/Quarterly National Household Survey Main Results / QNQ40

2.2 Employment Base

- In Q4 2014, there were 204,500 in employment in the South-East region; industry and wholesale and retail were the largest sectors, each employing approximately 31,000; the public sector (comprising PAD, health and education) employed 50,000 persons, accounting for one quarter of the total; agriculture was the fourth largest sector, with 18,500 employed.

- High value added knowledge intensive services accounted for 10 per cent of the region's employment.

- 19 per cent were self-employed (of which 70 per cent with no employees); 2.3 per cent were in State subsidised employment schemes; 25,000 persons (amounting to 12 per cent of employment) entered employment in 2014.

Figure 2: Employment by Economic Sector, 2014
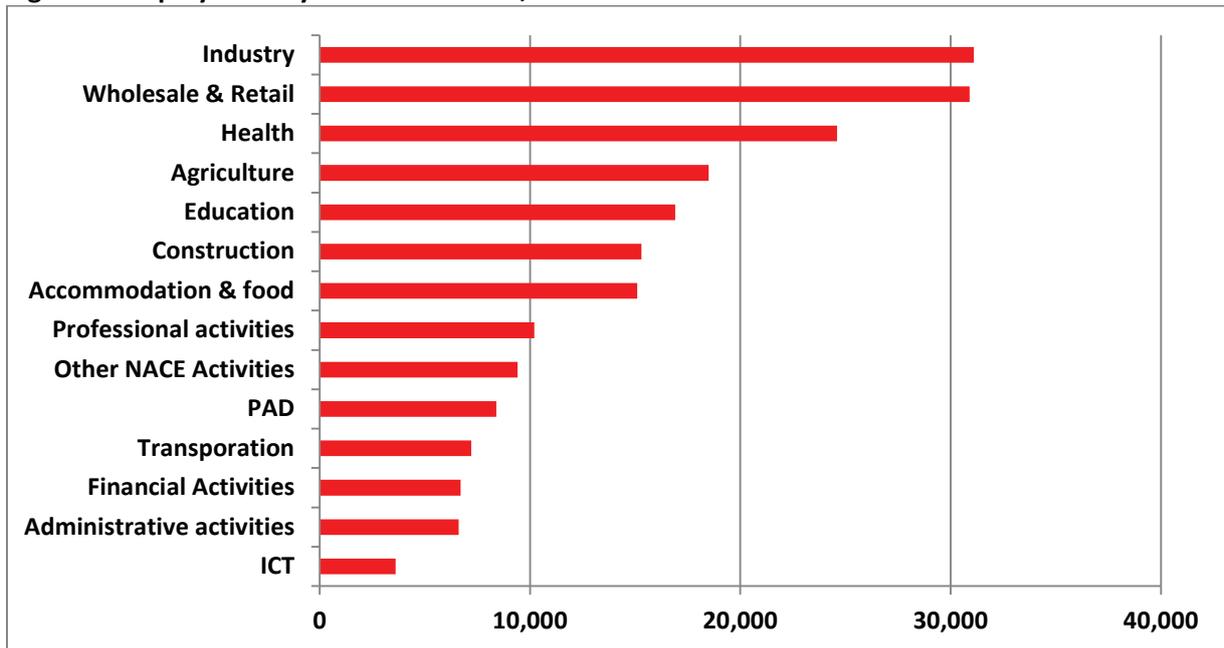
Source: Analysis by SOLAS (SLMRU)

- 40,500 persons in the region were employed in skilled trades; this was the largest occupation, accounting for one fifth of total employment; farmers comprised almost a third of these.

- Professionals, the second largest occupational grouping, accounted for 15 per cent of total employment.

- Those in elementary occupations, the third largest, accounted for 13 per cent of total employment in the region

- Those in administrative, associate professional, caring, leisure & other services, and operative occupations each amounted to about one-in-ten of persons in employment

- Sale & customer services and managerial occupations each accounted for 8 per cent of total employment.

Figure 3: Employment by broad occupation (South-East), Q4 2014
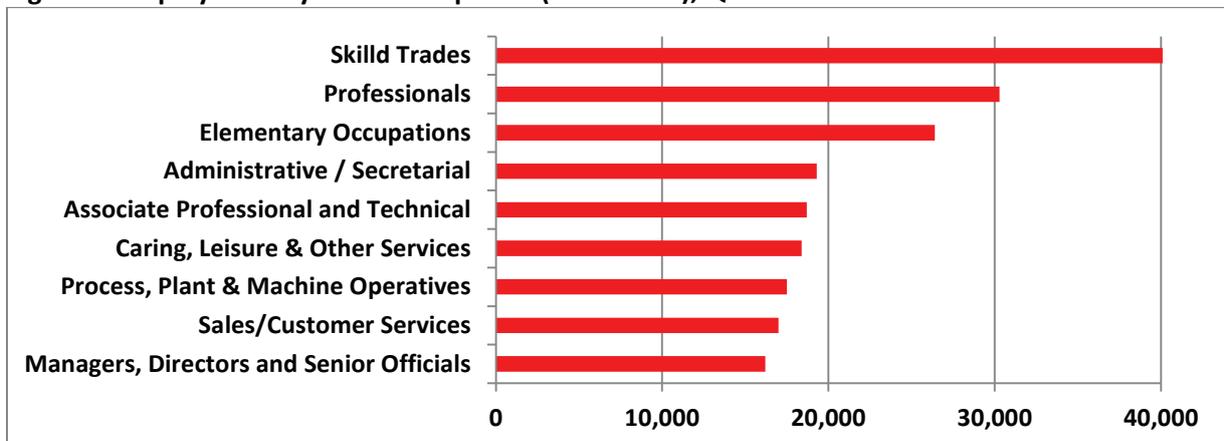
Source: Analysis by SOLAS (SLMRU)

- In Q4 2014, 29 per cent of managers were working in wholesale & retail, 15 per cent in food & accommodation, and 12 per cent in industry;

- Two thirds of professionals were employed in the public sector, where this occupation accounted for 40 per cent of employment in this broad sector; 12 per cent of all professionals were in professional services (where they comprised more than a third of sectoral employment); 10 per cent were in industry;

- About a quarter of associate professionals were employed in the public sector, while just under a fifth were in either industry or in wholesale & retail;

- A third of those working in administrative / secretarial occupations were in the public sector; 13 per cent were in financial services, where this occupation accounted for more than a third of sectoral employment;

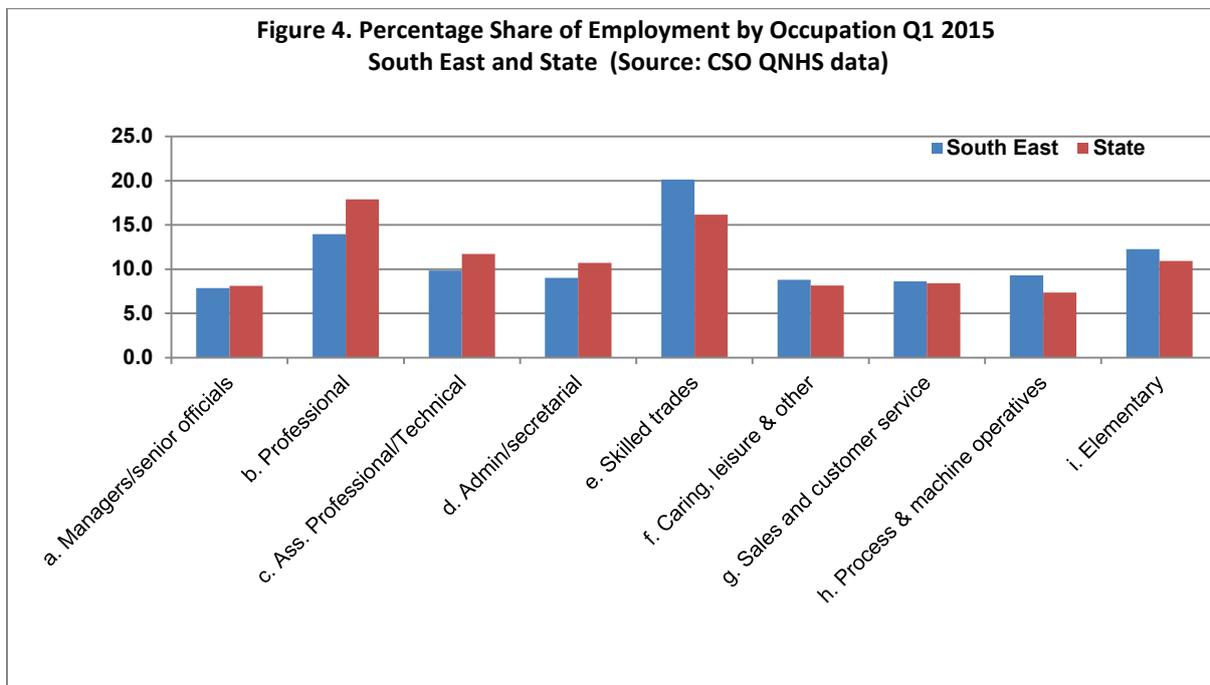- A third of all working in skilled trades were in agriculture (farmers); 21 per cent were in construction, where they accounted for 55 per cent of employment in the sector;

- Two thirds of all working in caring and related occupations were in the public sector (mostly health), where they accounted for 25 per cent of sectoral employment;

- 46 per cent of operatives were in industry, where they accounted for one quarter of employment;

- one fifth were in transport, where they accounted for almost a half of sectoral employment;

- One quarter of those working in elementary occupations were in either food & accommodation services or in industry; in the former, they accounted for 43 per cent of sectoral total;

- Employment was highest in the following occupations:

  Managers: functional, managers & proprietors in wholesale & retail, and accommodation managers;

  Professionals: teachers, nurses, accountants;

  Associate professionals: sales accounts and business development managers;

  Admin: Government clerks, finance admin occupations (e.g. bank clerks, payroll, book-keepers), PAs and other secretaries;

  Skilled trades: chefs & cooks, farmers, metal working production and maintenance fitters;

  Services: childminders, carers/home carers, hairdressers and related occupations;

  Sales: retail sales assistants, other sales related;

  Operatives: assemblers and routine, food and beverage process operatives, truck drivers;

  Elementary: construction workers, cleaners, waiting and bar staff.

Table 4. Highest Level of Education completed: South East region and national average, 2011		
Level of Education	**South East**	**State**
Primary or no Formal	16.5%	15.2%
Lower secondary	19.8%	16.6%
Upper secondary	36.5%	34.4%
3rd Level +	23.1%	29.1%
Not stated	4.2%	4.7%

Source: Derived from CSO Census of Population 2011

Figure 4. Percentage Share of Employment by Occupation Q1 2015 South East and State (Source: CSO QNHS data)

2.3 Enterprise Base

The South East had a Gross Value Added per worker of €23,588 in 2012 significantly below the national average of €34,308 (see Table 3 Appendix B). Third and Fourth Level Education for the Region is provided by Waterford Institute of Technology (WIT), Institute of Technology Carlow (IT Carlow) and Limerick Institute of Technology (LIT) Tipperary skills supply

The South-East region has a growing base of companies involved in a variety of life sciences related activity, principally but not exclusively, manufacturing (Abbott Ireland Vascular Division, Bausch & Lomb, EirGen Boston Scientific, Sanofi Genzyme, Nypro, GlaxoSmithKline, Lake Region Medical, Merck Sharp & Dohme, Pinewood Laboratories and Waters Technologies). The region also has a growing base of companies involved in international services.

Table 5. Employment in Enterprise Agency Supported Companies (Selected Years)							
South East Region				**Change between 2006 and 2011**		**Change between 2011 and 2014**	
	2006	**2011**	**2014**	**(,000)**	**(%)**	**(,000)**	**(%)**
All Sectors	33,585	29,807	30,548	**-3,778**	-11.2	**741**	2.5
Manufacturing	27,299	22,617	22,578	**-4,682**	-17.2	**-39**	-0.2
International & Financial Services	3,691	4,459	5,275	**768**	20.8	**816**	18.3
Other Sectors	2,595	2,731	2,695	**136**	5.2	**-36**	-1.3

Source: DJEI 2014 Annual Agency Employment Survey

The regional economy of the South East is based primarily on manufacturing, agriculture and services, tourism, fishing and aquaculture. The agriculture and food sector accounts for a significant proportion of output and employment with the region having a higher than average reliance on this sector however, in recent years there has been a shift towards services employment. Overseas industry is concentrated mainly in electronics and precision engineering, pharmaceuticals and healthcare and in internationally traded services.

There are approximately 21,000 registered businesses in the South East. This equates to 11.1 per cent of the national total. The South East has a strong base of indigenous industries with approximately 20,717 employees in Enterprise Ireland client companies across the region and a large amount of micro-enterprises. Overseas industry, which employed 12,445 in over 70 firms in 2014, is concentrated mainly in electronics and precision engineering, pharmaceuticals and healthcare and in internationally traded services. There are a number of IDA client firms operating in the services sector in the South East, in sectors such as ICT, Shared Services and Financially Traded Services.

Table 6: South East Labour Force and Employment, ('000) 2007, 2012 & 2014								
	annual average			quarterly				
	2007	**2012**	**2014**	**Q1 2007**	**Q1 2012**	**Q4 2014**	**Change 2007 to 2011/ Q1 2012**	**Change Q1 2012- Q4 2014**
Labour Force	236.0	227.1	232.7	230.7	226.9	232.2	-8.9	+5.3
EI* (518 Enterprises)	24.7	19.9	20.7				-4.6	+0.8
IDA* (65 Enterprises)	14.3	12.3	12.4				-2.1	+0.2
LEOs* (1,067 Enterprises)	n/a	n/a	6.3					
Udaras na Gaeltachta (21 Companies)	0.18	.015	0.16					
Total Employed (Q1)	224.0	183.2	200.4	219.1	181.3	204.5	-37.8	+23.2
Unemployed in Region	12.1	43.9	32.3	11.7	45.6	27.7	+33.9	-17.9
Unemployment Rate (%)	5.1	19.3	13.9	5.1	20.1	11.9	+15.0	-8.2

includes Tipperary North and South combined.
Sources: DJEI analysis of CSO QNHS, DJEI Annual Employment Survey, LEO EoY Statement 2014.

Table 7: Comparison of Gross Value Added by Region, 2012	
Border	€19,016
Dublin	€51,839
Mid-East	€22,863
Midlands	€18,638
Mid-West	€27,464
South-East	**€23,588**
South-West	€44,391
West	€28,256
State	€34,308

Source: CSO

IDA Ireland

IDA Ireland has set new and ambitious Foreign Direct Investment (FDI) targets for each region in the country which will act as collective goals for stakeholders in each region to work together in order to deliver on these targets. IDA Ireland is targeting a minimum increase in investment of 30 to 40 percent in each region outside Dublin over the next 5 years (2015-2019).

IDA Ireland's remit is to attract foreign direct investment to Ireland and importantly, thereafter to work with the existing base of client companies to encourage them to sustain, grow and expand their business presence here. In doing so, IDA client companies generate valuable employment throughout the country and contribute significantly to regional economies in which they are located through salaries and consumption of goods and services.

International competition has become extremely intense and continues to increase mainly dominated by Metro city regions (populations of one million plus, such as Dublin, London, Manchester, Boston, Berlin and Paris). In the SE Region the principal magnet for foreign investment is Waterford. IDA Ireland promotes locations that are a good fit between the investors' requirement and the Region's ability to meet these exacting criteria. These criteria include a critical mass in population terms, the existence of clusters of companies in specific industry sectors/activities, the ability to attract and develop appropriate skills (talent), well developed infrastructure, property solutions and place-making.

IDA Ireland's strategic focus for regional enterprise development is to secure investment and jobs on the basis of identified opportunities for the South East region. Companies will choose to locate in locations which can best meet their criteria. The criteria which companies consider as part of selecting locations will vary by industry sector and the specific project but are ultimately related to demographics that will support the operation now and into the future, an existing cluster and strong track record of FDI, good infrastructure including transport, utilities, telecoms, etc. the presence of a university, Institute of Technology and an attractive and cost competitive location which has the ability to attract and retain talent. Key to winning investment for the region is the need for all Stakeholders to work together to ensure that all investors criteria can be addressed adequately.

Employment Levels in IDA Client Companies in the South East

There are over 70 foreign owned multinational companies based in the Region in 2014, employing a total of 12,445 (permanent and other jobs)[5]. The number of multinational companies present in Wexford has increased by 23 per cent since 2008, while the number in Kilkenny has remained stationary. Over 7.1 per cent of IDA Ireland supported jobs in 2014 were located in the South East region. The vast majority of companies are located in Waterford at 29 while Wexford has 16 IDA client companies.

Enterprise Ireland

Enterprise Ireland works with companies in the South East to help them start, grow, innovate and win export sales on global markets. In this way, it supports sustainable economic growth, regional development and secures employment. As an open economy, export success is fundamental to regional and national growth.

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5 DJEI SPD Annual Employment Survey 2014

The development of South-East companies is important because locally owned businesses are more likely than others to:

- Generate a self-sustaining cycle of growth and reinvestment. Company's profits are more likely to remain in Ireland and seek new investment and business opportunities within existing businesses or new startups;

- Form part of a balanced portfolio of economic activities that provide insurance against technology, sector or market-specific shocks;

- Provide and sustain a base of sub-supply and services companies to service the multinational company base; and,

- Generally operate a wide range of business functions in the South East and Ireland and provide opportunities for employee advancement and for the development of world-class companies.

Enterprise Ireland's client base in the South East is in three main categories;

- Manufacturing and internationally traded services companies[6] employing ten or more people (with a focus on exporting or with the potential to export);

- Innovation-led Startups with the potential to grow in international markets; and,

- Irish food companies, both those home-grown in Ireland, and those that are overseas owned or controlled. (EI works closely and has supported Danone's expansion in Wexford).

Employment Levels in EI Client Companies in the South East

According to the Department of Jobs, Enterprise and Innovation SPD Annual Employment Survey, there were 18, 310 people employed in EI client companies in the South-East in 2014, a gain of 795 over 2013[7]. This represents 10.2 per cent of EI-supported employment nationally.

Enterprise Ireland's Role

Enterprise Ireland works with SMEs and large companies and works extremely closely with the Local Enterprise Offices in the South East. This ensures that targeted supports are available to companies and regardless of their size but based on their needs

Enterprise Ireland provides strategic support (aimed at developing capability within companies) and financial supports (for co-funded development projects) Very often both are combined to maximise the impact of the supports provided. Between 2011 and June 2015, Enterprise Ireland approved €75.8 million directly to client companies in the South East.

Such supports are aimed at all aspects of a company's business plan and are designed to work together and mutually reinforce each other. Supports cover anything from management development programmes, export development programmes, Lean/productivity improvement, various financial supports (including grants to undertake feasibility, R&D) the provision of Equity to startups, access to 31 Overseas Offices around the world, access to Mentors, access to third level research (e.g. UCC, WIT, IT Carlow etc)

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6 Examples include sectors such as Electronics, Engineering, Business Process Outsourcing (BPO) Dairy, Beef sectors, Financial Services, Procurement, Software, Digital Media and Internet

7 DJEI SPD Annual Employment Survey 2014

Enterprise Ireland's agenda covers a number of key areas:

Entrepreneurship & New Companies: Developing the pipe-line of South East entrepreneurs and startup companies with the potential to trade internationally in the future in cooperation with the South-East Local Enterprise Offices, Waterford Institute of Technology and Institute of Technology Carlow and the SEBIC.

Non-Exporting Established Companies Working with domestically focussed companies with the potential to export via the Potential Exporters Division (PED) Regionally-based seminars, workshops, on-line diagnostic tools, market research resources are all provided to companies seeking new opportunities and preparing to enter new markets.

Established (Exporting) Companies

Enterprise Ireland engages with established South-East companies in developing their capability to consolidate and deepen their footprint in existing export markets. Supports range from LEAN, R&D, Management development, funding and access to 30 overseas offices – all as part of a comprehensive growth strategy.

Innovation

Enterprise Ireland offers a range of supports to drive innovation activities within all companies at different stages of development including Innovation Vouchers. IT Carlow and WIT are national leaders in terms of working with small companies through Vouchers accounting for 20 per cent of all projects. Three of the twelve Enterprise Ireland funded Technology Gateways are located in the South East - SEAM (engineered materials), PMBRC (pharma and healthcare) and MSTG (mobile services).

Údarás na Gaeltachta

Established in 1980, Údarás na Gaeltachta (An tÚdarás) is the regional authority responsible for the economic, social and cultural development of the Gaeltacht. The overall objective of Údarás na Gaeltachta is to ensure that the Irish language is maintained and developed as the community language within the Gaeltacht and is successfully passed on to future generations.

The authority endeavours to achieve that objective by creating and supporting development interventions in support of the sustainable development of the Gaeltacht. These interventions include funding and providing development support to a wide range of enterprise development and job creation initiatives and by supporting strategic language, cultural and community based activities. An tÚdarás works proactively and progressively with other public bodies in the South-Eastern region in delivering on its key objectives, projects and development programmes.

Economic Mission

An tÚdarás encourages investment in the Gaeltacht through a range of financial and non-financial incentives for new and existing enterprises in the Gaeltacht.

The organisation supports eligible enterprises in developing new markets, technologies, products and strategic alliances through research and development. Gaeltacht companies span a range of commercial sectors, including life sciences, ICT, tourism, fish-processing and aquaculture, renewable energy, food, niche manufacturing, audio visual and digital media, arts and crafts.

Over 7,000 people are currently employed full time in Údarás na Gaeltachta client companies across the Gaeltacht and these companies have a significant economic impact and make a substantial contribution to the Irish economy.

Language Mission

All of the organisation's activities have the aim of preserving and promoting the Irish language as the community language of the Gaeltacht. An tÚdarás funds a range of strategic language development and planning interventions within a community, local and rural development framework and manages and funds linguistic, community and cultural initiatives.

An tÚdarás supports a range of initiatives and collaborates with individuals, community groups and companies, who maintain, support and develop the Irish language as the community vernacular and provide the everyday settings in which the language flourishes, such as:

- Funding Community Enterprises and Community Infrastructure
- Third-Level Training and Educational Interventions
- Language Services Centres
- Co-ordinating and funding Irish Language Pre-schools
- Promoting the use and profile of the Irish language in Business
- Language Learning Incentives

In the Munster region, the Gaeltacht areas include the Déise Gaeltacht in County Waterford, the Múscraí Gaeltacht in West Cork and Oileán Chléire, the West Kerry Gaeltacht of Corca Dhuibhne and the South Kerry Gaeltacht in Uíbh Ráthach.

The Déise Gaeltacht of County Waterford sustains a population of 1,784 people which accounts for 1.7 percent of the overall Gaeltacht population and 1 percent of the overall spatial area of the Gaeltacht. The main economic and enterprise sectors in the Déise Gaeltacht include Manufacturing, Aquaculture, Tourism and the Audio-Visual and Digital Media sectors. Enterprises supported by An tÚdarás employed 148 full-time positions in 2014. During 2014, An tÚdarás approved over €1.3 million in support of enterprise, infrastructure and community development initiatives in the Déise Gaeltacht.

Southern Regional Assembly

The Southern Regional Assembly is the regional tier of government for the southern region and is based in Waterford. The Regional Assembly performs the following roles across the region:

- Management and monitoring ERDF co-financed Regional Programmes;
- Promotion and co-ordination of public services in the region;
- Monitoring and submitting proposals in relation to the general impact in the region of EU funding; and
- Regional Planning including preparation of Regional Spatial & Economic Plans and making observations to public bodies with regard to the regional implications of their policies and plans.

Local Authorities

Local Government in the region comprises of the five Local Authorities (LAs)

- Carlow County Council;

- Kilkenny County Council;

- Tipperary County Council;

- Waterford City and County Council; and

- Wexford County Council.

These authorities in addition to their roles in local democracy, provision of roads, housing, environmental protection and water services, are the statutory planning agencies for their functional areas. Their role in planning for the future of their areas is extensive covering Development plans, Land use and now Local and Economic Planning. The Local Authorities have traditionally provided for enterprise supports through development of infrastructure including lands and buildings and have undertaken specific development to facilitate industrial and commercial projects. Under recently enacted legislation the Authorities remit is further extended to lead the developmental support for microenterprises in their areas through the integration of the former County Enterprise Boards into their structure. This has been accompanied by assignment of additional resources to the Local Enterprise Offices (LEOs) and provision of match funding.

Local Enterprise Offices

Since April 2014 Local Enterprise Offices (LEOs) in the region have been providing advice, information and support to entrepreneurs. There are five dedicated teams across the South East region operating within the remit of three local authorities:

- Carlow Local Enterprise Office;

- Kilkenny Local Enterprise Office;

- Tipperary Local Enterprise Office;

- Waterford Local Enterprise Office; and

- Wexford Local Enterprise Office.

These LEOs serve as a first-stop-shop to provide support and services to start, grow and develop micro business in each local area. The LEOs will become the first-stop-shop through which all information in relation to State supports for small and micro businesses can be accessed. These offices will deliver quality access to a number of national and local programmes focussed on new business startups and micro business in a pro-business environment.

The LEOs are embedded within the Local Authority structures and provide vital support for local business across a range of actions. The range of services and supports which offered by the LEOs is set out as follows:

Business Information & Advisory Services

- General business advice and information provision: Business Planning, Financial Advice, Management and Accounting, How-to Guides etc.;

- Advice and information on rates, planning, licensing etc. including cost reductions e.g. water conservation and waste minimisation;

- Information and access to other government services.

Enterprise Support Services. The LEOs in the South East provide the following:

- Financial support for startup and business development;

- Training supports e.g. Start Your Own Business Programmes, Management development support etc.;

- Mentoring;

- Marketing;

- Access to dedicated business networks;

- Product and Service development;

- Development of web-enabled services with a focus on trading online; and

- Progression pathway for high potential startups and high growth companies to Enterprise Ireland including access to Business Angels, New Frontiers Programme etc.

Entrepreneurship Support Services

- Education – Primary & Second level programmes;

- Female entrepreneurship;

- Senior entrepreneurship;

- Development of clusters;

- Enterprise Awards; and

- Enterprise promotional activities.

Local Enterprise Development Services

- Development and implementation of local enterprise plan;

- Input into County Development Plan;

- Development of partnerships with relevant agencies e.g. North/South development;

- Promotion and marketing of local areas as locations for investment in conjunction with the appropriate national body e.g. IDA;

- Identifying & developing projects & programmes including leveraging resources to implement these programmes and those funded from non-core resources;

- Development of appropriate enterprise infrastructure at county/city level;

- Management of local authority enterprise infrastructure or assets e.g. enterprise parks;

- Acting as an enhanced resource for Government to undertake one-off initiatives;

- Assisting in development of County/City Economic Strategies as proposed in the Local Government Reform Programme; and

- Direct engagement by Local Authority with businesses in difficulty.

Bord Iascaigh Mhara

BIM is the state agency with primary responsibility for developing the Irish sea-fishing and aquaculture industries. BIM's mission is "to lead the sustainable development of a competitive,

market-led, innovative and quality driven Irish seafood industry, thereby maximising the returns to industry stakeholders and the socio-economic contribution to communities in coastal regions and Ireland as a whole." BIM is focused on expanding the volume, quality and value of output from the Irish seafood industry. It provides a range of advisory, financial, technical and training services to all sectors on the Irish seafood industry. Launched in 2013, the Board's current strategy, BIM Strategy 2013-2017, is an action plan to deliver 1,200 jobs and €1 billion seafood sales by building scale and enhancing competitiveness in the Irish seafood sector.

InterTradeIreland

InterTradeIreland is the only organisation which has been given responsibility by both Governments to boost North /South economic co-operation to the mutual benefit of Ireland and Northern Ireland. By encouraging better use of our collective resources we help to expedite trade and business growth across the island and create an environment where it is easier to do business. InterTradeIreland supports businesses throughout the island to take advantage of cross-border opportunities to improve capability, drive competitiveness, and create growth and jobs. To date over 25,000 small businesses have been supported by InterTradeIreland to identify and develop all-island trade and innovation opportunities. 6,000 have participated directly on our Programmes with over €980 million worth of trade and business development value and over 3,000 jobs created. InterTradeIreland helps small businesses capitalise on the extraordinary possibilities that exist right here on the island of Ireland, where cross-border trade exceeds £2bn/ €2.8bn annually. We do this through a strong mix of funding support, business intelligence and meaningful contacts.

2.4 Education and Training Infrastructure

Institute of Technology Carlow

IT Carlow (ITC) is the fourth largest Institute out of 14 Institutes of Technology in the country with 7,000 learners. In 2014 IT Carlow was named the Sunday Times Institute of Technology of the Year. ITC provides higher educational taught programmes from level 6 – 9 on the National Framework of Qualifications, along with research programmes at level 9 & 10 and enterprise development opportunities, through its centres in Carlow and Wexford. The Institute also provides part-time programmes in Carlow, Wexford, Wicklow, Kilkenny, Kildare (the Curragh), Shannon and Dublin. 80 per cent of learners are enrolled on honours degree programme pathways with a further 12 per cent enrolled on higher degrees to PhD level.

The Institute is a key driver of progress and development in the region, with a presence in Carlow, Wexford and Wicklow. It was an important consideration in the decision of UNUM (strategic software services centre) and Merck (human vaccines and biologics) to locate in Carlow. UNUM's announcement of its intention to invest in Carlow stated that "the town's business and civic leaders, along with the Institute of Technology Carlow, are genuinely interested in partnering with UNUM to help us succeed". Similarly, the Vice President of Global Vaccine Manufacturing for Merck, gave the following view, "Carlow …. is centrally located and has an excellent Institute of Technology, capable of supplying the necessary skills that we require. "

The Institute develops and maintains linkages at all levels with Commercial Enterprises, Industries, Statutory Bodies, State Agencies and International Organisations in order to create economic development through technology transfer and education. On a regional level the Institute works closely with Enterprise Ireland, SEBIC, Business Network Groups, Skillnets, Chambers of Commerce and the Local Enterprise Offices (LEO) in the region to promote the Enterprise Development supports at IT Carlow.

Having acted as a catalyst for the generation of almost 45,000 graduate's to-date, IT Carlow's current student diversity is reflected in its mix of traditional leaving certificate entrants, a growing European and international student body, an increasing proportion of mature students and learners from disadvantaged backgrounds, as well as a significant number of part-time learners (approximately 33 per cent of the total IT Carlow learner population). From 2010 – 2014 inclusive an average of 90 per cent of ITC graduates had gained employment within six months of completing their studies; a testament to the fit between ITC programmes and employer needs. On average over 80 per cent of ITC graduates find their first employment in the counties of South Leinster and Dublin. Considering its location at a strategic point midway between Dublin and Waterford, it is not surprising that a key feature of ITC is its dual role in servicing students and enterprises from both the South East and the Mid-East /Greater Dublin area.

Entrepreneurship and Startups

The Institute of Technology Carlow is committed to promoting startup businesses and transferring Institute of Technology Carlow's technology and know-how into viable commercial entities. For example, Microgen Biotech, a spin-out company from the Institute was nominated by EI as a high potential start up as was Alarm Manager one of the participants on the New Frontiers Entrepreneurial Development Programme. Working closely with both industrial and commercial sectors nationally and internationally, Institute of Technology Carlow is continually developing collaborations with existing businesses.   The creation in 2014 of the IT Carlow Research and Commercialisation Support Centre (RCSC) recognises the continuing need to enhance and expand business liaison, regional involvement and commercialisation activities.

Research, Development and Innovation (RDI)

Research, Development and Innovation (RDI) is an integral part of IT Carlow's activities and is a vital aspect of the interaction of the Institute with industry and other HEIs, nationally and internationally. It's collaborative RDI programmes have been variously funded by various Irish Government departments, the European Union Programmes, the Higher Education Authority (HEA), Industry, the Environmental Protection Agency (EPA), Irish Research Council for Science Engineering & Technology (IRCSET), the Technological Sector Research Programme, Enterprise Ireland and Science Foundation Ireland. The Institute has a strategic collaborative relationship with Teagasc Oak Park Research Centre Carlow.

The Institute's strategic research areas are:

- **EnviroCORE** Centre of Research and Enterprise in BioEnvironmental Technologies;
- **DesignCORE** Centre of Research and Enterprise in Industrial Design and Product Innovation;
- **GameCORE** Centre of Research and Enterprise in Interactive Applications Software & Networks;
- **GeoCORE** Centre of Research and Enterprise in Green Energy Optimisation;
- Health sciences **(HealthCORE)**; and
- **SecurityCORE** Centre of Research and Enterprise in Advanced Security Technologies.

The Institute is also building research capacity in Advanced Security Technologies (SecurityCORE) in association with the Irish Defence Forces. The newest CORE is EngCORE which provides an umbrella for the diverse research interests of the School of Engineering and acts as a focal point for the exchange and development of research programmes in relation to its main thematic areas; Applied

Mechatronics, Circuits and Systems and the Intelligent Built Environment. The Institute's RDI activities are complemented by various campus-based specialist centres and campus companies, which include the *Campus Innovation Centre* and the *Enterprise & Research Incubation Centre* and in particular the most recent addition the Dargan Centre.

Multi-Disciplinary Research - The Dargan Centre

The Institute's Dargan Centre for Research, Development and Innovation is a significant expansion of the Institutes RDI environment that maximises the beneficial synergies between the teaching and research activities and the enterprise development initiatives of the Institute. Opened in 2014, the centre has been designed to allow the Institute to capitalise on the opportunities for idea generation, knowledge production and knowledge exchange, through the co-location of specialised multidisciplinary research facilities and personnel, with a range of high quality research, commercialisation, enterprise development and postgraduate support services.

The Centre provides a new Postgraduate and RDI building entirely from non-exchequer self-financing activities.

These developments typify how IT Carlow has adapted to the rapid pace of change in the higher education sector and how it is committed to playing its role in the reform of the sector and the development of the economic, cultural and social life of the State.

Waterford Institute of Technology

WIT is the largest third level education provider in the South East Region with a learner community of 8,000 full-time and approximately 1,400 part-time students. It is worth noting that a significant number of entrants come from non-standard routes including a continuing increase in mature learners. The range of academic programmes is exceptionally extensive covering the Humanities, Health and Nursing, Science and Informatics, Engineering and Architecture, Business and Education. Over 60 per cent of the Institute's undergraduate students are registered on bachelor degree courses. In addition the Institute has 10 per cent of its students registered as postgraduate students up to PhD level. An important feature of the Institute's courses is the strong links to industry with the majority of technical and business courses incorporating a period of placement in industry.

Prioritisation of Research

The Institute has taken a strategic approach to the development of research over the last 15 years. In particular WIT prioritized three main areas of research for development: 1. Telecommunications ICT (TSSG) 2. Pharmaceutical Science & Molecular Biotechnology (PMBRC) and Eco-Innovation (EIRC) and 3: Advanced Manufacturing. The Institute has achieved significant success in winning research funding both from national and EU sources, in forging strategic academic and industry research alliances and in the construction and enhancement of research Infrastructure.

WIT has built strategic research partnerships with world class research centres across Europe, Asia and the Americas. Over 400 staff members and students are actively involved in research. The Institute has 180 Principal Investigators, Research Fellows and Postdoctoral Researchers supported by sponsored research which generates an annual salary budget of approximately €10 million (unique in the IOT sector). It has won over €140 million in research funding since 1997 and its innovation activities have created more than 500 jobs for the region.

WIT has a pivotal role as a catalyst for regional cultural and economic development through the innovation of its research and the creation of an effective knowledge transfer framework. The Institute's research philosophy is to "Drive regional economic development through our global reputation for Research and Innovation Excellence"

Engagement & Knowledge Exchange

At the core of the Institute's Strategic Plan is its commitment to engagement and knowledge exchange with research partners, regional and national stakeholders and industry, particularly through the EU Framework and the SFI centres Programmes. WIT has established a record of large scale research collaborations with multinationals such as IBM, Cisco, and EMC. Furthermore with a strong pharmaceutical and advanced manufacturing presence in the South East Region, the Institute also has established research partnerships with companies such as Genzyme, Boston Scientific, Schivo, Teva, Bausch & Lomb and Merck Sharp & Dohme. In ICT the institute has created a mobile services HPSU cluster through its Arclabs incubation centre and has established a close working relationship with regional players such as SunLife and Eishtec.

WIT has Technology Gateway Centres funded by Enterprise Ireland in the areas of telecommunications and mobile services (TSSG), applied materials (SEAM) and pharmaceutical and molecular biotechnology (PMBRC). It is also a partner in two of Science Foundation Irelands research centres in ICT and Biopharma (Connect and SPSS).

Waterford Institute of Technology strategic research areas include:

- Telecommunications Software & Systems Group (TSSG);
- South Eastern Applied Materials Research Centre (SEAM);
- The Pharmaceutical and Molecular Biotechnology Research Centre (PMBRC);
- Eco – Innovation;
- Centre for Enterprise Development & Regional Economy (CEDRE);
- RIKON – leading service innovation centre in WIT's School of Business; and
- Macular Pigment Research Group (MPRG).

Based at the WIT, the centre for **Telecommunications Software and Systems Group (TSSG)** is a major source of research strength for the region and nationally. Its research focus is on the dramatic changes occurring in the telecommunications software industry, and on the wider converged communications industry, particularly in managing networks and in developing innovative new services for those networks. Established in 1997 the centre has a long history of working with industry and the centre is nationally renowned for its phenomenal success in engaging in and winning European. In addition, the centre has proactively developed a diverse set of funding (including from PRTLI, SFI, and EI) which allows it to continue to operate in a more sustainable manner without the same dependency on single funding sources which some other research centres in Ireland have.

TSSG is recognised as a leading research institute nationally in participating in EU RTD programmes under FP3 to 7 and currently is leading a number of significant programmes in Horizon 2020. Of note is that between 2007 and 2013 TSSG leveraged €10.4 million through EU FP 7 ICT programme, the 4th most successful Irish participant representing 10 per cent of all monies generated for Ireland in ICT.

TSSG has also created new companies which have emanated from TSSG's research activity (spin-outs) and has also attracted companies to locate some or all of their activity in Waterford with links to the TSSG (spin-ins). The companies typify the kind of activities associated with the 'new software economy' and include Waterford Technologies, FeedHenry, Zolk-C, NearForm, Betapond and Muzu. TSSG and ArcLabs acts as a catalyst in attracting FDI into the region recent examples of which include RedHat through its acquisition of FeedHenry, and companies such as Primeur and Agora located in ArcLabs.

The TSSG's deepening expertise in the area of future internet infrastructure and services and its strong commercial focus provides the region with a strong platform for future indigenous and FDI enterprise potential.

Limerick Institute of Technology

Limerick Institute of Technology is based in Tipperary as well as in Limerick City and the principal region it serves includes Limerick, Clare and Tipperary. LIT is the fourth largest IOT in Ireland, with more than 6,000 full time and part time students and 500 staff. LIT was awarded the Sunday Times Institute of Technology of the Year in 2008 and 2013 by the Sunday Times University Guide.

LIT has two campuses in Tipperary, one in Thurles and one in Clonmel. While specific activities take place on these campuses, it should be noted that all of the specialised resources of LIT, no matter where they are based, are available to enterprises and enterprise development in the Tipperary area in particular. To facilitate this engagement to an even greater extent, an Industry Research Liaison Officer for Tipperary has recently been appointed by LIT while Tipperary-based enterprises have access to targeted Tipperary supports such as the Ryan Fund (see below), specific Tipperary support programs and locally based Enterprise Centre managers, while also having access to all the Enterprise supports of LIT wherever based.

Degree Programmes

A wide range of programmes of study is provided on the Tipperary campuses which have close to 1,000 full-time and part-time students. These programmes include degree programmes in Sports Strength and Conditioning, Games Design and Development, Business, Social Care, Environmental Management, Agriculture and Environmental Management, Computing, Creative Multimedia, Digital Animation, Marketing with Languages and Social and Community Development. Masters and Doctoral Programmes by research are also available on both campuses as well as a range of life-long-learning programmes.

Research and Development

LIT is also actively involved in research and enterprise development and is a regular participant in EU programmes both as project co-ordinator and project partner. It has participated in Erasmus+ and Leonardo, Interreg, FP7 and IEE projects and its International Office promotes the Institute globally and welcomes students of many diverse nationalities.

Through its Development Unit which is based in Tipperary LIT has gained many years of experience in EU project management. LIT in Tipperary has over 10 years' experience in outreach programs. It has worked as a mentor to local communities and local businesses helping them to develop there capacities in the areas of governance, business planning and team development.

Some of the key areas of research and development in LIT are bio-technology (through the Shannon Applied Bio-Technology Centre and the CELLS Group), renewable and sustainable energy (through the ACORN Centre and the Centre for Rural and Sustainable Development), food technology,

(through the FooDs Centre), enterprise, (through the BESTCentre) and Games Technology and Design (through the GAMES Centre).

Enterprise Support

LIT is actively involved in the area of enterprise development. It owns or operates six enterprise centres throughout its region with a total floor space of 66,000 ft2. Two of these centres are based in Tipperary, one Questum, in Clonmel and one, the TCEC in Thurles. In these centres LIT provides support, mentoring, training and some finance to a wide variety of start-up and newly-established enterprises. The combination of supports provided by LIT to enterprise is called the Enterprise Ladder.

The Enterprise Ladder is delivered in a variety of ways. In addition to running the enterprise centres referred to above, the Institute is actively engaged with the business communities in its area through the provision of education, training, conferences & workshops & works closely with all the business representative networks in the region including the Chambers of Commerce, Ibec, Local Authorities & the key state agencies such as the IDA & Enterprise Ireland.

The total number of jobs in LIT-operated enterprise centres in 2014 was 155 with about 650 jobs having been created since the Enterprise centres were started.

The Ryan Entrepreneurship Fund

The Ryan Entrepreneurship Fund is a seed investment fund launched in 2014 for start-up companies on LIT's Tipperary campuses has been established in honour of the late Dr Tony Ryan. The Ryan Entrepreneurship Fund will provide support to start-up enterprises based in the county and will primarily be directed towards companies participating in one of the enabling programmes, courses or modules on LIT's Enterprise Ladder. The aim of the fund is to invest in start-up businesses to help sustain them through the development stage and stimulate job creation in the county. Successful applicants will receive up to €25,000 each in funding for their companies. Participants from the previous cohorts of TESS and the current cohorts can apply for support from the fund as well as other entrepreneurs from the region that LIT engage with on programmes such as New Frontiers.

The Institute also organises enterprise events on its own or in partnership with bothers including the Limerick Regional Enterprise Awards of which it is the principal sponsor, Tipperary Enterprise Week, and the Tipperary Schools Enterprise Awards

Community Engagement

LIT provides a wide variety of supports to public, community and voluntary organisations throughout the county of Tipperary. It actively supports and works closely with the Local Authority in many of its enterprise and community development activities and provides research and investigation support to many community and voluntary organisations in the area as well as to state bodies when such support is required.

LIT also works actively and takes an active part in many organisations that are concerned with the social and economic development of the county such as the Tipperary Energy Agency, The Tipperary Sports Partnership, The North Tipperary Green Enterprise Centre and The South Tipperary Volunteer Centre.

Kilkenny Campus of Maynooth University

The Kilkenny Campus of Maynooth University is the only dedicated Life Long Learning Campus for adult students in Ireland. Founded in 1997, it is part of the Department of Adult and Community Education at NUI Maynooth, and it helps to further the University's commitment to the provision of flexible part-time education for adults, who cannot come to the main campus to study full time. The Kilkenny Campus of Maynooth University is exploring ways to widen participation in life-long learning, adopting new and flexible delivery methods and engaging in dialogue with local and regional stakeholders to ensure that the Campus is responsive to the educational needs of the city and the region.

St. Patricks, Carlow College

St. Patrick's, Carlow College is one of Ireland's oldest educational institutions dating back to 1793. In the past decade Carlow College has established itself as a provider of courses in Humanities and Social Care with the particular remit of serving the South Leinster and South-East Midlands region. It has built strong links with the local community, with schools, local authorities, health service providers and cultural organisations. The College has partnerships with Carlow University, Pittsburgh, St. Ambrose University, Davenport, Iowa, the Illinois Consortium for International Studies and Programs (ICISP) and with Trinity College Dublin.

2.5 Education and Training Boards

ETBs were established in 2013 and replace former VECs in the Southeast. The ETBs in this region are:

- Kilkenny Carlow ETB;
- Waterford Wexford ETB; and
- Tipperary ETB.

Kilkenny and Carlow Education and Training Board (KCETB)

KCETB provides for the education and training needs of students across the two countries through its post-primary, further education and training centres as well as through its youth services. It caters for approximately 5,000 full-time students through its network of 13 post-primary schools with a further 20,000 students participating in full time and part-time programmes across the two counties from QQI Levels 1-6.

KCETB has a dedicated College of Further Education in Carlow and Kilkenny and provides a variety of education programmes at approximately 30 locations throughout the two counties. Through its Further Education provision KCETB provides a broad range of programmes in areas such as Business, Healthcare, Nursing Studies, Sports and Recreation, ICT, Tourism, Art and Design, Beauty and Horticulture. KCETB has over the years developed formal progress arrangements with Carlow IT and Waterford IT and with other specialist Third Level Colleges and employers. Currently the training services for KCETB are run from the Waterford Training Centre under the auspices of Waterford and Wexford ETB with a full transfer taking place later in 2015.

KCETB runs a number of Youthreach centres catering for the needs of young early school leavers as well as a range of provision for adults returning to education through its VTOS centres, Adult Literacy, BTEI (Back to Education Initiative) Community Education Services with support services provided through its Adult Guidance Services. It also works closely with youth and community groups through its youth work activities.

KCETB is working closely with SOLAS on its strategic planning for service delivery in the Further Education and Training areas to ensure it continues to meet the changing skill needs of employers throughout the region.

Tipperary ETB

Tipperary Education and Training Board, as the statutory provider of education for the County, provides a comprehensive range of quality education programmes to meet the needs of the community it serves. These include Second Level Education, Post Leaving Certificate Programmes, Further Education, Second Chance Learning and Adult & Community Education. In addition, Tipperary ETB plays a significant role in the Strategic Development of the County through a variety of inter-agency programmes.

The ETB caters for approximately 3,500 full time students through its 12 Post Primary Schools including one All Irish Second Level Unit. It also provides a wide range of Further Education & Training programmes, with over 7,900 learners, full time and part time, participating across the county. It has 2 stand-alone PLC centres, as well as 7 other PLC Centres offering a variety of programmes in areas such as Childcare, Healthcare, Beauty, Art, Business, IT, Tourism and Sport. Accredited courses range from Levels 1-6 on the National Framework of Qualifications.   It operates a number of programmes with direct employer involvement, e.g. Skills for Work, which allows people in employment to develop their skills. These courses are designed in collaboration with employers and each one is unique to the requirements of the workplace.   Training in Tipperary is currently managed from the Limerick Training Centre for the north of the county and Waterford Training Centre for the south. There will be a transfer of training to Tipperary ETB in due course.

The ETB also offers a range of programmes and support services for adults returning to education including educational guidance through the Adult Guidance Service.   It is also responsible for the administration of a range of support services including Youth Services, Corporate Services, Special Needs Learning Support and Language Scholarships.   It has formal referral protocols with the DSP and LEOs for better interagency communication and it has also signed a MOU with Limerick Institute of Technology to ensure there is a closer working relationship between further education and higher education for the benefit of the learner.

Waterford and Wexford Education and Training Board (WWETB)

WWETB is the consolidation of former City of Waterford VEC, County Waterford VEC and County Wexford VEC and FAS services. It provides a comprehensive range of education services and is the largest education and training provider in counties Waterford and Wexford providing Post Primary and Further Education and Training from levels 1 to 6 on the NFQ. WWETB caters for 3909 second level pupils in 13 post primary schools and centres and is co-patron of a further 3 community and comprehensive post primary schools in counties Waterford and Wexford.

WWETB places learning and the learner at the heart of its educational provision, and is focused on engaging and responding to current and future industry needs as required. It works closely with SOLAS on strategic planning and increased alignment of FET provision and FET related employer skills needs.

Within the Further Education and Training sector, WWETB provides 128 PLC courses (levels 5 and 6) providing 1754 student places delivered across 10 schools/ centres spread across the counties of Waterford and Wexford. The PLC sector is a significant provider in Agriculture, Media, Childcare, Business, Healthcare, ICT, Engineering, Art and Beauty, Sports and Recreation studies. Some of the PLC colleges have formal progression schemes in place with Waterford Institute of Technology and a new scheme is being developed with Cork Institute of Technology for 2015/2016.

Training Services within WWETB are provided at two Training Centres. In addition, employment focussed training is provided by Second providers through Contracted Training and Community Based Training and Apprenticeship training. This is delivered through a mix of centre based and on the job training providing necessary skills for employers in the region. The training centres have dedicated and wide ranging facilities for training for employment including Pharmaceutical Manufacturing, Aeronautical Engineering, and Welding. A number of national Apprenticeship courses are also provided. WWETB also provides training in counties Carlow, Kilkenny, Wicklow and South Tipperary on behalf of associated ETB's which are targeted at employment opportunities. It provides training for jobseekers, people entering the workforce for the first time, early school leavers, people with disabilities, those wishing to change careers and people looking to refresh their knowledge or gain new skills. In 2015, there will be approximately 3100 training places specifically aimed at entry to employment.

WWETB also provides second chance educational opportunities through 7 Youth Reach Centres (245 students) and 2 Community Training Centres and has an Outdoor Education Centre which provides educational programmes to primary, post primary, youth and adult groups. There are 11 Local Training Initiatives being run by WWETB and 3 Special Training Programmes for people with disabilities and preparing them for the workforce. WWETB also provides a significant level of Adult Basic Education and training through its Adult Literacy (1356 students), Community Education (2253 students), BTEI (Back to Education Initiative) 1525 students, Youth Services, ESOL and VTOS (520 students) services across the region.

Skillnets

Skillnets actively supports and works with businesses to help them address their current and future skills needs through an enterprise-led approach. It funds groups of companies with similar training needs, through training networks that deliver subsidised training to Irish businesses and their employees, as well as free training to job-seekers. Skillnets has 63 training networks nationwide. Through its ManagementWorks programme, which offers structured learning and one to one mentoring support, Skillnets works with SMEs to build their management capability. Skillnets training networks based in the South East region are:

- Waterford Chamber Skillnet;
- Carlow Kilkenny Skillnet; and
- County Tipperary Skillnet.

Other national sectoral Skillnets that deliver training to companies in the South East region include;

- Farm Business Skillnet;
- ISA Software Skillnet;
- IMDA Skillnet (Irish Medical Devices Association);
- Innovation & Lean Sigma Skillnet;
- ISME Skillnet;
- FDII Skillnet; and
- Taste4Success Skillnet.

Over 1,000 companies in the South East were members of a Skillnets training network in the past year and almost 3,300 employees benefited from training. The main sectors supported by Skillnets in the South East region are agriculture, services, food and drink, retail, health and manufacturing. Further information on Skillnet networks and training courses is available on www.skillnets.ie

3. Strengths and Opportunities

Strengths

City Region. The broad population base of the region at 500,000 gives the South East the scale to function as a City Region in a European context. Waterford City is a national Gateway city and economic driver of the South East with a population of 70,647 with a further 220,000 living within a 60 minute commute and the other large urban centres of Wexford, Kilkenny, Carlow and Clonmel have critical mass.

The region is served by a comprehensive transport network and is situated on a number of critical and linking transport corridors with modern air, road, rail, bus and port infrastructure creating excellent accessibility. Furthermore, there are broadband Metropolitan Area Networks (MANs) in 11 towns in the region.

Economic Infrastructure. The region has a relatively good quality transport and other economic infrastructure, with a regional airport, three commercial seaports, a good road network, three Third Level Education Institutes, a young and highly educated labour force, and with a network of region-wide Industry and Technology Parks making it an attractive region for investment. It has a well-developed tourism sector with a wealth of visitor attractions. International connectivity is a key factor in mitigating the impact of Ireland's peripheral location for potential investors and overseas customers. This is a key consideration, given the physical distance of southern parts of the region from an international airport. Improvements to road infrastructure have greatly enhanced connectivity to the cities of Dublin and Cork, the two largest urban centres in Ireland.

Tourism. The 'Sunny South-East', which now forms part of Irelands Ancient East, has an established reputation for tourism, particularly domestic Tourism. The region has a number of high profile cultural events and visitor destinations which act as a further draw for visitors to the region. The South East has a natural asset base for tourism with some regional tourist attractions featuring prominently in Fáilte Ireland's strategy *Ireland's Ancient East*.

Enterprise Mix. There is a strong presence of a range of highly productive and successful exporting firms in the region (for example the growth of Danone Nutricia is in response to a rising demand for its infant and toddler milk products in the European and Asian markets).

Agriculture and agri-food sectors are relatively strong in the South-East, contributing 9 per cent to overall employment. In addition, strong players in the food processing industry have emerged from the region and are significant employers and exporters.

The South-East region has a growing base of companies involved in a variety of life sciences related activity, principally but not exclusively, manufacturing (Abbott Ireland Vascular Division, Bausch & Lomb, Boston Scientific, Sanofi Genzyme, Nypro, GlaxoSmithKline, Lake Region Medical, Merck Sharp & Dohme, Pinewood Laboratories and Waters Technologies). The region also has a growing base of companies involved in international services.

Innovation. Research and innovation infrastructure and capacity within the HEI sector in the South East has benefited over the last 5 year from investment through the Enterprise Ireland's Technology Gateway Programmes, Innovation Vouchers and Partnerships the SFI Infrastructures programme, participation in SFI Centres programme and EU FP7 and H2020 programmes.

Education and Training Capacity. The South East has a broad base of third level education institutions and disciplinary expertise, with providers including Carlow Institute of Technology with facilities in Carlow and Wexford, Waterford Institute of Technology (WIT) and Limerick Institute of

Technology (LIT) with two campuses in Tipperary, each focused on improving skills and opportunity for the region.

There are a number of centres of excellence in research in the region of differing scale and focus (see Appendix D). For example, over the last 15 years WIT has secured more than €140 million in enhancing its research capacity and infrastructure and building capability of notable scale in the areas of Telecommunications and ICT (TSSG), Applied Materials (SEAM), Pharmaceutical & Molecular Biotechnology (PMBRC), Eco-Innovation, Innovation Policy & Services and Macular Pigment Research Group (MPRG).

Similarly in the area of workforce development for example, IT Carlow has the largest Lifelong Learning Centre in the country and offers programmes from certificate to masters level in Carlow, Wexford and Wicklow including many company and sector customised courses. Having acted as a catalyst for the generation of almost 45,000 graduate's to-date, IT Carlow's current student diversity is reflected in its mix of traditional leaving certificate entrants, a growing European and international student body, an increasing proportion of mature students and learners from disadvantaged backgrounds, as well as a significant number of part-time learners (approximately 33 per cent of the total IT Carlow student population).

LIT has the largest network of enterprise centres of any HEI in the country and has particular expertise in the areas of renewable and sustainable energy and bio-technology.

EI and IDA engagements with Waterford Institute of Technology and Institute of Technology Carlow have ensured that the changing skills needs of FDI clients in terms of graduate capability is understood and is being met through continued openness to working collaboratively with clients on their skills agenda, which is a strong feature of this Region.

Closer engagement with enterprise is also a core objective of the new strategic framework for the Further Education and Training sector and the three ETBs in the region are developing stronger links with enterprise and ensure that courses are relevant to current and emerging job opportunities.

Opportunities

New Sources of Growth. The consultations with stakeholders have identified significant further potential for growth in employment and exports for the International Services sector, fundamentally underpinned by advances in ICT and changes in business models where public and private sector organisations continue to seek to outsource customer care and processing activities to third-parties with specialist expertise and scale.

The strong existing manufacturing presence in the region, combined with the expertise of the SEAM Institute in WIT and DesignCORE and EngCORE in IT Carlow and the potential from growth manufacturing sectors (such as aerospace) represent significant potential for exploitation. The growth opportunities in manufacturing include Pharma, Medical Technologies and Engineering.

Work in underway to create a Digital Media Hub in the region involving Limerick Institute of Technology. Animation (Cartoon Saloon), design and craft (DCCoI) and gaming have a strong presence in the South East and are likely beneficiaries of this Hub. IT Carlow are developing an industry led initiative titled Design+. The Design+ Gateway will:

- serve multiple sectors including Business, Computing, Engineering, Environmental and Science;

- combine design practices with technical expertise to deliver innovative solutions for regional businesses;

- leverage the thinking and processes employed by designers for the benefit of industry;
- promote design as a tool for leadership through training, technology feasibility and prototyping; and
- be a national leader in combining design with technology, business and customer needs.

Design+ is an opportunity to develop an inclusive design-led regional and national industry portal which will complement existing Gateways, e.g., APT and SEAM. It supports and enhances all technology driven disciplines linking technology and business opportunity to user needs.

Building on the growing consumer demand for well-designed products with provenance, DCCoI is in the process of leveraging the organisation's existing education facilities as centres of excellence in jewellery in Kilkenny and in ceramics in Thomastown. In addition, DCCoI intends to lead a regional stakeholder group to position Waterford as a centre of excellence in glass design and production, a leader in research and innovation for new glass technologies, a hub for clusters of glass practitioners and businesses, and a location where the world's glass community meets.

In the area of agri-tech, there is strong potential to build on exciting initiatives currently underway in the TSSG centre involving Data Analytics in the agri-sector. These initiatives involve Teagasc and Glanbia.

There is also strong potential to grow further the base of ICT businesses in the South East, drawing on the region's TSSG research centre, indigenous companies and startups, and the financial and business services companies carrying out software development.

Artisan food production is strong in the region despite issues with incubation space, scaling, and requirement to focus on local market initially. There is potential to expand this sector further.

The South East region has built a sizeable portfolio of international financial services (IFS) companies which can be a base for further growth. These companies have built strong relationships with the regions IoTs particularly in course development to ensure a steady supply of appropriately skilled graduates.

Smart Specialisation. The region is actively engaged in an EU eDIGIREGION programme to identify the areas for specialisation for the region in terms of technologies and innovation and a range of areas offer potential for the region from Internet of Things, to advanced manufacturing, ICT in agriculture to Digital Media, FinTech and marine.

Property Solutions. The South-East has additional capacity for growth in life sciences manufacturing with the presence of a utility-intensive strategic site in Belview outside Waterford City and other Land banks elsewhere in the region.

The region will shortly have two advanced manufacturing facilities in Waterford (complete IDA Technology Park at Butlerstown) and Carlow with Wexford having secured planning permission for two advance facilities in New Ross.

Tourism. The region has further potential to grow its tourism performance in line with the national objectives for increasing overseas tourism numbers and revenues by a third and 40 per cent respectively by 2025, in particular through harnessing the full potential of the new *Ireland's Ancient East* value proposition and experience development, as well as other visitor destinations in the region.

New Inward Investment. The main opportunities for FDI in the South East are in International Business Services (including Financial Services) and Manufacturing (Pharma, Medical Technologies and Engineering). The clusters in Life Sciences and International Business Services; with the brand names in Pharma, Medical Technologies and Financial Services; coupled with close proximity to Dublin, forms the basis of the value proposition to clients.

Additionally, there are the sub supply companies attracted into Ireland and looking for a convenient location to service industry across the country. IDA is actively pursuing opportunities in its main markets as well as positioning the region for newer opportunities in growth markets and emerging companies.

Education and Training. IT Carlow and WIT together with LIT in Tipperary and the Education and Training Boards provide an exceptional range of programmes for skills and capability development in the region. As set out above, the IoTs have developed strategic research activities aligned with the strengths of regional and national priorities. Overall, stronger engagements with Waterford Institute of Technology and Institute of Technology Carlow and employers and enterprises in the region provides a real opportunity to ensure that the excellence of the graduate and teaching and research capability is understood by all in the region and that the higher and further education systems can respond to the changing skills needs of employers.

4. Regional Leadership, Governance and Alignment of Strategic Planning

Towards Common Objectives – Growth & Jobs

A key challenge for the region is to restore the jobs lost during the economic downturn and get back to sustainable full employment levels, with sectors and clusters that are internationally competitive.

The counties in the South East are increasingly working together and see potential to strengthen those links as part of the Atlantic Corridor connecting from Cork across to Waterford, with onward eastern connectivity. In the context of international competition for trade, investment, tourism and talent, developing scale at European level is increasingly important and counties need to work together to operate as an effective and cohesive region so as to promote the South East as an internationally attractive location of scale and as a City Region.

The NPF and RSES will provide the framework for the region and will address regional imbalances though the targeted investment in infrastructure so as to promote the efficient use of land and resources, in alignment with the priorities set by the NPF and other Government policies and strategies.

The development of joint initiatives can contribute to a dynamic of transformation of the business environment and the development of a leadership position in a number of areas for the region. This requires co-ordination and collaboration at all levels, private sector and public sector, in terms of spatial and transport and land-use strategies, community and social development planning and enterprise support.

The long standing strength of the Chambers network and the potential to further strengthen collaboration among Chambers and other business representative organisations (Ibec sectoral federations, the IHF and REI) throughout the region also provide an important platform for collaboration between the public and private sectors over the coming period and to enable the effective implementation of the Action Plan process.

The recent development of a regional partnership between the local authority councils in Kilkenny, Waterford and Wexford and led by Waterford is working to focus the collective ambition of the region towards the development of a regional identity.

The South East Region is a NUTS level III region. Regional and local government structures were reformed in 2014[8]. The reforms included the abolition of the 8 Regional Authorities, abolition of all town councils and the merger of a number of councils (both county and city). There are five local authorities in the region. They provide a wide range of services, including housing, transport, water supply, waste management, education, health and welfare. The NUTS III region is now administered as part of the NUTS II Southern Region. The Departments Jobs, Enterprise and Innovation and Environment, Community and Local Government are working closely together to ensure coherence between the Action Plans for Jobs the and new National Planning Framework and the regional Economic and Social Strategies to be developed in 2016, as illustrated in Figure 5.

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8 **http://www.environ.ie/en/LocalGovernment/LocalGovernmentReform**

Figure 5. Linking the Action Plans for Jobs-Regional and National Planning Framework
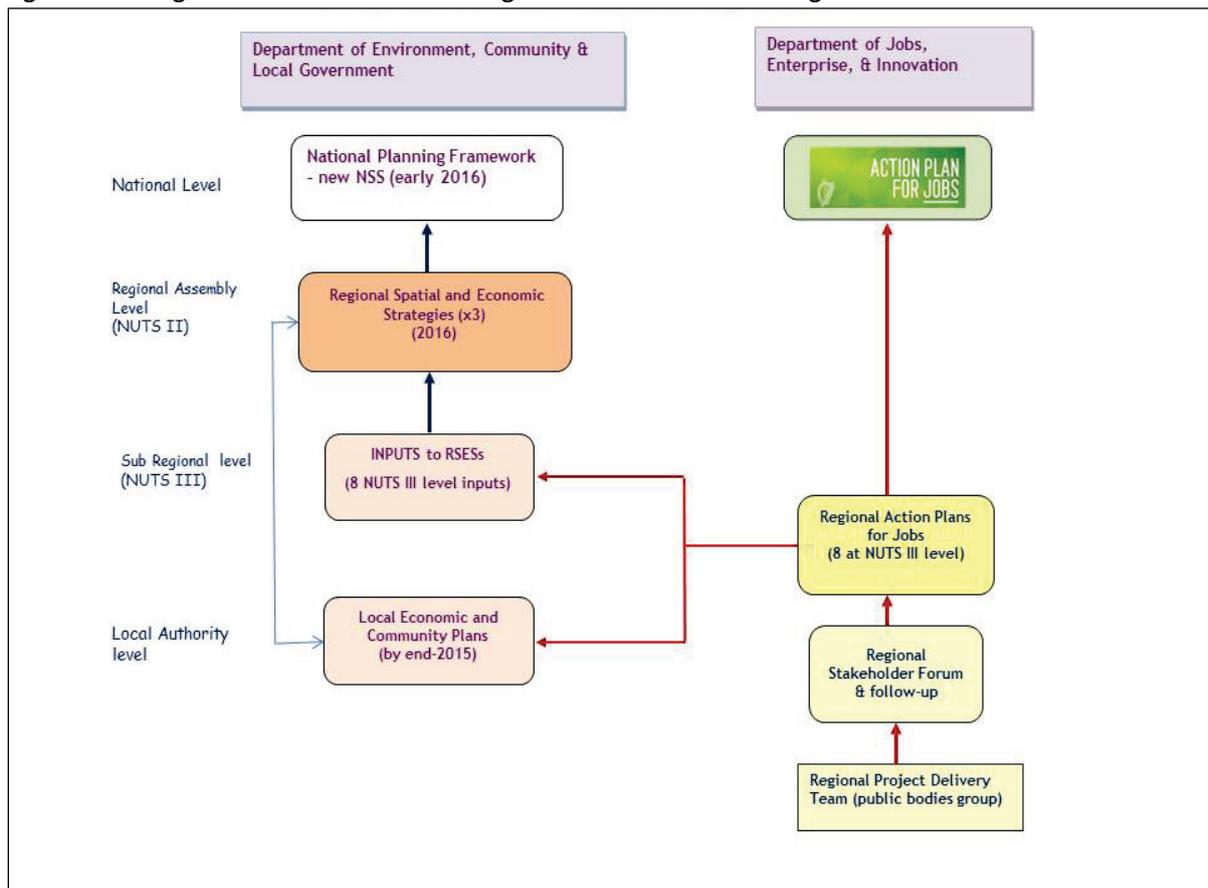
Local Economic and Community Planning

The vision for Local Government, as set out in the Action Programme for Effective Local Government, is that Local Government will be the main vehicle of governance and public service at a local level. It will lead economic, social and community development, delivering efficient and good value services and represent citizens and local communities effectively and accountably.

The Local Government Reform Act 2014 provides for a strong role and involvement in economic development by the Local Authority within their county. Local Government has a central role in the oversight and planning of local economic and community development programmes and a critical element of this is the development of five year Local Economic and Community Plans (LECPs). This will align the economic and community objectives at a county level and importantly integrate to the regional and national Plans and priorities.

Involvement of local Government in Enterprise support and local and community development programmes through the LECP will provide an important local focus to give effect to this APJ for the South East region.

National Spatial Strategy

The National Planning Framework will be prepared in 2016 and will seek to build on the successes of the National Spatial Strategy to provide a strategic spatial policy context for balanced national and regional development over the next 20 years. It will provide the over-arching framework to inform co-ordinated decision-making by relevant Government Departments and Agencies that must be followed through in subsidiary plans – as such its influence will range from nationally important

projects that will contribute to the strategic profile of the State, to more local actions that provide vital supports to our communities. The challenge of each region achieving its potential and creating sustainable employment opportunities in an increasingly competitive global economy, together with wider considerations arising from the Public Sector Reform Agenda have resulted in the creation of a new Regional Tier of Local Government. On 1st of January 2015 three new NUTS II Regional Assemblies consisting of a total of 8 Strategic Planning Areas at the NUTS III level came into operation.

Figure 6. Ireland's Planning Policy Framework 2016+

The new streamlined regional planning structures provide opportunities for increased co-operation over wider geographic areas (including at inter, intra and sub-regional levels as appropriate). In this regard, and to reflect the important contribution regional spatial planning will play in sustaining the national recovery and delivering balanced growth, the Regional Planning Guidelines will be replaced by new Regional Spatial & Economic Strategies (RSESs) in 2016.

An immediate next step proposed by the Project Delivery Group for this APJR is to establish a joint public-private implementation group, with an enterprise chair, through which all stakeholders in the region can collaborate to drive forward the delivery of the Action Plan.

Actions

Regional Leadership			
1	**Establish a South East Strategy and Implementation Group to take forward the areas for collaboration among stakeholders on the enterprise development agenda of the region set out in this Action Plan and appoint an external Chair.**	**Q4 2015**	**LAs, EI/IDA, SRA, DJEI, HEIs, ETBs**

5. Collaboration, Clustering and Building Business Networks

The South East region in general has a range of leadership bodies and organisations that work effectively to bring together public and private stakeholders. A key theme from the consultation with stakeholders was the potential to further build on these networks and extend effective collaboration across the Region to support exports and jobs growth.

The South East is renowned as a national cluster for tourism, food and drink, engineering and life sciences, with a strong record with pharmaceutical and medical device companies.

Accessing markets and selling services internationally was identified as one of the areas where such collaboration could help. Brokered introductions pay a crucial and impactful role in supporting companies to export and gain real sales leads. Providing such links to opportunities abroad together with information based on experience can serve to reduce market research times and accelerate establishment abroad - piggy backing on the established success of others.

The stakeholder consultations also proposed the development of a portal to promote services and supports in the region, effective networking and harvesting of diaspora and graduate alumni networks for talent and investment, discussion groups for business, strengthening of business networks to support further local engagement between business community and public bodies so as to enhance the business environment, greater engagement with the third level sector in the region so as to ensure availability of skills and graduates required by enterprise. There is great potential for the region to create a platform for leads to be generated in an organic way, to then be developed relevant stakeholders, including in partnership with Connect Ireland.

There are a number of already effective networks in operation in the region (or in parts of the region). Our objective is to:

- strengthen and leverage existing networks across the region;

- facilitate cross sectoral dialogue and idea generation around identifying potential growth opportunities arising from convergence;

- put in place a more systematic engagement between enterprise and the education providers across the region with a focus on identifying current and future demands (sectoral trends) coordinated skills supply and development, and increase relevant industry placement opportunities (to include SMEs);

- connect with international research communities and institutes and optimise potential to source/collaborate on EU funding initiatives; and

- Strengthen connections with diaspora including post graduates in a more structured and systematic way.

South East Chambers

The South East Chamber's Network is made up of nine Chambers in total across the South East Region and based in the following locations:

- Carlow;

- Dungarvan;

- Enniscorthy;

- Gorey;

- Kilkenny;

- New Ross;

- Tipperary;

- Waterford; and

- Wexford.

The network represents over 2,500 businesses in the region, which in turn are reflected across all business sectors. Each Chamber has its own Board of Directors in place, while the South East Network meets on a quarterly basis and is governed by a formally appointed committee structure.

THE ROLE OF SOUTH EAST CHAMBERS

- Represent the region on strategic priorities and issues that affect business. In particular, we focus on job creation, economic development, infrastructure and the growth of indigenous SMEs.

- Manage and facilitate a range of networking events, workshops and seminars which are geared to develop and foster Entrepreneurship and Innovation. It is also recorded that 60 per cent of members do business at Chamber events.

- Work in a collaborative role with Local Authorities and State Agencies on projects which promote the region.

- Support and actively participate in the development of Tourism across the region.

- Through Chamber Skillnet, provide a range of training programmes and initiatives for members across the South East. Skillnet are also a member of the South East Education Providers Group.

- The network promotes the Economic and Social Development of communities in order to make them a better place to live, work and do business.

- Provide export documentation services which are a central function of the network which supports the expansion of the export markets.

Actions

Building Business Networks			
2	Increase the collaboration of regional Chambers of Commerce for businesses and startups to share knowledge and best practice and to provide a combined ambition for the overall development of the South East region.	Ongoing	Chambers
3	Develop a cross-regional female entrepreneurship network and events focussed on key themes and potential for cross collaboration between businesses.	Q4 2016	Chambers/LEOs/EI

4	Develop a 'Bizfest South East' Business Networking Event and hold annual Sector Specific Networking Events to promote and encourage sector development between LEO and EI Clients	Q2 2016	LEOs, EI
5	Strengthen existing Ibec networks across the SE region by developing additional Ibec development and best practice networks in the region including in PharmaChem and medtech and food and drink sectors, together with Leadership Forums.	Ongoing	Ibec
6	Establish an SME 'Advocates for Success' panel of local business leaders, entrepreneurs and enterprise role models that will champion entrepreneurship in the SE region.	Q4 2015	Chambers, LEOs, EI, HEIs
7	Establish four regional industry-led Fora in the areas of: • Precision Engineering: • Financial Services and Business Services: • Biopharma/Medtech: • AgriTech and Food Forum.	Q4 2016	Industry, LAs, LEOs IDA, EI, Business Representative Bodies, HEIs

Artisan Foods and Crafts

8	Develop Regional Networks and Clusters in Food & Craft microenterprises to promote development of the sector and to network and collaborate on key development needs.	Q4 2015	LEOs
9	Promote connections with South East business networks on a cross border basis.		ITI, EI
10	Develop a plan to grow exports and sales through the new Ireland Wales Scheme funding.	Ongoing	Southern Regional Assembly

USA Collaboration

| 11 | Establish a USA/SE region collaboration "SE Irish American Association", based on existing town-twinning initiatives, to provide a network for promoting investment and collaboration in the region with US companies through clubs, associations and routes-to-market for SE firms and to attract investment from the US. | Q1 2016 | Chambers. Existing US companies based in the region - returning diaspora from US |

6. Building Sectoral Opportunities, Clusters and Ecosystems

The consultation with stakeholders identified a range of areas for collaboration among enterprises in the region, in particular in the areas of scaling and growing enterprise, mentoring, growing exports, increasing all-island trade and deepening SME-MNC links.

There were strong views that connecting foreign and Irish owned MNCs and SMEs more effectively can help to bring the local companies up to international best practice in terms of management practice to create competitive advantage. Improving relationships can also lead to potential around supply chain for the internal manufacturing market. MNC-SME linkages can also help develop the skill and expertise in SMEs. There was a view that many MNCs source products from abroad unaware of the opportunities on their doorstep. There was broad agreement that sourcing locally would create further jobs.

In relation to mentoring there was a strong view there are already a lot of good supports available, but that people / business are not necessarily aware or engaging in these initiatives. The recent DJEI Mentor Evaluation suggested a proactive approach be taken by LEOs to 'target' potential small enterprise (more established) to stimulate interest in and engagement in mentor services. There is also a strong role for private sector bodies to support such networks. The objectives of the APJ 2015 in relation to building enterprise capability include to develop the management capability of Irish enterprises; and to encourage adoption of ICT to enhance firm level productivity and adoption of lean. Among the key actions to be progressed as set out below include mentoring for the established enterprise and promoting and Inter-firm linkages and sub-supply.

Smart Specialisations for the South East

A key challenge in making Europe, and regions such as the South East, more innovative and consequently, more competitive, is to reduce the level of fragmentation in R&D efforts, increase the level of research-industry linkages and increase the level of cooperation between regional stakeholders engaged in the innovation process through the creation of regional innovation systems. The *Regions for Economic Change* initiative, identified that cluster policies can play a prominent role in enhancing a region's innovation capacity. More recently, the EU Heads of State of Government underlined the need to better coordinate the framework conditions for innovation *"…including through improved science-industry linkages and world-class innovation clusters and the development of regional clusters and networks".* These aspirations are aligned and in tune with the aims and objectives of the South East Action Plan for Jobs; eDIGIREGION supports the development of high-potential research-driven clusters in the technology domains of the Digital Agenda. Therefore *e*DIGIREGION is an important available resource to support the realisation of the South East Action Plan for Jobs.

*e*DIGIREGION has already completed a Regional Benchmark Audit for the South East involving interviews with 64 stakeholders to identify potential smart specialisations for the South East. In summary, the following areas were identified as key areas of focus for the South East:

Box 1. South East Potential Smart Specialisation Areas – eDIGIREGION	
Future Internet of Technologies	Renewable Energy
Advanced Manufacturing	Pharmaceutical, Medical Devices and Life Sciences
ICT in Agriculture	Marine (Blue Tech)
Tourism	Digital Media
Logistics and Distribution	FINTECH (Tech in Financial Services)

*e*DIGIREGION is a unique collaborative project that brings together a balanced blend of fifteen complimentary and experienced partner organisations from four diverse regions: - South East Ireland; Central Hungary; Bucharest-Ilfov, Bucharest; and Castilla-La-Mancha, Spain. The goal of the *e*DIGIREGION project is to enhance regional competitiveness by exploiting regional strengths and smart specialisations to realise the key objectives of the Digital Agenda for Europe.

A unique aspect of the *e*DIGIREGION project is the intention to push 'live' research by facilitating regional actors (researchers, SMEs, government agencies and funding agencies) to bring technology through the innovation process, from research to innovation to commercialisation.

Therefore *e*DIGIREGION focuses not only on stakeholders within the region, but it also facilitates the process of engagement with international actors that may lead to internationalisation of research, processes and products, export opportunities, creation of new jobs, and the opportunity to learn from and integrate international expertise and processes into research, manufacturing and services process in the South East.

As the EU and South East Ireland head towards the significant milestone of 2020, *e*DIGIREGION is a project that helps to align regional and national strategies for innovation and competiveness. It was as far back as 2010, in response to the world economic crisis that started in 2008, that the EU produced its Europe 2020 strategy proposal "which strives for 'smart, sustainable and inclusive growth' and greater policy coordination between the EU and national governments". This concept filters down to regions, and hence some aspects of the South East Action Plan for Jobs are, and should be, aligned to national and EU strategies for innovation, job creation and competitiveness.

eDIGIREGION, albeit it is funded within the Seventh Framework Programme under the Regions' Theme of transnational cooperation between regional research-driven clusters, is a project that readies regions such as the South East to take full advantage of Horizon 2020 in the smart specialisation domain of the EU Digital Agenda.

Actions

SMART Specialisation			
12	Develop a smart specialisation strategy for the South East Region as part of the eDIGIREGION project.	Q4 2015	WIT (CEDRE), ITC, EI , IDA, LAs, Teagasc, SRA, Ibec

6.1 Agri-Food Sector

The South East Region has distinct competitive advantages in the agri-food and drinks sector. It is the largest indigenous industry in the region and is expanding rapidly - Food and Beverage exports nationally increased to close to a record €11 billion in 2014.

Significant investment on-farm and in processing capacity and in research is now underway to exploit the full potential of the post quota environment in place from early 2015. In addition, the southeast has an array of artisan food producers, with potential for further innovation and scale up.

The key focus now is to ensure that the region develops the enterprise base, products and services that can maximise the value-added from the increased production at farm level, so as to drive exports and sustainable jobs over the long term. The Department of Agriculture, Food and Marine is currently developing a successor strategy to Food Harvest 2020, based on the deliberations of the 2025 Agri Food Strategy Committee, and this will set out a roadmap for harnessing the full potential of the sector for economic and social benefit over the coming years.

Food Wise 2025, the Report of the 2025 Agri Food Strategy Committee, sets out a cohesive, strategic plan for the development of agri-food sector over the next decade. The Committee has identified that opportunities will arise as a result of significant population growth and greater access to international markets. In addition, the Committee recognises that the increased pressure on global agricultural resources and the environment will offer potential further growth opportunity for the Irish agri-food and fisheries sector.

The long-term vision as set out in the Report is of 'Local Roots Global Reach' based on the continued development of the sector where efficient and environmentally-friendly production delivers sustainable export growth on global markets. The Committee believes that achieving this vision will benefit primary producers, processors and the food manufacturing sector, as well as the wider economy.

On the basis of available data and by taking the actions identified in the Report, the Committee has set the following growth projections, which it believes are achievable by 2025:

- Increasing the value of agri-food exports by 85 per cent to €19 billion;

- Increasing value added in the agri-food, fisheries and wood products sector by 70 per cent to in excess of €13 billion;

- Increasing the value of Primary Production by 65 per cent to almost €10 billion; and

- The creation of an additional 23,000 direct jobs in the agri-food sector all along the supply chain from primary production to high valued added product development.

The South-East region has major opportunities to become a major player in the further development of the sector through the growth in its Dairy industry and the emergence of an internationally traded precision agriculture sector.

In 2014, investment in AgriTech in the US reached $2.36bn, surpassing for the first time both FinTech ($2.1bn), and CleanTech ($2bn). Driven by the mounting global population, market pressures, and increasing concern about environmental impacts, the world's leading agricultural producers are investing heavily in smart-agri systems. Advanced ICT is being developed and implemented at every stage of the food chain, from the primary producer on-farm, through to the processor and retailer.

Growth in global population and changing diets in emerging countries are projected to bring about a 70 per cent increase in global demand for food over the next 40 years. The Government's National Recovery Plan identified the potential for the Agri-Food sector to play a major role in Ireland's

economic recovery. The Food Harvest 2020 report (DAFM, 2010) sets out a road map for a 50 per cent growth in milk production by 2020 based on encouraging innovation and creativity within the dairy sector while capitalising on Ireland's environmental credentials

The Irish dairy industry has entered a period of considerable change due to recent EU policy changes and the removal of EU milk quota system in March 2015. For the first time in 30-years, Ireland can now plan to exploit our competitive advantage in milk production within a truly global marketplace fuelled by expansion on existing dairy farms and the entry of youthful new entrants to dairying. Irish farmers will now expand their businesses within a market environment where there is little supply chain management and greater price volatility, requiring increase competitiveness and profitability.

Precision Farming

There is a growing movement in agriculture to apply information technologies in order to improve practice efficiencies and yields. This is driven by a mounting global population, market pressures and increasing concern about environmental impacts. The application of ICT in agriculture has the potential to transform global food production. The world's leading producers are investing heavily in the development of their 'smart-agri' production systems by supporting the use of advanced ICT at all stages in the food chain – on-farm, through to processing and retailing.

The overall concept of using ICT for Agriculture has become known as Precision Farming. Extensive use of ICT within a farm environment is expected to increase the level of automation and process control. This will enable the farmer to focus more on the managerial tasks, thus improving farm performance and reducing operational costs. ICT technologies are changing the shape of the agriculture industry across the globe providing improvements in the quality of production of crops, the health of livestock and the quality of life for farmers.

The use of data, as an example, holds enormous potential for the sector. The presence of sensors throughout the value chain has resulted in the production of large volumes of data which if harnessed correctly, can support better decision-making at all points in the food chain. It is estimated that using sensor data for precision farming could raise yields 10 to 20 percent globally. A key emerging challenge is how to integrate and make sense of a diverse range of data sources, and channel this into a usable form that delivers increased efficiencies and supports increased levels of sustainable production.

Through Enterprise Ireland, the Department of Jobs, Enterprise and Innovation has part-funded the development of a world-class dairy facility in Belview, on the Kilkenny/Waterford border.

This importance of agriculture to the Irish economy coupled with the presence of large multinational food companies (Glanbia), dynamically innovative companies (Keenan Systems) actively applying advanced ICT technologies in production systems and Ireland's leading position in ICT and in particular internet technologies (Internet of Things, sensor technology, big data and cloud-based solutions) offers the region a unique opportunity to develop as a Precision Dairy Centre of Excellence.

It is Precision Agriculture that can drive future economic growth in the food sector, and particularly the Dairy sector in the South-East. A consortium of ICT and Agricultural industries has been established to develop a world class research and innovation centre around the TSSG and its research work in Precision Dairy.

Seafood

The Irish seafood sector is an indigenous industry that makes a strong contribution to South East economy in terms of output, employment and exports. The total value of seafood output in 2014 is

estimated by BIM to be €850 million. By the end of 2012, the South East accounted for 12.1 per cent of fishing vessel owners and accounted for 12.1 per cent of the tonnage of the fishing fleet in the country[9]. The South East region had 100 firms engaged in fishing related industries ranging from fishing, fish-farming and seafood processing, the sector also supports ancillary industries including net making, vessel repair, transport, refrigeration and other services.

Axis 4 of the European Fisheries Fund is an EU initiative for the sustainable development and improvement of the quality of life in fisheries areas seeking to support the overall objectives of the Common Fisheries Policy (CFP) with particular consideration of the policy's socio-economic effects. The Irish Government has chosen 'Small Fishery Communities' as the target for its Axis 4 Programme and Bord Iascaigh Mhara (BIM) has been tasked with its implementation. Priority AXIS 4 of the European Fisheries Fund (EFF) represents a new departure for structural aid in the fisheries sector. Unlike previous programmes, AXIS 4 focuses on the sustainable development of fisheries areas. This area-based approach was introduced into the EFF for the first time in the period 2007-2013 and reflects the complex and rapidly-changing forces affecting fisheries areas and communities.

The South East FLAG is a balanced multi sectoral partnership reflecting the community and socio-economic profile of the South Eastern coastal region. Its membership is representative of diverse fishing dependent communities and as such, it seeks to facilitate as well as leverage the benefits of multi-sectoral collaboration and decision-making. Appointment of members to the FLAG was achieved through a nomination process of representatives and through consultation with groups, such as Community & Voluntary Fora, LEADER (rural development) and cooperative and representative organisations. Industry representatives include inshore fishermen (small and larger vessels), shellfish harvesters, seafood and/artisan producers. The agency sector includes local government, tourism, rural development, enterprise development, training and BIM. FLAG South East Region comprises four counties – County Waterford, Kilkenny, Wexford and Wicklow – and 80 coastal EDs (27 in County Waterford, 1 in Kilkenny, 39 in Wexford and 13 in Wicklow).

Actions

Agri-Food			
13	**Through the expansion as part of Food Wise 2025, achieve an 85% increase in exports over the next decade and develop the region as a leading food producing location in Europe and work with the South West region on developing an international Food Tech summit to showcase and demonstrate the capacities in the Southern Region**	**Q4 2015**	**Bord Bia, DAFM, EI**
14	**Enterprise Ireland will target food companies in the South East to scale and innovate in line with National Policy**	**Ongoing**	**EI**
Market Access			
15	**Food producers and processors to work with retailers to develop market-led products so as to increase shelf space for local produce.**	**Ongoing**	**Bord Bia**

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[9] A Socio-Economic Profile of Ireland's Fishing Communities – The FLAG South East Region, BIM, March 2013.

16	Bord Bia to work with LEOs to assist South East food and drink companies to be Included in this year's Tesco Taste buds programme.	Q4 2015	Bord Bia

Artisan

17	Examine the potential for shared actions, including distribution activities, across the SE region of artisan food producer networks at county level.	Q1 2016	LEOs, Bord Bia, Food Industry
18	Develop an artisan food hub pilot project in the region based on international best practice of such hubs.	Q1 2016	LAs, DJEI, Bord Bia, Teagasc, DAFM
19	Develop coordinated campaigns to push locally based products	Q4 2015	Bord Bia, DAFM
20	Explore the development of a dedicated agri research centre, through the further expansion and development with Kildalton College and Carlow-Kilkenny Local development and a focus on R&D on projects relevant to smaller food producers.	Q2 2015	Industry, Glanbia, Leader, HEIs, Teagasc, LEOs, EI
21	Encourage collaboration between small manufacturing companies and larger agri-food companies for distribution and market access.	Q4 2015	Bord Bia, Industry, Business Representative Bodies, EI
22	Continue to exploit the full potential of the dairy industry for value-added food and nutrition product innovation and development.	Ongoing	EI
23	Creation of civic and festival markets similar to the English Market in Cork and Harvest Festival in Waterford in cities and towns in the region.	Q4 2016	LAs
24	Expansion of Dublin Food Chain initiative to locations in the South East	Q2 2016	LAs
25	Create a pipeline of companies growing beyond Artisan/Small Food Business definition via the introduction of both bespoke 1:1 and group multi-level supports across strategic planning, marketing and marketing finance (for example Ascent, Superbrands and Step Change Fund).	Q2 2016	LEOs, EI

Seafood

26	Develop effective measures to attract additional landings into ports in the south east and continue to invest significantly in necessary infrastructure at the Fishery Harbour Centres	Q1 2016	BIM, DAFM, SFPA, Industry
27	Develop a national strategy with implementable actions to deliver scale in the key seafood sectors, including food ingredients, while also including elements to upskill personnel across the sector in the key areas.	Q2 2016	BIM, Industry, DAFM, ÚnaG

28	In line with FoodWIse 2025, Develop a national strategic plan with practical and implementable actions to significantly increase the quantity of seafood added value across all main species groups. This strategy should complement the strategic plan to deliver scale in the key seafood sectors, including food ingredients. The aim will be to reduce the level of produce sold in commodity form from 70% to below 50%.	Q1 2016	BIM, Industry, Bord Bia, DAFM, EI
29	Develop heritage fishing industries and related artisan foods. The key focus will be on value added industry, drawing on the imagery and branding of the Norman constructed weirs on rivers in the region.	Q4 2016	BIM, Failte Ireland, LAs, fishers
30	Improve the environmental sustainability of the seafood sector, including improved gear selectivity, replenishment of depleted inshore stocks by the use of aquaculture techniques	Q4 2016	BIM, Industry
31	Work to ensure that to the greatest extent possible, 100% of all seafood exports in the South East region will be verified Origin Green by 2016.	Q2 2016	BIM, Bord Bia,

Agri-Tech – Production, Engineering and Analytics

32	Explore the development of an agricultural manufacturing cluster with engineering collaboration and develop the South East as an agri-tech centre of excellence, linking to expertise in the South West and Mid-West regions.	Q4 2016	Industry Teagasc, IDA, HEIs, EI
33	Evaluate the potential for the development of a National Precision Dairy research and innovation centre in the region supporting the creation of new products and services.	Q2 2016	Teagasc
34	Further advance the proposal for a European centre of excellence for ICT in Agriculture in Kilkenny	Ongoing	HEIs, Industry

Case Study

Atlantis Seafoods, Wexford. Innovate with FUSION

Atlantis Seafoods Wexford is Ireland's premier seafood distributor. The company offers full preparation services, from skinning, boning and shelling to filleting and breading, and a nationwide delivery service.

InterTradeIreland's FUSION programme provided the company with seafood market intelligence which they used to enhance their innovation process by allowing them to develop a new range of gluten free products including seafood sausages, breaded haddock goujons and fish cakes. http://www.atlantis.ie/

6.2 Tourism

The South East region, renowned as the 'Sunny South East', has continued to grow as a tourist destination, for both domestic and overseas visitors. Overseas tourists to the region grew by 9 per cent from 2011 to 2013 to reach 897,000 and revenue from overseas visitors in the region reached €22 million in 2013, an increase of 20 per cent on 2011.

The Government's new Tourism Policy Statement entitled People, Place and Policy – Growing Tourism to 2025 sets out a series of policy objectives to be achieved in order to deliver, by 2025. The headline targets are to increase to €5 billion overseas visitor revenue, to grow total employment by 50,000 to 250,000, and to achieve ten million overseas visitors. Applying these targets to the SE region would indicate a potential for an extra 300,000 overseas visitors over the period to 2025 and a potential for an additional €90 million in foreign earnings into the region.

Tourism is Ireland's largest employer, with up to 11 per cent of all jobs in the tourism and hospitality centre. Tourism Value Added (GVA) exceeds any major industry in Ireland with the exception of pharmaceuticals and domestic Irish tourists spend more than our foreign visitors, not the other way around. Every €1 million in tourism revenue supports 55 jobs in that sector. Every 1,000 extra tourists support 18 jobs in the industry and expenditure on food and drink makes it Ireland's 4th biggest industry in terms of GVA. It also offers work opportunities for the young, casual and part-time worker and it supports and grows other sectors – transport, construction, agriculture and retail.

Ireland's Ancient East is geared to maximise the history and heritage in the region and bring it to greater international attention. To do this, the new initiative will offer visitors a personal experience of 5000 years of history through a relaxing journey of discovery in the beautiful landscape that attracted warring settlers for millennia and illuminated by stories from the best storytellers in the world – the local people. Stretching from Newgrange and the Boyne Valley in the north east and ranging through the Midlands all the way down via Kilkenny's Medieval mile to Waterford's Viking Quarter and Cork's many cultural attractions, the new brand proposition is intended to match and complement the Wild Atlantic Way in terms of scale and ambition.

Waterford City is Ireland's oldest centre of continuous urban settlement in Ireland and is consequently Ireland's oldest City. Founded by the Vikings between 856 and 914, the city is over 1,000 years old. With a spectacular coastline and a wealth of historic sites Wexford is a popular destination for both national and international visitors. Ireland's earliest known lighthouse is at Hook Head, Co. Wexford. It was first built in the thirteenth century, where it was maintained by local monks.

Tourism is a major revenue generator for the local economy of Kilkenny, accommodating over 200,000 domestic and 204,000 overseas tourists in 2013. There are also a number of well-established festivals which enhance the tourism offering, including the 'Rhythm & Roots' Festival, which hosts international stars of the bluegrass and country music scenes; the Cat Laughs Comedy Festival, now established beside Montreaux, Montreal and Edinburgh as one of the top international comedy festivals; the Kilkenomics Festival, which brings together some of the world's leading economists and financial commentators with stand-up comedians; the Source Festival - an outdoor music festival which has featured Bob Dylan, Rod Stewart, Paul Simon and Bruce Springsteen in the past; the Kilkenny Arts Festival, which features the best of visual art, street performance and classical music; Subtitle, the world's only festival of exclusively European subtitled films; and the Savour Kilkenny Food Festival which showcases the produce of local food producers.

Fáilte Ireland statistics indicate that tourism is a valuable and growing asset to Tipperary, worth €74 million in 2013, when 168,000 overseas visitors and 155,000 domestic visitors came to Tipperary. The primary visitor attractions in Co. Tipperary are the Rock of Cashel (372,503 visitors), Holy Cross Abbey (240,000 visitors) and Cahir Castle (66, 737 visitors). Tipperary enjoys the longest shoreline of

Lough Derg and provides some of the most striking views of the area from the Arra Mountains east of the lake. The stunning outdoor adventure setting provided by the Galtee Mountains, the Glen of Aherlow and the Knockmealdowns is attracting increasing visitor numbers and attention. Lakeside and boating facilities are offered in the lakeside settlements of Ballina, Portroe, Garrykennedy, Dromineer and Terryglass. Tourism initiatives focusing on the County's natural assets such as built heritage, culture, equine, fishing, hill and forestry walking, mountain biking, water sports, boating on Lough Derg and the inland waterways, nature trails/conservation, adventure centres, along with "themed" festivals and competitions provide a key economic boost in the county with potential for growth.

Fáilte Ireland's research suggests Ireland's Ancient East has the potential to deliver an extra 600,000 overseas visitors (growth of more than 20 per cent) to the region and increase visitor revenue by almost 25 per cent to €950 million in total by 2020.

Actions

SE Tourism Strategy - Ireland's Ancient East			
35	Develop a minimum of two cross county tourism initiatives which focus on delivering a quality international tourism experience which are hung off the Ireland Ancient East Brand, and include the Munster Vales area.	Q4 2016	Fáilte Ireland, LAs, LEADER, LEOs, Tourism Ireland
36	Develop the South East zone value proposition and experiences as part of *Ireland's Ancient East*, including in scaling up the asset base in the region and achieving international "stand-out" for the area based on its comparative advantage in built and cultural heritage.	Q1 2016	Fáilte Ireland, LAs, LEADER, LEOs, Tourism Ireland
37	Promote and incentivise greater business links between tourism and food sectors, promoting use of local produce by the local hospitality sector and attracting visitors to the region for food and beverage related activities.	Q2 2016	Fáilte Ireland, Chambers, Industry, HEIs, LAs, Teagasc, Bord Bia
38	Identify opportunities which are appropriate to each county where co-ordination of attendance at Trade Shows can be managed at a regional level to ensure appropriate marketing and promotion of tourism offerings in SE. This will require coordination and collaboration on a) on shows to attend b) cross-marketing material and c) training on promotion.	Q4 2015	Fáilte Ireland, Industry, LAs, Teagasc, Bord Bia
39	Develop FET programmes for new entrants to the Hospitality and Tourism sector as well as upskilling Continuous Professional Development (CPD) programmes for those currently engaged.	Q1 2016	ETBs, Solas, HEIs, Fáilte Ireland and Industry
40	Develop schools tourism initiatives such as "Know Your Own County" Campaigns and online tourism induction programmes for schools to (1) promote offerings within the region (2) develop future tourism ambassadors for the region (3) to highlight potential career opportunities in the sector.	Q3 2016	LAs, LEOs Business Representative Bodies, HEIs, ETBs

41	Ensure appropriate marketing material is available at Rosslare Port on visitor experiences and key destination locations in the South East Region.	Q2 2016	Failte Ireland, LAs , Irish Rail and design companies

Water Based Tourism

42	Develop the rivers and coastal 'water margins' assets of the South East region as key elements of the Failte Ireland South and East region offer, including blueway trails linking activity hubs and amenities.	Q2 2020	LAs, Tourism, SMEs, LEOs, Failte Ireland, Waterways Ireland, CIE, Harbour Commission
43	Develop a plan to improve the visitor experience and business capability of water activity providers (SMEs) active in tourism in coastal and river areas considered key to delivering on the objectives of both Faille Ireland's Experience Development strategy and the DAFM's marine strategy Harvesting Our Ocean Wealth (HOOW).	Q2 2016	LAs, LEOs, DAFM, Fáilte Ireland,

Use of ICTs

44	Develop a strategy to increase adoption and use of ICT technologies in marketing and delivery of tourism experiences for the South East.	Q1 2016	HEIs, LEO's, Fáilte Ireland

Capacity Building

45	Tourism and hospitality enterprises to collaborate to develop appropriate training for the hospitality sector to improve customer service standards.	Q2 2016	Fáilte Ireland. ETBs, Solas, HEIs
46	Údarás na Gaeltachta will run a pilot project in the Déise Gaeltacht to build further capacity in existing and emerging tourism-related enterprises.	Q4 2016	ÚnaG

6.3 Global Business and Financial Services

Business Process Outsourcing (BPO)

The South East region has built a strong cohort of relatively large shared services and contact centre operations, reflecting a core competency within the region that provides a basis for further growth and development. A challenge is the lack of multi-lingual activity within the existing range of companies which could be a competitive disadvantage in seeking to attract additional (customer-facing) activities serving broader, non-English-speaking markets.

The Business Process Outsourcing (BPO) sector has experienced strong growth over recent years, with a range of internationally competitive enterprises operating from the SE region. BPO is the contracting of a specific business task to a third party service provider. BPO involves a wide array of activities, which can be categorised as follows:

- Business Functions (back office): includes internal business functions such as Invoicing, payroll, IT support, document management or purchasing; and

- Contact Centres (front office): includes both in-bound and out-bound call services Including problem resolution, information provision, technical support (through from Tier 1 to Tier 3) marketing, sales lead generation, and cross selling etc.

The consultations with stakeholders have identified significant further potential for growth in employment and exports for the sector, fundamentally underpinned by advances in ICT and changes in business models where public and private sector organisations continue to seek to outsource customer care and processing activities to third-parties with specialist expertise and scale.

There is potential to both grow the existing base of enterprises and their employment and to attract new Greenfield job creation projects to the SE region, provided the skills, property and broadband infrastructures are in place.

International Financial Services (IFS)

The Government's new International Financial Services Strategy sets an ambition to grow significantly the employment in the IFS sector over the period to 2020. The South East region is well placed to contribute to this growth and has built a sizeable portfolio of international financial services (IFS) companies which can be a base for further growth. These companies have built strong relationships with the regions IoTs particularly in course development to ensure a steady supply of appropriately skilled graduates.

The region has also built a strong cohort of relatively large contact centre operations, reflecting a core competency within the region that provides a basis for further growth and development. A challenge is the lack of multi-lingual activity within the existing range of companies which could be a competitive disadvantage in seeking to attract additional (customer-facing) activities serving broader, non-English-speaking markets.

Actions

Business Services		
47 **Promote the advantages and potential of the region for Business Services and financial services and technologies.**	**Ongoing**	**IDA, LAs, Research Centres**

48	Enterprise Ireland and IDA will implement their joint BPO strategy to grow the BPO sector in the South East.	Q2 2016	EI, IDA
49	Promote the region to attract more data intensive activities in light of the strength of broadband connectivity, energy and skills in the region.	Q4 2016	IDA, Business Representatives Bodies, Industry
50	Develop the skills base for the business processing activities in the region, with HEIs, to provide training courses on the infrastructure and management / supervision side to support and develop this sector.	Q4 2015	HEIs, EI, LEO, Business Representative Bodies, HEIs
51	Develop multilingual talent base in the region through increasing promotion and take-up of foreign language modules in third level and further education courses.	Ongoing	HEIs/FEIs

Financial Services

52	Wexford County Council to progress the development of a financial services hub in Wexford town, building on the strengths already established in the sector in the region.	Q4 2015	Wexford Co Co, LAs, IDA, EI, Business Representative Bodies
53	Increase collaboration in the development of education and training infrastructure to support FinTech programmes from entry through to postgraduate level.	Q4 2015	HEIs/ETBs, enterprise
54	Support enterprises and startups to fully exploit new opportunities as part of the implementation of the Government's International Financial Services Strategy, IFS 2020	Q4 2016	EI
55	HEIs to support business growth through participation in Horizon 2020 proposals, SFI, EI and other funded and co-funded research opportunities related to Financial Services.	Ongoing	HEIs, FSI, IDA, EI, ISIN, BPFI
56	Assess the development of an ICT in International Financial Services centre through the further expansion of the UNUM software development centre in Carlow	Q4 2016	IT Carlow, Industry

6.4 Construction

In May 2014, the Government published '*Construction 2020 – a Strategy for a Renewed Construction Sector*' - to deliver a fresh start for construction. The Strategy is aimed at ensuring that Ireland has a strong and sustainable sector, capable of building the houses and infrastructure we need as a society, and making its full contribution to economic recovery. In addition, the Living City Initiative, announced in Budget 2013 and extended subsequently to 6 cities, targets certain areas that are most in need of regeneration in Dublin, Cork, Limerick, Waterford, Galway and Kilkenny. Discussions with the relevant Local Authorities are ongoing with regard to eligible areas in their cities, and the Minister for Finance is hopeful that the Initiative will be fully rolled-out in 2015.

The Education and Training Boards administer the apprenticeship programme on behalf of SOLAS within the region, through employer engagement, apprentice recruitment and registration.

There was a strong view form the consultations with stakeholders in the SE that there are opportunities to immediately create employment in an expanding construction sector and for construction-related enterprises in the SE to develop in export markets in areas such as smart materials, ICT, design and built environment. A return to sustainable levels of construction activity is also important to improving the business environment in terms of attracting people to the region with affordable accommodation and quality office and industrial units. A key challenge for the sector is the need to develop and upskill craft persons, both to help those returning to work to reskill and to increase apprenticeships by the ETBs for new entrants.

GeoCORE at Carlow Institute of Technology is a Centre of Research and Enterprise in Green Energy Optimisation. GeoCORE's mission is to support industry in the development of testing, investigation and analysis techniques for the built environment. GeoCORE consists of a team of Civil Engineers, Construction Managers, Architects and Architectural Technologists who have a proven track record of working on a series of applied research projects for the built environment. www.itcarlow.ie/geo-core

The Centre for Rural and Sustainable Development and the ACORN Centre of Limerick Institute of Technology are actively involved in many EU-funded programmes specifically addressing issues regarding sustainable construction including the Qualibuild/BUSI project currently addressing the knowledge needs of building construction workers with regards to energy efficient buildings which is led by the Development Unit of LIT. The Sustainco, A2PBEER and Train-to-NZEB projects are other EU-funded projects in this area which address issues of deep-retrofitting of public buildings and the requirement of achieving near-zero-energy buildings by 2020. The LIT involvement in these projects is through the CSRD and the Development Unit based in Tipperary. In addition, the Institute is a member of the Tipperary Energy Agency, one of the leading energy agencies in the country, and works in close co-operation with it on many energy0-efficiency related projects.

Residential development in the region and associated infrastructure shall be provided for in the City or County Development Plan of each local authority as set out in the Core Strategy of the Development Plan, which shall be consistent with the regional population targets contained with the Regional Planning Guidelines or its successor, the Regional Spatial and Economic Strategy.

Actions

Construction			
57	**Develop specific county level approaches to ensure that new office and industrial developments can come on stream quickly working with the private sector.**	**Ongoing**	**LAs**
58	**Increase, as appropriate, capacity for training of apprentices for construction as the sector recovers, together with addressing the continued need for upskilling of craft persons and training for the unemployed.**	**Q4 2015**	**Solas, HEA, ETBs, DSP, Intreo, HEIs, Industry Bodies**
59	**Ensure sufficient land for residential development and infrastructure in the region shall be provided for in the City or County Development Plan of each local authority as set out in the Core Strategy of the Development Plan, which shall be consistent with the regional population targets.**	**Q4 2015**	**Local Authorities, DTTAS, DEHLG/SRA**
60	**Develop mechanisms for working closely with the construction industry, local government and building owners to enhance the energy efficiency of buildings and to remove barriers to retrofitting.**	**Ongoing**	**LAs, LEOs, HEIs, Industry**

6.5 Manufacturing

The South East exemplifies in a range of areas is a leader in the most advanced manufacturing technologies and processes in the world, within an ecosystem of support services which is of the highest regulatory and compliance requirements, such as in complex pharmaceutical manufacturing. The national ambition for manufacturing sector as set in the Government's 2014 Strategy is to achieve potential for employment growth of 40,000 over the period to 2020 and that Ireland will be internationally renowned as a place that excels in manufacturing and where manufacturing accounts for a significant share of economic activity.

A key requirement for manufacturing to thrive in the SE is the continued development of the capabilities of the sector and to broaden and diversify the range of related manufacturing activities so as to build resilience for the future. It is important that highly specialised plants broaden their activities along the value chain, upstream and downstream, through engagement in research in product and process development and through building distribution, marketing and sales capabilities over time.

A continued focus on supply of required skills for the sector in the regions by ETBs and HEIs is essential, most particularly to meet demand for manufacturing skilled trades for sectors such as food, medical devices, engineering and Pharma/Biopharma, and for apprenticeships/traineeships in formal operative level traineeships, manufacturing technicians, manufacturing machine operators, practical engineering apprentice (progression up to level 8), polymer technologists, and toolmakers.

By 2020 manufacturing will be different from what it is today. New materials (e.g. ceramics, metals and alloys, powder, polymers, graphene, 'smart' materials) and associated new processing methods have the potential to revolutionise existing industries as well as to create new ones.

Manufacturing and engineering are core strengths of the South East Region and there is a need to showcase and harness this sector. This is particularly important so as to attract more young people to technology careers in manufacturing. There is also potential to better link MNCs and startups entrepreneurs so as to help get innovators to bring concepts to market, which would retain downstream manufacturing of innovations in the region.

3D Printing

3D printing and additive manufacturing have the potential to revolutionise the factories of the future. The SEAM Research Centre (an EI Technology Gateway centre) based within Waterford Institute of Technology has taken the lead and have begun working in this emerging technology. SEAM is leading a multi-party Innovation partnership project that comprises Boston Scientific (MNC), Schivo (Indigenous SME) and Lisnabrin (LEO client) to develop components whose geometry is sufficiently complex that they do not lend themselves to conventional machining.

SEAM possess vast industrial collaborative experience (currently serving over 95 industries). Combined with its 3D metal printing and design capability as well as through its CAD, FEA and other wide ranging materials engineering capability and expertise, is positioning itself to offer a design to prototype fabrication and optimization processes for a range of Irish based Engineering companies in the not too distant future. Through access to additional research infrastructure investment SEAM can develop its capabilities and drive the adoption of leading edge technologies in the region, to create the region as a centre of excellence in Additive Manufacturing. This has the potential to significantly contribute to enterprise growth and create jobs in the region and beyond.

The prime focus of SEAM is to serve the ever changing needs of Irish industry and provide assistance to solving everyday problems such as failure analysis, product yield improvement and quality control issues. As a result, the technical issues that SEAM deals with in its everyday operation, are real world problems that have a real effect on a company's profit margin and ability to survive in the modern, highly competitive world of technological innovation. Regarded as Ireland's leading Technology Gateway Centre, SEAM facilitates the development of technology solutions through collaboration and access to expertise in the Irish research infrastructure. It also provides assistance in new product development and product design optimisation.

Since SEAM became a Technology Gateway in January 2013, it has collaborated with over 110 Irish based companies from the precision engineering and biomedical device sectors. In this time period the SEAM Gateway has completed 192 industry projects, total value of €978,000, 75 per cent of which has come directly from industry. The profile of these companies range from start-ups, SMEs to MNC and are located in the South East region and nationally. In the same time period SEAM has secured in excess of €3.5M in applied research funding from sources such as EI, SFI & H2020 on topics directly related to its industrial base.

DesignCORE offer a number of tailored research solutions to cater for feasibility, conceptual, new product development and longer term research projects. The DesignCORE team also have available a suite of rapid prototyping and additive manufacturing facilities, where proof of concept models and prototypes are used to facilitate and progress the design research process.

They have undertaken research in the following sectors:

- Medical device development;
- Agricultural and gardening machinery;
- Domestic and electronic appliances;
- Health, leisure equipment and lifestyle products;
- Craft industry product research; and
- Waste management and green innovation.

Facilities include:

- 3D Printing;
- GOM Scanning;
- Laser Cutting;
- Vacuum Casting;
- Digital Modelling;
- Batch Production; and
- Rapid Manufacturing Capability, Workshops, Concept Development Rooms and Meeting Rooms.

Actions

	Manufacturing		
61	Develop a showcase of the region's manufacturing base, with a dual focus on attracting young people to careers in manufacturing. The skills demand is for a mix of apprenticeships and third/fourth level qualifications. Manufacturing companies to promote more STEM participation in primary and secondary schools.	Q4 2015	HEIs, ETBs, Ibec, EI, IDA
62	Increase, as appropriate, capacity for training of apprentices for manufacturing and engineering together with addressing the continued need for upskilling of craft persons and training for the unemployed.	Q4 2015	Solas, ETBs, DSP, Intreo, HEIs, Industry
63	Develop case studies of collaboration between HEIs and enterprise, showcasing increased efficiency and reduced cost.	Q2 2016	HEIs, EI Industry, Business Representative Bodies
64	Target manufacturing companies in the South East Region to scale, innovate and develop international markets.	Ongoing	EI
65	Build global services base around manufacturing base already in the region and explore growth opportunities in finance, supply chain, HR and procurement.	Q4 2015	FDI companies, IDA, Business Representative Bodies
66	Expand existing cross-sectoral lean mentoring programmes in the SE region.	Q4 2016	IMDA
	3D – Printing		
67	As part of a programme of upgrading of the industrial strengths of the region, expand capability through targeting potential strategic infrastructure investment opportunities available through SFI and EI in order to accelerate the adoption and integration of 3D printing and additive manufacturing technologies in relevant engineering businesses.	Q4 2015	SEAM WIT, IT Carlow, LIT, SFI/EI/IDA
68	Collaborate with companies to develop their capabilities in the area of design, prototyping, validation and scale to manufacture of 3D additive components and provide assistance to other engineering manufacturing companies in enhancing their overall capabilities (Q4-2015).	Q4 2015	SEAM WIT
69	Conduct Industry focused workshop at SEAM-WIT to disseminate advances in 3D additive printing for manufacturing based companies in the South East region.	Q4 2016	SEAM WIT
70	Enhance SEAM's Applied research capabilities specifically related to applications in 3D printing to the benefits of Irish manufacturing sector.	Q4 2016	SEAM WIT

| 71 | IT Carlow to establish Design+ Technology Gateway in order to support and enhance technology driven disciplines, linking that technology to business opportunities and user needs. Design+ will develop an inclusive design-led regional and national industry portal which will complement existing Technology Gateways. | Q1 2016 | Design+ Technology Gateway, IT Carlow, EI |

6.6 Retail

The retail and wholesale sector in the South East has contracted in the downturn as consumer spending was ratcheted back, as in all other parts of the country. The most notable impact of the reduced activity in the retail sector is on the main streets of towns and villages of the region. A number of initiatives are being progressed across the region by local authorities and in partnership with various Retail Associations.

In order to increase footfall there is a need to focus in particular on improving business environment in town centre, which requires cohesive efforts by landlords and retail operators. It also requires local authorities to take a long term perspective on urban renewal. The retail sector has a reach into every locality in the country and is part of every community. In addition, the retail indirectly supports jobs in other areas, such as logistics and distribution and provides an important outlet for Irish products.   In spite of a general improvement in the number of people at work nationally over the last 18 months, employment increases in the Retail sector have been sluggish.

In 2014, as part of the Action Plan for Jobs, the Government established a Retail Consultation Forum. This Forum provides a platform for a structured engagement between the Retail sector and relevant Government Departments and agencies. The Joint Oireachtas Committee on Jobs, Enterprise and Innovation will publish a report on Town Centre Retailing in 2015 and this will be considered by the Retail Consultation Forum with a view to identifying actions that can be taken to support retail in town centres.

In addition there is a need to continue to focus on enhancing skill base of retailers and to enhance online trading and use of social media in advertising and sales. Effective use of social media can enhance efforts to encourage consumers to support their local businesses, keeping more money and jobs in the local economy. Retail Actions should be consistent with the Retail Planning Guidelines for Planning Authorities with a focus on plan-led development to enhance the vitality and viability of city and town centres through sequential development (town centre first) and facilitating access to retailing by public transport, cycling and walking.

Actions

Retail			
72	Develop plans for each of the key town centres in the region with collaboration with business and representative organisations and incorporate social and community development aspects. These will include proposals to enhance the consumer experience and attractiveness of town centres for shopping and to develop world class retail centres throughout the region.	Q4 2015	LAs, Chambers, Retail Associations
73	Local Authorities and Retail Associations to develop collaborations to support the regeneration/development of their town and city centres through Town Centre Strategic Development Plans.	Ongoing	LAs, Chambers, Retail Associations
74	Promote the move to ecommerce and double the number of on-line vouchers drawn down by retailers in the region	Q2 2016	LEOs
75	ETBs will work in collaboration with a number of new partners to develop and deliver targeted responses to local skills needs, such as Retail. These approaches will be piloted in 2015.	Ongoing	ETBs, SOLAS, HEIs

6.7 BioPharma and MedTech

The South East region is renowned as a national cluster for life sciences, with a strong record with pharmaceutical and medical device companies.

Existing strengths in the region include GSK in Dungarvan, Merck in Carlow, Waters Technologies in Wexford, Genzyme's biopharma facility in Waterford, the Pharmachem research centre in WIT and the cluster of BioPharma companies in South Tipperary which account for over 3,000 of the 8,000 employed in the life-science sector in the South East Region - MSD (500) Abbott Vascular (1100) Boston Scientific (850) Suir Pharma (200) and Rambaxy (120). There is a strong group of, Indigenous and Regulatory, subsidiary businesses associated with the Pharma and life-science sector in the county. There is strong potential to develop new areas of the life-sciences in conjunction with the Questum Centre in Clonmel and LIT. There is potential to exploit new areas, such as Silver-technologies, building on the existing strengths in ICT and pharma/bio research in WIT, IT Carlow and LIT and community based care initiatives already underway such as the Ageing Well Network in Kilkenny, age related research cluster in Waterford Hospital through the Macular Pigment Research Centre and Waterford City's membership of the WHO Healthy Cities programme.

Given its strengths as a potential location for LifeSciences, with an attractive property solution and reference LifeSciences businesses, there is a need for a spotlight on Waterford for LifeSciences investment and to seek to develop collaborative initiatives in connected health and Silver-technologies.

The success of the South East for attracting life sciences has seen the growth in associated support services such as engineering consultants and project managers, facilities management, clean room providers, specialist recruitment agencies, tailored educational courses, etc. This specialization of services has increased the attractiveness of the cluster. IDA also has utility-rich strategic sites available for large scale development in the region.

A key issue for the sector in the SE is that of developing and attracting talent within and to the region. The region is well positioned to take action now to future proof supply of talent and leverage its strong reputation to attract further investment and employment. The sector will need to develop the complexity and value add of its activities and this will necessitate an ongoing focus on talent development, in areas such as combination product development, customised medicine, 4D manufacturing and clinical research and validation.

With a growing pharmaceutical cluster in the Southeast and the very successful Pharmaceutical & Molecular Biotechnology Research Centre (PMBRC), it is timely to assess the opportunities in the sector, that might build on the capacity in the region such as in TSSG and Arc Labs and in a way that provides a business like environment where research and innovation are to the fore.

ICT in Pharma / Medical Devices

The use of data mining, data analysis and IOT in PAT (Process Analytical Technologies) in these sectors could add value. The region would seem to have some of the elements to deliver competitive advantage in this space including the presence of two competence centres (PMBRC and TSSG): the presence of strong pharma and medical devices industries (with a strong research and development capability esp. Bausch and Lomb and TEVA Pharmaceuticals) and the flexibility in WIT to deliver level 9, 10 qualifications on a 'modular' basis (e.g. opening the possibility to having a specialised module on IoT for pharma and / or medical devices).

Bioremediation

Bioremediation is a waste management technique that involves the use of organisms to remove or neutralize pollutants from a contaminated site. IT Carlow has developed global expertise in this area through the EnviroCore Research Centre. EnviroCore is focused on the development of niche areas within bioenergy, waste management, bioenvironmental monitoring and high value commodity products from biomass. EnviroCORE promotes strategic applied research in innovative environmental biotechnology with a view towards sustainable economic and social development. EnviroCORE has an established international track record and continues to build on its expertise in a number of multi-disciplinary fields including:

- Bioremediation and Phytotechnologies;
- Biomass Production, Biotransformation, Metagenomics and Biofuels;
- Biological Environmental Detection and Monitoring Systems; and
- Environmental Modelling and Risk Assessment.

In 2014 IT Carlow intellectual property and knowledge transfer activities led to the formation of a high-potential spin-out company Microgen Biotech Ltd. The company which operates primarily in the Chinese marketplace uses licenced technology from IT Carlow to provide bioremediation solutions for the cleaning of contaminated soil, groundwater and toxic sediment.

Actions

Lifesciences			
76	Building on the very successful Pharmaceutical & Molecular Biotechnology and Research Centre (PMBRC), assess the feasibility of developing a Pharmaceutical Research and Incubation Centre in the region.	Q4 2016	PMBRC/WIT, IT Carlow, EI, Industry and LAs
77	Leverage regional expertise and create a centre of excellence for the South East in the fields of IT and Engineering support for the growing medical devices sector.		LAs, SFI, HEIs, SFI, DES
78	Exploit the potential of convergence opportunities in the SE, linking life-sciences with pharma/med devices/engineering/ICT/Telecoms.	Q2 2016	HEIs, EI, IDA, LEOs, LA, PCI, IMDA
79	In the Life Sciences area, IDA will expand the Life Science Value Proposition for the South east Region to attract investment from new companies.	Ongoing	IDA

6.8 ICT Sector

Ireland's ICT sector is globally renowned and supports over 35,000 jobs nationally. The ICT sector is a rapidly growing sector in the South East mainly through the presence of the Telecommunications Software and Systems Group in Waterford Institute of Technology. The presence of a growing indigenous software industry hub in Waterford and Kilkenny, particularly in the internet and mobile services and the financial services sector has the potential of attracting major multinational companies to the region. This has been exemplified by the acquisition of FeedHenry by Redhat and the expansion of the Sunlife in Waterford.

The South East needs to focus on the further development of the infrastructure in the region to increase its capacity of indigenous and multinational investment in the region.   The availability of testbed infrastructures in the region capable of attracting ICT companies to the region and also accelerating the development of new products for companies in the region. WIT already has a world class cloud computing infrastructure at Carriganore which in turn is connected to global network of testbeds via the European Framework Programme. Globally the emergence of the Internet of Things as a platform for the next generation of ICT companies provides a major opportunity for the South East. The expansion of the testbed to incorporate an Internet of Things sensor network would promote the region as a location for new industries in this rapidly expanding industry.

Actions

ICT			
80	**Explore the extension of existing campus incubation capacity in the Region.**	**Q1 2016**	**HEIs, EI**
81	**Pursue the development of an ICT innovation Hub in North Wexford capitalizing on location south of Dublin and building the SE capacity around cutting edge IT, through Wexford County Council working in partnership with industry and education sectors.**	**Q3 2015**	**Wexford Co Co**

6.9 Design and Craft

The Government has designated 2015 the Year of Irish Design. Irish Design 2015 (*ID2015*) is an all-island initiative showcasing the best of Irish design, both nationally and internationally. It represents an opportunity to promote and develop further Ireland's capabilities in business-related design across all sectors of the economy and to improve capacity for quality design across the enterprise sector. In particular design is critical to success in new and emerging sectors like medical devices, ICT and gaming, all of which are prevalent in the South East region.

The Design and Crafts Council of Ireland (DCCoI), which is headquartered in Kilkenny, is championing the glass sector in the Waterford region because the sector has the capacity to impact the economic fortune of the Waterford region over time. The highly successful DCCoI Year of Irish Design 2015 together with the bid, led by Waterford (on behalf of the Three Sisters region), to win the title of European Capital of Culture 2020 presents an opportunity for the DCCoI to work with key partners to activate the recommendations of this report in the short term.

DCCoI

DCCoI is the main champion of the craft and design industry in Ireland, fostering its growth and commercial strength, communicating its unique identity and stimulating quality design, innovation and competitiveness. Highlighting the glass sector's capacity to impact the economic fortune of the Waterford region over time, DCCoI intends to lead a regional stakeholder group to position Waterford as a centre of excellence in glass design and production, a leader in research and innovation for new glass technologies, a hub for clusters of glass practitioners and businesses, and a location where the world's glass community meets. The highly successful Year of Irish Design 2015 led by DCCoI together with the bid, led by Waterford (on behalf of the Three Sisters region), to win the title of European Capital of Culture 2020 presents an opportunity for the DCCoI to work with key partners to activate the recommendations of this report in the short term. DCCoI is also in the process of leveraging the organisation's existing education facilities as centres of excellence in jewellery in Kilkenny and in ceramics in Thomastown, Co. Kilkenny.

designCore at Institute of Technology, Carlow

In 2009, DesignCORE was established to provide a critical bridge between emergent design research and intervention to impact and benefit industry. DesignCORE is now located at the newly opened Dargan Research Centre on the campus of the Institute of Technology Carlow, from where it's dedicated academic and design support team work with academic, commercial & agency partners. designCORE capabilities include product development, 3D visualisation, prototyping, 3D printing, digital modelling and concept validation. Design-led innovation (see Action 68) employs processes and techniques to allow companies to capture customer needs, realise opportunities, and create usable and market desirable products across Business, Computing, Engineering, Manufacturing, Environment and Science. www.itcarlow.ie/design-core

Actions

Design			
82	**Develop a plan to exploit the potential to further expand Digital Media and Design activities.**	**Q4 2016**	**DCCoI, LAs, LIT, Industry**

83	Position Waterford as a centre of excellence in glass design and production, working with key stakeholders in planning the development of other such centres in jewellery and ceramics	Ongoing	DCCoI, Waterford Co Co, WIT, LEOs, EI, FI
84	Develop a 'Design Thinking' initiative for young people, through partnership between LEOs, culture and arts venues and education to deliver enterprise skills to young people using existing resources, similar to the coder dojo model for enterprises and drawing on the success of the creativity programme in Sligo.	Q1 2016	DCCoI, LEOs, LAs, IT Carlow / designCORE, LIT
85	Develop and promote the Design capability in Carlow.	Ongoing	DCCoI, ITC

6.10 Energy, Green Economy and Natural Resources

The Green Economy continues to hold potential as a new source of growth for Ireland. The Green Economy encompasses a range of activities, spread across different sectors of the economy, which have the common objective of providing goods and services in a sustainable way that reduce the impact on the environment. It includes activities in areas such as sustainable food production, tourism, green financial services, waste management, renewable energy, smart grids and energy efficiency. Among the key initiatives underway in the SE region include:

Areas with employment growth potential include the renewable energy generally and specifically in marine and tidal energy, renewable gas and bio-methane and in the production of micro-algae bio-mass and value added by products.

In the area of waste management and energy recovery the consultations have identified the potential for the development of the Circular Economy[10] in the SE, in line with the proposals from the European Commission and these initiatives require further consideration. Such an initiative could lower costs to business - reducing waste to landfill – and enhance best practice support business competitiveness.

Eirgrid is a state-owned company and is responsible for the consistent and reliable transmission of electricity that homes and businesses can rely on. In March this year EirGrid published a Draft Strategy on Ireland's Grid Development Strategy. Central to the draft strategy is the provision of a strong and reliable electricity supply to the Southern region. This will ensure that the region is equipped for investments by both energy intensive indigenous and multinational companies seeking to locate or expand in the region. As part of their options to strengthen the electricity grid in the region, EirGrid have brought forward a number of options to progress the Grid Link project including the new option which introduces technology known as 'series compensation' to strengthen the electricity grid in the southern region.

Eirgrid

EirGrid is a state-owned company and is responsible for the consistent and reliable transmission of electricity that homes and businesses in the South East can rely on. In March this year EirGrid published a draft strategy for developing Ireland's national grid. They sought feedback from the public and stakeholders on their views on the future development of the national electricity grid.

The draft strategy reflects a changed economic context and opportunities offered by advanced transmission technologies. Central to the draft strategy is the provision of a strong and reliable electricity supply to the regions. This will ensure that the regions are equipped for investments by both energy intensive indigenous and multinational companies seeking to locate or expand in the region.

As part of their options to strengthen the electricity grid in the South East region, EirGrid have brought forward a number of options to progress the Grid Link project including the new option which introduces technology known as 'series compensation' to strengthen the electricity grid in the southern region

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10 The circular economy refers to re-using, repairing, refurbishing and recycling existing materials and products, turning 'waste' into a resource. Using resources more efficiently has the potential to bring new growth and job opportunities. The European Commission estimates that better eco-design, waste prevention and reuse can bring net savings for EU businesses of up to EUR 600 billion, while also reducing total annual greenhouse gas emissions and they estimate that additional measures to increase resource productivity by 30% by 2030 could boost GDP by nearly 1%, while creating 2 million additional jobs.

In addition, the Irish and French Government have signed a Joint Declaration examining the feasibility for a submarine electricity interconnector between Ireland and France. EirGrid are currently undertaking preliminary work to assess this feasibility of such an Interconnector from the South East of Ireland to North West France. If built, this would create a direct electricity connection for Ireland with the mainland European electricity grid.

Forestry

The forest resource is a key asset to the South East region. The region is leading innovation and product development in the sector involving MEDITE and WIT. Forest sustainability is the key principle on which forest planning is based. This requires the meeting of four closely related objectives:

- Wise use of natural and cultural resources;

- Effective protection of the environment;

- Sustainable supply of forest products (wood and non-wood); and

- Working with communities and support for amenity services.

Actions

	Energy, Green Economy and Natural Resources		
86	Expand the Better Energy Communities initiative in the SE, to promote energy efficiency measures to the Local Business Community. LEOs will work with the Economic Development Units of the local authorities and the Energy Agencies in the region to build on the work already undertaken.	Ongoing	LAs, LEOs, Energy Agencies
87	Work with SEAI and local Energy Agencies to develop and promote Sustainable Energy Communities model in the region and identify willing early adopter community to act as an exemplar.	Ongoing	LAs, SEAI
88	Develop a platform for resource sharing for small organisations to promote the circular economy in the region.	Q2 2016	HEIs, business rep bodies, LEO, EI
89	Ensure that the electricity transmission grid in the South East is strengthened to enable maximum investment by industries that rely on large energy consumption	Ongoing	EirGrid
90	Promote and assist the delivery of costs savings through energy efficiency programmes and training for businesses and public sector organisations in the region.	Q2 2016	SEAI, LAs, EI, HEIs
91	Commence pilot upgrade of public lighting by replacing the existing LA stock of sodium lamps with high efficiency LED units to reduce energy consumption costs and also to reduce lamp maintenance costs.	Q4 2015	LAs, HEIs
	Natural Resources		
92	Assess the economic value added potential of the forestry sector in the region. Promote research opportunities for added value product development for timber harvested in the region	Q1 2016	Coillte, DAFM, HEIs, Teagasc, LAs.

7. Branding and Marketing the South East Region

A key requirement identified during the consultations is to develop a cohesive overall identify and brand offering for the South East region. The South East region needs to develop a clear set of messages that can differentiate and position 'Ireland South East' as an innovative region of scale with leading clusters of high-tech enterprises which presents both a challenge and an opportunity for the region.

Within the region there are a number of high-profile branded products, Waterford Crystal, Kilkenny Castle, the JFK Park in Wexford and the attractions of Carlow and Tipperary, but the connectedness needs to be improved between these products to present a coherent overall message for the South East. A strong Fáilte Ireland brand is being developed through *Ireland's Ancient East* which can provide a platform for the promotion of the region.

The consultations with stakeholders have identified a number of proposals and initiatives including developing a distinctive brand for the South East. This would comprise a unified portal, mapping and showcasing this ecosystem to contribute to growth and job creation to increase understanding of the assets of the region, using the diaspora and networks from the region to spread the word amongst their peers, families and colleagues to visit and see what is here and hopefully to start a new business here, and effectively integrate with tourism promotion to emphasise the region for the visitor experience and as great place to live, work and play (food, craft, tourism services, a great place to live).

Proposed Actions

	Branding		
93	IDA Ireland will proactively update its online marketing "Invest in" series for the South East Region.	Ongoing	IDA Ireland
94	Regional approach to raising awareness of job opportunities in the region and qualifications required and available in the region.	Ongoing	HEIs, LAs, EI/IDA
95	Convene a South East Enterprise Conference with themes to include the strengths of the region and branding with a focus on investors.	Q2 2016	Las, EI, IDA,
96	Deliver an annual set of South East microenterprise Events for the South East	Q2 2015	LEOs
	Quality of Place		
97	Establish a programme for large employers to collaborate to brand the region as a tourist destination.	Ongoing	Fáilte Ireland, LAs, industry
98	Continue to use relevant data (for example Maynooth University's AERO) to inform evidence based planning and identify development opportunities in the region.	Ongoing	IDA, HEIs

8. Driving Entrepreneurship

The Government's 2014 National Entrepreneurship Policy Statement set an objective to increase the number of startups by 25 per cent and to increase the scaling and survival of startups by a similar number of over the next five years.

The consultations with stakeholders for this Action Plan agreed that the South East region had the potential to achieve the 25 per cent increase and should aim to perform at a level above this national average. Indeed, company registrations are below pre-crisis levels and would need to achieve a 30 per cent increase to get back above pre-recession levels. There was a strong view that the region could significantly increase the number of HPSUs over the coming years and increase the quality and survival rate of companies emerging from existing incubators and programmes. Areas with further potential to grow the number of entrepreneurs in the South East include female entrepreneurship in Science, Technology and Engineering related areas and to encourage more young entrepreneurs and startups.

There is a wide range of job creation and new business opportunities in the region. Some of the suggestions included a stronger focus on developing the SE startup image abroad and grow the startup network in the region. Startup companies need finance to grow and create employment and there are some initiatives set out in this regard below. There is identified potential for financial institutions to extend their services and knowledge of the startup environment, so as to ensure that the full range of funding opportunities is available to entrepreneurs.

There is also a need to focus on linking foreign owned multinationals and startups so as to provide opportunities for growth, to technology know-how and skills, with spill overs for the local economy.

Stakeholders are also proposing initiatives to help startups to scale and grow, take fear out of moving from ideas to businesses, show what skills are available in the region. There is also potential identified to greatly increase business between local companies, facilitate exchange of employees and supply of skill sets on a short term basis

The role of the education system also featured strongly in the consultations, in particular through the introduction of entrepreneurship modules and ensuring young people develop an understanding so they can take an informed step towards self-employment if desired. It is also proposed to support young people to explore the potential to employ themselves or others on graduation (or before), through for example use of facilities over the summer period in HEIs.

Increasing awareness of supports available is also a theme of the actions proposed, with the objective of increasing the use and drawdown of funding and programmes and increasing market access for new and existing companies.

Information sharing and peer-to-peer networks are also proposed with the objectives of enthusing people locally, disseminating information, educating, showcasing, building and supporting local enterprise through entrepreneurs that are supported and can create sustainable jobs with a foundation based on naturally available opportunities and synergies.

Linked to tourism there are also identified opportunities in areas such as the *Ireland's Ancient East* and the potential to develop new services to meet visitor demand resulting in more visitors coming to the area, spending more, expanding the season and helping localities.

Community Enterprise Centres and Incubators are also an important part of the startup ecosystem and there are proposals for increasing use of existing centres and their expansion. Creating urban hubs in Waterford and larger towns are also seen as important so that young people can network, develop new ideas, do startup boot camps with peer group and from startup teams, drawing on

models in the US of co-working spaces and that could link internationally potentially with cities such as San Francisco, London, NY, Boston and in China.

These initiatives are in line with the objectives of national policy, and as set out in the National Entrepreneurship Strategy to:

- make Ireland a location of choice for high quality international startups;

- develop the best infrastructure to support technology transfer into commercialisation as a new business opportunity (Knowledge Transfer Ireland; Campus Incubators; Commercialisation Fund; Technology Centres); and,

- develop a support framework where innovative startups can reach their full potential.

The agencies supports and services include funding including feasibility, and competitive start funds, mentoring, Start-Your-Own business courses, the Enterprise Ireland New Frontiers Programme, incubation spaces and advisory services

The actions to be pursued as part of this Action Plan for the SE include:

- Raising awareness of the range and nature of supports available;

- Stimulating entrepreneurship / starting your own business as an alternative career (employment) option [includes schools/ HEIs / Roadshows]

- Developing 'platforms' for experience sharing and networking

- Seek to develop accelerator, incubation and co-working space throughout the region – ensuring a collaborative and cohesive approach to service delivery across all providers

- Provide adequate funding

Actions

Entrepreneurship and Startups		
Each of the Local Enterprise Offices in the South East region will aim to increase employment in its baseline through increased startups and scaling of existing clients. Annual Business Plans setting out clear targets and objectives across a range of services and for 2015 these include: • **€2.6 million will be available in grant assistance and enterprise development supports;** • **Almost 400 training courses run, for up to 3,800 participants;** • **1,150 one-to-one mentoring assignments will be arranged;** • **50 MicroFinance Ireland applications to be received;** • **Up to 2,000 female entrepreneurs to avail of LEO training and soft support programmes;** • **121 schools to engage with the LEO Student Enterprise Programme, with just under 2,600 participants**		
99	**Q4 2015**	**LEOs**

100	Promote the supports available to companies, from startups to established businesses through www.localenterprise.ie For startups, the key services required and available include, funding and proposal writing advice, incubation facilities and technical expertise. For established companies, the key information required relates to access to R&D, info on export markets and on business networks. Encourage more startups through better leveraging of 3rd level expertise for funding proposals, including for incubation facilities and providing access to technical expertise (3rd level). For established companies, promote access to R&D experience in the region and greater information on export opportunities. Develop a database portal and a central event guide 'meet-up', to highlight the means to access all the required information.	**Ongoing**	**HEIs, EI, LEOs, Chambers, Industry Representatives**
101	Inputs in entrepreneurship will be provided to all ETB participants on relevant further education and training programmes. The Adult Guidance Service will promote self-employment options.	**Ongoing**	**ETBs**
102	Participate in the five days of Startup Ireland's 5 Cities initiatives taking place in the 2nd week of October including in Waterford. Leverage and augment many of its existing activities, events and projects that are themed around entrepreneurship & startups to coincide with the running of these events. This will include startup boot camps.	**Q4 2015**	**EI, IDA, LEOs, WIT**
103	Agree and implement a Services Level Agreement with all Business Innovation Centres (BIC) to ensure their interaction with startups in the South East region is deepened and the value maximised.	**Q4 2015**	**EI, SEBIC**
104	In line with the National Action Plan for Jobs 2015, Enterprise Ireland will assess the potential for enhancing the accelerator environment nationally	**Q4 2016**	**EI**
105	Implement a regional programme to inform secondary schools of the key enterprise sectors in the region and consequential career opportunities in the Region and create awareness amongst Career Guidance teachers. All schools and industry to participate in an 'Adopt a School' programme for the South East.	**Q2 2016**	**LEO's / IDA**
106	EI will implement findings from the review of the New Frontiers Entrepreneurial Development Programme. EI will work to evolve the programme & maximise its positive impacts on entrepreneurship in the South East in conjunction with IT Carlow & WIT.	**Q4 2015**	**EI, HEIs**
107	Encourage greater use of alternative funding sources, such as crowd-funding for startups.	**Q2 2016**	**CrowdFunding Ireland, Angel Investors, LEOs, EI**

108	Run a "Project Assessment & Development Day" in 2015 for Startups in the South East Region. This will be done in partnership with SEBIC to assess early stage startup projects with potential for growth.	Q2 2016	EI, SEBIC
109	Ensure that as many potential entrepreneurs as possible in the region avail of and benefit from LEO supports. (e.g., through a collaborative working relationship with Department of Social Protection (DSP) case officers to target participants on the Back to Work Enterprise Allowance and to encourage these startups to participate in SYOB training. encourage bank advisers to refer startups for SYOB training, etc.)	Ongoing	LEOs, DSP, FIs
110	LEOs to develop partnerships with all frontline access points for business in the region, including banks and accountants refer startups, to ensure there is maximum awareness of the supports available from the LEOs.	Q4 2015	FIs, Accountants, LEOs
111	Údarás na Gaeltachta will develop annual enterprise development plans for each Gaeltacht area setting out targets to support entrepreneurship, enterprise growth and job creation.	Q4 2015	ÚnaG
112	Údarás na Gaeltachta will develop an internationalisation programme aimed at SME's operating in minority language areas in the Déise Gaeltacht and in Munster region in partnership with a Welsh Development Agency.	Q4 2016	ÚnaG
113	Údarás na Gaeltachta will provide support for startups in the Déise Gaeltacht and continue to support the existing enterprise-base to expand their operations and increase employment	Q4 2016	ÚnaG

Incubators

114	LEOs in conjunction with the Economic Development Units of LAs will carry out an audit of industrial and incubation workspace in the region. A key part of this approach will be to work with the CECs across the region to develop local protocols for enterprise support (co-working spaces and hotspots)	Q4 2015	LEOs, LAs, EI

9. Building Enterprise Capability and Connections

The enterprise base of the South East region has a range of strengths in terms of export orientation, innovativeness and diversity, but a range of challenges remain to boost the resilience and sustainability of the enterprise economy for the future.

The consultation with stakeholders identified a range of areas for collaboration among enterprises in the region, in particular in the areas of scaling and growing enterprise, mentoring, growing exports, increasing all-island trade and deepening SME-MNC links.

There were strong views that connecting foreign and Irish owned MNCs and SMEs more effectively can help to bring the local companies up to international best practice in terms of management practice to create competitive advantage. Improving relationships can also lead to potential around supply chain for the internal manufacturing market. MNC-SME linkages can also help develop the skill and expertise in SMEs. There was a view that many MNCs source products from abroad unaware of the opportunities on their doorstep. There was broad agreement that sourcing locally would create further jobs.

In relation to mentoring there was a strong view there are already a lot of good supports available from organisations such as the LEOs, DCCoI etc but that people / business are not necessarily aware. The recent DJEI Mentor Evaluation suggested a proactive approach be taken by LEOs to 'target' potential small enterprise (more established) to stimulate interest in and engagement in mentor services.

The objectives of the APJ 2015 in relation to building enterprise capability are to:

- Develop the management capability of Irish enterprises; and to encourage adoption of ICT to enhance firm level productivity and adoption of lean.

Among the key actions proposed below are

- Mentoring for the established enterprise
- Inter-firm linkages and sub-supply.

Actions

	Scaling and Growing Enterprise		
115	**Development of a Strategy to Growth Programme for microenterprises to encourage the progress pathway to Enterprise Ireland**	**Q4 2015**	**LEO, EI**
116	**Enterprise Ireland will promote the information services offered by its Market Research Unit to a wider cohort of companies, ensuring companies based in the South East can access those services through EI's Office. The LEO will utilise and make available a number of On line Resources such as Local and National LEO Websites, NUBIE.ie, SME Online Tool.**	**Ongoing**	**EI, LEOs**
117	**Support the development of early-stage ICT businesses by establishing mentorship and support.**	**Ongoing**	**LEOs, EI, HEIs**

118	Promote career opportunities to second level students to grow the existing industry base through Milk Round type events with industry	Q4 2016	Industry
119	Introduce and promote ICT adoption, innovation and investment in R&D across all sectors to drive transformational change in key enterprises in the region.	Ongoing	HEIs, Industry
120	Údarás na Gaeltachta will implement measures to support early-stage business with a particular focus on regional competitive advantage in specific sectors, including cultural tourism, audio-visual and digital technology, marine resources, niche manufacturing, food beverages and creative language-based services.	Q4 2016	ÚnaG

Mentoring

121	Implement the National Mentoring Strategy in the region by supporting networks and increasing the provision of mentoring sessions for businesses in the region.	Q4 2015	EI, LEOs, DJEI
122	IMDA to expand its HPSU and cross sectorial lean mentoring programmes established in 2014 and 2015 respectively, aimed at raising the bar with respect to manufacturing.	Q4 2015	IMDA, EI

Accessing International Markets

123	Develop and promote existing networks across the region to take advantage of LEO EEN (Enterprise Europe Network) status to ensure supports to assist microenterprise across the South East region to enter new markets.	Q4 2015	LEOs, LAs, EI, Chambers and other Business Representative Organisations
124	EI will deliver an Export Awareness Event for the South East in cooperation with South East LEOs and other key stakeholders	Q4 2015	EI, LEOs
125	To maximise the impact of the South-East export event, EI will deliver a follow-on Export Workshop for a select number of pre-Exporting companies to drive their export capability	Q1 2016	EI
126	Promote the use of EI 'hot desk' facilities in overseas markets to businesses in the region.	Q2 2016	EI
127	InterTradeIreland will promote cross border trade opportunities to small business in the region. InterTradeIreland will promote its Acumen, Trade Accelerator Voucher scheme n and Elevate programmes	Ongoing	ITI

10. Fostering innovation

The focus of this section is on increasing the innovation performance and dynamic of the South East Region. The region has a strong presence of public research institutions and private sector enterprises that are innovation active. The objectives of the actions set out below are to strengthen the links and collaboration between the public and private sectors so as to increase exports and success in international markets and to increase success in international research funding programmes such as the EU's Horizon 2020 programme.

Under the auspices of an Inter-departmental Committee, DJEI is developing a successor to the Strategy for Science, Technology and Innovation and the actions set out below will be aligned with the key thrusts of the successor SSTI.

The generation and exploitation of knowledge is at the heart of economic development. Participation in strategic oriented research and innovation defines a region's capacity for knowledge creation. This supports the flow of people and ideas between the region and the global economy and drives regional development.

There needs to be a strategy for regional participation by academia and industry in national SFI research centres and technology centres through building on existing regional capacity such as TSSG, PMBRC and SEAM. The region's capacity to lead a major national research centre in smart agriculture should be promoted.

Emphasis should be placed on ensuring that third level research and innovation expenditure in the region (currently approximately €18/20 million per year) is substantially increased to the levels similar to other regions of comparable size. Investment to support the maximum exploitation of the outputs of these programmes for a larger cohort of stakeholders from the SME and FDI community should be a priority.

As regards fostering innovation, the South East should consider developing itself as regional ecosystem open innovation system. This will require greater interaction between government policy and funding, research, industry investment, and education needed to develop such an ecosystem of open innovation. This flow of innovative staff consists of (i) *brain drain* where well educated scientists, researchers, engineers and other professionals leave the region, such as what tends to happen in the South East; (ii) *brain gain* where 'outsider' scientists, researchers, engineers and other professionals are attracted into the region/country; we need to create an environment in the South East to attract such innovative staff into the region; (iii) *brain exchange* whereby there are collaborative agreements for the mutual exchange of scientists, researchers, engineers and other professionals between the region and relevant international partners, this brain exchange needs to be encouraged and facilitated in the South East; and (iv) *'free' brain circulation* within, out of, and into the region. All of this leads to knowledge spillover, job mobility and wealth creation.

 There is also the need to create a supportive, collaborative balance between the research economy and commercial economy in the South East. These should be seen as complementary, not mutually exclusive, economies. Finally immersing the South East community into an evolving entrepreneurial culture is essential, particularly policy makers, entrepreneurs, business owners, employers, and citizens have got to embrace the concept of job mobility, brain circulation and labour/skill circulation. Instead of putting barriers in place to hinder mobility and free flow of personnel, stakeholders should encourage it knowing that the circulation of knowledge, skill and labour is what is required to build regional wealth and sustainability – it is the ecosystem of open innovation.

 A central entity in the process of developing and perpetuating an ecosystem of open innovation is the *catalyst*. The catalytic agent could be an institution, a group of institutions, an industry, or a

group of industries or government. The South East Action Plan for Jobs is a good step in the process of developing the South East as regional ecosystem of open innovation and the institutes of technology and business representative organisations in the region can play that central catalytic role in a joined up way including CIT, WIT and LIT. The key to its success and ongoing sustainability will be actors agreeing to be and taking on the role of catalytic agent[11].

WIT

Waterford Institute of Technology[12] (WIT) is a leader in research in the IoT sector in Ireland, securing over €140 million in external research funding since 1997. At the core of the Institute's research ethos is its commitment to engagement and knowledge exchange with regional, national and international industry.

As the Institute's key technology gateways, the research groups (TSSG, SEAM, and PMBRC)[13] are a major driving force of WIT's commercial relationship with industry. For example, TSSG is a leading ICT research group in Europe and is Ireland's leading software ICT research centre as it has secured more than €57 million in research funding since 1996. Each of WIT's research groups has established extensive relationships with a wide range of industries engaging in research, contract research, problem solving and university–industry collaboration. Industry partners include but are not limited to IBM, Ericsson, Cisco, Alcatel-Lucent, O2, Telefonica, Vodafone, BT, Eircom, Oracle/BEA, Genzyme, and Eirgen.

ArcLabs Research and Innovation centre located in WIT hosts the entrepreneurial development programme (New Frontiers / South East Enterprise Platform Programme) which has created 84 new businesses in the past 6 years with a combined turnover of €29 million, €8.5 million in export sales. ArcLabs Research & Innovation centre through its collaborative research programmes, enterprise support framework and active approach to engagement has transferred know-how and intellectual property to more than 110 multinational and indigenous enterprises throughout the country in the recent past. Intellectual property (IP) generated through the TSSG has created 11 spin off companies in the South East Region including Feedhenry which announced a €7 million investment by international venture capital firms and the creation of an additional 100 jobs in 2010. The TSSG / ArcLabs model has been replicated in Co. Kilkenny through collaboration with Kilkenny County Council and has created an additional 15 engineering jobs.

IT Carlow

IT Carlow[14] has focused and developed its research culture around a number of key priority areas that have strategic importance and economic potential for the region. This research has also had an international impact and its scientific value and quality is recognised within the wider academic community (as is demonstrated by citation metrics).

IT Carlow researchers are recognised internationally in the particular field of Biotechnology and Molecular Environmental Science and the citation impact of research outputs validates the strategy of concentrating effort on establishing and focusing on key areas of excellence.

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11 see Chapter 18, Ecosystems of open innovation: Their applicability to the growth and development of economies within small countries and regions, Routledge Handbook on Politics and Technology, 2015

12 www.wit.ie

13 Telecommunications, Software & Systems Groups, www.tssg.org; South Eastern Applied Research Centre, www.seam.ie ; Pharmaceutical & Molecular Biotechnology Research Centre www.pmbrc.org

14 www.itcarlow.ie

Institutionally, strategy has been to foster key areas of effort and excellence as a focus for ongoing development in other cognate research areas and this becomes evident as the research ecosystem of the institution expands and develops. Centres of Research Excellence (CORES) have been established in the areas of Bio-environmental Technology; Advanced Software and Networks; Design Innovation; and Advanced Security Technology.

LIT

The following is the LIT's strategic for research as expressed in its 2020 Strategy: LIT will engage in innovative applied research in partnership with industry, supporting international operators as well as indigenous players. Such applied research focuses on existing or emerging areas of academic expertise within our organisation which may be enhanced by talented researchers whom we attract.

LIT's research activity is concentrated in the three ISCED narrow fields of Life Sciences, Engineering and Arts, with some further activity in, for example, Services, Computing and Social Sciences. Across the Institute research activity occurs within 16 dedicated research centres and groups which encompass a critical mass of expertise within specific discipline areas complimentary to the broader national research prioritisation areas as identified by government commissioned Research Prioritisation Steering Group and is in line with the 3 pillars identified in the EU's research and innovation programme Horizon 2020 LIT focus' on research excellence with impact on industrial leadership and societal challenges.

Research, enterprise and development in LIT is organised under a Vice-President with specific responsibility for those areas. This means that research, enterprise and development activity work closely together for4 the benefit of the region which it serves and which includes Tipperary as a key focus area. Each area has a dedicated manager as well as other staff.

The Head of Research and the Development Manager are both academic managers while the Manager of Enterprise Development and Business Liaison has a long history of engagement with enterprises and the management of EI and other enterprise support programmes. Research and Development Centres and Groups is one of the mechanisms which is used to link the research, enterprise and development activities with the academic faculties.

The Technology Transfer Function carried out in collaboration with UL, provides for technology transfer and commercialisation activities, while the integration of research, enterprise and development in the one Vice-Presidential Office facilitates high levels of support between the research, development and enterprise support functions of the Institute.

Research Centres in the region include the following:
WIT

- WIT has played and continues to play a pivotal role as a driver of an open innovation environment through the innovation of its research and the creation of an effective knowledge transfer framework. The strategic development of the Institute's research and innovation infrastructure has been developed in the context of the smart specialisation for the region. This has required a clear definition of areas of specialisations which are and will continue to be leveraged by the region for its economic development.

    The prioritised areas of ICT (mobile networks and services) and pharmaceutical and molecular biotechnology research have developed into large-scale research centres of international reputation and with a strong interdisciplinary focus. The Institute has leveraged €140 million in external competitive research funding in the last ten years from national and EU RTD programmes. The Institute hosts 3 Enterprise Ireland Technology Gateway Centres (MTSG,

PMBRC and SEAM). Through TSSG and PMBRC it is connected to two of SFI's national Research Centres (CONNECT and SSPC2). It is the first Institute of Technology to be awarded a European Research Council Award for international quality research in the vision research (Macular Pigment Research Centre). It is a leading performing in leveraging European funding to support research investment into the region. It actively supports job creation and entrepreneurship within the South East through ArcLabs Research & Innovation Centre.

- Research activity is conducted in the context of a global research community. The flow of ideas and people between the region and the international community is a vital requirement for regional economic development. The WIT research and innovation ecosystem composed of its research community, regional, national and international academic and industry partners acts a catalyst for the emergence of an innovation region. Its impact is articulated in two ways, through the quality of the graduates up to PhD level with the graduate extending beyond the traditional student role to include customised graduate training for regional industry, and, secondly, through transformational research developing new industries, products and services within the region (e.g. FeedHenry). The role of the Telecommunications Software and Systems Group in creating a regional cluster of high potential startups in mobile services validates the Institute's model.

- Engagement between the pharmaceutical and advanced manufacturing research centres and their respective industry base has ensured a stronger innovation footprint for these sectors in the region ensuring the long term sustainability of these sectors in the region. The strength of the Institute's research and innovation ecosystem is its ability to engage with industry stakeholders to translate it knowledge pool in to solutions which can be accessed by a broad industry based resulting in engagement and knowledge transfer to over 500 industries in five years.   A profile of some of the Institute's research centres is presented in the Appendix.

IT Carlow

Research, Development and Innovation (RDI) is an integral part of IT Carlow's activities and is a vital aspect of the interaction of the Institute with industry and other higher educational and research institutes on both a national and international basis. It's collaborative RDI programmes have been variously funded by the Department of Agriculture Ireland, the European INTERREG Programme, the Higher Education Authority (HEA) PRTLI, the HEA Strategic Innovation Fund (SIF), EU Framework Programmes, Industry, the Environmental Protection Agency (EPA), Irish Research Council for Science Engineering & Technology (IRCSET), the Technological Sector Research Programme (TSR, Department of Education and Science Ireland), Enterprise Ireland and Science Foundation Ireland. The Institute has a strategic collaborative relationship with Teagasc Oak Park Research Centre Carlow.

The Institute, under its Strategic Plan 2014-2018, aims to provide for the continued development of its RDI activities, underpinned by the essential physical infrastructure and human resources required. The Institute of Technology Carlow goal for research is clearly divided into a series of key objectives and actions addressing the key themes of Capacity Building, Economic and Social Development, Fourth Level and Knowledge Transfer.

Strategic Research Developments

The Institute's strategic research areas are housed in the Dargan Centre, these are:

- Bioenvironmental technologies (EnviroCORE);

- Product design and innovation (DesignCORE);

- Interactive applications software and networks (GameCORE);

- Health sciences;

The Institute is also building research capacity in newly emergent areas including Advanced Security Technologies (SecurityCORE) and in targeted areas in Business and Humanities. The newest CORE is **EngCORE** which provides an umbrella for the diverse research interests of the School of Engineering and acts as a focal point for the exchange and development of research programmes in relation to its main thematic areas.

Research and Commercialisation Support Centre

The Institute's RDI activities are complemented by various campus-based specialist centres and campus companies, which include the *Campus Innovation Centre* and the *Enterprise & Research Incubation Centre* and in particular the most recent addition the Dargan Centre. These Centres help accelerate the development of startup companies through a comprehensive combination of infrastructure, business support services and specialised resources before and during their foundation. The Institutes RDI activities are also supported by European Commission Partnership Programmes and Enterprise Platform Training Programmes for Graduate Entrepreneurs.

The Institute is seeing an increased involvement in such industry related research from staff members and in particular those associated with IT Carlow's Centres of Research and Enterprise (CORE's). IT Carlow has held its position as one of the top two knowledge providers on the island of Ireland since the beginning of the Enterprise Ireland Innovation Voucher initiative and was recently recognised by Enterprise Ireland for this achievement. A recent example of a European Commission Partnership Programmes is INSPIRE (Initiating Pathways for Innovators, Researchers and Entrepreneurs), an initiative between Pembrokeshire County Council and Institute of Technology Carlow to create an environment to nurture and develop Idea generation among innovators, researchers, entrepreneurs and SMEs and instill the skill sets to bring these ideas to commercialisation. The objective of INSPIRE is to develop innovative, knowledge-based concepts which have the potential to become a viable and scalable business proposition.

The Institute develops and maintains linkages at all levels with Commercial Enterprises, Industries, Statutory Bodies, State Agencies and International Organisations in order to create economic development through technology transfer and education. On a regional level the Institute works closely with Enterprise Ireland, SEBIC, Business Network Groups, Skillnet, Chambers of Commerce and the Enterprise Boards in the region to promote the Enterprise Development supports at IT Carlow

The Dargan Centre

To maximise the beneficial synergies between both the taught and research postgraduate activities of the Institute (including the variety of related enterprise development initiatives), IT Carlow raised significant funds from non-exchequer, self-financing sources to construct a new Postgraduate and RDI building. The Dargan Centre opened in 2014 and is named after the internationally renowned engineer, entrepreneur and social innovator, Carlow native, William Dargan. The Centre has been designed to allow us to capitalise on the opportunities for idea generation, knowledge production and knowledge exchange, through the co-location of specialised multidisciplinary research facilities and personnel, training facilities and new enterprise incubation units, with a range of high quality research, commercialisation, enterprise development and postgraduate support services.

The purpose of this Centre is to ensure the creation of an integrated and high quality physical environment for relevant academic staff, postgraduate students, senior researchers, administrative and management staff associated with the development and delivery of the Institutes targeted high

priority areas for postgraduate activities. This facility will undoubtedly assist the IT Carlow in progressing its postgraduate and RDI agenda.

Research activity underpins the curriculum at both undergraduate and postgraduate level and industry/societal collaboration will continue to be important in facilitating the flow of ideas and people enhancing the research culture within the Institute. The Institute's new co-located Dargan Centre for Research, Development and Innovation combined with the existing Enterprise and Research Incubation Centre (ERIC), is a significant expansion of an intellectually stimulating and rewarding environment facilitating the knowledge exchange activities of the Institute within the overall developing institutional RDI framework (summarised diagrammatically below in figure 5).

Figure 7. Framework for Developing IT Carlow RD&I Activities
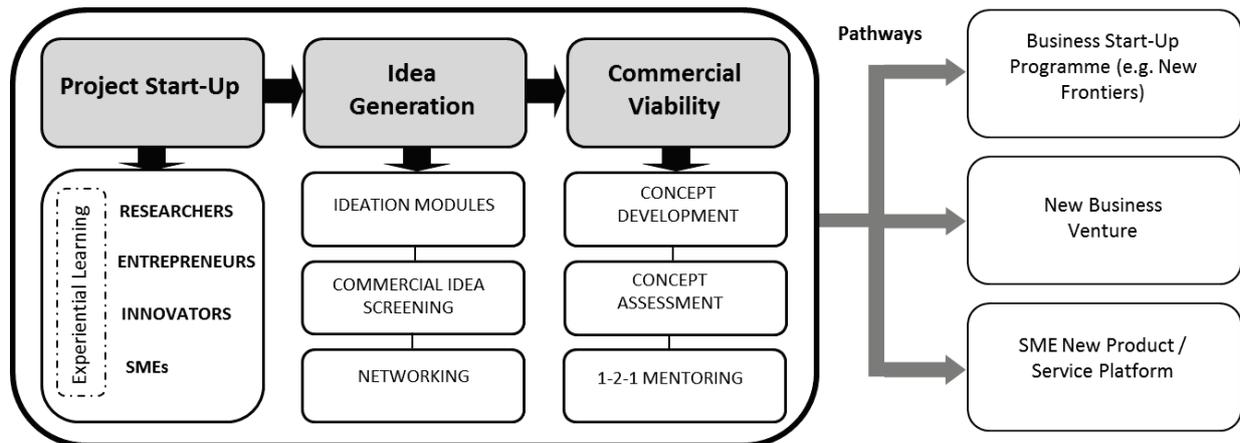
LIT

The current centres and groups are as follows: (see Appendix D for more details)

- Shannon Applied Biotechnology Centre (Shannon ABC)
- Centre for Business, Events, Sport & Tourism (Best)
- Centre for Creativity, Enterprise, Innovation, Design and Engagement Research (Ceide)
- Art, Curatorial, Applied Design and Education Research Centre (Academy)
- Centre for Games Technology & Interactive Systems
- Centre for Rural and Sustainable Development (CRSD)
- Food Research and Development Centre (Foods)
- Acorn Research Group
- Analytical Sciences Research Group
- Built Environment Technology and Educational Research Group (Beter)
- Chemical & Molecular Microbial Biotechnology Research Group (Chimera)
- Genders and Sexualities Research Group
- Loss and Grief Group
- Cells Research Group

Funding for the research and development activities of the Institute come from a wide variety of sources including the IRC, Enterprise Ireland, various Interreg programmes, IEE, FP7, Horizon 2020, Erasmus+, IRCSET, SFI, industry partnerships and consultancy appointments.

The Institute has particularly strong research experience in the areas of bio-technology, renewable and sustainable energy, food sciences, art and design and games technology and interactive systems.

Many of the Institute's research centres work in close co-operation with industry partners and have a particular remit to address the research and knowledge needs of industry and enterprise. The Institute actively uses the Innovation and Innovation Partnership programmes of Enterprise Ireland to promote this activity.

LIT is aligned with the University of Limerick with regards to the processes of Technology Transfer for which activity the Head of Research in LIT is also responsible. The UL/LIT TTO received the highest assessment in a recent audit carried out on its activities.

Actions

	Fostering Innovation		
128	Increase participation by enterprises in the region in National Research Centres and target an increase in enterprise RDI investment to levels comparable to other regions. All HEIs in the region to draw up metrics to support enterprise innovation upgrading including number of industry engagements and by company size, category of industry engaged with and level and type of investment by enterprise and outputs.	Q2 2016	HEIs ,SFI, IDA, EI
129	Enterprise Ireland will facilitate an intra- Regional Innovation Process to encourage peer-to-peer interactions and SME-HEI linkages (people, resources, training and research). HEIs involved in this event will include: Maynooth University (MU) working with Athlone Institute of Technology (AIT), Institute of Technology Carlow.	Q4 2015	EI, AIT, MU, ITC, WIT
130	Explore the expansion of existing ICT incubation facilities available in the region to further serve the growth of the indigenous base and potential FDI investment in ICT	Q4 2015	HEIs, EI, IDA
131	Develop a Regional Management Development & Innovation Programme for microenterprise in partnership with the HEI's & the LEOs	Q1 2016	LEO / HEI
132	Strengthen university/IoT commercialisation of research - translating it into jobs on the ground supporting the partnering with entrepreneurs/business championing and building strong business teams to succeed.	Q4 2016	Knowledge Transfer Ireland, EI
133	InterTradeIreland will promote the Fusion Programme to SMEs in the region to get more graduates into businesses in the region.	Q3 2016	ITI
134	InterTradeIreland will provide access to the InterTradeIreland Challenge programme.	Q3 2016	ITI

Horizon 2020

135	Public research organisations and higher education institutions to work with enterprises, in particular SMEs in developing proposals for Horizon 2020 funding, with the objective of increasing participation and drawdown from EU programmes by SE businesses. Promote greater engagement at regional level by enterprises and research teams in collaborative research and to participate in EU Horizon 2020 projects.	Q4 2015	HEIs, SFI, EI, IDA, ITI

11. Attracting and embedding Foreign Direct Investment

It is intended that this South East Action Plan for Jobs will provide a structure for all the stakeholders in the region to work together in a collaborative manner to maximise future FDI investment potential, in conjunction with other economic development objectives such as indigenous industry and tourism.

IDA Ireland

IDA Ireland has set new and ambitious FDI targets for each region in the country which will act as collective goals for each stakeholders in each region to work together to achieve.

IDA Ireland is targeting a minimum increase in investment of 30 to 40 percent in each region outside Dublin.

IDA Ireland's remit is to attract foreign direct investment to Ireland and importantly, thereafter to work with our existing base of client companies to encourage them to sustain, grow and expand their business presence here. In doing so, IDA client companies generate valuable employment throughout the country.

Over the past 5 years IDA has highlighted the trend that manufacturing activity locating in Europe is declining and the global growth in business services activities. By end of 2014 Ireland has scored well in winning a large amount of both. Today, company business activities are more sophisticated than before therefore, when expanding internationally, companies forensically investigate a number of locations globally.

International competition has become extremely intense and continues to increase mainly dominated by Metro city regions (populations of 1 million+ London, Manchester, Boston and California). As magnets for the attraction of foreign investment, Ireland has only one Metro Region, the Greater Dublin area. IDA markets other centres of scale within Regions as areas of critical mass, by highlighting the advantages within a 1 to 2 hour commute of the Regional Centre. IDA promotes locations that are a good fit between the investors' requirement and the Region's ability to meet these exacting criteria. They are critical mass in population terms, the existence of clusters of companies in specific industry sectors/activities, the ability to attract and develop appropriate skills (talent), Regional Infrastructure and Place-making.

IDA Ireland's strategic focus for regional enterprise development is to secure investment and jobs on the basis of identified opportunities for the South East

Regional Development and IDA

Under IDA's new strategy, FDI employment targets for Regions have been developed on a whole of region basis with an investment target for each Region largely based on a number of key factors important to attracting and retaining mobile foreign direct investments.   In order that IDA and the Region can achieve these targets, the exacting criteria (outlined above) must be further enhanced and become a differentiator. In the face of increasing international competition for investments, greater co-operation, collaboration and integration by all local and national stakeholders will have to be quickly addressed to rectify regional impediments to winning investments. IDA is committed to playing its part in the collaborative effort by winning investments and jobs from new companies,

existing companies and from new areas of opportunity in FDI, to locations that can demonstrate the capability to deliver on these exacting criteria.   The achievement of these targets will crucially depend on working in partnership with local and national stakeholders.

IDA Ireland is targeting a minimum increase in investments of 30-40 per cent in the region.

Succeed in Ireland – Connect Ireland – Community Action Plans

The Government, through initiatives such as ConnectIreland, have increased the level of FDI into Ireland and as a result, economic activity and job creation. Over the lifetime of the Succeed in Ireland initiative, 2,500 companies have been introduced to the programme. Since its introduction in 2012, ConnectIreland has been able to glean 100 companies involved in internationally traded services which have already announced sustainable jobs or who continue to be in deep dialogue, considering locating to Ireland.

The remaining 2,400 companies represent a huge opportunity for regions to attract new investment. Very often these are companies that ConnectIreland becomes aware of through the connector relationship. Many of these additional companies are looking to return to Ireland to establish indigenous companies and jobs. It is important that these companies have the same chance to set up in Ireland, as the export-focused companies already being pursued.
There is also potential for ConnectIreland to work through its 'connector' programme with Local Enterprise Offices so as to attract young and early stage entrepreneurs that may need support akin to that of a startup rather than for established companies.

In 2014, ConnectIreland began running a more regional and community focused campaign and introduced their Community Action Plan. The overall objective of the campaign is to create visibility and awareness jointly with the 31 City and County Councils of the key role that communities can play in job creation through the use of the ConnectIreland mechanism in particular.

The purpose of the Community Action Plan is to inspire, energise and engage communities and the councils to get involved and do something for themselves using the ConnectIreland model. Due to its work at a local level, ConnectIreland receives support from the Department of Environment, Community and Local Government through their Dormant Accounts Fund.   This funding is rewarded under the category focused on economic and social disadvantage aimed at improving the quality of life for people who are economically or socially disadvantaged.
Initially, communities meet with ConnectIreland to discuss their county-focused strategy and the unique selling point of the county. A liaison officer is then appointed to each county to co-ordinate the implementation of the plan. From there the community works together to spread the ConnectIreland message and reach out to contacts across the globe, encouraging foreign direct investment. Each county is encouraged to appoint a local ambassador who will champion the campaign in their area. The Community Action Plan is an ongoing campaign that has already yielded company introductions in several counties.

As part of Regional Action Plan for Jobs ConnectIreland will roll-out regional level programmes to help promote the South East region as a venue for FDI, engage Diasporas for the means of job creation and empower the public to become involved in the success of the region in these areas. It will comprise the following elements:

- **12 Month Media Campaign.** Through the continued implementation of the 12 Month Media Campaign, individual counties within the region will be encouraged to release at least one media piece per month, promoting and reiterating the message of the Regional Action Plan for Jobs. County specific material like this offers many advantages including giving the Plan a personal voice and helping to empower local communities to get involved in the initiative;

- **Local Ambassadors.** Regions will introduce celebrity ambassadors as part of their engagement with the public and their Diasporas. Ambassadors will be selected by the region to participate in media campaigns and promote the region as a location for successful business ventures. Ambassadors should be selected as a result of their affiliation with the region and their ability to be recognised by a large population of the region and potentially, its diaspora.

- **API & Account Manager.** Throughout the lifetime of the Plan, support will be provided to each county within the region on all aspects of the programme. ConnectIreland will provide an open API and an Account Manager for every council to leverage existing connections and to develop further opportunity for the collective goals of the Plan. The Account Manager will be available to deal with and advise on any concerns that may appear.

- **Reaching out to Existing FDI Companies.** FDI companies that are currently located in the region will be engaged and encouraged to participate in media materials. This venture will expose the value of locating to the region. By providing soft media material including pieces taking the shape of 'Succeeding in the South-East', the region will be able to display the first-hand benefits of locating there.

- **Location Toolkit.** A toolkit will be published to highlight the individual benefits of locating to the region. This will take the shape of 'Why Choose the South-East'. The Toolkit will be an invaluable source for those working in the area of attracting FDI, promoting the region and working to inform those encouraging FDI into the region.

- **Regional Collaboration Quarterly Meeting.** Every quarter a monitoring meeting will be held between all counties in the region. The purpose of the meeting is to relay progress and review achievements made by the Plan. It will also ensure communication between the parties is efficient and that relations are strong. The time will be used to encourage the sharing of ideas and further develop the strength of the regions message and mechanisms for dispersing this message. These meetings will be chaired by ConnectIreland to ensure equal participation and effectiveness. A ConnectIreland presence will also ensure that performance outcomes are being measured and the representative will encourage a constant culture of review.

- **Higher Education Institutions.** The initiative would encourage higher education institutions in the region to create and engage an alumni network. Alumni engagement strategies are extremely beneficial to both the education institution and alumni. A structured network will allow for an efficient way for information to be shared between the two in a measurable way with a goal of reminding alumni of the advantages of returning to the region to do business.

- **Connectivation.** Connectivation, asks Third Level students to share their ideas for the future development of the Succeed in Ireland initiative. The competition will be looking for an understanding of both the areas of diaspora engagement and FDI by competitors. The winners will be presented with a cash prize by a Government minister (e.g. Minister for Diaspora).

As part of this programme roll-out in the South East, local councils will be invited to identify the unique selling points of their particular areas. Such features will include; historical sites, cultural events, local festivals, tourist engagement opportunities and business events.

Diaspora

There is an opportunity for the South East region to reach out to its diaspora to create value to (i) attract FDI jobs (ii) support local jobs (iii) support cultural awareness and activities (iv) promote educational exchange activities and initiatives, and (v) deliver international conferences and events to the region.

Actions

	Attracting and Retaining FDI		
136	IDA Ireland will target a 30% - 40% increase in investments by overseas companies in the South East Region over the period 2015-2019. This will result in a minimum of 44 investments in the region over the period.	ongoing	IDA
137	IDA Ireland will drive Transformation with IDA client companies across the South East Region through increased client interaction with the established base of companies to sustain, support and grow their operations and support increased employment in the region. This is particularly relevant to manufacturing operations.	ongoing	IDA
138	Build an Advance Technology Building in the region to provide a high quality property solution to attract new FDI.	Q4 2016	IDA
139	Through its involvement in the South East Enterprise Strategy, IDA will work with the South East Regional stakeholders to enhance and differentiate the regions offerings for overseas companies from other Regions both in Ireland and other international competitor locations. IDA will convene a "FDI Forum" with Stakeholders and Industry representatives on an annual basis to ensure that that region is maximising its strengths and opportunities to attract additional FDI.	ongoing	IDA, HEI's, Local Authorities, Chambers of Commerce, etc.
140	As part of their Global Sourcing initiative, IDA Ireland and Enterprise Ireland will work together to increase collaboration - including the sourcing of goods - between Multinational and indigenous companies. The agencies will ensure that their clients in the region, where appropriate, are engaged in this initiative.	Ongoing	EI, IDA
141	As part of its Global Sourcing initiative and the drive to foster SME supply opportunities into MNCs, Enterprise Ireland and IDA Ireland will embark on a major sectoral Trade Mission to the SE region.	Q4 2015	EI, IDA
142	Through its Trade Accelerator Voucher scheme InterTrade Ireland will help companies to identify and break down barriers to trade leading to new export opportunities in Northern Ireland.	Q4 2016	ITI
143	IDA and EI to work on developing a "skills bank" to assist companies which may be facing downsizing in order to identify job opportunities across other client companies.	In place by Q1 2016	IDA , EI, DSP, ETB's
144	Develop and implement an information/networking event across the South East region for clients with EI clients to be invited also.	End 2015	IDA, EI
145	Relevant IDA Executives based overseas to visit relevant companies in the Region to continually enhance marketing knowledge.	End 2015	IDA

146	Encourage MNCs based in Ireland to establish satellite offices in regional locations such as SE. Support would be available to support this also potential for homeworking models.	**End 2016**	**IDA, employers**
147	Growing on the successful strategy of providing property solutions, the Údarás will continue a building and refurbishment programme to help support the attraction/expansion of Foreign Direct and Indigenous Investment in the South East Region.	**Q1 2016**	**ÚnaG**

Connect Ireland

148	Develop a Regional ConnectIreland Plan that is integrated with the Local Authorities' enterprise development and job-creation activities. Formalise the name of a nominated officer from each county in the region for the roll-out of the Plan.	**Q4 2015**	**Connect Ireland, LAs, Southern Regional Assembly**
149	Announce and run the Connectivation competition, inviting Third Level students to share their ideas for the future development of the Succeed in Ireland initiative.	**Q2 2016**	**Connect Ireland**
150	Liaise with HEIs with a view to holding partnership events to create a network that will allow greater communication between the institution and its alumni. Develop initiatives with the alumni of colleges, diaspora networks and Connect Ireland to promote and attract skills back to the Region.	**Q2 2016**	**Connect Ireland, HEIs**

Diaspora

151	Develop an overarching brand and value proposition for the South East and build awareness of all that the connected region has to offer.	**Q2 2016**	**LAs, IDA, EI, Fáilte Ireland, Chambers, enterprise bodies.**
152	Further develop Diaspora networks (including databases) in the region with clear objectives and deliverables in the areas of trade promotion, attracting investment and advice and support to entrepreneurs.	**Q4 2015**	**LAs, LEOs, HEIs, Chambers**
153	Aligned with the proposed value proposition initiative, tailor 'quality of life' communications directed primarily at our Diaspora to equip them with up-to-date information to 'sell' the region as a good place to live and work.	**Q4 2015**	**LAs, HEIs, Chambers, ConnectIreland**

12. Social and Community Enterprise

Forfás (2013) defined social enterprise as

> "an enterprise that trades for a social/societal purpose, where at least part of its income is earned from its trading activity, is separate from government, and where the surplus is primarily reinvested in the social objective."

Social enterprises tend to provide goods and services locally, creating jobs in the local community - often to those most distant from the labour market. Social enterprises can have a triple helix impact – economic, social and environmental. (The Boomerang Recycling Initiative is just one example of how social enterprises can also address the green challenge). The FORFAS report confirmed that social enterprise is a small but growing part of the enterprise base and, with the appropriate enabling and promotional effort, there appears to be scope for increasing jobs in the sector.

To promote economic and community development, under the Local Government Act 2014, each Local Authority will develop Local Economic and Community Plans (LECP) by the end of 2015. The Regional Enterprise Strategies will support the increased emphasis on economic development at Local Authority level under these Plans, and will also feed in to the Regional Spatial and Economic Strategies to be developed by the Regional Assemblies.

APJ 2015 commits to continuing to implement the Local and Community Development Programme (LCDP) on a transitional basis pending the rollout of its successor programme, the Social Inclusion and Community Activation Programme (SICAP) which will have a strong focus on community activation, social inclusion and community development, while also focusing on and prioritising those hardest to reach.

There is a strong Social Enterprise sector in the region, contributing jobs across a wide spectrum of activity. Many of these jobs are engaged in provision of social services funded from a range of programmes both national and local. As well as direct job provision, social enterprise also contributes to the fabric of communities in maintaining services to marginalised and dependent groupings. As the region moves towards a higher rate of dependency vs. the working population, the importance of social enterprise will grow accordingly and there will be a need to continue to provide for appropriate funding streams.

Enterprise Ireland ran a new Community Enterprise Centre Development Programme for the maintenance or establishment of a strong business development function in the Community Enterprise Centres funded by Enterprise Ireland in 2012. Five centres from the region applied for support and were approved a total of €250,000. A new competitive call for proposals was launched on 15 May 2015 and provides an opportunity to set ambitious targets for CECs in the region towards the target of a 25-50 per cent increase in entrepreneurial activity in the region, in conjunction with local authorities and LEOs in the counties.

In line with "Better Outcomes, Brighter Futures: The National Policy Framework For Children & Young People, 2014-2020 attaining the Council of Europe Quality Label for Youth Centres standard, and through same create jobs though education, training and placement programmes which support the employability of all young people, particularly those further away from the market.

Community Enterprise Fund

A €5 million Community Enterprise Initiatives fund, open to groups and organisations in every county of the country who come together with ideas for projects to create jobs, was launched in May 2015. The fund will be awarded on a competitive basis to the projects with the greatest

capacity to create jobs. Examples of projects which might succeed could include hiring skilled people who could assist with mentoring businesses, investing in hubs and co-working space where businesses could work in their early days.

The overarching goal of the Fund is to stimulate and support enterprise and job creation at a local, community and regional level. The competitive call for applications is open to new and existing organisations, groups and alliances, who collaboratively seek to promote entrepreneurship, create jobs, foster innovation and enhance export opportunities for small business. A prerequisite for proposals is the need to demonstrate innovative solutions to fostering and creating employment. Priority will be given to new approaches that strengthen the entrepreneurial ecosystem.

Through the utilisation of existing infrastructure and the leveraging of nationally available enterprise supports, the specific objectives of the scheme include:

- Fostering an increased collaborative, networked and linked approach to regional and local enterprise development and job creation

- Establishment of hubs, accelerators, networks and clusters or other partnerships based on regional strengths, opportunities and uniqueness. Within this is the establishment of partnership activities where innovative startups can be established in a supportive network before graduating to other support mechanisms or self-sufficiency

- Proactively seeking out, encouraging and supporting applications from economically disadvantaged areas and areas facing potential economic shock to foster potential opportunities for job creation and supporting enterprise

- Promotion of a progression pathway for companies as they start, develop and scale.

Actions

Community Enterprise			
154	**Devise an action plan to promote and support Social Enterprise in the region.**	**Q4 2015**	**LAs**
155	**Provide a co-ordinated support mechanism and linkage to assist existing and new rural/community enterprise groups**	**Q4 2015**	**LEOs, LAs, LIT**
156	**Explore the development of a co-op type community shop / retail model operated by community groups in rural villages.**	**Q2 2018**	**LAs, Retail bodies, Community Networks, LIT**
Rural Enterprise			
157	**Community Enterprise Centres in the region to develop a combined strategy for promotion and management of available space so as to increase startups and entrepreneurship in the regions.**	**Q4 2015**	**CECs, LAs, LEOs, EI, ÚnaG**
158	**Údarás na Gaeltachta will provide support and resourcing to local community groups and Comhlacht Forbartha na nDéise to implement a programme for economic, social and linguistic development locally.**	**Q4 2016**	**ÚnaG**

159	Evaluate the 'Boomerang Recycling' initiative and explore potential for it to be further rolled out in the region and extended to other forms of reuse.	Q4 2015	LAs, HEIs, Partnership Companies, Leader groups
160	Develop collaborations with civic groups, NGOs and statutory bodies through the enhancement of existing community projects such as Community-Academic Research Links (CARL) and the initiation of new projects with the community sector. Enhance access to artistic citizenship through consolidation and development of arts-in-community projects, such as FUAIM Arts and Community.	Q2 2016	NGOs, LAs, ETBs
161	Promote the value of Social Enterprise as means of direct job creation and to contribute to a wide range of community and social services	Q2 2016	LAs, LAGs, DECLG, ETBs, LEADER, Cooperatives, HEIs

13. Enhancing Skills and Labour Market Activation

In relation to skill supply, the key priority identified by stakeholders in the consultations is to improve the supply of talent in the region and the continued development of skill sets that meet industry needs. In particular, the stakeholder consultations identified the need to enhance the range of skills development options including apprenticeships. The process which commenced earlier this year to develop a new range of apprenticeships is expected to conclude shortly and will provide employers with increased opportunities to recruit apprentices.   Working collectively with the education and training providers in the region, employers can play a key role in promoting the full range of apprenticeship career paths. The stakeholder consultations further identified the need to enhance the processes for planning to meet future skills needs, including direct input from industry. There is an identified need to provide better information of skills supply from the education sector to industry in the region and similarly to highlight available opportunities to potential employees.

The consultations also highlighted a need to enhance SME engagement with FET and HEI providers, to understand what the current barriers are to greater engagement and to provide a clear roadmap to enhance these interactions. There is also a need to improve how SMEs can recruit available talent and to bring leadership skills to small business in areas they would not normally be able to access by virtue of their scale.

The region is well positioned to continue to attract investment and talent from abroad, but the consultations highlighted the importance of raising the profile of region as a location for talent to international audiences. The focus on development and attracting talent is to create a dynamic of increasing the knowledge base, seeding future skills development, and developing closer dialogue between industry and students in the region.

It was also suggested through the consultations that the process of alerting students to available roles in the region could be improved to enable students attending third level to be more self-reliant and engaged with industry in the region. There is a need to better match skills supply and demand in the region, to help to reduce unemployment, meet skills shortages and support effective transition to work for graduates.

Enterprise-Education and Training Skills Forum

Supported by the Department of Education and Science, Kilkenny/Carlow ETB, Waterford/Wexford ETB, Tipperary ETB, IT Carlow, Waterford IT, Limerick IT and Skillnets have come together with public and private stakeholders to establish a Regional Skills Forum for the South East. This Forum has the potential to effectively and collaboratively address a number of these issues and to be a key resource and enabler in the region to support economic development. Work is already underway to develop a structured programme of activities to be undertaken by the Forum to meet the following objectives, to:

- facilitate regular structured dialogue on labour market intelligence and skills supply data to inform the planning of programmes to be delivered by the education and training system;

- help employers to better understand and access the full range of supports available to them across the further and higher education and training system;

- provide a framework to enhance and support individual education and training providers and groups of providers in establishing and maintaining connections and relationships with employers;

- enhance links between education and training providers in planning and delivering programmes in the South East and enhancing progression routes for learners; and

- strengthen collaboration between industry and schools and highlight opportunities and career pathways available in the region

In terms of primary and second level education, further engagement with teachers in the region is identified as important for the region to develop, helping teachers to communicate industry and business stories back to students to support career planning, entrepreneurship and innovation. Further initiatives that could be taken to foster a wider interest and basic knowledge of science and maths to encourage take up of related careers were also identified.

Work is underway to explore the potential for a technological university in the South East to act as a catalyst and stimulus of economic, social and cultural development for the region.

Figure 8. Enterprise and Education and Training Skills Forum
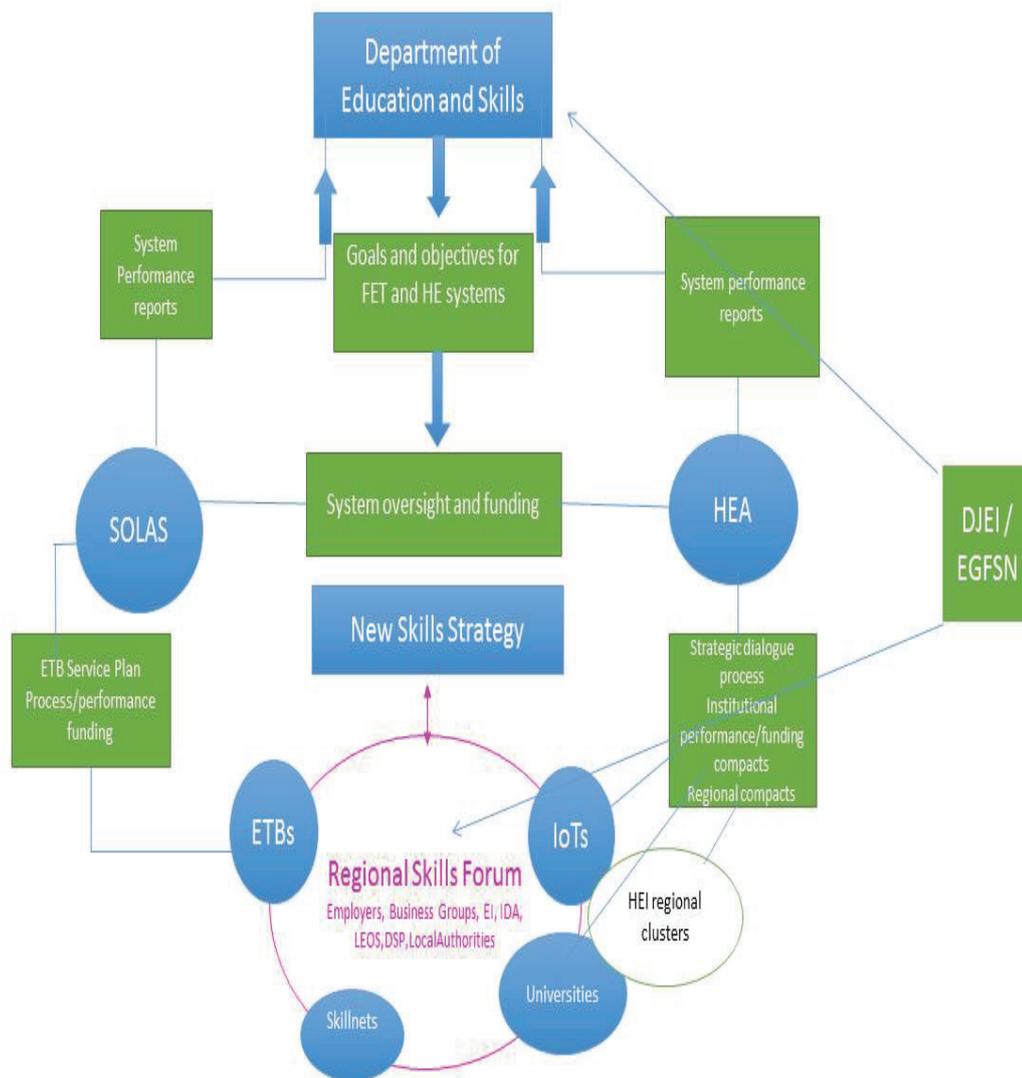
Source: DES

Actions

Regional Skills Forum		
162	Establish a Regional Skills Forum in the SE to undertake a structured programme of activities to promote closer liaison between employers and the education system and prioritise strengthening the outreach activities of education providers in the region , including strengthened industry liaison functions generally and develop structured programmes of awareness raising of the capabilities and assets available to enterprises in the region and develop common projects so as to best deliver on the skills requirements of the region.	Ongoing	CKETB, WWETB, TETB, IT Carlow, WIT, LIT, Skillnets, Ibec, Chambers, EI, IDA, LEOs, Local authorities, DSP

Technological University of the South East		
163	Continue to build on the progress achieved through the process of engagement and consultation undertaken in relation the development of a Technological University for the South East.	Ongoing	WIT and IT Carlow, DES

Responding to Skills Needs for a Growing Region		
164	"Boost apprenticeship recruitment by industry in the region as there is a growing demand across key sectors of the economy from manufacturing to construction and develop initiatives to build awareness of the different forms of apprenticeship and career paths linked to apprenticeships.	Ongoing	Employers, IBEC, Chambers, SOLAS, HEA, Apprenticeship Council
165	Accelerate the development of the Wexford Campus so as to best deliver on the skills requirements for the region	Ongoing	IT Carlow, Wex Co Co
166	Accelerate the relocation of the LIT Clonmel campus from its current location so as to best deliver on the skills requirement for the region and to support existing FDIs in the area	Ongoing	LIT, Tipperary Co Co
167	Údarás na Gaeltachta will assist in the development of educational programmes which will support local economic, social and linguistic regeneration and development in the Déise and across the Munster region.	Q4 2016	ÚnaG
168	PCI and IMDA to deepen industry links with schools and third level institutions in the region including careers promotion, promotion of STEM and support for development of supporting promotional materials and outreach activities in STEM.	Ongoing	PCI, IMDA
169	PCI and IMDA to run a series of cross sectoral workshops in the region to bring together a number of other sectors with the Biopharma and Medical Devices sectors to explore best practice in manufacturing, quality and regulatory affairs, R&D and skills	Q3 2016	PCI, IMDA

170	**Promote the development of manpower plans at firm level so as to be better positioned to engage with education and training providers and to provide skills development pathways for their staff.**	**Ongoing**	**Ibec, Chambers, unions, business rep organisations.**

14. Enhancing the Business Environment

There are a range of business environment factors that improve the attractiveness of a region. This section focuses on four key areas of property solutions for enterprises, integrated licencing, public procurement and finance for growth.

14.1 Property Solutions

The availability of attractive property solutions for scaling enterprise, entrepreneurs and new investments by foreign subsidiaries is an important part of the competitiveness of a region for investment. Investors are slowly returning to the market

The IDA has an attractive suite of industrial parks and, as noted above, has further developments planned for the region as part of the Government's commitment of €150 million to the IDA's strategic site initiative announced in early 2015.

However, there are a range of other sites and property solutions throughout the region, in public and private ownership that need to be mapped and compiled and made available as an information resource for enterprises and potential investors. The consultations with stakeholders indicated that there are a range of good facilities available for new startups and these should be mapped and actively promoted. As noted later in this Action Plan, it is also important that the infrastructure needs of key enterprise parks and strategic sites are prioritised (in line with RSES policy and alignment with NPF) as part of future public capital expenditure programmes as resources become available.

Actions

Property Solutions for Business			
171	Compile a profile of all available office and industrial space in the region and assess gaps and/or need for additional space so as to better inform the market and highlight zoned and serviced lands.	Q4 2015	LAs, LEOs, IDA, Property and Construction Representative Bodies
172	Develop an initiative to promote the conference centre facilities and attractions in terms of ease of access and accommodation in the SE.	Q2 2018	NAMA, LAs
173	Investigate how best to incentivise upgrading of industrial properties.	Ongoing	LAs, Property and Construction Representative Bodies
174	Growing on the successful strategy of providing innovative infrastructure solutions, An tÚdarás will work with private investors and other public bodies in examining the feasibility of developing a new development centre in the Déise Gaeltacht in support of employment and economic development locally.	Q4 2016	ÚnaG

14.2 Integrated Licensing Applications

The Local Government Management Authority, working with DJEI has completed a tendering process for a national Integrated Licensing Application System, to be provided by An Post. This provides a real opportunity to increase the efficiency of licensing applications across a range of public service area and the South East should aim to be an early adopter of the system, with significant benefits for businesses.

Actions

Integrated Licensing Application			
175	Licensing bodies to be among the first to adopt and promote the use of the new national Integrated Licensing Application System.	Q4 2015	LGMA, DJEI

14.3 Public Procurement

Access to public procurement within the region can be an effective means of developing business capabilities and capacity for existing and new businesses. While the over-riding concern remains value for money, it is important that public procurers engage effectively with the market to understand latest technologies and trends and best available solutions. This engagement can help with ensuring that requests for tender are also up to date on focused on securing the most economic tenders for the long term. There are a range of initiatives proposed by InterTrade Ireland in this regard, with a particular focus on the South East region.

Actions

Public Procurement			
176	Local authorities and other public bodies such as the HSE to work with LEOs and others to promote greater SME engagement in public procurement.	Q4 2015	LAs, EI/LEOs
177	Enterprise Ireland will work with NDFA and Consortium members on specific procurement opportunities	Q4 2015	EI, NDFA and consortium members
178	InterTrade Ireland will promote public tendering opportunities to SME's in the region including cross border public sector opportunities, consortia building for larger contracts and below threshold contracts.	Q2 2016	InterTrade Ireland in partnership with local LEO's & other relevant local organisations ITI, LEOs
179	InterTrade Ireland will explore organisation of regional public sector 'meet the buyer' event.	Q3 2015	ITI, LEO's, OGP, HSE, LAs

14.4 Finance for Growth

Finance is the lifeblood of every business and is needed at every stage of the business lifecycle through from the very early stages of concept development and prototyping, to setting up a business and navigating the early years, through to growth and expansion. In addition to reinvesting profits[15], enterprises need access to funding to invest in productivity improvements (including through automation) in RD&I and for sustaining the (sometimes quite long) lead times in accessing new export markets. The Government has a range of initiatives in the market to ensure growing and developing business have access to the range of funding options and banking services that are needed. These include MicroFinance Ireland promoted through the LEOs, the Loan Guarantee Scheme and the funding being provided through the Strategic Banking Corporation of Ireland.

Actions

Finance for Growth			
180	Promote participation by SMEs in MicroFinance Ireland, Loan Guarantee and Strategic Banking Corporation of Ireland (SBCI) funding.	Q4 2015	LEOs, EI
181	Promote HBAN, the Halo Business Angel Network to offer local high growth potential companies the opportunity to pitch for funding from high network individuals and business angel syndicates	Q4 2015	HBAN, EI
182	Develop the Business Angel ecosystem with particular reference to Regional Angel Syndicates	Q4 2015	HBAN
183	InterTrade Ireland will host 15 workshops under their "Funding for Growth" initiative in the region to promote all traditional and non-traditional sources of finance to local businesses. Local businesses will benefit from hearing about alternative sources of finance and how to access it. Businesses will also have the opportunity to meet with a corporate finance expert to discuss their individual funding needs at the regional 'Funding for Growth' Clinics.

These workshops will also focus on equity awareness raising at a regional level including providing unique equity advisory clinics where companies can meet with an equity expert, business planning workshops and venture capital case studies. | Q4 2016 | ITI |
| 184 | Promote the SeedCorn Competition to give HPSUs the opportunity to improve their investor readiness by taking them on a comprehensive mentoring journey and introducing them to investors. | Ongoing | ITI |

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15 Note that enterprises are not necessarily profitable throughout their business lifecycle

15. Key Infrastructure Requirements

The following section sets out infrastructure needs for the region – the priority is to ensure that the strategic development zones, enterprise parks and business centres are adequately services with secure reliable, cost competitive and high quality infrastructure and services, including energy, telecoms, transport, waste and water. Key priorities emerging from the stakeholder consultations are set out below.

Over recent years there has been a wide range of significant infrastructural investment in the South East region. This includes the provision of major road infrastructure, with the completion of the M9 motorway, the N25 Waterford city by-pass and the new Suir River crossing. Other significant items include additional water and waste water treatment capacity (in line with RSES policy and the relevant County Core Strategy), provision of extensive broadband, major urban renewal works in Waterford city, extra facilities for Belview Port and major educational investment, with Waterford Institute of Technology alone having invested €150 million over the last 10 years in capital projects. Many other smaller scale investments to enhance facilities and capacity have also been carried out in the region.

15.1 Broadband and eCommerce

Broadband is a recognised as an essential infrastructure for economic and social activity in so many areas and is absolutely essential for enterprise development and growth. It is also a key infrastructure for enabling the development of remote working and other digital enabled activities, most particularly in the context of growing ecommerce in the region. High speed broadband roll out beyond urban centres will increase potential home work force. The availability of high quality broadband is strategically important to improving the productivity of the Irish workforce, facilitating innovation and job creation, improving our status as an attractive location for foreign direct investment and enabling Irish firms to compete in international markets.

Supply

While the South East region has excellent connectivity from large urban centres to the national network and onwards to global networks, there is an ongoing need to develop the connectivity of the region itself to the Internet backbone and to accelerate the deployment of 100Mbit/s broadband across the region. Much investment is occurring in the development of the broadband network throughout the country and it is envisaged that all towns with a population of greater than 1,500 will be served in the very near future.

Demand

The business community is committed to working with market players to ensure the necessary services are available and taken-up and the Government's National Broadband Scheme to be rolled-out from 2016 will ensure complete coverage of the region by 2020. In the meantime however, there is a need to continue to work with telecom operators to provide to make the case for investment in advanced networks, to demonstrate the market demand and to develop the sophistication of use within the region.

The Local Enterprise Offices will provide support to enterprises that want to e-enable their businesses or seeking to scale up their Internet presence and activity. Across all sectors of the

economy, a minimum benchmark of getting to one-third of sales via ecommerce should be set as an objective for 2017.

Actions

Broadband and eCommerce

185	Local Authorities, through the CCMA and the NRA to work DCENR, DTTS and TIF to facilitate the rollout of high speed broadband. Develop demonstration initiatives with operators to stimulate demand for broadband, such as the enterprise-led initiatives.	Q4 2015	LAs, CCMA, DCENR, TIF, Commercial Telecom Operators
186	Complete a targeted broadband needs analysis of the region targeting specific areas for shorter term economic gain.	Q4 2015	LAs, DECNR, DECLG
187	Údarás na Gaeltachta will upgrade the broadband infrastructure serving its business parks by investing in fibre optic solutions.	Q4 2016	ÚnaG

15.2 Strategic Transport Corridors

Road and Rail

As the economy returns to growth, the demand for transport services and supporting infrastructure is increasing. Targeted investment is required to improve access between main regional cities and to minimise congestion and associated costs. In particular, we need to address a small number of bottlenecks and upgrade existing networks to improve road and rail access between and around the main regional cities and allow the full benefits of the significant investment in road, and other infrastructures already made to be fully captured.

Increasingly cities are the drivers of national economic growth and competitiveness. While access from the main cities of Cork, Galway, Limerick and Waterford to Dublin has improved significantly with the completion of the motorway network, connectivity between the main cities remains an issue in terms of both road and rail. Improving connectivity between the main regional urban centres, particularly along the Atlantic Corridor (Sligo-Galway-Limerick-Cork-Waterford) to facilitate the development of regional agglomerations of international scale and provide access to the main air and sea ports is critical for enterprise development. The following infrastructure projects have been identified along the main transport corridors through the region, which would support improved connectivity and access into the main urban centres:-

Future priority projects along Strategic Transport corridors:
- Waterford –Cork Corridor
    - Upgrade N25 to eliminate bottlenecks and upgrade sections of the N25 so as to reduce journey times and improve accessibility to centres along the route.
- Waterford –Limerick Corridor.
    - Limerick is a key link to Clonmel Pharma cluster and would help spread benefits and accessibility to employees with appropriate skill set. Also need better connection with West due to existence of Shannon Airport and importance of this in terms of FDI

executive accessibility from the US in particular (Dublin access adds significantly to their timelines)

- Upgrade N24 from Waterford to Limerick. Waterford to Limerick is a key transport corridor and the targeted investment to eliminate bottlenecks and upgrade sections of the N24 could reduce journey times and improve the accessibility to and from Waterford, Limerick and all towns along the N24 corridor.

- Upgrade Waterford – Limerick Junction rail line with a view to secure improved journey times, provision of direct services through to Limerick, review of timetabling so as to provide more user-friendly passenger services for commuters and visitors and future options for rail freight.

- Upgrade the N76 so as to improve links to & from Kilkenny, Clonmel and the Waterford-Limerick corridor.

■ Rosslare- Wexford – Carlow corridor(N80)

- Upgrade N80 to facilitate improved access to and from Rosslare Port and the Midlands.

Sea Ports

The three ports of Belview, New Ross and Rosslare are of strategic importance to the region for development of industry, commerce and tourism. The region's port infrastructure has potential to develop value-added shore based activity to contribute to economic activity in different sectors.

Air Services

Waterford Airport performs a valuable role for the region providing passenger services into and out of the South-East region and as a base for air and sea rescue services and other aviation services.

Actions

Road and Rail Infrastructure			
188	Continue to address infrastructure upgrading requirements in the region as resources become available to strengthen connectivity and the efficiency of the labour market in the region.	Ongoing	NTA, LAs, SRA.
Port Infrastructure			
189	Promote the excellent port infrastructure in the region, most notably Rosslare, Waterford, Belview and New Ross and develop long-term strategic plans for each of the ports to ensure they can grow traffic volumes and activity over the coming decades.	Ongoing	Port authorities
190	Explore the potential for establishing of a South East Freight Forum to develop a more co-ordinated, efficient and sustainable approach to freight transport and access to ports (Air/Road/Rail/Sea).	Q2 2016	SRA

Air Infrastructure & Air Services			
191	**Complete a review of business and tourism air routes for SE region and their potential for development, in particular to connect to Britain and near continental central Europe to meet business needs.**	**Q1 2016**	**Waterford Airport, LAs, Business Representative Bodies**

15.3 Water Services

Ireland needs to take a strategic medium to long term approach to investment planning that delivers quality water services while also ensuring that Ireland is cost competitive. Ensuring that Irish Water has an adequate revenue stream is critical to deliver the required investment to meet enterprise needs. The new non-domestic tariff framework is to be developed during 2015 – the key issues for enterprise include:

- providing certainty and cost competitive prices for business users;

- applying rigorous regulatory scrutiny to drive efficiencies in water services investment and provision; and

- ensuring the service standards required from Irish Water are tailored to fit to the water sector according to its stage of network development and are subject to periodic reviews by the regulator.

Actions

Water			
192	**Prioritise water supply and waste water treatment investment consistent with incoming business demands and tourism sector requirements, including as outlined in LA Development Plans.**	**Q4 2016**	**Irish Water, LAs DECLG**
193	**Ensure that provision is made for water supply and waste water treatment to meet the requirements of development proposed under LAs Development Plans and the commercial and industrial demands arising from proposed job creation activities in the region.**	**Q4 2015**	**Irish Water, DECLG, LAs**
194	**Prioritise the development of a water supply source and reservoir for areas in the region as required.**	**Ongoing**	**LAs, Irish Water, DECLG**

16. Effective Execution and Monitoring Progress

This Plan has been developed under the auspices of a Project Delivery Group comprising public bodies in the South East region, working closely with private sector and representative bodies in the region.

The Action Plan covers a three-year timeframe, 2015-2017, to allow for the process to take hold and develop, and to capture a more medium-term ambition for the regions. The Plan will be flexible and dynamic to allow additional actions and ideas to be added as they emerge over the period of the Plan.

There is scope for developing a better understanding of the regional opportunities by developing better information sources on audits of skills, of startups, of innovation and of mentoring. These sources will be developed as part of the roll-out of this Plan.

It is proposed that the monitoring and implementation of this Action Plan be overseen by a combined public and private sector forum with membership drawn from within the region. The objective is to ensure that the processes put in place complement any arrangements that are introduced for the monitoring of the Regional Spatial and Economic Strategies to be developed by the new Southern Regional Assembly, and the Local Economic and Community Plans to be developed by the Local Authorities.

At county level, County Expert Economic Advisory Groups are being put in place, including Local Government, State Agencies, Third Level Institutions, Business Providers and Interests to assist and review County achievements under the LECP and Regional Jobs Plan to progress economic development objectives. As part of this process, specific County Economic Team / Expert are to be appointed to specifically target the initiatives identified at the Regional and County level.

Progress on the actions will be monitored on a 6 monthly basis by a Monitoring Committee, and Progress Reports on the implementation of the Plan will be published twice each year. The Progress Reports will also identify areas for further action in a rolling framework.

All of the key regional stakeholders who have actions for delivery in the Action Plan will be involved on the Monitoring Committee, and will be asked to provide updates on the delivery of actions.

Strong business representation is also required to drive the enterprise and jobs focus of the Plan. To this end, the Minister for Jobs, Enterprise and Innovation will invite locally-based enterprise champions to participate on the Monitoring Committee and to work with the public bodies on the implementation of the Plan.

The Minister for Jobs, Enterprise and Innovation will also appoint the Chair of the Monitoring Committee. The Chair will have recognised strengths in promoting a strong enterprise agenda across the region. The initial period of appointment will be for 18 months.

Notwithstanding the objective of devolving ownership of the actions to the regions, the Department of Jobs, Enterprise and innovation will continue to oversee the Plan at political level and facilitate updates to the Plan through membership of the Monitoring Committees.

Processes put in place to monitor the regional Action Plan will complement other monitoring arrangements in the Local Government sphere.

Appendices

Appendix A – Employment in IDA Ireland and EI Companies

Table 8: IDA Ireland South East Region Activities

	2008	2009	2010	2011	2012	2013	2014
South East							
No of Companies	71	71	68	64	64	63	65
Total Jobs	13,701	13,087	12,945	11,932	11,983	11,895	12,081
Gross Gain	900	462	759	478	541	672	743
Carlow							
No of Companies	9	9	7	7	7	7	7
Total Jobs	475	454	317	514	645	735	741
Gross Gain	89	32	87	197	132	91	44
Kilkenny							
No of Companies	5	4	4	3	5	5	5
Total Jobs	504	385	460	447	572	617	716
Gross Gain	9		78	1	125	80	124
South Tipperary							
No of Companies	12	11	11	9	8	8	8
Total Jobs	3,661	3,773	3,671	3,395	3,393	3,055	3,044
Gross Gain	300	254	63	25	67	180	48
Waterford							
No of Companies	32	33	32	30	29	28	29
Total Jobs	6,790	6,321	6,112	5,190	5,023	5,075	5,097
Gross Gain	376	166	246	144	117	172	351
Wexford							
No of Companies	13	14	14	15	15	15	16
Total Jobs	2,271	2,154	2,385	2,386	2,350	2,413	2,483
Gross Gain	126	10	285	111	100	149	176

Source: IDA

Table 9: IDA Ireland South East Region Activities

Region	Net Change in Employment				Total Jobs			Number of Companies
	2008 - 2010	2011 - 2014	% Change	2014	2014	% Distribution Across County	As a % of Total at Work	2014
Border	-810	1,686	20.90%	497	9,734	5.6%	5.2%	77
Midland	-941	268	7.10%	113	4,032	2.3%	3.5%	35
West	-1,780	4,040	27.60%	509	18,652	10.7%	10.3%	89
Dublin	-3,977	17,058	31.60%	3,719	70,989	40.7%	12.1%	596
Mid-West	-5,791	1,228	9.20%	611	14,575	8.4%	9.5%	116
South-East	**-661**	**-864**	**-6.70%**	**186**	**12,081**	**6.9%**	**5.9%**	**65**
South-West	-322	4,923	19.30%	1,382	30,419	17.4%	11.0%	158
Mid-East	-1,966	-479	-3.30%	114	14,006	8.0%	5.9%	59
Total	-16,248	27,860	19.00%	7,131	174,488	100.0%	9.0%	1,195

Source: DJEI SPD Employment Survey

Enterprise Ireland

Table 10: Enterprise Ireland Activities

	2011	2012	2013	2014
All Sectors	15,780	15,743	15,681	16,378
Other	2,353	2,383	2,617	2,345
Manufacturing	10,848	10,961	10,433	10,838
International Services	2,383	2,132	2,368	2,945
Financial Services	196	267	263	250

Source: DJEI SPD Employment Survey

Table 11: Enterprise Ireland Activities

Carlow	2011	2012	2013	2014
Number Of Plants	84	86	88	84
Full Time Jobs	2,497	2,519	2,471	2,472
Full-time Gains	252	138	200	292
Full-time Losses	-105	-116	-248	-291
Full-time Change	147	22	-48	1
Kilkenny	**2011**	**2012**	**2013**	**2014**
Number Of Plants	111	115	109	108
Full Time Jobs	2,859	3,037	3,026	3,314
Full-time Gains	124	271	241	370
Full-time Losses	-184	-93	-252	-82
Full-time Change	-60	178	-11	288
Tipperary	**2011**	**2012**	**2013**	**2014**
Number Of Plants	77	77	73	69
Full Time Jobs	2,345	2,316	2,020	1,997
Full-time Gains	180	92	110	164
Full-time Losses	-595	-121	-406	-187
Full-time Change	-415	-29	-296	-23
Waterford	**2011**	**2012**	**2013**	**2014**
Number Of Plants	150	150	141	134
Full Time Jobs	4,334	4,095	4,256	4,635
Full-time Gains	921	605	553	663
Full-time Losses	-618	-844	-392	-284
Full-time Change	303	-239	161	379

Wexford	2011	2012	2013	2014
Number Of Plants	136	134	129	123
Full Time Jobs	3,762	3,798	3,946	4,008
Full-time Gains	185	251	247	327
Full-time Losses	-335	-215	-99	-265
Full-time Change	-150	36	148	62

Source: DJEI SPD Employment Survey

Table 12: Business Demography South East Region (Selected Sectors) includes All Tipperary

		2007	**2012**
Business economy excluding activities of holding companies (B to N,-642)	Active Enterprises (Number)	25,727	20,892
	Employees (Number)	129,242	92,397
Manufacturing (C)	Active Enterprises (Number)	1,897	1,671
	Employees (Number)	33,104	25,469
Construction (F)	Active Enterprises (Number)	8,134	4,439
	Employees (Number)	23,843	7,289
Wholesale and retail trade, repair of motor vehicles and motorcycles (G)	Active Enterprises (Number)	5,795	5,504
	Employees (Number)	29,542	24,526
Transportation and storage (H)	Active Enterprises (Number)	1,612	1,313
	Employees (Number)	5,669	4,645
Accommodation and food service activities (I)	Active Enterprises (Number)	2,303	2,258
	Employees (Number)	16,167	13,820
Information and communication (J)	Active Enterprises (Number)	539	589
	Employees (Number)	1,900	2,010
Financial and insurance activities excluding activities of holding companies (K-642)	Active Enterprises (Number)	n/a	252
	Employees (Number)	n/a	2,306
Professional, scientific and technical activities (M)	Active Enterprises (Number)	2,567	2,458
	Employees (Number)	6,943	5,065
Administrative and support service activities (N)	Active Enterprises (Number)	1,393	1,142
	Employees (Number)	6,460	5,014
Education (P)	Active Enterprises (Number)	579	961
	Employees (Number)	6,180	8,154
ICT total (261 to 264,268,465,582,61,62,631,951)	Active Enterprises (Number)	486	564
	Employees (Number)	1,560	1,684

Source: CSO Database BRA18: Business Demography NACE Rev 2 by Activity, County, Year and Statistic

Appendix B – Examples of Innovation Centres in the South East

ArcLabs Research & Innovation Centre

Based at WIT's Carriganore campus, ArcLabs Research & Innovation Centre is a unique state-of-the-art Innovation Centre in Waterford where you'll find a growing community of early-stage companies and a base for over 170 highly-skilled business and technology professionals. The goal of the ArcLabs is to provide entrepreneurs and early-stage ventures with the support needed to achieve success in national and international markets. It helps clients accelerate their business growth by providing business advisory services and access to the R&D resources of Waterford Institute of Technology.

Operating costs are a significant consideration for most early-stage businesses. The centre provides an affordable, modern business infrastructure with premium office spaces, conference and meeting rooms; all with gigabit Internet connection.

The Centre is a high-quality, mixed-use office facility incorporating research, entrepreneurship training and business incubation.

- 25 fully-equipped configurable units for client companies, ranging in size from 12 sq. metres to 60 sq. metres
- Conference and meeting rooms
- High-speed broadband and wireless connectivity
- IP telephony; dedicated phone lines and voice mail
- Dining and catering facilities
- Centralised photocopying and printing
- Security, reception, parking, 24 X 7 access
- Audio-visual equipment and video-conferencing
- Easy access to the N25 Waterford bypass

South East Business & Innovation Centre (SEBIC), Waterford

Located on Waterford's Industrial Park, the Incubation Centre gives startups a fully equipped self-contained office at a very competitive rate for the crucial first six to twelve months of startup. The Centre consists of a number of double and single units, fully furnished and equipped with high-spec IT and communications facilities. Clients can also avail of conference and meetings rooms. An important benefit of being a tenant in the Incubation Centre is that the startup entrepreneur can avail of support from the Centre's in-house business advisors.

Enterprise & Research Incubation Campus (ERIC), IT Carlow

Located on the grounds of the Institute of Technology, Carlow, the Enterprise & Research Incubation Centre is a purposely built, fully serviced building providing 831 sq. m of industrial and commercial space dedicated to the growth of young knowledge-based companies. Its goal is to accelerate the development of startup companies through a comprehensive combination of infrastructure, business support services and specialised resources before and during their foundation.

Enterprise House, Carlow

Enterprise House offers units in a variety of sizes and specifications to small business owners which are affordable and which can be let on flexible terms to allow for business needs. From low cost Hot Desks to Large Office Space, most needs can be catered for. Clients also have the benefit of access

to our conference room, reception services and canteen facilities, parking on site is in good supply and free of charge. The centre itself has been architecturally designed to represent a modern, futuristic office building, with ample car parking, landscaped surroundings and unique features including the use of glass and the dome shaped roof. Rooms are bright and warm and pre-fitted with I.T. and Telephone services, just plug and play!

ArcLabs Research & Innovation Centre, Kilkenny

Located at St. Kieran's College in Kilkenny, Kilkenny Research & Innovation Centre is a joint initiative between Waterford Institute of Technology (WIT), and the Kilkenny Local Authorities. The initiative evolved from WIT's Telecommunications Software and Systems Group (TSSG) and WIT's ArcLabs, which created a research and innovation eco-system for High Potential Startups (HPSU) in Waterford. The Kilkenny Centre mirrors that model by creating a hub for ICT expertise and for next generation internet development for companies in the agri – tech, and fintech sectors.

Wexford Enterprise Centre

Wexford Enterprise Centre provides a variety of modern and affordable accommodation types, including office space, industrial units and food manufacturing units ranging from 200 sq ft to 4,000 sq ft. It is located 2km from the centre of Wexford town on the main Wexford to Rosslare road. Wexford Enterprise Centre understands the need for affordable work space that projects a professional image. Tenants have the flexibility to terminate their agreement by simply giving one month's notice in writing rather than being tied to fixed term leases. Since the mid-1980s Wexford Enterprise Centre has supported the establishment and development of hundreds of new businesses, which between them have created more than 750 jobs. It has successfully created an entrepreneurial led environment that supports the organic growth and development of both startup and medium sized businesses. Supports for clients include: business support and mentoring and agency liaison support.

Questum Enterprise and Research Centre Clonmel

The QUĘSTUM Enterprise and Research Centre which is located in the Ballingarrane Technology Park Clonmel, has been developed in partnership between Limerick Institute of Technology and Tipperary County Council.

QUĘSTUM is supported in this endeavour by an independent Advisory Board consisting of representatives from the local business community as well as LIT, who will provide advice on education and training programmes, research and commercialisation, services for client enterprises and businesses, effective marketing of the centre and sources of funding.

QUĘSTUM extends to 1500 m^2 in total and has a number of office solutions available to start-up enterprises, early stage businesses or approved SME's which include a hot-desk suite and 2-person and 4-person office space. This space is supported by training rooms, flexible enterprise space, a PC lab, a large boardroom and an area designed and constructed to be developed as a science laboratory.

The QUĘSTUM Enterprise and Research Centre will run a variety of Enterprise Development Incubation Programmes in addition to providing space for enterprise development, science research and continuing professional development and life-long learning.

Appendix C: Examples of Research Centres in the South East

Waterford Institute of Technology

South Eastern Applied Materials Research (SEAM) Centre

SEAM is one of Ireland's leading Technology Gateway Centre. Seed funded by Enterprise Ireland, it facilitates the development of technology solutions through collaboration and access to expertise in the Irish research infrastructure. SEAM provides innovative materials engineering solutions for industries from wide ranging sectors such as Biomedical, Pharma, Precision Engineering, Energy and Electronics. SEAM creates value added competitiveness to industries using the latest technologies to deliver real solutions for real problems. SEAM's technology offer includes:

- X-Ray Micro-tomography (XMT): 3D non-destructive characterisation and nominal comparisons

- Finite element analysis: 3D software modelling

- Materials & precision engineering: Engineering design & characterisation;

- 3D Metal Additive Manufacturing

- Bio-medical engineering: Development of novel materials and product

SEAM have a proven track record of delivering for industry, having executed over 800 direct funded industry projects spanning across over 90 companies since its launch in 2009. Notable SEAM repeat clients include Teva, Bausch and Lomb, Schivo, Honeywell, Stryker, Genzyme, Lake region medical, Valeo and Boston Scientific. **www.seam.ie**

The Pharmaceutical & Molecular Biotechnology Research Centre (PMBRC) is one of 3 Enterprise Ireland funded Technology Gateway Centres based in WIT and the South East.   PMBRC research infrastructure consists of an 800 m^2 state-of-the-art facility which hosts 27 research fellows / postdocs and 12 research-active members of academic staff across the Schools of Science, Health Science and Engineering in WIT. The PMBRC brings together a multi-disciplinary research team, committed to the discovery and development of new innovative methods and technologies for the analysis, delivery and manufacture of pharmaceutical drug targets. One of Enterprise Ireland's Technology Gateway Centres research in the PMBRC focuses on the following themes:

- Drug delivery technologies

- Pharmaceutical analysis and characterisation

- Novel process and sensor technologies

- Molecular biotechnology

- Biomedical research

The centre has engaged with over 50 companies and has completed more than 180 projects for industry since inception. The PMBRC is part of the Synthesis and Solid State Pharmaceutical Centre (SSPC) funded by the SFI Research Centres programme and is also an academic partner in the Enterprise-Ireland funded Pharmaceutical Manufacturing Technology Centre. The PMBRC has developed and led the High Potency Dermatologicals (HIPODERM) consortium consisting of industry and academic partners funded by the FP7 Marie Curie programme. The PMBRC has also led the Wales-Ireland Network for Scientific Skills (WINSS) project to address skills shortages within science related industries in Ireland and Wales. Industry collaborators include EirGen, Genzyme, MSD, Teva

Pharmaceuticals, Temmler, Pinewood Healthcare, Merrion Pharmaceuticals, GSK, Bausch & Lomb, and Waters Technology. www.pmbrc.org

The Nanotechnology Research Group
The NRG at Waterford Institute of Technology is researching both the fabrication and characterisation of organic photovoltaic polymer solar cells. The group has developed Scanning Tunnelling Microscopy (STM), Atomic Force Microscopy (AFM) and Conductive AFM (c-AFM) techniques for the nanoscale characterisation of organic thin films. These techniques allow NRG to probe the electronic transport properties of the thin molecular films required for the conversation of sunlight to electricity. Organic solar cells are fabricated in-house via spin coating in an inert environment. Further research in the area of PSC technologies involves the development of networks of carbon nanotubes to create transparent flexible electrodes for the fabrication of mechanically flexible solar cells on plastic substrates.
www.wit.ie/nanotechnology_group

Telecommunications Software and Systems Group led by WIT focuses on telecommunications networks, including next generation internet networks, converged services, security and mobile services. With a staff of 150 TSSG have four prioritized technical research areas:

- Mobile Platforms and Services
- Security Privacy and Identity
- Data Analytics and Social Computing
- Adaptive Networks and Services

TSSG's core expertise addresses usability, flexibility, trust and security of communication systems, incorporating innovative services, network infrastructure, social media and mobile. Other research themes include: 3MT (Mobile Messaging and Middleware), Bio Inspired Networking, Data Mining and Social computing, and Security.

The TSSG research lifecycle model and its international reputation for innovation helped the TSSG to attract highly qualified researchers and software engineers into the region. With the lack of an established critical mass of ICT industries in the region the TSSG established its own international Mobile Services cluster around the Arclabs innovation centre generating 10 spin out companies. One of these flag ship companies is Feed Henry which was acquired by US multinational Red Hat in September 2014 for €63.5 million, one of the largest high tech acquisitions from an Irish university or institute of technology. On an international level TSSG industry partners on collaborative research projects include IBM, CISCO and Intel.

It is also very significant to note that between 2007 and 2013 TSSG secured €10.4 million in the European Framework 7 ICT programme, the 4th most successful Irish participant representing 10 per cent of all of the monies generated for Ireland in ICT. To date TSSG has secured in excess of €1.8 million under Horizon 2020 acting as co-ordinator in 3 projects. Uniquely, TSSG hosts a state of the art cloud data centre which has enabled the TSSG to successfully establish one of only 4 international nodes into the European Future Internet testbed infrastructure for Horizon 2020. Additional investment of €1.9 million in 2013 by Science Foundation Ireland in testbed infrastructure together with cooperation between the HEAnet and the Department of Communications Energy & Natural Resources has created a unique national resource for industry and academia which not only supports cooperation between Irish industry and Irish academia but also provides a unique access for Irish industry and academia to connect to and collaboration with major European internet testbeds. www.tssg.org

Research activities at the **Eco-Innovation Research Centre** (EIRC) focus on the innovative development of 'high value-added technologies/products/processes from natural resources' and 'low environmental impact processing/growth methods'. Sustainable solutions for the future development of industries such as the marine, agriculture and forestry sectors, and 'green' chemistry for pharmaceutical synthesis, require a collaborative approach. Eco-Innovation Research at WIT is supported across a broad range of disciplines:

- **Molecular Ecology Research** e.g. Development of DNA identification techniques for mammals; Population analysis of Pine Martins in Ireland

- **Sustainable Marine Research** e.g. Bioremediation of toxic heavy metal species using seaweed biomass; Environmental bio monitoring; Isolation of bioactive compounds from sustainable marine sources

- **Agri-Food Research** e.g. Exploitation of novel bioactive molecules in human and animal health applications

- **Sustainable Agriculture Research** e.g. Biofuel research; Agri-environmental management

- **Sustainable Forestry Research** e.g. Wood energy; Vegetation management; Invasive species management - Traditional & novel control methods, including biological control

The TSSG is a member of the Science Foundation Ireland Connect Centre and co-lead in the SFI Precision Dairy project.

The Centre for Enterprise Development and Regional Economy (CEDRE)

The Centre for Enterprise Development and Regional Economy at the School of Business in WIT plays a major role in WIT's mission to be a major contributor to the economic growth and development of Ireland's South East region. With extensive expertise amongst its academic and research staff, in a wide range of disciplines, WIT is well-resourced to be a key force in supporting, promoting and developing entrepreneurship and innovation in the region. The Centre for Enterprise Development & Regional Economy provides a framework and environment for entrepreneurs, researchers, academics and policy makers/implementers to engage in a mutually complementary manner to support economic growth and development in the region. The overall aim of CEDRE is to make a contribution to the development of entrepreneurship education and research. In educating and developing entrepreneurs and business owners, as well as policy makers and business advisors, the Centre positions itself at the forefront of entrepreneurial activity in the region. The focus of CEDRE is the integration of relevant stakeholders to develop South East Ireland as an entrepreneurial region. The Centre is unique in its dual mandate role of both researching entrepreneurship and entrepreneurial activity, and educating entrepreneurs from business concept through to development and growth. Both activities are integrated in that the research provides the direction and development of education programmes for entrepreneurs to learn and explore in a "live lab" environment, and the education programmes provide a basis for further research into the fields of entrepreneurship and SME creation/development/growth. CEDRE interacts closely with state agencies, entrepreneurs, industry, financial institutions, and academic networks regionally, nationally, and internationally. One of the major activities and contributions of CEDRE is its research into (and application of this research) regional innovation systems, regional enterprise and innovation policy, entrepreneurial regions, entrepreneurship, innovation, technology transfer and knowledge spillover.

RIKON – Service Innovation: RIKON is a leading service design & innovation research group whose vision is to rapidly advance the best service ideas in the South East from concept to commercialisation to create new products, services, jobs and value for Ireland's economy. RIKON

based in WIT's School of Business provides assets and expertise that enables companies to develop, prove, prototype and scale up the next generation of services, business models and processes before investing substantial amounts of money in capital equipment, production and training. RIKON has contributed significantly to job creation and wealth in the South East through its interactions with over 1000 companies and having conducted over 400 innovation projects that increase productivity, efficiency and profit; delivers sustained improvement; developed innovative new services and experiences; create routes to rapid market penetration and designed novel business models with significant returns on margins. Given that the ESRI forecasts that by 2025, services will account for over 70 per cent of Irish exports and for nearly 80 per cent of GDP, at RIKON we can help design, incubate and deliver a future for businesses in the southeast to capitalise on Ireland's underexplored opportunity in the services market. www.rikon.ie

Institute of Technology, Carlow

EnviroCORE

EnviroCore is focused on the development of niche areas within bioenergy, waste management, bioenvironmental monitoring and high value commodity products from biomass. The mission of EnviroCORE is to promote strategic applied research and education in innovative environmental biotechnology with a view towards sustainable economic and social development. EnviroCORE has an established international track record and continues to build on its expertise in a number of multi-disciplinary fields including:

- Bioremediation and Phytotechnologies

- Biomass Production, Biotransformation, Metagenomics and Biofuels

- Biological Environmental Detection and Monitoring Systems

- Environmental Modelling and Risk Assessment

EnviroCORE has been hugely successful in receiving funding from both national and international agencies and programmes and has extensive collaborations with Australia, the US, Canada, Germany, China, Belgium, the Czech Republic, Spain and Malta.

In 2014 IT Carlow intellectual property and knowledge transfer activities led to the formation of a high-potential spin-out company Microgen Biotech Ltd. The company which operates primarily in the Chinese marketplace uses licenced technology from IT Carlow to provide bioremediation solutions for the cleaning of contaminated soil, groundwater and toxic sediment. Institute of Technology Carlow in March 2015 signed a partnership agreement with the Shandong Academy of Sciences, one of China's top state research institutions, in a collaboration that will facilitate PhD and postdoctoral training, researcher exchange and the commercialisation of IT Carlow technologies in China. The partnership has the potential to generate up to €5 million in future research and commercial projects for the Institute and Shandong Academy of Science. Shandong Academy of Sciences is the largest science and technology research institution in Shandong province which has a population of over 100 million. The academy incorporates twelve separate research institutions and more than 2,500 research staff. It is located in Jinan, the capital of Shandong province, in eastern China.

DesignCORE

The Design Centre of Research and Enterprise (Design CORE) is an active and dedicated applied design research centre. It has a strong history of supplying design advice and building design competency with regional businesses while helping them to improve strategic competitiveness.

To date, over two hundred SMEs located in Carlow, Dublin, Kilkenny, Kildare, Westmeath, Wexford, Waterford, Tipperary and Laois, have engaged with applied design research projects in IT Carlow.

DesignCORE is run by a creative multi-disciplinary team comprised of experienced industrial designers, graphic designers, research assistants and postgraduate researchers. It is an applied design research centre focusing on the cultivation of new products and companies with emphasis on sustainable product design and user centred design. Their focus is to increase the level of applied research, multidisciplinary resources and network platforms for design knowledge transfer within new product development sectors. Through applied postgraduate and industry led research, DesignCORE is developing an internationally recognised Centre of Design collaborating with industry and academic research partners. DesignCORE offer a number of tailored research solutions to cater for feasibility, conceptual, new product development and longer term research projects. The DesignCORE team also have available a suite of rapid prototyping and additive manufacturing facilities, where proof of concept models and prototypes are used to facilitate and progress the design research process.

- They have undertaken research in the following sectors:
- Medical device development
- Agricultural and gardening machinery
- Domestic and electronic appliances
- Health, leisure equipment and lifestyle products
- Craft industry product research
- Waste management and green innovation

GameCORE

GameCORE conducts industrially relevant, innovative research in software development and networking architecture for interactive applications such as games. GameCORE is an Interactive Applications Software & Networks Research Centre. Its focus is on industrially relevant, innovative research into software development and networking architecture for interactive applications such as games. It involves both the Computing & Networking and the Electronics Departments at the Institute. GameCORE's focus to date has been on the development of techniques for overcoming the effects of network limitations on the consistency of online games. This research has led to numerous successful publications within highly regarded conferences and journals. Researchers within this area have strong research links with other 4th Level Education Institutions both in Ireland and abroad. Researchers also have development links with key industrial players involved in the development of online games. This particular area of research focuses on dealing with complex issues that can arise when realistic physics simulations are employed in multi-user applications. Other thematic areas of research include the development of 'Serious Games', 'Exergaming' and adaptive learning. These applications aim to leverage the enjoyment factor associated with games in order to provide educational, training and development opportunities. There is also a research focus in the area Ambient Assisted Living Research Unit (AALRU) and Big Data. GameCORE have a number of national and international academic collaborations, while industry partners include Unum, Microsoft, Deycom, Cartoon Saloon, Neurosynergy Games, Valentia Technologies, UTStar.com and e-Bamma.

GeoCORE

GeoCORE supports regional and national industry in the development of assessment, testing, investigation and analysis techniques for the Built Environment and associated sustainable energy provision and conservation. Based within the School of Engineering, GeoCORE's major themes focus on geotechnics and Green Energy Optimisation, drawing together the established research and professional skills of Civil Engineers, Architects & Technologists, Construction Managers and Services Engineers to investigate strongly applied solutions for industrial and public sector partners. GeoCORE's rationale is to progress innovative and specific solutions in the fields of Built Environment energy performance and civil engineering technologies. An important aspect of this rationale is the applied nature of the research, where specific issues confronting industry and the public sector are identified and addressed through structured research programmes. Strategically, GeoCORE work closely with our industry and public sector partners to provide them with the solutions they require, through evaluation, testing, knowledge transfer and project specific methodologies. Their strategy ensures that concepts and techniques at the forefront of current knowledge are developed and available through GeoCORE to address clearly identified deficits that align with our primary themes. GeoCORE work with EnviroCORE in the area of commercial heat from biomass, with additional input from Teagasc.

EngCORE

EngCORE provides an umbrella for the diverse research interests of the School of Engineering and acts as a focal point for the exchange and development of research programmes in relation to its main thematic areas:

- Applied Mechatronics
- Circuits and Systems
- The Intelligent Built Environment.

Representative individual member research interests include, but are not limited to, mechanical design, finite element analysis, photonics, digital signal processing, electric machines, instrumentation, microelectronics, soil mechanics, sustainable energy for the built environment, civil engineering and architectural design. In each thematic area, EngCORE collaborates with regional, national and transnational industrial partners, ranging in size from indigenous startups to large scale multi-national corporations to undertake research and develop near-term product solutions/prototypes. These research activities have led to numerous submissions for Enterprise Ireland Innovation Partnerships and Commercialisation Fund Technology Development research grants. Examples of the former include development of novel position sensors for high reliability hydraulic applications and control algorithm optimisation for medical device extrusion processes. A position aware and collision avoidance sensing systems is representative of the latter. Multinational industrial partners are involved in these projects. In addition, EngCORE supports the activities of other Centres of Research and Enterprise within the Institute. The CORE has developed research links with other Higher Level Education Institutions (e.g. DCU, NUIM, UL and TCD) and research providers (e.g. MCCI and SEAM). The group is presently exploring fundamental technology development via SFI funding mechanisms and H2020 research opportunities through COST actions. In June 2015, EngCORE members hosted the Irish Signals and Systems Conference.

IT Carlow has put itself in the cockpit, as far as aerospace engineering is concerned, following the opening in February 2015 of its €5.5 million Centre for Aerospace Engineering, becoming the first third-level institution to open such a centre. The aim of the centre is to provide undergraduates in pilot studies, aerospace and aircraft systems engineering with a simulated live aircraft maintenance environment in which get to grips with the latest in aerospace technology. The Centre for Aerospace

Engineering also houses its own avionics workshop with a fleet of aircraft inside its own hangar and is integrated with IT Carlow's existing degree courses in aero engineering and pilot studies.

The following Aerospace research activities are currently taking place within the School:

- A collision avoidance system for Ground Support Equipment (GSE);
- Corrosion testing for RoHS (Restriction of Hazardous Substances) compliant surfaces in gas environments;
- Inlet manifold modelling for four stroke engines;
- Aircraft worthiness database for the Irish Cessna Fleet;
- Development of intelligent drones for application in an indoor environment.

Over the past five years, a significant proportion of research and development within the School has been military focused. SecurityCORE has acted as the collaborative interface between the School and the Defence Forces. Collaboration was created initially through the development of an innovative, custom built electronic engineering degree programme, followed by custom training on air conditioning and refrigeration maintenance on the deployment of the Defence Forces to the African Continent. One impact of this training relationship has resulted in research and development opportunities for both organisations. Research collaboration between both organisations has resulted in numerous undergraduate and postgraduate projects in the following areas ranging from blast analysis and composite armour development to signals analysis:

- Rigid Armour development;
- Flexible armour development;
- Chemical, Biological, Radiological and Nuclear (CBRN) Defence;
- Blast analysis;
- Weapons system design.

There is potential that some of these projects will develop practical products and engage with industry, resulting in employment opportunities and growth in the economy.

Business and Humanities Research Centre
The School of Business and Humanities is developing a multi-disciplinary research team and the strategic direction of its activities is primarily focused on SME applied research and Applied Social Studies. Research activity in the School of Business & Humanities has developed considerably over the past 5 years. The School has seen emerging areas of applied research activity develop, in business, childhood/youth/social care, teaching and learning and sports marketing and performance analysis. These areas, while distinct in their own right, provide the possibility for niche interdisciplinary and collaborative research opportunities within the School as the areas develop. Research within the School is mainly practice based/applied in nature with a focus on impact and relevance. It is often partner-centric, conducted alongside or in collaboration with industry or sectoral-organisations or bodies.

The National Men's Health Research Centre, which is focussed on the development of innovative and multi-disciplinary research and training programmes on men's health. The centre was established in 2008 in response to a growing awareness, and indeed concern, about different aspects of men's health in Ireland. It is the only dedicated centre for men's health research in Ireland and has an established partnership with the Health Service Executive (HSE). The aim of the Centre is to develop innovative and multi-disciplinary research and training programmes on men's health in the years ahead, through the development of partnerships with key stakeholders in other academic,

education, service-delivery and community organisations. In doing so, the Centre seeks to raise the public profile of men's health issues, and to contribute to effective and gender-competent policy and practice on men's health in Ireland.

Sport & Rehabilitative Science Centre is focused on the critical evaluation of therapeutic practices and procedures employed by therapists in clinical practice, and also other areas such as Strength & Conditioning, Exercise Rehabilitation, Gait Analysis and Sports Rehabilitation. Research within this area commenced in 2000 to address the limited research base underpinning the clinical practice of Rehabilitative Therapy. The activities of the group are primarily concerned with the critical evaluation of the therapeutic practices and procedures employed by therapists in clinical practice. Over the last few years, however, the focus has subsequently widened to embrace other areas such as: Strength and Conditioning; Exercise Rehabilitation; Gait Analysis; Sports Rehabilitation

Limerick Institute of Technology

Shannon Applied Biotechnology Centre (ABC)
Shannon ABC is a commercially focussed, state of the art, research centre. It evolved from a merger between the Natural Products Research Centre (NPRC) based at the Institute of Technology, Tralee and the Nutraceuticals Research Centre (NRC) at the Limerick Institute of Technology. The merger between these two centres was facilitated through the development of the Applied Research Enhancement (ARE) Centre Program, established by Enterprise Ireland and supported by EU structural funds.

Shannon ABC has on-going and expanding 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 brings together a multidisciplinary team of researchers with commercial specialists so as to provide a centre of excellence in applied research, capable of exploiting opportunities in science, engineering, and technology to the benefit of the Regional and National economy.

Shannon ABC focuses on developing, enhancing and commercialising biotechnology in the Shannon region, and beyond, by confidentially collaborating with industry to promote product diversification and enhancement, increasing market growth and aiding competitiveness. Shannon ABC offers expertise in bio-processing, extraction, purification and screening of products derived from a wide variety of natural products and waste streams, with a view to identifying bioactive substances of value to a wide spectrum of industries. Plant, animal, marine and microbial resources are 'mined' for functional food components, immunosuppressive, anti-oxidant, anti-inflammatory, anti-clotting and anti-microbial agents.

Centre for Creativity, Enterprise, Innovation, Design and Engagement Research (Ceide)
The aim of the Centre for Creativity, Enterprise, Innovation, Design & Engagement Research is to leverage academic output based on LIT's expertise as a leading actor in enterprise development, innovation, creativity, design and enterprise engagement. This aim is based on LIT's strong and proven track record to date in enterprise supports (both hard and soft provisions) and the cumulative leverage it brings to enterprise support and regional innovation development.

LIT is focused on providing Active Leadership in Enterprise Development, Knowledge Transfer and Regional Socio-Economic Development. Through its Enterprise Ladder Strategy, LIT has developed 5 Enterprise/Incubation Centres to foster enterprise development with a further 2 centres planned. In addition, through its Active Leadership Group, research partnerships and strategic partnerships, LIT engages and supports established businesses and business owners throughout the region. In this

context, CEIDE supports LIT's focus in this area and develops LIT's expertise as a recognized centre of excellence in enterprise, innovation and design.

The core objectives of the Centre are:

- To build upon the existing critical mass and expertise in the field of Enterprise, Innovation and Design that exists within LIT generally and within the Development Office, the Department of Business and all other academic departments.

- To engage in research, demonstration, consultancy and project development activities in the fields of Enterprise, Innovation and Design. The Centre will work across all faculties within LIT as projects are identified and fit with LIT's enterprise strategy.

- To create synergies with other Centres and Academic Departments in LIT with a view to promoting Enterprise, Innovation and Design within all areas of LIT's activities. To provide commercialization support to LIT Research & Development activities and commercialization services to LIT enterprise clients

- To engage in networks at a National, European and International level to further promote and develop LIT's presence in the Enterprise, Innovation and Design arenas.

- To engage with Start-ups, SME's, Multinationals and the 3rd level sector to help set up collaboration and networking activities and create a favourable "open space" for cross-sectorial fertilization and value chain innovation to take place.

- To provide a mechanism through which LIT can maintain and enhance its presence within the fields of Enterprise, Innovation and Design.

Centre For Business, Events, Sport & Tourism (Best)
The Centre for Business, Events, Sport, and Tourism is a cross-departmental research endeavour within the Faculty of Business and Humanities at LIT.

It leverages the expertise of research active staff members across a wide of variety of disciplines within the faculty including; business management, tourism, event management and engagement, and sports; including sports tourism. The centre was successful in its application to the Institutes of Technology, Ireland Postgraduate scheme for funding for a 2 year research postgraduate position.

Centre for games technology & interactive systems
The objective of the Centre for Games Technology and Interactive Systems is to develop and utilise emerging game technologies to enhance user-experience and task efficiency in applications requiring next-generation multimodal interactive environments and interfaces.

Using emerging game technologies, the centre designs immersive interfaces that implement perceptual and cognitive factors associated with the auditory, visual and haptic domains. The new Centre of Research is currently gathering a cohort of researchers from different creative and engineering disciplines to collaborate on industry---led projects where the central focus is on multimodal interactive design on mobile and desktop platforms. Their vision is to contribute their research to the following areas:

- Big Data: designing multimodal interfaces enabling users to rapidly identify cross---correlations in complex datasets.

- Virtual Learning Environments: enhancing the 'sense of presence' in VR systems within the context of remote learning by augmenting visual stimulus with tightly integrated spatial audio and haptic feedback.

- Audio Industry: focusing on measuring the listening experience in relation to spatialised music and game environments, and embedding perceptual and biometric modelling of spatial hearing mechanisms in implementations of spatial audio technology.

- Game Industry: implementing new design approaches and programming concepts to game development on mobile and tablet systems, particularly in relation to reward systems and player motivation. Advances made in the above areas will supply further research avenues concerned with game-player immersion.

Food Research and Development Centre (FooDS)

The Food Research and Development Centre (FoodDS), focuses on Irish consumer driven research products. The Centre carries out a wide range of industry partnered research projects and provides advisory services for the establishment and development of artisan and other food enterprises.

The service offers a range of food development requirements:

- Recipe development

- Food photography & styling

- Consumer research

- Focus group studies

- Sensory analysis

FooDS 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.

Acorn Research Centre

The ACORN Research Centre is an experienced multi-disciplinary research group focused on the Engineering of Sustainable Solutions for Industrial, Commercial and Utility Applications. Funded through collaborative industry-led research programmes the group have developed both hardware and software solutions for implementation in a range of applications including, Intelligent Systems, Renewable Energy Technologies, Energy Management and Environmental Ecosystems, Sustainable Manufacturing, Smart Facilities and Smart Electrical Networks. Funding has been obtained over the years from major private industry concerns as well as EU programmes such as EPA STRIVE Programme, IEE and Enterprise Ireland.

Centre for Rural and Sustainable Development (CRSD)

CRSD leads LIT's research and development activity in the field of sustainable development. It has a particular focus on sustainable energy, community development and rural development issues

The objective of the Centre for Rural and Sustainable Development (CRSD) is to re-enforce LIT's position as a leading actor in the sustainable development sector, thereby creating opportunities for engagement in research, development and academic activities.

Sustainable development refers to the concept of activities that seek to balance social and economic improvement with the need to ensure that the use of scarce non-renewable natural resources is minimised, that the carrying capacity of the environment is not exceeded and that individuals and communities are facilitated in participating to the fullest extent possible in the making of the

decisions that affect their lives. Sustainable development also seeks to attain justice between nations, between regions, between communities and between generations.

Rural development in this context refers to the sustainable development of rural areas, particularly in Ireland, but also in Europe and globally.

The core objectives of the Centre are:

- To build upon the existing critical mass and expertise in the field of Rural and Sustainable development that exists within LIT.

- To engage in research, demonstration, consultancy and project development activities in the fields of Rural and Sustainable Development. The specific focus initially will be on the areas of sustainable energy, sustainable rural development and the development of sustainable and resilient communities though other areas of sustainable development will not be excluded.

- To create synergies with other Centres and Academic Departments in LIT with a view to promoting the appropriate use of the concept of sustainable development within all areas of LIT's activities

- To engage in networks at a National, European and International level to further promote and develop LIT's presence in the Rural and Sustainable development arenas.

- To provide a mechanism through which LIT can maintain and enhance its presence within the fields of Rural and Sustainable development

A number of major EU-funded projects have been and are being managed through this centre including SERVE, BUSI and Qualibuild with LIT as the co-ordinating partner and Sustainco, A2PBEER and Train-to-NZEB in which as a partner. The Centre also ran the National Rural Network for the Department of Agriculture Food and the Marine until the project ended in 2013.

Chemical & Molecular microbial Biotechnology Research group
   CHIMERA composes 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.

The aim of this CHIMERA research group is to screen microbes (bacteria, fungi, yeast, microalgae, cyanobacteria etc.) from varied habitats for bioactive compounds with industrially relevant commercial opportunity. The search for novel biologically active compounds which can act as lead compounds for the development is an ongoing process for multinational biotechnological industries. One of the most important sources of these novel biologically active compounds or secondary metabolites are microbes.

For example one of the most important sources of these novel biologically active pharmaceutical compounds or secondary metabolites are fungi which produce a multitude of low molecular weight bioactive compounds. The ability of filamentous fungi to assemble an incredibly diverse array of small molecule natural products from simple and ubiquitous precursors belongs to their most remarkable physiological traits. Approximately 38 per cent of the 22,000 known bioactive, microbial metabolites are of fungal origin. Production of newly discovered bioactive compounds will be further investigated by studying their structure and genetic production.

Specifically this new research area falls directly within the remit of the European Union's new funding programme for research and innovation – Horizon 2020 – and reflects the ambition to deliver ideas, growth and jobs for the future.

ACADEmy

ACADEmy is the LIT centre for research into Art, Curatorial Studies, Applied Design and Art and Design Education founded in 2013. Based in the famous Limerick School of Art and Design, nominated in 2013 as one of the top 50 fashion schools in the world, the ACADEmy centre conducts research into diverse areas of fine art including printmaking, photography, lens-based media, painting, sculpture and sound art, curatorial studies usually in the context of a gallery residency, applied design research in fashion, ceramics, visual communication and textiles and various modes of art and design education including pedagogy, practice-based research and flexible learning methods.

Cells Research Group

Its establishment stems from a relationship developed in 2002 with the Space Life Science Laboratory at NASA's Kennedy Space Center, Florida. From this relationship, six LIT graduates from the Department of Applied Science, were trained in the field of Advanced Life Support Systems and Hydroponics at the Space Life Science Laboratory and have returned to CELLS to undertake postgraduate research programmes.

The group focuses primarily on the generation of high-end bioactive molecules from plant sources through forced adaptation under controlled environmental conditions with applications to nutraceutical and functional food industries, and herbal supplement development. However, research within the group also makes use of hydroponic techniques, originating from previous space research, for investigation into areas such as agricultural crop growth, bio-fuel enhancement, and bioflavonoid enhancement, all through non-genetic manipulation, for added nutraceutical value in every day salad crops.

CELLS utilises four custom-built environmental growth chambers that allow for tightly controlled environmental growth conditions for the plant-based studies, with funding for these chambers being provided by Enterprise Ireland.

Appendix C: Project Delivery Group Membership

The membership of the Project Delivery Group for the South West Action Plan for Jobs included representatives of the following public bodies:

Bord Iascaigh Mhara (BIM)

Carlow County Council

Department of Jobs, Enterprise and Innovation

Department of Education and Skills

Department of Social Protection (Intreo)

Enterprise Ireland

Fáilte Ireland

IDA Ireland

Institute of Technology Carlow

InterTrade Ireland

Kilkenny County Council

Kilkenny and Carlow ETB (Education and Training Board)

Local Enterprise Office – Carlow

Local Enterprise Office - Kilkenny

Local Enterprise Office - Tipperary

Local Enterprise Office – Waterford

Local Enterprise Office - Wexford

Southern Regional Assembly

Skillsnets

Teagasc

Tipperary County Council

Tipperary ETB (Education and Training Board)

Údarás na Gaeltachta

Waterford and Wexford ETB (Education and Training Board)

Waterford City and County Council

Waterford Institute of Technology

Wexford County Council

The meetings of the Project Delivery Group and Regional Fora meetings in Waterford were convened by the EI Southern Regional Office, in consultation with IDA South East. The Research support to and preparation of the South East APJ-R was led by the *Strategic Policy Division* of the Department of Jobs, Enterprise and Innovation.

Glossary of Terms

ABC	Applied Biotechnology Centre
ACE	Adult Continuing Education
APJ	Action Plan for Jobs
APJR	Action Plan for Job Regional
ARE	Applied Research Enhancement
BEST	Business, Events, Sports and Tourism
BETER	Built Environment Technology and Educational Research Group
BIC	Business and Innovation Centre
BIM	Bord Iascaigh Mhara
BPO	Business Process Outsourcing
CCMA	County and City Managers Association
CEB	County Enterprise Board
CEC	Community Enterprise Centre
CEDRE	Centre for Enterprise Development and Regional Economy
Ceide	Centre for Creativity, Enterprise, Innovation, Design and Engagement Research
CesR	Cooperatives of Employment and Services in Rural areas
CFP	Common Fisheries Policy
Chimera	Chemical and Microbial Biotechnology Research Group
CIR	Centre for Investment Research
CMRC	Coastal and Marine Research Centre
CPD	Continuous Professional Development
CRFs	Clinical Research Facilities
CRSD	Centre for Rural and Sustainable Development
CRVB	Centre for Research in Vascular Biology
CSO	Central Statistics Office
DAFM	Department of Agriculture, Food and the Marine
DAHG	Department of Arts, Heritage and the Gaeltacht
DCCoI	Design and Craft Council of Ireland
DCENR	Department of Communications, Energy and Natural Resources
DECLG	Department of Environment, Community and Local Government
DES	Department of Education and Skills
D/Finance	Department of Finance
D/Health	Department of Health

DJEI	Department of Jobs, Enterprise and Innovation
DPER	Department of Public Expenditure and Reform
DSP	Department of Social Protection
DTTAS	Department of Transport, Tourism and Sport
EER	European Entrepreneurial Region
EFF	European Fisheries Fund
EGFSN	Expert Group on Future Skills Needs
EI	Enterprise Ireland
EIB	European Investment Bank
EIRC	Eco-Innovation Research Centre
EPA	Environmental Protection Agency
ERI	Environmental Research Institute
ETB	Education and Training Board
EU	European Union
FDI	Foreign Direct Investment
FE	Further Education
FET	Further Education and Training
FH2020	Food Harvest 2020
FLAG	Fishery Local Action Group
FooDS	Food Research and Development Centre
FSIC	Financial Services Innovation Centre
GBS	Global Business Services
GVA	Gross Value Added
H2020	Horizon 2020
HBAN	Halo Business Angel Network
HE	Higher Education
HEA	Higher Education Authority
HEI	Higher Education Institutions
HERD	Higher Education Research and Development
HOOW	Harnessing Our Ocean Wealth
HRB	Health Research Board
HPSU	High Potential Startups
HSE	Health Service Executive
Ibec	Irish Business and Employers' Confederation
ICMR	Irish Centre for Manufacturing Research

ICT	Information and Communications Technology
ID2015	Irish Design 2015
IDA Ireland	Industrial Development Agency Ireland
IFS	International Financial Services
IHF	Irish Hotels Federation
IMDA	Irish Medical Devices Association
IoT	Internet of Things
IP	Intellectual Property
IRC	Irish Research Council
ISIF	Irish Strategic Investment Fund
ISCED	International Standard Classification of Education
ITI	InterTradeIreland
ITC	Institute of Technology Carlow
ITLG	Irish Technology Leadership Group
KCETB	Kilkenny and Carlow Education and Training Board
KPI	Key Performance Indicators
KTI	Knowledge Transfer Ireland
LAs	South East Local Authorities comprising Carlow County Council, Kilkenny County Council, Tipperary County Council, Wexford County Council, Waterford City and County Council
LECP	Local Economic and Community Plan
LCDP	Local Community Development Programme
LEADER	Liaisons entre actions de developpement de l'économie rurale
LEOs	Local Enterprise Offices
LGMA	Local Government Management Agency
LIT	Limerick Institute of Technology
LNG	Liquefied Natural Gas
MFI	Microfinance Fund Ireland
MNCs	Multinational Corporations
MOU	Memorandum of Understanding
MPRG	Macular Pigment Research Group
MSTG	Mobile Services Technology Gateway
NACEC	National Association of Community Enterprise Centres
NDFA	National Development Finance Agency
NGO	Non-Governmental Organisation
NPF	National Planning Framework

NPRC	Natural Products Research Centre
NRC	Nutraceuticals Research Centre
NSS	National Skills Strategy
OGP	Office of Government Procurement
OPW	Office of Public Works
PAD	Public Administration and Defence
PAT	Process Analytical Technologies
PED	Potential Exporters Division
PCI	Pharmachemical Ireland
PLC	Post Leaving Cert
PMBRC	*Pharmaceutical and Molecular Biotechnology Research Centre*
PRTLI	Programme for Research in Third-Level Institutions
QNHS	Quarter National Household Survey
R&D	Research and Development
RSES	Regional Spatial and Economic Strategies
SEAI	Sustainable Energy Authority of Ireland
SEAM	South Eastern Applied Materials Research Centre
SEBIC	South East Business & Innovation Centre
SEF	South East Forum
SFI	Science Foundation Ireland
SICAP	Social Inclusion and Community Activation Programme
SIFP	Strategic Infrastructure Framework Plan
SME	Small and Medium Enterprise
SOLAS	An tSeirbhís Oideachais Leanúnaigh agus Scileanna
SPSS	Statistical Package for the Social Sciences
SRA	Southern Regional Assembly
SSTI	Strategy for Science Technology and Innovation
STEM	Science, Technology, Engineering, Mathematics
SE	South East
TCEC	Tipperary Community Enterprise Centre
TIF	Telecommunications and Internet Federation
TNI	Tyndall National Institute
TSSG	Telecommunications Software & Systems Group
UCC	University College Cork
UL	University of Limerick

ÚnaG   Údarás na Gaeltachta

WIT   Waterford Institute of Technology

WWETB   Waterford and Wexford Education and Training Board

APJ Notes