

Institiúid Teicneolaíochta Cheatharlach



INSTITUTE *of*
TECHNOLOGY
CARLOW

At the Heart of South Leinster

‘Ireland 2040 Our Plan’

Submission from Institute of Technology

Carlow

to the

**Department of Housing, Planning,
Community and Local Government**

16th March 2017

Introduction

The goal of Ireland 2040 as proposed by Taoiseach Enda Kenny is “to secure sustained long term and regionally balanced progress on social, economic and environmental fronts.” (Merrionstreet.ie 6/3/17). This submission from Institute of Technology Carlow addresses the issues raised in Ireland 2040 in the context of the Institute and the regions served by its campuses through the missions of Teaching and Learning, Research and Innovation, and Community Engagement. The submission supports the Institute position through successive strategic plans that we are an agent of societal change through education and that the implementation of our mission has a positive impact on the civic, social, environmental and economic life of our regions. A National Planning Framework must support regional development across each of these to achieve the transformational objectives of the plan.

Institute of Technology Profile

Institute of Technology Carlow has a current learner population approaching 7,500 and an employee base of 800. Based on CSO population profiles and Department of Education and Skills statistics our forecasted learner population could exceed 9,500 by 2021 if given the capital and recurrent financing necessary to support that population. The Institute is a key driver of progress and development in Carlow and the regions and plays an important role in working with state agencies to promote FDI to the South East region. Institute of Technology Carlow is a university-level institution providing higher educational full-time taught programmes from level 6 – 9 on the National Framework of Qualifications, along with research programmes at level 9 and 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), Mayo, Shannon, and Dublin (An Cosan, Tallaght). We have cooperation agreements with HEIs in 38 countries, on every continent and presently have an international student population of 10% of our full time student population.

The Institute of Technology Carlow strategic plan 2014-2018 sets out a challenging series of goals clearly divided into a series of key objectives and actions addressing the key themes of Graduate Attributes, Capacity Building, and Regional Economic, Civic and Cultural Development. A mid-term review of our Strategic Plan was recently completed (included with this submission). The review provides for the continued development of teaching, research and engagement activities, underpinned by ongoing investment in physical infrastructure and human resources required. This will include the completion of our current physical master plan seeing investment of over €100mn in facilities and site acquisition. However to meet the demographic wave from the north and west major investment in one of the country’s top performing HEIs is needed. Before 2021 it is vital that there is prioritisation of over €150mn in additional capital funding for the Institute to provide a next generation science and technology building in Carlow, completion of phase 1 of the new facility in Wexford and site acquisition and planning for a new Kilkenny campus in line with the multi-campus plan for the technological university. By 2030 phase 2 of Wexford Campus should be complete and Phase 1 Kilkenny complete and phase 2 underway. By 2040 a complete evaluation, review and renewal of all physical infrastructure across all campuses will have to be completed.

The Institute has a track record of academic and industrial impact in thematic areas including:

- Bioenvironmental technologies (EnviroCORE);
- Product design and innovation (DesignCORE);
- Interactive applications software and networks (GameCORE);
- Health sciences (HealthCORE);
- Engineering (EngCORE)

Each of these map to key scientific priority themes identified under the National Research Prioritisation exercise, they address specific Societal Challenges underpinning H2020 and map to key sectors identified in the Innovation 2020 strategy. Institute of Technology Carlow's strategic priorities to date have been focused on building and strengthening research capacity in terms of infrastructure, facilities, culture and academic staff. The mid-term strategic review of progress against RDI objectives underlines significant improvement made and demonstrates the Institute's continued commitment to building significant capacity in this area.

Case Study – People's Health and Wellbeing

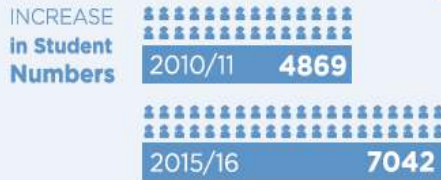
A significant component of healthCORE is the National Centre for Men's Health (NCMH) whose role it is to develop innovative and applied research programmes in the area of men's health through the development of partnerships with key stakeholders. In doing so, the Centre raises the public profile of men's health issues, and contributes to effective and gender-competent policy and practice in men's health in Ireland. The work of healthCORE will influence the issues raised within Ireland 2040 Our Plan through its applied focus on areas such as wellbeing, lifestyle, and mental health and its relationship with key stakeholder partners.

healthCORE is strategically well positioned to make a strong economic and societal impact. In the context of men's health, there has in recent years, been a growing awareness and concern about the burden of ill health experienced by men in Ireland – Ireland being the first country in the world to adopt a national men's health policy. Men's poorer lifestyles account for a high proportion of chronic diseases, whilst social, economic, environmental and cultural factors are also key determinants of the health status of men. There is therefore a strong rationale for an increased research focus on men's health in Ireland and for increasing the evidence base to support the implementation of Ireland's National Men's Health Policy.

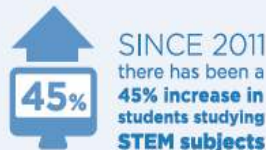
THE INSTITUTE
BY NUMBERS...



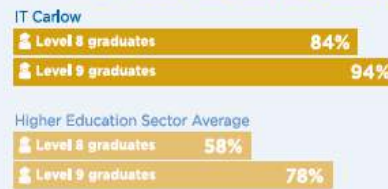
4th LARGEST
OF THE 14 INSTITUTES



2nd highest %
of post graduate students
in the Technological Sector



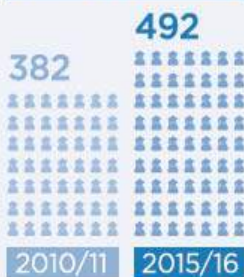
Finding Jobs (in employment)



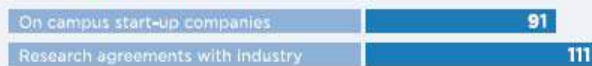
Top Employers of the Institute's graduates



Academic Staff Numbers



Technology Transfer 2015



Buildings and Facilities

The Institute's €150m master plan
has, to date, delivered:



Approximately 80% of our graduates find their first employment in the counties of South Leinster or in Dublin. Considering its location at a strategic point midway between Dublin and Waterford, it is not surprising that a key feature of Institute of Technology Carlow is its dual role in servicing students and enterprises from the South East, Midlands, Mid-East regions and the Greater Dublin Area. 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 IDA Ireland, Enterprise Ireland, SEBIC, Business Network Groups, Skillnets, Chambers of Commerce and the Local Enterprise Offices in the region to promote our Enterprise Development mission. The programmes and initiatives operated through the innovation and enterprise ecosystems need to be included within the context of the NPF to ensure multi-annual access to funding, including capital investment.

Our vision is to be Ireland's leading technological university by 2030; an ambitious vision and a challenging one but one that represents the development of a mature institution with a leadership role in the regional economic and social landscape.

Third and Fourth Level education

A conclusion reached within the document is that “demand for third level places will peak in the mid-late 2020’s”. This conclusion is based on a narrow definition of ‘third level places’ as equalling full time enrolments. There is a recognition of an ongoing need for lifelong learning and upskilling and a resultant future demand for further and higher education provision. The Institute of Technology Carlow has the highest percentage of lifelong learners in the higher education sector; numbers have increased by 20% since 2014. Over 95% of these learners are in employment demonstrating that an increase in employment and an increase in the nature of that employment will result in an increase in demand for lifelong learning opportunities particularly at higher diploma and master levels.

Case Study – Equipping Ireland for Future Development

The Faculty of Lifelong Learning at Institute of Technology Carlow has embraced the concepts of lifelong learning that have been identified by the European Union, the Irish Government and Irish Economic and Civic organisations over the past decade. These recognise that lifelong learning benefits individuals and the wider population in many different ways, not least in terms of the benefits it brings to the economy.

The Faculty recognises skills deficit in two ways; the first is by taking direction from the Expert Group on Future Skills Needs who provide guidance for higher education providers on current and future skills needs of enterprise; the second by taking direction from industry partnerships which are continually developed to assess the needs of industry and to action that need.

Lifelong Learning at Institute of Technology Carlow recognises the shortage of key skills, creating programmes accordingly with industry to meet its demand for a more highly skilled workforce; with businesses who face consistent pressure to improve efficiency, upgrading quality to meet the

highest international standards; with humanities particularly where the HSE and its affiliated organisations have demanded increased education standards in areas such as social care and early childhood care. Providing quality education across multiple campuses, primarily in Carlow, Wexford and Wicklow but also in other counties has brought a solid foundation for the growth in part-time learner numbers at LLL over the past 5 years today, accounting for 33% of the total learner numbers for Institute of Technology Carlow.

One key government initiative that the Institute is actively involved in is Springboard, which is a funded initiative for jobseekers designed to help reskill individuals back into employment. Springboard offers free higher education courses leading to awards at certificate, degree and post graduate level. Since 2011 more than 1200 learners have benefited from this programme in Institute of Technology Carlow

The aim of Springboard is to reskill people in areas where there are job opportunities now and in the future based on the research of the Expert Group on Future Skills Needs. Since its launch in 2011, 16,429 jobseekers have participated in courses with 42 higher education facilities. Most recent national outcomes indicate that 52% of Springboard graduates were back in employment or self-employment within 6 months of completing their course

The development of a technological university comprising an integrated regionally-engaged multi-campus organisation with a significant and balanced presence in Carlow, Kilkenny, Waterford and Wexford will be a major strategic asset to drive regional development in the South East. The primary campuses of both Waterford and Carlow institutes are well placed to provide a recognisable north/south axis to the region and this has the potential to provide a strong back bone to an otherwise diverse area. If the region is to develop as a cohesive region for development, then future changes in higher education provision must be configured to ensure engagement across the region to address the diverse regional agenda, while capitalising on the considerable opportunities provided by the neighbouring more economically-advanced regions of Dublin and the GDA.

The drivers of change in higher education are set out in the figure below. Each of the six key drivers have a potential impact on or influence over aspects of Ireland 2040. Higher Education Institutions will have to develop leaner business models as they face increase global competition for students, faculty and funding. A prime driver of change with direct relevance to the NPF is the impact of digital technologies. Digital technologies have transformed many aspects of daily life and how various services are accessed and utilised. This will include teaching and learning in higher education.



The teaching and learning model at the Institute of Technology Carlow is based on a blended learning model. A report by the National Forum for the Enhancement of Teaching and Learning in Higher Education found that “Students’ access to high speed broadband off campus cannot be assumed and this may be a constraining factor on what digital/online course-related activities they may be expected to pursue.” This point is supported by numerous reports from business bodies including IBEC showing that the South East has lower connectivity to high speed broadband than most other regions. The provision of quality high speed broadband is a requirement for the promotion of online education and economic development. While there has been a significant improvement in broadband coverage, Carlow and Waterford within the south east make the top ten counties for average broadband speeds (Switcher, 2016). The other three of the five south east counties are in the bottom half of the table and are underperforming relative to the State average. In addition even with Carlow and Waterford when you move from the urban centre the situation is much worse particularly when compared to the National Broadband Plan (2012) that promised a minimum of 30Mbps for every home and business in the country by 2016. This brief analysis of broadband quality has identified a gap in the availability of broadband data on coverage, speeds, and sectoral information at regional level when compared to national level.

The report of the Expert Group on Future Funding for Higher Education (2016) states

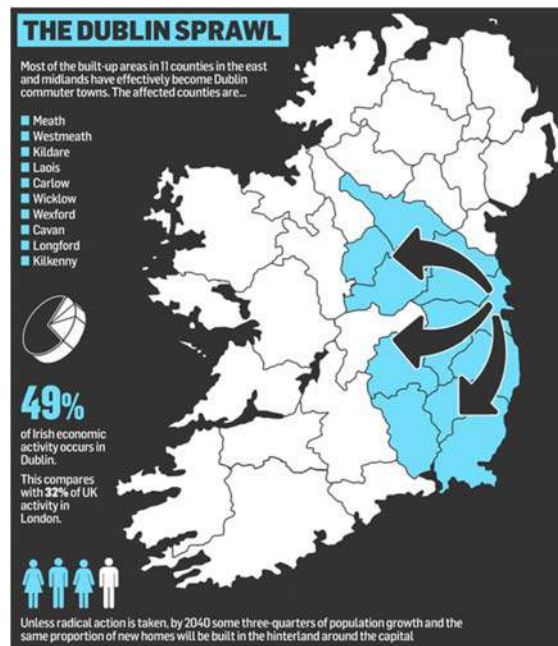
“There is also general consensus on the potential of technology to open up higher education to a wider and more diverse student cohort. Online delivery of programmes will especially have an impact for part-time and non-traditional learners, continuous professional development and lifelong learning, and postgraduate provision. It also has the potential to provide a more effective means of scaling-up provision to meet predicted growing demand, especially for the aforementioned cohorts, while recognising that online learning is not for everyone.”

The availability of high speed broadband service is vital to the delivery of online education services and the roll out and successful delivery of the National Broadband Plan must be a priority short term goal of the NPF.

Location and Population

Institute of Technology Carlow is located within the boundary of the South East Region but is on the borders of two other regions, Midlands and Mid- East and is also now firmly within the newly defined ‘Dublin sprawl’. The finding in the Ireland 2040 position paper that “there is a correlation between large urban areas and regional economic activity” has a particular impact on the South East where Waterford City is not of sufficient scale to influence the wider region and the Leinster counties are already contained within the so-called ‘Dublin Sprawl’.

Population projections from the CSO continue to indicate strong growth in the Dublin, Mid East, Midlands and South East regions. Forecasting from data provided by the statistics section of the Department of Educational and Skills the post-primary population in the Institutes catchment area will increase by over 17,000 by 2021 (19% increase) with a further increase to 2025 of 11% projected.



It is important to state that the inconsistent definition of the South East region adds to the planning challenge for sustainable regional development, eg the “Engagement and Consultation Process on a Technological University for the South-East” (DES 2015) highlights the existence of five strong urban centres located in two provinces each of which are dominated by a large metropolitan area, Dublin and Cork. The region is therefore pulled in two separate directions. This fact needs to be recognised in the National Planning Framework. The National Spatial Strategy named Waterford as a gateway city and highlighted in Chapter 3 the growing interaction between Waterford and Cork would act as a

counter balance for Dublin. However the NSS under-estimated the pull of the transport links from the South East to Dublin in particular the motorway and rail networks.

Future Infrastructure

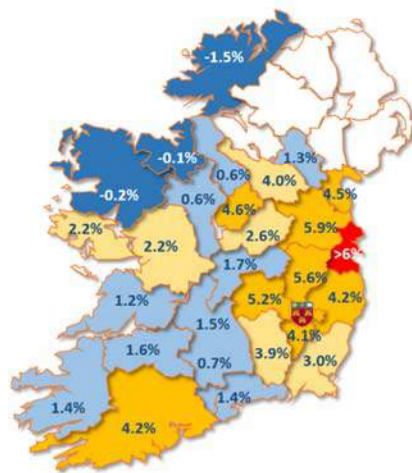
Ireland 2040 recognises the continuing population pattern and economic impact of the M7/ M9 corridor and the resultant growth of urban centres and their hinterlands proximate to the motorways. Research conducted by the Institute in 2006 and 2010 highlighted the influence of housing affordability and quality of life issues on the sizeable commuter population daily leaving the Carlow area; influences similar to other regions now firmly within the ‘Dublin sprawl’. Ireland 2040 acknowledges the need for a strong international capital city but the NPF must recognise the role to be played in economic and civic development by large urban centres such as Carlow Town. In international terms being 60 minutes from the main international airport is seen as being proximate to the airport. The location of Carlow Town on an intersection of the M9 and N80 provides a unique gateway to north, south, east and west. However it is a gateway that will require significant upgrade of the N80 to exploit the full benefits. The creation of the ‘M80’ (Red route in figure below) would act as a radial route from Rosslare Europort joining the M11 / M9 / M8 / M7 terminating at the M3. The creation of a motorway network across the midlands from Carlow to Portlaoise and Tullamore would provide a network of strong urban centres strategically located within one hour of the capital and each other that could build synergistic competences attractive to FDI companies and to a pipeline of employees from HEIs located close to this new network.



The NSS proposed the linking of road networks through this ‘central spine’ concept. The analysis within Ireland2040 of the impact of the ‘Dublin Sprawl’ and the correlation between motorway

location and commercial development strengthens the argument for the re-inclusion of this radial motorway. The impending impact of Brexit on Rosslare Europort would support the upgrading of the N80 to allow for easier movement of freight and facilitating tourist access to non-traditional regional and rural destinations.

Such an upgrade would allow Institute of Technology Carlow increase its impact, particularly in the Midlands and Mid East regions to match the strong engagement enabled by the north / south transport links. The roll out of the Action Plan for Jobs illustrates the strategic location of the Institute. We are heavily involved in actions and strategic proposals across the South East, Mid-East and Midland regions implementation plans. Our zone of influence stretches from South Dublin and Kildare to Waterford and from Wexford and Wicklow to Laois and Offaly extending to a population of almost one million and 20% of the workforce of the State and across two regional assemblies.



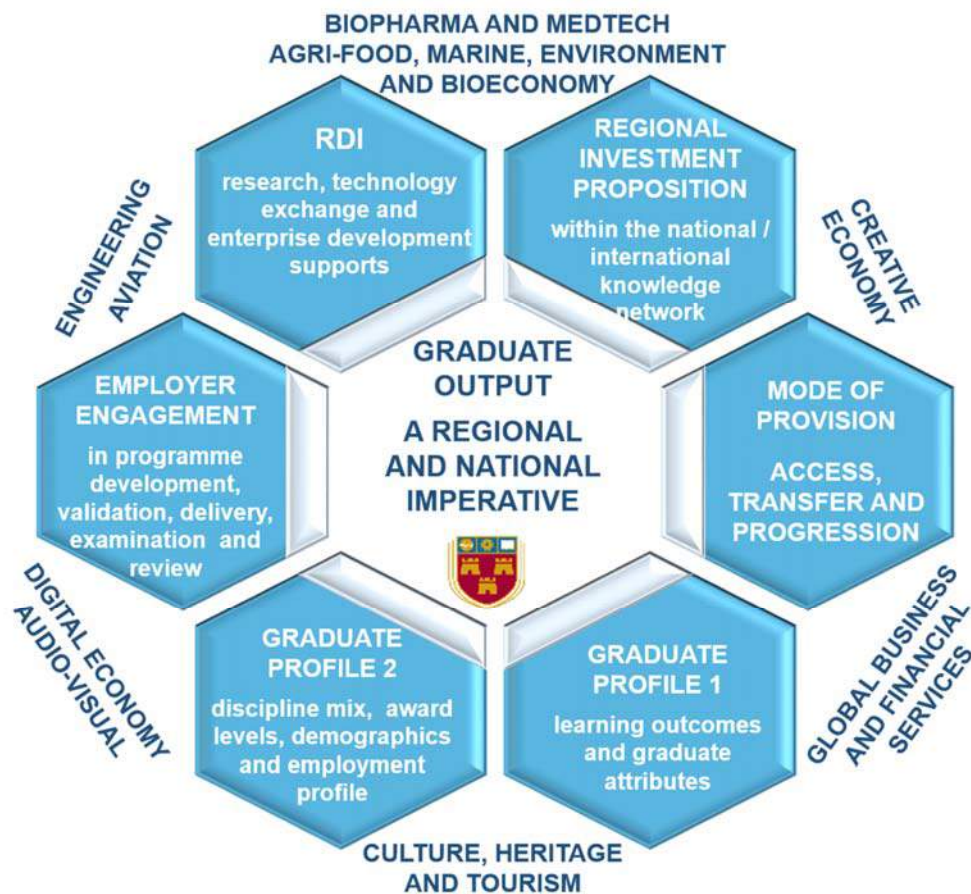
Employment and future careers

The region presently under-performs under a number of key indicators; IBEC in January 2017 reported that the region has the 2nd lowest share of 3rd level graduates at 27.8%. It also comes 7th of eight regions when it comes to graduates in STEM (Science, Technology, Engineering and Maths) related subjects. This translates into the 5th highest level of IDA supported jobs per capita of any IBEC region and also 5th in terms of Enterprise Ireland supported jobs. The importance of small and micro enterprises is demonstrated by the fact that the region rates # 2 for LEO supported jobs. The nett result of this is an average household income of only 89% of the state average. Against this backdrop there is considerable work being done on a cross and inter agency level under the auspices of the Regional Skills Forum. The Network of Regional Skills Fora was created to play a key enabling role in Government’s National Skills Strategy. It provides an opportunity for employers and the education and training system to work together to meet the emerging skills needs of their regions.

The objectives of the regional skills agenda include to;

- “foster better engagement between DES providers (ETBs, Institutes of Technology, Universities, Skillnets) employers and other regional stakeholders in building the skills of their regions”
- “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.”
- “focus on building more robust labour market intelligence and analysis of employer needs.”

Key industry sectors were identified through the Action Plan for Jobs process. These sectors formed the starting point for the work of the forum in identifying the drivers and capacity issues in these sectors (see figure below)



The South East Regional Skills Forum provides a framework to support and facilitate the implementation of actions by individual ETBs or HEIs to enhance links with enterprise and prepare learners for the different roles they will have over their working lives - See more at: <http://regionalskills.ie/Regions/southeast/>

Case Study – A place making strategy : Realising Effective Regional Development

UNUM and Institute of Technology Carlow

The Institute is a key driver of progress and development in Carlow and was an important consideration in the decision of a US Fortune 250 company UNUM to establish their strategic software services centre in Carlow. UNUM's announcement of its intention to invest in Carlow stated that "the Institute of Technology Carlow, are genuinely interested in partnering with UNUM to help us succeed". From this announcement to date the development of the UNUM/ Institute of Technology Carlow partnership has demonstrated the potential breadth of an industry / higher education partnership.

At present almost one third of UNUMs Irish employees are IT Carlow graduates.

The partnership encompasses

- Key industry focused input and advice in the programme development across Institute of Technology Carlow suite of computing programmes including Higher Diplomas and Masters;
- Investment in facilities, i.e. the UNUM Software Development Centre
- In-programme work placement and post-programme employment Feedback to interns at the end of their year 3 placement has proved very influential in year 4 performance and choice of projects;
- Participation in Institute committees and activities

The partnership between UNUM and Institute of Technology Carlow is multi-faceted. UNUM have a well-developed corporate social responsibility and engagement strategy that has informed and promoted the interaction with Institute of Technology Carlow. From their arrival in Carlow the company has been interested in building mutually beneficial linkages with the Institute that would provide them with access to potential employees with the skill set they require and provide the Institute with access to the expertise and cooperation of a major international corporation. This linkage has seen company investment in software development facilities at the Institute, student placements and internships, graduate recruitment and access to mutually beneficial expertise from both parties.

As the country is now in recovery scenario, albeit at different levels across the regions, the emphasis is now moving to addressing skills deficits and manpower capacity issues. In relative terms, the strongest employment growth is projected for third level and FET qualifications holders (in the recovery scenario, 20% and 19% respectively) By 2020 48% of all employment is projected to be at 3rd level and above and 14% at FET level (increase of 2% on 2012 levels)

PERCENTAGE WITH THIRD LEVEL QUALIFICATIONS WHOSE FULL-TIME EDUCATION HAD CEASED

	1991	1996	2001	2006	2011
NATIONAL	13.1%	19.0%	24.7%	29.1%	34.9%
SOUTH-EAST REGION	9.8%	14.7%	19.0%	23.0%	29.5%
CARLOW	10.1%	14.8%	19.5%	23.2%	29.7%
KILKENNY	10.2%	15.7%	20.6%	25.4%	32.9%
WEXFORD	8.4%	13.1%	17.0%	20.9%	27.1%
WATERFORD	10.8%	15.9%	20.8%	25.3%	31.4%
SOUTH TIPPERARY	9.9%	14.3%	17.4%	20.9%	27.4%

The figures above define '3rd level qualification' as a terminal educational qualification at level 6 or above. If defining as level 8 and above the National figure is 21.9% and the Southeast is 17.2% (2011 Census figures). This indicates that approximately 12% of SE residents have level 6 or level 7 qualifications. This is consistent with the national figures.

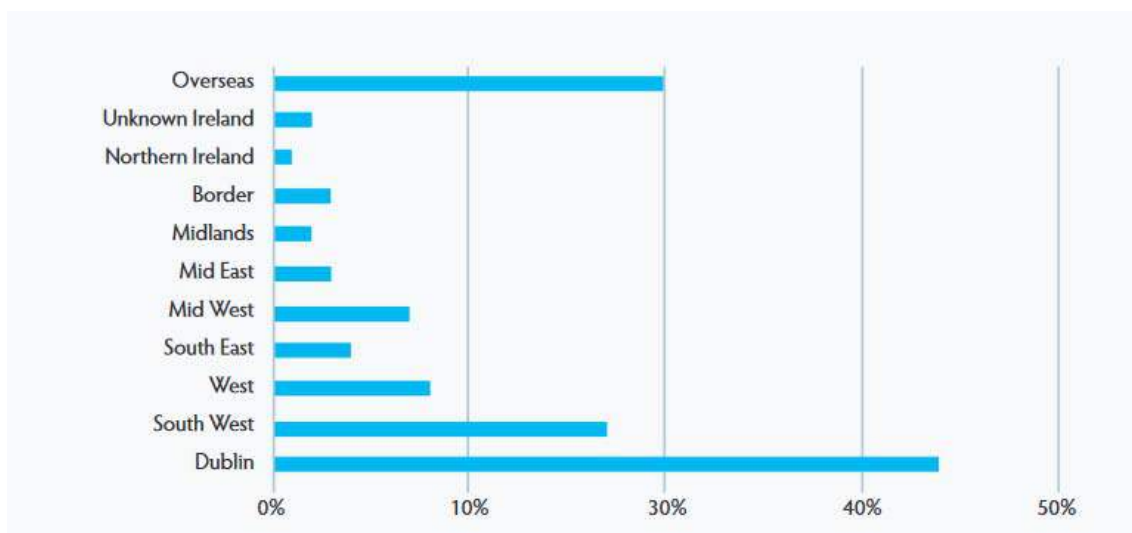
However what is potentially of more concern to this group is the proportion of SE residents with low educational attainment. 16.5% of residents of the region have no formal education. This is the highest regional figure in the State. (NUTS II 14.1% and Southern 15%). The impact of early school leaving is then magnified through lower secondary school outcomes and hence lower participation in higher and further education. The CSO report on education attainment shows that those with a third level qualification are almost twice as likely to be in the labour force compared with those who have at most primary level education. This relationship is much stronger for females with a 3rd level qualification who are almost three times as likely to be in the labour force compared to females with at most primary level of employment.

But on a positive note the rate of increase in educational attainment in the southeast is higher than the national figure. This is reflected in the HEA finding that participation rates in 3rd level in the southeast are at or above the national figure.

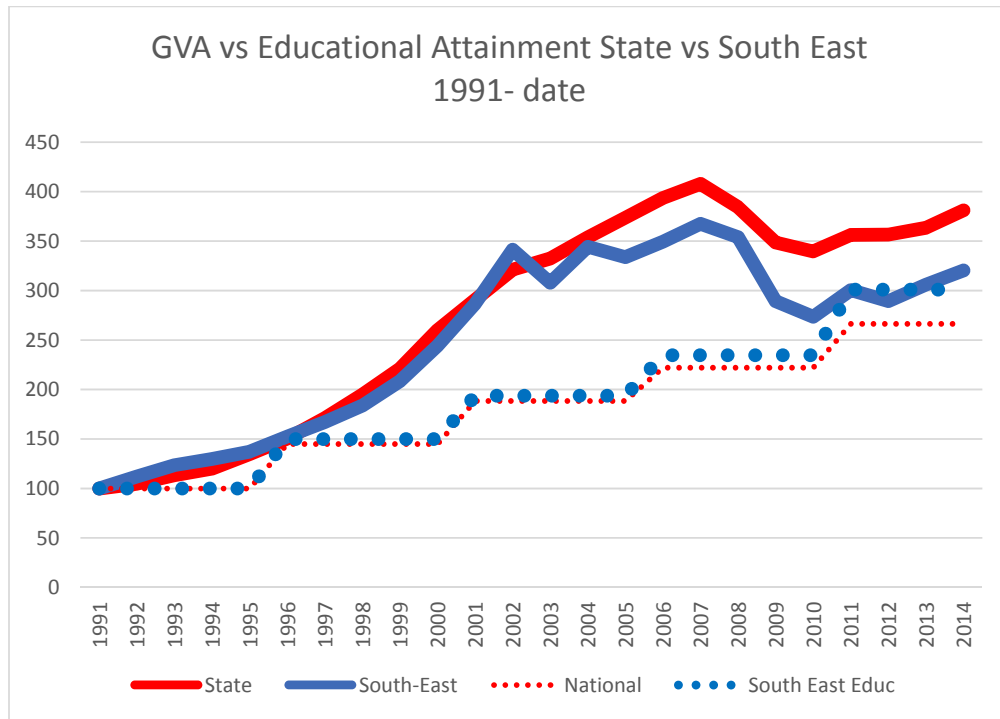
Catchment	Progression rate (%)
Carlow	55
Cork	58
Kildare	47
Kilkenny	53
Laois	41
Limerick	51
Offaly	45
Tipperary	51
Waterford	56
Wexford	56
Wicklow	53
State total	51

Participation rates in 3rd level (HEA, 2014)

The challenge for the region is to transfer this participation rate into higher paying and qualification appropriate careers. The graph below shows the region of employment of honours degree graduates and illustrates this challenge. The impact of this finding is that many of our graduates are leaving the region for education and not returning.



The graph below maps the increase, from a 100 scale, in educational attainment and Gross value added per person from 1991 – 2011. GVA is a measure of the value of goods and services produced in the state. This shows that in spite of increasing participation there is not a resultant increase in economic activity thereby demonstrating the need to increase the quality of career opportunity available to graduates in the South East.



Therefore the challenge for the stakeholders is how to create a ‘step change’ in career potential through informed forecasting of newly emerging job categories. The World Economic Forum ‘Future of Jobs’ report highlights the need to ‘build a workforce with futureproof skills’ . The report focuses on young demographics and technological change as key drivers of such ‘future proofing’; two drivers already available in the South East. The report also looks at labour-substituting technologies changing engineering and production careers but rather than a focus on the decline in traditional roles the region should be supporting investment in playing a leading role in innovating the new roles that will emerge in the design, manufacture and servicing of the new technologies. The role and harnessing of ‘smart specialisation’ in the conceptualisation of future employment paths and opportunities is crucial to creating this step change. Investment should be made in the research centres in the Institutes of Technology, which because of their closeness to industry are well placed to do this work and to act as catalysts in the creation of a more highly skilled and subsequently more highly paid labour force in the South East that will attract innovative companies to the region. The fourth industrial revolution is evolving at a pace that will disrupt every industry. The rate of pace will be exponential rather than linear according to the World Economic Forum.

“The possibilities of billions of people connected by mobile devices, with unprecedented processing power, storage capacity, and access to knowledge, are unlimited. And these possibilities will be

multiplied by emerging technology breakthroughs in fields such as artificial intelligence, robotics, the Internet of Things, autonomous vehicles, 3-D printing, nanotechnology, biotechnology, materials science, energy storage, and quantum computing.”

The ambition for Ireland, and the South East in particular, is to be at the leading age of influencing how technology is affecting and shaping our lives and redefining economic, civic, cultural and natural environments in accordance with our values, ethics and moral compass.

Civic, Social and Cultural Development

Goal 4 of the Institute of Technology Carlow strategic plan states:

“We will strengthen our engagement with the regions, communities and sectors we serve. We shall ensure access and progression opportunities. We shall share our knowledge and resources and we will continue to enhance our contribution to the development of a creative, sustainable and fair society.”

Case study – Irelands unique environment - Sustainability

Institute of Technology Carlow has long being an agent of societal change through education. We are committed to enhanced sustainability through the design of our new buildings, the management of waste services, and the promotion and protection of biodiversity through our research centre, enviroCORE. The Institute is on course to achieve the energy efficiency targets set by the Sustainable Energy Authority Ireland (SEAI) for 2020. The Institute is a member of the steering group for the UNESCO chair for Education in the area of Sustainable Development based in Inland Norway University of Applied Sciences and has made international contributions to policy formulation in sustainable development.

The main research centres of the Institute include enviroCORE which vision it is “to promote strategic applied research and education in innovative environmental biotechnology, with a view towards sustainable economic and social development”. The primary research interests and areas of expertise of the centre are Ecology and Biodiversity, Natural Resources, Environmentally Friendly Biomass Production and Biomass Transformation into Biofuels (Bioethanol and Biogas) and the Development of Environmental Monitoring Sensors, Biosensors and Biomarkers.

Our programme portfolio reflects the national and international goals and actions concerning climate action; key areas of sustainability and environmental impact are programme components across each of our faculties of Engineering, Science, and Business and Humanities. We will continue to form graduates who have the knowledge and skills to not alone realise the impact of their actions on the natural environment but to propose and formulate solutions to counter prior negative impactful actions.

The principle of ‘connectedness’ permeates all activities of Institute of Technology Carlow across our teaching and learning, research, and service missions. The development of a stronger economic, social and cultural base to our region is reflected through the work undertaken with local, regional and national stakeholders through initiatives such as the Action Plan for Jobs, Regional Planning Guidelines, National Skills Strategy, Regional Skills Forum, and the development of the Local Economic

and Community Plans (LECP) for the counties in our regions. The Institute has been a key stakeholder and contributor to the Local Economic and Community Plans for the counties in our catchment area. The amount of consultation and inclusion involved in that process should be continued through the new NPF process. These LECPs provided clear, concise and evidence based measures aimed at social, civic and economic transformation at a local level and should provide valuable input into the rural development aspects, in particular, of the NPF.

Conclusion

The priorities outlined below are intended to provide input into strategic decision making across the range of activities of Institute of Technology Carlow. There are three key points to summarise and conclude

- The **strategic location of Carlow as a gateway** to the South East must be recognised and developed through the NPF. The creation of the 'M80' radial route from Rosslare Europort linking the M11 / M9 / M8 / M7 terminating at the M3 would locate Carlow as a major player linking the south east, mid-east and midlands regions
- The multi-campus **South East Technological University** can act **as a catalyst** for economic and community development with targeted and sufficient investment in infrastructure and people utilising the regional skills framework to build a strong network of alliances that will drive technological innovation and employment growth
- The importance of **'connectivity'** in its broadest definition cannot be over-emphasised. Our physical and digital access routes must be improved for the benefit of residents, businesses and visitors from port and road development to high speed digital access.

Priorities to 2040 for the regions and sectors served by Institute of Technology Carlow

	Short term 2021	Medium term 2030	Long term 2040
Infrastructure	Roll out of National Broadband Plan to allow enhanced use of digital technologies by business and consumers	Upgrade of N80 to an 'M80' to enhance connectivity between South East and other regions	Connectivity inter- and intra- regions and internationally (physically and digitally) to be at or above European standards
Education	<p>South East Technological University (SETU) established</p> <ul style="list-style-type: none"> • Science and technology building in Carlow complete • Phase 1 of Wexford Campus development complete • Site acquisition and planning for phase 1 of Kilkenny Campus complete 	<p>SETU is a model of engagement in university / industry interaction across research and training and development</p> <p>Infrastructure investment</p> <ul style="list-style-type: none"> • Next phase of €200mn capital investment in Institute of Technology Carlow complete building in Carlow complete • Phase 2 of Wexford Campus development complete • Phase 1 of Kilkenny Campus complete 	<p>SETU is seen as a university of international standing in at least three fields of research to include inter alia agrifood, ICT, and creative and cultural disciplines</p> <p>By 2040 a complete evaluation, review and renewal of all physical infrastructure across all campuses will have to be completed.</p>
Research and Innovation	Investment in the development and enhancement of the research and innovation infrastructure in the south east including advanced science and	Per capita state investment in research and innovation in the south east to be at national levels	Ireland – South East to be a major player in the 'Fourth Industrial Revolution'

	technology buildings in Carlow		
Employment	The Regional Skills agenda will have raised the employment levels and type across the South East as measured by increase in GVA	GVA for South East region to be above national average demonstrating the high skills / high salary employment opportunities available in the region	GVA for South East to be second only to Dublin region as a result of strategic planning decisions around infrastructure, education, employment and quality of life indicators
Quality of Life	Increased investment in developing the social and cultural capital of the region informed and influenced by local stakeholders to improve quality of life	Quality of Life indicators (eg Eurostat) to be used as one measure of balanced regional development	Ireland to be at or above all Quality of Life indicators published by Eurostat.
Spatial development	Recognition of the strategic role of Carlow as a gateway to the South East for the GDA and the other regions Housing provision in the South East (including student accommodation) to be prioritised Regeneration of town centres to be included within plans for housing provision.		Digital technologies and high speed broadband infrastructure to be in place to enhance connectivity between regions and internationally.