# Mission Compact Review - Narrative

## Preamble/introduction

- WIT is currently in transition and a new strategy for the organisation is being developed. A number of strategic documents have been developed, the most significant of which is "*Waterford Institute of Technology and a Visions for the Technological University of the South East".* This is a critical, self-reflective analysis on the future of WIT as a Technological University and the strategic challenges therein. Chapter 4 of this document is attached as Appendix B to this document
- As part of this review process greater clarity is now becoming evident with regards to a number of future targets that were previously articulated in the original compact. With that in mind WIT is keen to begin a dialogue to alter some of the targets to provide greater focus and granularity.
- Many of the targets in the compact only capture a small part of WIT's activities. There is a danger that this process will define the organisation and its future development. WIT is anxious to clarify that the activities of the organisation are much broader than those that have been defined in the targets in the compact.
- The lack of resources will be articulated throughout this review document. The decline in the resources base is the single greatest issue facing the organisation. Any future growth in activity can only be sustainably achieved through greater funding. This lack of resources is even impacting on the institution's ability to comply with all of the requirements of this process. WIT believes in the merits of the mission based compact and its objectives. However, this model also places additional demands and strains on an already stretched resource base.

## Regional Clusters

- The final objective in this section "meet criteria for technological university designation" was rated as a "yellow". This rating was applied because while WIT is on track to meet the broad strategic criteria, the mechanism and associated targets have clearly not been achieved.
- The objective remains but the targets will require a recalibration as the relationship with IT Carlow has been suspended.
- WIT is already meeting many of the TU criteria and is confident that by the end of the compact period it will have achieved all the criteria. Therefore, as part of the dialogue to re-articulate the compact targets, WIT would suggest that a more realistic target for 2016 would be "WIT to meet the performance metrics of an internationally performing Technological University".
- Table 1 below highlights WIT's progression towards and achievement of the TU designation criteria:

**Table 1: WIT Progression towards TU Designation Criteria**

| TU Criteria | Profile 2011/12 | Profile 2012/13 | Profile 2013/14 | TU Criteria |
|---|---|---|---|---|
| 3.2(1) Enrolment in research programmes at levels 9-10 will not be less than 4% of FTE enrolments at levels 8 to 10 | 3.0% (142/4,827) | 3.2% (139/4,633) | 3.2% (151/4,760) | 4% |
| 3.2(2) Combined minimum of 30% of all students will be lifelong learning students enrolled on professional focused programmes and industry up-skilling, including part-time. Work-related programmes and work-study programmes and/or mature learners | 18% (1,370/ 7,943) | 23.7% (1,949/8,240) | 32.5% (2,776/8554) | 30% |
| 4.2(1) 90% of full-time academic engaged in delivering higher education programmes will hold a level 9 qualification or higher | 89% (345) | 91% (389) | 89% (374) | 90% |
| 4.2(2) At least 45% of full-time, higher education, academic staff, will hold a level 10 qualification or the equivalence in professional experience, combined with a terminal degree appropriate to their profession (* does not include 10% allowed for equivalents) | 31%* (120) | 30%* (127) | 31%* (130) | 45% |

- WIT remains committed to an establishment of a TU in the South East Region. However, it has suspended its involvement in the merger process and will review its position on receipt and review of Michael Kelly's Report on the process.

## Participation, LLL and Equal Access

*Life Long Learning*

- The targets that were set for part-time learners were (and still are) challenging. However, a number of initiatives are in progress with a view to increasing the number of part-time students
- In this instance the objective of "continuing to make lifelong and flexible learning opportunities available" is being achieved – the targets only capture part of this activity. A number of new flexible programmes (Part-time degree programmes in: Early Childcare, ICT, Science; Minor and Special Purpose Awards levels 6-9 in: Science, Engineering, Business and Education and the lean suite of programmes for example) have been developed. However, the student registration system does not have the functionality to permit robust statistics to be routinely obtained.

- The 2016 target will be a challenge to meet as it is currently stated. A broader definition of part-time student may be required – for instance the Institute recruits a significant number of part-time students both on accredited and non-accredited night and other part-time programmes. The current number of lifelong learning students at WIT is described in Table 2 and suggests that WIT has a significant number of life-long learning students on its programmes, clearly aligned with TU requirements. The number of current Lifelong Learning Students[1] is 2776 32.3%

**Table 2: Current Number of Lifelong Learning Students**

| Student Type | Number | % of overall |
|---|---|---|
| Mature CAO | 955 | 30% |
| Part-time Evening Accredited | 1356 | 43% |
| Part-time Evening Non-Accredited | 561 | 18% |
| Students on Minor, Supplemental, Special Purpose Awards | 217 | 7% |
| Other | 66 | 2% |
| Totals | 3155[2] | 100% |

Participation and Equal Access

- The equal access target is being achieved. However, this is another example of a target that is not fully reflecting the breadth of activity in this arena. Indeed, a quantifiable metric that will comprehensively reveal WIT's performance on the equal access agenda probably does not exist.
- Funding is a particular issue, participation and equal access initiatives are resource intensive and, in some instances, the outcomes/benefits may not materialise for many years.

## Excellent Teaching and Learning and the Quality of the Student Experience

- Enrolled student numbers have grown slightly. However, capacity constraints may limit any further growth. The Institute is facing a space shortfall of 40,000 $m^2$, the degradation of ICT infrastructure is impacting negatively on WIT and spare staff capacity is limited. This lack of investment in the capacity of the Institute could impact on the ability of the Institute to generate future income thereby resulting in future potential deficits.
- The Institute has responded to regional demand in designing programmes that have direct relevance to regional employment deficits. For instance, the lean suite of programmes were developed to address a demand from local industry in this emerging area, an MSc in ICT was specifically developed for Sun Life staff (a significant regional employer),

[1] In the absence of an agreed definition of "Lifelong learning", the numbers here include all students over 23 years of age at time of entry to within the institute.
[2] This figure includes students on non-accredited courses

an MSc in Global Financial Information Systems was developed to address a shortfall in the financial services sector and a degree programme on the internet of things was developed to exploit this emerging area given the institute's proven research capabilities.

- The Institute has also developed a highly successful DBA programme. This level 10 award is the first of its kind in the country and helps raise the education attainment of the region whilst contributing to a practice led research agenda. The programme has now recruited its third cohort, it is the capacity of the institute that is constraining its further expansion.

## High Quality Internationally Competitive Research and Innovation

- WIT is proud of its performance in research and innovation. Again the metrics in this area only capture a small picture of the institute's performance.
- The targets for 2015 and 2016 for some of the indicators may need to be finessed in light of the passage of time and a clearer picture of the future trajectory for the particular activity. For instance:
    - Development and Implementation of national and international collaborative research strategies
        - Target 2015 was "implement collaborative strategy, 1 colloquium per school, 20 visiting professors" to
        - Revised Target 2015 "Priority partnership and funding strategies identified at school level through the School review process to support the enhancement of research capacity and international positioning"
    - Achievement of HRS4R logo and delivery of action plan
        - Target 2015 was "review of logo, development of career structures for researchers" to
        - Revised Target 2015 "Ensure delivery of key 2 year milestones of Action Plan in areas of: research ethics and integrity policy enhancement, recruitment, working conditions and social security, career development support and training"
        - Target 2016 was "career structures for researchers in place, research related PMDS in place" to
        - Revised Target 2016 "performance on progress on it HRS4R Action Plan to be evaluated by EU and HRS4R status to be maintained based on reaching key milestones "
- The focus on the graduate school remains however this will now be actioned through the regional cluster mechanisms. The graduate school will support the delivery of a Technological University.
- The lack of baseline research funding is an impediment to growth. The Institute does have a Research Support Unit (RSU) that provides guidance and support to WIT researchers who are engaged in funded research activities. This office is funded from research income. This RSU actively distributes calls for funding, assists with proposal preparation and manages all funded research projects. It promotes and manages the interface between WIT researchers and various funding agencies. As the Institute expands, so does its research community and the impact of its research outputs.

However, without this basic infrastructure, the research activities of the Institute would be significantly compromised. During the 12 month period September 2013 to August 2014 there were 151 research funding applications submitted to external funding agencies through the RSU.

## Enhanced Engagement and Knowledge Exchange

- WIT has a long tradition of engagement with all of our stakeholders and the institutional record on knowledge exchange is very strong. The metrics only capture a small element of this activity.
- Engagement is embedded throughout the programme portfolio; through the inclusion of community, industry or professional partners in programme design teams, through the inclusion of community, industry or other professionals on programme accreditation and review boards, as well as in roles as external examiners and various roles within research programmes, and through providing placement and other internship opportunities to students. Many of the Institute's programmes attract professional accreditation as a verification of the extent to which programmes are calibrated to professional, industry and other external standards
- The model of sectoral engagement is working well – examples of these are evident with regard to key sectors such as pharma, ICT and advanced manufacturing. As this new model evolves there is a desire to recalibrate the targets (the original objective remains the same).
    - Target 2015 was "develop a plan with each sector to engage collectively with the Institute" to
    - Revised Target 2015 "Develop an institutional framework to enable an integrated approach by WIT to its engagement with these industry sectors connecting all levels of activities / programmes within the Institute"
    - Target 2016 was "establish a platform of activities to support these sectors" to
    - Revised Target 2016 "Implement an integrated external engagement strategy with defined objectives, governance structures, systems and processes in place to manage engagement"
- WIT has performed well at "translating research for societal and economic benefit" and all the commercialisation targets have been met. An element of this objective was the articulation of a defined statement on impact with every major research project. WIT would like to remove the targets with regard to this as it is now effectively redundant. Under current funding calls impact is now a key scoring criteria to be successful in obtaining the funding. The institute does not routinely gather this type of data and the cost associated with gathering it when the outcome is not in doubt would be a waste of institutional resources.
- The regional engagement forum was originally envisaged as a mechanism to help inform the development of Technological University. Whilst merger activity has been suspended, WIT is actively participating in the development of the region through a variety of fora as outlined. Again, the examples provided only provide a very limited snapshot of the activities in this regard. The precise nature of the regional engagement forum may become clearer following the publication of the Kelly Report

## Internationalisation

- WIT has performed well on its international fee paying student numbers. However, this is a cyclical activity and short term programmes can boost the numbers. For instance, the current figures have been enhanced by the 200 Brazilian students registered in the current period
- International research activity is also performing ahead of projections
- However, these two metrics do not do full justice to the activity of the institute in the area. There are numerous other activities such as incoming and outgoing Erasmus/Socrates exchange students, incoming and outgoing academic staff exchanges and academic programmes with international study elements (from 1 week to 1 year).

## Institutional Consolidation

- This has been assigned a Red rating. This is because while WIT is on course to meet the TU criteria and the due diligence has been partially completed, merger activity has been suspended.

**Appendix A: Institutional Context**

**Waterford Institute of Technology (WIT)** is a university-level institution in the South-East of Ireland with over 10,000 students and 1,000 staff. WIT offers tuition and research programmes in various areas from Higher Certificate to Degree to PhD.

***Range and scope***

WIT is the major provider of higher education in the South East region of Ireland and one of the largest IOT's in Ireland. The Institute's range and scope reflect the changing needs of the southeast as well as the country as a whole. The range of academic programmes is exceptionally extensive, ranging from Higher Certificate right through to post-doctoral research and covering the Humanities, Health and Nursing, Science and Informatics, Engineering and Architecture, Business and Education.

***Lifelong Learning & Access***

WIT has been a leader in the Irish higher education sector with regard to the provision of lifelong learning opportunities and access for disadvantaged groups. Many of WIT's successful initiatives in this area have been copied by other colleges. Because of the needs of non-standard groups, WIT has responded by developing expertise in the areas of flexible accreditation, outreach and flexible delivery modes.

***Caring Environment***

Providing a caring and supportive learning environment for its students is central to WIT's ethos. The range and quality of student support services is excellent. Examples include the Student Life and Learning Centre and the Medical Centre which provide care, counselling, guidance and support for any student encountering personal, social or health difficulties. Good housing for students is also one of WIT's priorities and the Institute currently owns and/or manages sufficient very high quality student apartments to meet the demand.

***Research and Innovation***

There is a thriving research and postgraduate community in WIT. Many of the researchers have a high profile in both the national and EU community of academics. This is shown by the fact that WIT researchers have competed successfully against University researchers for prestigious national and EU research funding (e.g. PRTLI, SFI and EU Frameworks Programme FP4, FP5, FP6 and most recently FP7). Over the last 10 years Waterford Institute of Technology has successfully attracted over €140

million in research funding. Further details of WIT's research and innovation performance, as benchmarked against other HEIs, is contained in Appendix C.

***International & Industry Links***

WIT has formal academic exchange and research partnerships with over 40 universities worldwide. These range from the old established Universities such as Oxford, Trinity College Dublin and University College London to newer technological universities such as Budapest University of Technology and Nanjing University of Science and Technology. In addition WIT has very close relationships with industry & commerce, the professions and the public service for research, consultancy, student and graduate placements etc. A culture of entrepreneurship and innovation is fostered at all levels in the organisation. This can be illustrated by one year enterprise platform programme offered to graduates by the School of Business. Through its School of Humanities it plays a very significant role in the social and cultural life of its region.

***WIT's Mission***

***Engage, Learn, Challenge, Innovate***

In a vibrant environment for creative teaching and research, we educate and inspire a lifelong passion for learning, exploration and discovery that will ensure leadership with a global outlook and real world innovative designs for sustainable economic, social, cultural and personal development.

We embrace access and equality of opportunity and vertical progression so that our learners are empowered to succeed as citizens in a challenging world. We blend theoretical with applied enquiry, scholarly, professional and vocational pursuits with scientific and creative expression.

We serve to improve our region, our country and our world by being at the heart of a co-operative teaching and research eco-system, which includes other higher education and further education institutions, schools, regional communities, government and non-governmental agencies.

We actively nurture continuous enhancement of our relationships to progress excellence in a globally-benchmarked higher education and knowledge.

WIT has long been recognised for its strong engagement with regional, national and international stakeholders. WIT has developed an exceptional model for collaboration with industry and with the private, the semi-state and state sectors and has been active in delivering employment and economic and cultural development in the South-East of Ireland for many years.

WIT is keenly aware of the demand from the region for an institution with the aims, function and impact of a university, and has directed its strategy over many decades towards addressing this demand. Notwithstanding WIT's exceptional performance as an IOT, the regional requirement is for an entity branded as a university and with the scale, autonomy, and flexibility of a university.

WIT's trajectory for at least a quarter century has been towards a profile consistent with that of a university as described in internationally-recognised criteria. Specifically, WIT's trajectory is such that it can:

- demonstrate excellence in research, teaching and other activities, evidenced by performance against key indicators;
- demonstrate international recognition that adds to Ireland's profile abroad, attracts excellent students and staff, and is a credible partner in joint initiatives;
- demonstrate the ability to translate research and other activity into initiatives that contribute to local, regional and national economic, social and cultural development.

These features characterise universities of international standing. WIT's ambition is to create a university that will feature in the top 100 ranking universities under 50 years old by 2020.

WIT applied for designation as a university in 2005 under Section 9 of the Universities Act. The application was supported by a report that concluded that "WIT's case for designation as a university is rationally unassailable and that […] its submission proposing such designation does justice to the case." A report was commissioned by government into WIT's application ("the Port Report") which concluded that the Institute had made "a serious case that would deserve to be investigated on the merits of the case". The application was not considered, however, The National Strategy for Higher Education to 2030 and subsequent strategy documents from the Higher Education Authority, published from 2010, proposed the creation of a number of Technological Universities across Ireland, including in the South-East.

Appendix B

**WATERFORD INSTITUTE OF TECHNOLOGY AND THE TECHNOLOGICAL UNIVERSITY OF THE SOUTH EAST**

**THE MEASUREMENT OF INSTITUTIONAL PERFORMANCE**

4.1 The HEA proposes that "the development of a framework for the performance evaluation of Irish higher education institutions is […] integral to the implementation of the *National Strategy*[3]." There is a strong need at the same time as supporting institutional autonomy, in the interests of transparency and the public good, to balance autonomy with accountability. The process that sees HE institutions agree strategic "compacts" with the HEA that are reviewed on a regular basis, and the suggestion (in Hunt) that the relationship between the State and the higher education system is redefined "based on contracts for delivery (service level agreements) negotiated between the institutions and the HEA as part of a wider strategic dialogue" indicate the centrality of performance measurement to the changed landscape of higher education into the future[4].

4.2 The measurement of institutional performance is not simply a requirement imposed by the state but an expression of institutional confidence and maturity. The declaration of performance targets within an institutional strategy—indeed, defining institutional strategy in terms related to measured performance—is a legitimate expression of institutional ambition.

4.3 The "Landscape" document establishes the criteria against which any external expert panel will review an application for technological university designation. The document proposes that the proposal from the applicant institution (a "business plan") will be assessed with regard to the following:

the capacity of the proposed consortium to achieve the objectives of consolidation in terms of academic rationale, scale, the degree of integration through alliances and membership of clusters and the extent to which workplace practices have been developed to bring them into line with those of a modern university,

and

the existing position of the proposed consortium in relation to each of the technological university designation criteria […] and its capacity, based on its developmental trajectory, to meet these criteria within a reasonable timeframe[5].

In other words, the credibility of the case for TU designation is in part based on existing performance and a demonstrable trajectory towards or beyond the performance criteria.

4.4 The following chapter sets out WIT's current position with regard to the characteristics of the TU described in the previous chapter and against the performance criteria for TU designation that have been outlined in the "Landscape" document. The position outlined below will be of assistance in examining recent strategic decisions by WIT with regard to proposed partners with whom the Institute might merge in order to make an application for TU designation; in other words, the chapter provides a description not just of WIT but of the nature of the partner required for a

[3] HEA, *Towards a Performance Evaluation Framework: Profiling Irish Higher Education*, December 2013, p.16.

[4] Hunt, p.88.

[5] Landscape, p.13

successful technological university to be constructed in order to achieve the objectives of national strategy.

4.5 WIT is conscious that the performance criteria set out in the "Landscape" document constitute a "point in time" assessment of an applicant institution, and therefore are understood to be indicative of both the larger academic and cultural characteristics of the TU and a capacity to deliver the performance required for that designation. WIT is conscious that the criteria are not a description of the extent of the Institute's ambition, nor of the kind of institution required by Irish HE.

4.6 It is the view of WIT that the TU as set out in the national strategy and as characterised above, to perform at the level required by the national strategy, will need to display the performance of a university in the top 100 "new" universities in the conventional rankings.

**INSTITUTIONAL TRANSFORMATION**

4.7 WIT is acutely aware of the transformation required to develop from an IOT—or a number of merged IOTs—to a Technological University. Given the scale of transformation, it is vital that institutions aspiring to TU designation demonstrate a willingness, preparedness and capacity for change. It is further recognised that change will not be a simple, one-off step but a continuing process—as such, the TU's continued evolution will reflect the entity's embrace of innovation as at the heart of all the institution's activities.

4.8 The following sections position WIT on a trajectory that clearly points towards the profile of a TU. That position has been several decades in the making and is described in *Realising the Future*, the Institute's 2005 application for university designation, a document that sits alongside this current document as a demonstration of the Institute's ambition. Both documents reveal WIT as a leader within Irish HE in research, teaching and learning, and in other initiatives; in other words, WIT has shown willingness to be innovative and to change in the past, in itself evidence of change capability and capacity.

4.9 The following paragraphs verify WIT's position with regard to designation, but also supplement that description with some reflections on the enhancements required in order for WIT and any proposed partners to be in a position to deliver the performance levels of a TU in the near future.

4.10 The remarks below fall naturally into three separate sections. Performance against the relevant criteria for TU designation as set out in the "Landscape" document is indicated. The sections below describe—cross-referenced to the relevant criteria—(a) the Institute's profile and performance, (b) the broader organizational characteristics of the Institute currently, and (c) the Institute's regional orientation.

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**INSTITUTIONAL PROFILE AND PERFORMANCE**

4.11 The profile of the TU, in terms of staff and student profiles and research performance, must display certain features if it is to be comparable to universities internationally. In the main, these features refer to staff qualifications, experience and outputs and to the balance in the student profile between undergraduate and graduate cohorts. These characteristic features are reflected in the criteria for designation set out in "Landscape".

4.12 The institutional profile of the TU will display some additional features unique to this kind of university, such as a broad range of programme options across the higher education spectrum and, indeed, into the further education domain. The TU will also feature programmes from across the disciplinary mix. These additional features are also recorded in the "Landscape" document.

***STUDENT PROFILE***

4.13 The "Landscape" document prescribes a particular student profile for the TU characterised by:
(i) Enrolment across all levels of HE, from level 6 to 10;
(ii) A balance of enrolment between undergraduate and post-graduate such that, at the time of application, the enrolment on research programmes at levels 9 and 10 is not less than 4% of the total enrolment on levels 8-10, and that within ten years of designation that figure would rise to 7%;
(iii) The concentration of level 10 provision in a relatively small number of fields;
(iv) At least 30% of the student population to be "lifelong learning" students;
(v) The continuing provision of non-HE programmes where these might have been offered prior to designation[6].

4.14 WIT continues to recruit learners to programmes across levels 6-10 on the National Framework of Qualifications. Any new technological university will retain this mix and, indeed, the breadth of provision will be a distinguishing feature of the university.

4.15 WIT's current balance of enrolment between research programmes at level 9 and 10 and honours degree programmes and above indicates that 3.3% of students are research students. The success of the Institute in attracting high quality graduate students to funded positions, in some cases positions funded by the Institute through its PhD scholarship scheme, coupled with and implementation of planned structural change in graduate education (involving the creation of a graduate school and of more structured graduate programmes) gives confidence that the projected figures above can be realised if not surpassed.

4.16 WIT currently has extensive authority to run doctoral programmes across of the Institute's six academic schools. The Institute currently has delegated authority to make doctoral awards in the fields of Science (Physical and ICT) and in the area of Engineering (Electronics). It is research accredited for the Doctorate of Business Administration (the first and currently only award of its type in the sector) and has approval for research awards to level 10 in a myriad of areas across the Institute. It was the first IOT to receive approval in many of these areas, including most recently in Nursing.

4.17 Research programmes at level 10 currently within WIT are distributed across most areas, with particular concentrations in Social Science, Business and Law, and in a number of areas within Science. That distribution is described in Table 1 (Appendix C).

4.18 The Institute recruits a significant percentage of mature students in its full-time undergraduate programmes through the CAO. The Institute also supports a number of access initiatives some of which are specifically tailored to the lifelong learning student. The Institute has, for many years, recruited a significant number of part-time students both on accredited and non-accredited night and other part-time programmes. The current number of lifelong learning students at WIT is described in Table 2 and suggests that WIT has a significant number of life-long learning students on its programmes, clearly aligned with TU requirements. The distribution of undergraduate lifelong learning students (including students on non-accredited courses) is described in Table 2 (in Appendix C below).

4.19 WIT continues to offer Trade Apprentice programmes, as indicated in Table 3 (Appendix C).

[6] *Landscape*, pp.14-15

***STAFF PROFILE***

The "Landscape" document requires, with regard to staffing, that:
(i) A new TU has contractual arrangements in place that give weight to professional practice and engagement, and reflect the need for a balance in staff activities between teaching, research and administration;
(ii) 90% of full-time staff have at least a level 9 qualification;
(iii) At least 45% of full-time staff will hold a level 10 qualification or equivalent, a proportion rising to 65% within ten years of designation;
(iv) In the areas of doctoral provision, at least 80% of staff with level 10 qualifications.

4.20 The nationally-agreed and standard IOT appointment procedures are in place at WIT and give weight to professional experience and practice in determining appointments. Standard IOT academic contracts apply. These are not currently adequate to recognise the breadth of academic activity faculty are involved in nor the various proportions of teaching, research, administration and other activity faculty engage in. These working arrangements would need to be reformed within a new university.

4.21 WIT has received the HR Excellence in Research designation from the European Commission. This award acknowledges WIT as a stimulating work environment for researchers, providing attractive working conditions and equipping researchers with the broad skills and experience necessary to develop their research careers. The HR Excellence in Research designation is a clear statement of the Institute's commitment to providing the research environment and career development sought by high performing researchers. It underpins our commitment to using research and innovation as a driver for regional social and economic development. The designation is important in the context of the Institute's commitment to play a major role in the European Framework programme Horizon 2020 and the associated European Research Area. Participation in the European Framework programme is an important strategic priority for the Irish research community. WITs HR Excellence in Research designation is a clear statement of the Institute's commitment to leadership in the European Research Area.

***RESEARCH PERFORMANCE***

4.23 The "Landscape" document describes the nature of research within the TU and the infrastructure supporting research, as well as the expected research performance of the university which is understood to the internationally benchmarked. At the time of application it is understood that the institution would have demonstrable excellence in three areas with a developmental trajectory that would see it expand that number to five within five years of designation.

***Research and Innovation Model***

4.24 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. Over a period of twenty years the Institute has transformed its structures from a teaching organisation to a research-led academic institution. 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 could be leverage by the region for its economic development.

4.25 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. Research activity is conducted in the context of a global research community which operates independent of physical boundaries.

The creation of sustainable economic development at a regional level will be achieved through research and innovation which is internationally benchmarked against the highest standards. The flow of ideas and people between the region and the international community is a vital requirement for regional economic development.

4.26 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. The role of the Telecommunications Software and Systems Group in creating a regional cluster of high potential start-ups in mobile services validates the Institute's model.

4.27 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.

4.28 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 140 industries in five years.

4.29 The Institute has leveraged €140 million in external competitive research funding in the last ten years. This represents approximately one quarter of all research funding received by the IOT sector as a whole. WIT supports 150 funded research fellows. The WIT research and innovation model is consistent with the leading innovation institutes globally.

4.30 It is important to recognise that the development of the WIT research and innovation ecosystem has evolved over twenty years of focussed investment and a process of continual evaluation and optimisation. At the basis of the model are the concepts of excellence in research and innovation, the flow of people and ideas between the region and the international academic and industry community. The Institute has published its second research and knowledge transfer strategy and has consistently developed its research capability and improved its research performance through clear, focussed strategic thinking and investment in this area.

4.31 Globally every country is competing to access knowledge and the people who generate that knowledge. The ability of WIT to continue on its research and innovation trajectory in support of regional economic development is paramount. Engagement with new academic partners either in the context of the TU process or the regional cluster engagement must enhance the model in support of regional economic development.

4.32 Twenty years of strategic investment and development of the research, innovation and graduate is reflected in a mature research and innovation community providing national and international leadership. Global competition in attracting the best academic researcher and students is increasing year on year. The continued strategic development of this research and innovation ecosystem in WIT is core to the economic and cultural development of Ireland and of the Southern region in particular.

4.33 It is imperative that the TU process and in particular engagement with potential partners enhances the research, innovation and graduate training activities of the Institute in support of the open innovation needs of the region.

***Research Performance***

4.34 The Institute has been a leader in the Irish HE sector in research, a record demonstrable through a measurement of the Institute's research performance against all standard performance indicators. Table 4 (Appendix C) positions WIT's research performance against the overall performance of HE in Ireland, the universities, and a number of IOTs on the research performance metrics agreed with the HEA. As is clear, WIT outperforms the IOT sector, including DIT, on virtually all the metrics. WIT secured, on these figures, approximately one third of the PRTLI funding for the entire IOT sector in 2010.

4.35 Competitive research funding awards secured by the Institute since 2009 exceeds €60 million, as is indicated in Table 5 (Appendix C). Indicative of the research profile of WIT is the relative position of the Institute in attracting competitive funding. Table 6 (Appendix C) illustrates the position of WIT with regard to European funding through the FP6 and FP7 programmes and shows WIT outperforming all the IOTs (including DIT) and NUIM and the RCSI.

***Existing Centres of Excellence***

4.36 WIT maintains a number of research centres of considerable international reputation with a proven track record of research success. The following are summary descriptions of three centres of excellence.

4.37 Telecommunication Software Systems Group (TSSG): The TSSG was formed in WIT in 1996. It carries out a wide range of industry-informed research in Information and Communications Technologies (ICT) with a core expertise in areas of usability, flexibility, trust and security of communication systems, incorporating innovative services, network infrastructure, social media and mobile. TSSG industry collaborators include Nokia, Ericsson, Nokia Siemens Networks and Alcatel-Lucent – as well as Tier 1 operators including Telefónica/O2, T-Mobile, Telecom Italia, Vodafone, Telenor Group, Portugal Telecom and many more. The TSSG is ranked as one of the top 10 research organisations shaping 'Future Internet' research by the European Commission and is currently the only Irish academic group leading a large FP7 ICT project. TSSG has approximately 40 active projects per calendar year, undertaken across core Research Units (RU) relating to a range of research themes including: Research3MT (Mobile, Messaging & Middleware); Emerging Networks Laboratory; Data Mining & Social Computing; Mobile Services; Design and Usability. There are over 100 TSSG staff members, made up of 6 Faculty members, 17 PhDs, 7 post-doctoral researchers, with the remaining members consisting of leading telecommunications and software researchers, experts, and engineers along with operational and administrative support staff.

4.38 Pharmaceutical and Molecular Biotechnology Research Centre (PMBRC): The South East hosts some of the world's largest pharmaceutical and healthcare multinationals (GlaxoSmithKline, TEVA, Merck Sharpe & Dohme) as well as indigenous research-based companies such as EirGen Pharma Ltd. Products produced in the region range from generic tablets to high-value antibody, enzyme and vaccine medications. The PMBRC aims to serve this diverse range of companies and activities and is a national Technology Gateway as defined and funded by Enterprise Ireland. Situated in the heart of the region on the WIT campus, the overall aim of the PMBRC is to act as a focal point for the local industry. In particular, the Centre aims to stimulate research and innovation, allowing companies to embed R&D into their activities and support the sustainable growth of the sector in the region. Research in the PMBRC covers a diverse range of areas including drug delivery; pharmaceutical analysis and sensors; biomedical science; separation science and molecular biotechnology.

The PMBRC has 24 active research staff along with 10 post-doctoral researchers and 15 PhD students. Its partnerships are both national and international, academic and industrial. In a typical year the centre provides innovative solutions to over 40 industrial partners and is directed by an industry steering committee. The PMBRC has successfully competed for international (FP7, INTERREG, SGM) and national (SFI, EI, HEA) funding. The relevance of its innovative research approach is evident by the significant element of investment made by industrial partners in projects. Its outputs are both traditional academic (PhD and MSc research graduates, peer-reviewed papers, conference proceedings) but also increasingly commercial (licences, patents) as would be expected of a mature TU.

4.39 Eco-Innovation Research Centre (EIRC): The South East is a major hub for agriculture and food production in Ireland. The region hosts globally significant producers such as Glanbia, Dawn meats and Flahavans. As well as key industrial partners the EIRC also partners with key State bodies such as Teagasc, DAFM and the NBDC. The overall aim of the EIRC is to act as a focal point for innovation in the area of sustainable production. In particular, the Centre aims to stimulate research and innovation, allowing companies to embed R&D into their activities and support the sustainable growth of the sector in the region. Research in the EIRC covers a diverse range of areas including sustainable forestry, sustainable agriculture biodiscovery and molecular ecology. The EIRC has 22 active research staff along with 4 postdoctoral researchers and 8 PhD students. Its partnerships are national and international, academic and industrial. The EIRC has successfully competed for international (FP7, INTERREG, SGM) and national (EI, HEA, EPA, Marine Institute, DAFM) funding. Its outputs are both traditional academic (PhD and MSc research graduates, peer-reviewed papers, conference proceedings) but as with the PMBRC also commercial (licences, patents).

***FUTURE ENHANCEMENTS***

4.40 The student and staff profiles of WIT when measured against the proposed designation criteria demonstrate that WIT has the profile consistent with that of a TU as indicated in the criteria. WIT's strong expectation of a partner institution, therefore, is that it has a comparable profile; serious imbalances in the profile of students and of staff will necessarily hinder the ability of the merged entity to perform as a TU.

4.41 The Institute's research and knowledge transfer strategy to 2015 has identified a number of priority areas for investment, guided by the desire to (as the high-level themes within the strategy) "Support and Develop High Quality Research of National & International Standing", "Create a Sustainable Environment for Research", "Prioritise the Translation of Research for Societal & Economic Benefit", "Value & Support Research Career Development" and "Expand and Develop High Quality Graduate Education". A number of actions consistent with these thematic areas have taken place since the plan was published in2013. These include some of the initiatives described below.

4.42 The Institute continues to target strategically the recruitment of graduate research students and has initiated a funded PhD scholarship scheme. The third round of funded scholarships will be offered in 2015. The Institute has developed strong proposals for graduate education reform including developing structured Masters and PhD programmes for implementation in 2015.

4.43 WIT will continue to develop the profile of its staff, particularly through ongoing investment in continuing professional development. Specifically, the Institute has invested in supporting staff pursuing doctoral programmes. In this context, the Institute is confident of reaching the criterion relating to staff qualifications within three years and will be on track to meet the post-designation criterion.

4.44 The Institute has invested in a professoriate programme and will continue to do so. Two further rounds of professorial appointments will be made in the next three years. The Institute has developed formal structures to facilitate visiting professors from partner institutions and has welcomed visiting scholars in a number of areas. The Institute has also appointed adjunct and associate faculty from industry and the professions. Over the coming three years the Institute will welcome professors from international partners to all its academic schools and similarly extend its adjunct and associate professor appointments across all academic areas. The Institute will develop an emeritus professor and emeritus lecturer appointment programme.

4.45 Along with continued support for existing centres of excellence, the research strategy of the Institute has identified the need to consolidate research in Business into an area of critical mass and prioritising the development of research in a number of areas, including (but not necessarily confined to) materials science (including through the South Eastern Applied Materials [SEAM] research centre) and Health-related research (including the Macular Pigment Research Group [MPRG]). In addition, the Institute aims for at least national recognition for all research groups and centres (constituted according to Institute definitions) in the coming three years.

4.46 The structures supporting research activity will continue to be refined by the Institute. The Institute already has set and published clear definitions for research activity, and for the constitution of research groups and centres, consistent with international best practice. It has established a new designation—research institute—also in keeping with international practice. Schools across the Institute are required to convene School Boards with research and graduate education as a key responsibility. A full-cost model for research at the Institute is in development.

4.47 WIT has a long tradition of embedding engagement in its programmes of study, through the inclusion of community, industry or professional partners in programme design teams, through the inclusion of community, industry or other professionals on programme accreditation and review boards, as well as in roles as external examiners and various roles within research programmes, and through providing placement and other internship opportunities to students. Many of the Institute's programmes attract professional accreditation as a verification of the extent to which programmes are calibrated to professional, industry and other external standards.

**REGIONAL ORIENTATION**

4.48 As remarks above have made clear, it is understood that the TU will have a particular focus on the region in which it is based. The following paragraphs consider the nature of the South-East region and the positioning of WIT within that regional context. The Institute's continued commitment is to develop impactful educational programmes and research to improve the quality of life of all citizens within the region and beyond.

***THE SOUTH-EAST REGION***

4.49 The South East region officially consists of a population of just over half a million people and spans the five counties of Waterford, Wexford, South Tipperary, Kilkenny and Carlow. The region has traditionally experienced poor economic performance with lower than average levels of education attainment, modern industry employment structures and gross value added. It also traditionally has experienced high levels of unemployment given its over-reliance on construction and lower level manufacturing industries.

4.50 WIT has over many years been an active player in helping transition the region into higher value-added activities through:

(a) active engagement with regional stakeholders;

(b) the focus on recruiting regional learners and meeting their educational needs;

(c) the attraction of inward research funding;
(d) the generation of business incubation and high tech spin-out companies;
(e) the application of research activity to support regional industry and employment manifested in a number of EI funded applied research centres.

4.51 Some changes in the regional economy have taken place over the past number of years and the region experienced significant employment growth in the last quarter of 2014. It further enhanced its development base with a number of new IDA backed investments, some directly as a result of WIT engagement. Notwithstanding these developments economic indications remain on the poorer end of the scale and the region continues to experience the highest unemployment level of any region nationally.

4.52 The region has long argued that the regional deficits arise because of significantly poorer infrastructure than other regions, particularly in education, and several reports, including the Goodbody report[7], have highlighted the significance and value of embedding a university in the region. Recognition was given to the particular role WIT played in the 1990s when the Institute (then WRTC) was charged with increasing its honours degree provision as a necessary driver of economic development in the region. Consequently, in 1997 the designation of Institute of Technology was afforded to the institute. WIT's strategic trajectory in education provision and research development has been and continues to be driven by this need to address regional deficit. To date this has been seen not only in the programmes offered at undergraduate and postgraduate level but also WIT's development of research focused on developing cutting-edge industries into the region, as described above.

4.53 The South-East however lacks some degree of regional integration. It is the fourth largest region in the country in population terms but lacks the educational infrastructure to maintain the intellectual capital necessary for economic development. For instance, approximately two thirds of learners originating in the South East (including Tipperary) study outside of the region. Recent developments add further to the potential for reducing the integration, including the government's cessation of the existing spatial strategy, the move to larger regional areas (the South East will be in the Southern region) and the development of higher education clusters which will re-locate the regional centre of gravity to Cork and Kerry. The structure of the health services is informative in this regard as well, given the disaggregation of the South East hospital network with the relocation of Waterford and Clonmel to the Cork region (under UCC) and shifting of Wexford and Kilkenny hospitals to the Dublin Region.

***REGIONAL EDUCATIONAL PROFILE***

4.54 Two Institutes of Technology, Waterford and Carlow, are located in the region. Data presented by the ITC and WIT to the HEA as part of the early phases of the TU discussions show that the regional spread of learners are very different for both institutions and that they service very different geographical areas. In 2012, 74.5% of WIT's learner cohort originated in the South East with a further 15% crossing nearby boundaries either side of the region. In contrast ITC had 48% from the region with 44% coming from the immediate counties to the north of the region. Further analysis by county and time series over the past five years show a number of significant regional trends of some concern to the delivery of WIT's strategic objectives and the formation of a new TU.

[7] Goodbody Economic Consultants, *The Economic Impact of a University of the South-East,* Report to Waterford Chamber of Commerce, 2005

4.55 CAO acceptance data shows a distinctive pattern of choices made by regional learners. WIT is consistently the top choice (in terms of net acceptances) for learners for all counties within the region with the exception of County Carlow. The data also shows a clear regional pattern of choices by county. The Leinster counties of Carlow, Wexford and Kilkenny tend to have UCD showing as a high preference (e.g. second highest draw in Kilkenny for the last four years), while the Munster counties tend to travel to UCC and UL.

It is worth noting that Waterford or Tipperary learners do not show strong preferences to travel to Leinster counties with IT Carlow not featuring in either top three destinations for the past five years. The same trend is observable in the main sources of students for each institution in the south east. As indicated earlier almost 75% of all students in WIT originate in the region compared to 48% in Carlow. The top four sources of students for WIT are regional counties, in contrast to IT Carlow where the main county of origin of acceptances is Kildare and two of the top four origins of students are from outside the region. Indeed all of the top five CAO sources of learners for Carlow are based in South Leinster.

4.56 Acceptance data from the CAO also demonstrate the relative low take-up of places by the South East learners in region. In 2010, 40.4% of CAO acceptances were to either WIT or ITC; by 2014 this had fallen to 34.9%. WIT's market share of the region's students fell from just under 30% to just over 25% in the period with ITC suffering a similar fall from 11% to 9.5%. The period of decline (the last three years) mirrors the period in which discussions on the Technological University has been at the most prominent, which suggest that potential learners do not seem to be attracted by the concept.

4.57 As well as a suite of educational offerings there is a need to support and engage with local industry on a systematic basis to support both the training needs and the research requirements at individual and sectoral levels.

4.58 The principal industries for potential high technology growth in the region include agriculture, manufacturing, ICT and telecommunications, and biotechnology. These industries need to be supported by specific CAO-intake programmes as well as specific tailored programmes to support employee development. For instance, there is strong regional demand for agriculture programmes and WIT have significant connectivity with Teagasc in co-delivering industry focused programmes through the CAO. Similarly, a Masters degree has been developed in ICT specifically tailored for delivery to Sun Life staff.

4.59 The research areas prioritised by the Institute map to the regional industry needs and the region is serviced through three Enterprise Ireland Technology Gateways, the South East Applied Materials Research Centre which supports manufacturing, the Pharmaceutical and Molecular Biotechnology Research Centre, which supports Bio-technology, and the Mobile Services Technology Gateway which supports mobile services. All three of these gateways reside in WIT. The contribution of WIT's centres of research excellence is more fully expanded elsewhere in the document with some telling examples of the regional impact of research described in Table 7 (Appendix C) below. The Institute's model for regional innovation is explained in the next section.

***A REGIONAL ECOSYSTEM FOR DEVELOPMENT: RESEARCH AND REGIONAL DEVELOPMENT***

4.60 The uncertainty, dynamism and volatility of the social and economic landscape is altering fundamentally the nature of national economic development. The economic landscape is being transformed by a number of factors including increasing globalization, technological developments, the increasingly rapid diffusion of new technology and the knowledge revolution.

Europe has responded through the development of a strategy of smart specialisations as a driver of regional innovation and growth. The concept of Open Innovation and in particular Innovation Regions is driving the strategy for regional economic development. In essence, open innovation recognises that the generation of innovative outputs is facilitated by more openness towards external sources of knowledge. This openness encourages the fluidity of knowledge and information flows between organisations. Greater mobility of skilled workers and more ready transmission of knowledge by information technology increase the prevalence of inward and outward ideas and concepts between organisations and their external environments.

Therefore sustainable economic growth is increasingly related to the capacity of regional economies to change and to innovate. This means that a much greater effort needs to be put into creating an environment that encourages innovation and research and development (R&D). The migration of the South-East from its present economic position towards a dynamic sustainable smart economy requires an integrated strategy based on alignment of research, entrepreneurship and innovation supported by the "triple helix" of University-Industry-Government[8].

4.61 Global innovation regions indicate that knowledge-intensive activities connected to Global Production Networks become fundamental for regional economic performance. The existence of a system of innovation at the local level represents a crucial element for the attraction and exploitation of external knowledge. The system of innovation approach applied to developed countries implies that the existence of linkages between actors and organisations within a framework of a favourable social and institutional context gives rise to positive dynamics of learning, new knowledge creation and exploitation.

4.62 From an economic perspective the South East is dominated by tourism and agriculture and, before the demise of the Celtic Tiger in 2008, the construction industries. The South East, with about 11% of the national population, has always been underperforming compared to other regions in Ireland, and was the hardest hit region as regards household income and levels of employment after the demise of the Celtic Tiger. The economic environment is future complicated by the presence of micro companies and traditional manufacturing industries with low levels of innovation and R&D capacity.

4.63 The economic development of the South East requires investment into its research and development infrastructure, the creation of human capital and the enticement of genius and expertise into the South East region. (The region must attract the best scientists, engineers, professionals and entrepreneurs who can collectively in turn attract multinational industries and high potential start-ups.) Strategies are required to drive investment in indigenous enterprise, attracting of relevant foreign direct investment (FDI), the commercialisation of research and the professionalising of manufacturing and services across a range of sectors.

4.64 The challenge to support the growth, development and sustainability of the South East is to mesh these activities together so that there is mutual gain and advancement in a cohesive, co-ordinated, collaborative manner.

[8] This model for innovation has been developed within WIT. See O'Gorman, B., Donnelly, W., "Ecosystems of open innovation: their applicability to the growth and development of economies within small countries and regions", in *Handbook on Politics and Technology*, Ulrich Hilpert (ed.), London: Routledge, 2015 and O'Gorman, B., Donnelly, W, *Knowledge-based networks: the jewel on the regional development crown*, presentation to the Directing Committee of the Cooperative Action Programme on Local Economic and Employment Development (LEED), Derry-Londonderry, 2013.

Fragmentation of effort can be overcome by bringing the stakeholders together to develop and implement an integrated strategy for the economic development.

4.65 WIT has positioned itself clearly as part of the innovation ecosystem empowering the region's economic development, and the research performance charted above signals the Institute's continued capacity to play a key role in regional development. Table 7 (Appendix C), as previously indicated, gives several examples of the specific initiatives WIT has engaged in that have supported regional development. As has been indicated in the previous section, the strategic development of the research and innovation dimension to the Institute's activities has been directed towards smart specialisation for the region.

4.66 It is recognised that innovation requires a complex and diverse ecosystem within which to function. It is increasingly evident that a key component in sustainable development— including sustainable regional and rural development—is provided by cultural and creative activity[9]. Consistent with the declaration by the United Cities and Local Governments (UCLG) that culture forms the fourth pillar for sustainable development—alongside social inclusion, economic growth and environmental balance—WIT's research activity extends to the Humanities and Social Sciences. WIT is supportive not just of research into cultural activity (in the form of traditional Liberal Arts research) but of positive support for cultural activity and collaboration with cultural groups region-wide[10].

***INTERNATIONAL POSITIONING***

4.67 Notwithstanding its regional remit, the Institute has been careful (a) to locate that remit within an international context, not least by benchmarking activity against international standards, and (b) to recognise the necessity of facilitating and encouraging a flow of expertise and creative talent into the region from the wider world. In this sense the Institute's internationalisation strategy is intrinsically related to its regional strategy. As indicated above, the TU will be central to the regional consciousness but will seek international validation. The importance of an international dimension to any university and specifically to a TU is recognised in the designation criteria where sustainable and strategically focussed international activity is described as part of the profile of the TU.

4.68 WIT's strategy for internationalisation realises itself in the international nature of the curriculum on offer to students, in opportunities for international exchange for students and faculty members, in the engagement with international partners in research programmes, in the development of joint programmes of education and training with international partners, and in other ways.

4.69 In this regard, it is notable that, in the research area, as a demonstration of the Institute's credibility and maturity, WIT takes a lead role in EU funded partnerships; indeed WIT currently outperforms all other IOTs and some traditional universities in this regard.

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[9] See, for instance, Recommendation 25 in *Energising Ireland's Rural Economy: Report of the Commission for the Economic Development of Rural Areas*, November 2013, which places emphasis on the necessity of co-ordinated strategy for the creative industries to harness their economic potential.

[10] See the UCLG policy statement, *Culture: Fourth Pillar of Sustainable Development*, November 2010. The proposed approach to culture as a vital component to sustainable development involves "firstly, the development of the cultural sector itself (i.e. heritage, creativity, cultural industries, crafts, cultural tourism); and secondly, ensuring that culture has its rightful place in all public policies, particularly those related to education, the economy, science, communication, environment, social cohesion and international cooperation."

Importantly staff in the Institute are also engaged as external examiners in universities across Europe (including as PhD examiners) and are also heavily involved in leading roles such as COST action coordinators and CEN standard committee members.

4.70 Table 8 (Appendix C) indicates the level of international partnerships in the areas of student and faculty exchange currently in existence at WIT, by country. These represent signed, formal agreements and either denote current activity or planned activity. In some cases, international collaborations have involved joint programme development. Planned developments in this regard include joint programmes in Nursing (with the United States and Spain) and in Humanities (with Germany), amongst others. In addition, the Institute has a range of international research collaborations; Table 9 (Appendix C) lists international collaborators on funded projects only.

4.71 Currently there are over 400 international students from over 70 countries amongst the student population of WIT. The Institute is currently the HEI in the country for the Brazilian Science without Borders programme.

**ORGANIZATIONAL CHARACTERISTICS**

4.72 The Institute's efforts over several decades have been consistently to perform in a manner that best serves the region. To do so the Institute has had to change, including its structures and organization. It has done so within the limitations imposed on it by national structures and agreements.

***TEACHING, LEARNING AND CURRICULUM DEVELOPMENT***

4.73 The "Landscape" document suggests that a TU will have a curriculum directed in some part at least by business, the professions and the needs of employment. It is understood also, according to the "Landscape" criteria, that the curricula of the TU will embed generic skills development as well as workplace-related skills. The curricula will be practice and problem-orientated and the broad curriculum will be characterised by being engaged.

***Curriculum Design and Delivery***

4.74 WIT currently has in place a modularised and semesterised system for programme delivery. This facilitates flexibility in design, delivery and increased student choice. Modularisation also permits greater opportunity for inter-disciplinary programmes and the development of multiple streams within programmes.

4.75 As is common across many IOTs, WIT's programme approval processes require robust peer review of programme proposals, including by practitioners and experts from outside academia. Programme review processes also require the input of external experts from industry, the professions, and other fields. This helps ensure the ongoing relevance of the curriculum to the workplace.

4.76 Many WIT programmes are accredited by the relevant professional bodies. A number of these programmes, some uniquely within the IOT sector, attract professional recognised award titles. The professional accreditation of programme attests to the career relevance and outward-facing nature of the curriculum.

4.77 WIT undergraduate programmes routinely include work placement elements and the majority of programmes facilitate work placement opportunities where appropriate.

4.78 WIT uses a virtual learning platform (Moodle) and its use has been normalised for both students and staff. Some modules are delivered with significant online components in a blended learning format.

4.79 The Institute has established a Centre for Technology Enhanced Learning, is strategically committed to establishing a Centre for Teaching and Learning incorporating a significant research component and to build technology into supporting the curriculum more strategically.

***Generic Skills Development***

4.80 The development of generic skills is regarded as vital for the overall development of the learner, regardless of discipline area. Routinely programmes include modules on presentation skills, communications, and career development. Many programmes now also contain modules on critical thinking.

4.81 The majority of undergraduate honours bachelors programmes include modules on research design and research skills development. The majority of honours bachelors programmes also contain a research project or a project with some research orientation. The development of the learner's broad research skills is emphasised in programmes from level 8 at WIT.

***Staff Training and Development***

4.82 The Institute has been a sectoral leader in teaching, learning and assessment innovation, though it has been challenged to systematise that innovation across disciplines and Schools. The sharing of best practice in teaching, learning and assessment will be vital for the new university.

4.83 Many faculty have engaged in higher degrees in teaching or with a focus on education and educational practice. The Institute has also invested in Continuing Professional Development programmes in pedagogy, learning and teaching, and educational management.

4.84 The Institute has formalised a training and development week within the academic calendar and an extensive and varied array of programmes are offered. In addition the Institute runs a formalised research supervisor training programme. The Institute's Quality Office also takes responsibility for training staff on a formal and bespoke manner in academic matters such as writing learning outcomes or conducting quality reviews.

4.85 The Institute recognised some years ago the need to create a culture where staff undertook and valued doctoral qualifications. Significant investment in financial support and management leadership has created such a culture and an awareness that research activity is directly linked to the teaching and learning environment at WIT.

***STRUCTURES AND ORGANIZATION***

The "Landscape" document insists that the new TU will have:
(i) Governance structures appropriate to the overall orientation of the university,
specifically its commitment to being outward-facing and engaged;
(ii) An integrated academic governance structure across any component institutions;
(iii) A leadership team with a strong academic background coupled with experience in the professions and industry, better to support the university's mission;
(iv) A robust quality assurance framework;
(v) Workplace practices and contracts appropriate to a modern university.

***Academic Structures***

4.86 The academic structures supporting the delivery of the curriculum outlined above, and in support of the enhancement of quality, have evolved from structures that originally existed in the IOTs. The WIT Academic Council remains at the centre of the academic life of the organization. It has empowered, and devolved much authority to, a range of subcommittees with responsibility over areas such as quality, research, teaching and learning, and planning. Academic Schools are required to convene a School Board with some local responsibility for quality management. The empowering of Schools—with consequent responsibility—is an important step towards the structures that will need to exist in a TU.

4.87 The Institute has invested heavily in building offices to support areas of strategic importance to the Institute. In particular, there has been investment in the establishment of a Quality Office, consistent with the Institute's continued commitment to excellence in all its activities, and in the creation of a Research Support Unit (with widespread responsibility in support of the research strategy) and Knowledge Transfer Office (with responsibilities across the industry-academic research interface).

4.88 The Institute has been a leader in the development of the appropriate MIS system to support the flexible programmes the Institute wishes to offer (notwithstanding the restrictions imposed by obligations to utilise a sector-wide MIS system). WIT has been particularly proactive in developing reporting capability from all its systems, better to guide strategic decision-making.

4.89 The current Institute leadership combines the required academic expertise with professional experience and qualification.

***Governance***

4.90 The Governing Body of WIT is an active, influential group of individuals representative of regional business and political leaders who have embraced both their fiduciary and governance duties to ensure the best level of governance, adherence to the Code of Governance, Internal Audit requirements, Quality Systems, Financial Control and Strategic direction and diversity that allows the processes and policies of the institute adapt appropriately to take advantage of opportunities that present themselves. Such opportunities have enabled the Institute to strategically and purposefully develop for example in terms of research capacity and international presence. The Governing Body members take an active role in influencing the continued development and standing of the institute in the region and assisting the integration of the Institute into the community, business and political sectors.

4.91 The external representation on the Governing Body ensures that a diversity of perspectives informs strategy and decision-making, providing essential expertise and experience while ensuring transparency and accountability in the operations of the Institute.

4.92 The WIT Governing Body has been progressive in ensuring clear strategic direction exists, as is evident in the published Strategic Plans and Institute Priorities as well as the Section 9 application, *Realising the Future.*

4.93 Governance issues that have arisen in the recent past—highlighted in an inspection report—have been dealt with, and appropriate structures and procedures have been established further to strengthen WIT governance.

4.94 The Institute is essentially fully compliant with the extensive regulations included in the Code of Governance and has been a leader in the sector in embracing the implementation of recent policies including Disclosure Policies and Codes of Conduct.

4.95 Governing Body effectiveness is maintained through regular training and self assessment processes. Governing Body operates a progressive work plan that embeds all aspects of governance including internal audit and risk, monitoring of subsidiaries and connection with academia.

4.96 The Internal Audit committee has attracted high profile dedicated professionals. Such individuals bring a wealth of experience and knowledge, are dedicated to their role and also adhere to an aggressive work-plan which extends beyond the normal terms of reference for the sector.

4.97 The Institute has recently restructured six subsidiaries with newly invigorated boards of directors who are specialists with relevant skills appropriate to the operations of the companies. The companies also have undergone a full governance review. The governance and reporting structures have been integrated into the overall governance framework of the Institute.

4.98 There has been a full integration and Institute wide appreciation of the Internal Controls Framework and Risk Framework, both of which are maintained as evolving models to ensure they can respond new regulations and changes in strategic and environmental conditions.

4.99 In the transition to any new entity, ensuring that there is continued alignment of the skill base, interests, and expertise of the members of the Governing Body with the requirements of the Institute will ensure a continued clear strategic focus and an integrated approach to Governance and Management. There is an ongoing need for roles and lines of responsibility in relation to the Governance and Management of the Institute to continue to be clearly defined. While it is important to ensure that the responsibilities and authorities remain delineated, it is also vital in any future organization that the bodies are integrated through appropriate governance and communication structures. It is imperative that the role of the Executive (and indeed Faculty management) is strengthened in order to ensure coherence and improved performance; the devolution of some responsibilities to Faculty level (as set out elsewhere in this document) is a recognition of this need.

4.100 The TU will require the development of structures to ensure correct balancing of autonomy with the need to adhere to policy requirements in the safeguarding of public funds and Institute assets. Importantly, this has already been tested at WIT through the Institute's evident ability to be responsive in managing extensive research funds. Furthermore the Institute's ability has been tested in terms of commercial comparisons through integration of subsidiaries and the management of international funds.

***Financial Structures***

4.101 The Institute has moved outside the traditional barriers of generating the majority of funds through exchequer sources. A reputation for entrepreneurship and innovation has been encouraged in relation to the generation of additional funding which has ensured a quality and diversity of service provision. The Institute has demonstrated an exceptional ability to attract funds through non-traditional teaching provisions—part-time, post graduate and international fees—and also extensive research, consultancy, and commercial activities. Enhanced research and student facilities have also been provided through private funds.

4.102 The financial structures and policies have responded to the diversity of financial opportunities and associated responsibilities. Financial management processes and teams have been developed to deal with diverse funding streams and requirements. The Institute has developed the expertise and processes to manage and respond to complex financing arrangements and beneficial tax incentives.

4.103 Unique in the sector the Institute manages a comprehensive range of commercial entities and consequently commercial relationships, including student accommodation and retail outlets. The Institute is uniquely positioned to offer a twelve month provision to students. Through collaborative partnerships shared facilities which have attracted significant funding contributions have been designed, delivered and maintained.

4.104 While the devolved budget process is severely restricted in the current climate due to economic conditions, reduced funding and fixed payroll costs, the systems, ability and processes are available to respond to environmental and economic changes when they occur to enable the further devolution of financial destiny to faculty level.

4.105 WIT has had an extensive capital development programme over its history. The in-house extensive professional capital projects team delivered state-of-the-art building projects for teaching, research, student accommodation and services over the ten years prior to the recession.
The team can easily be re- mobilised and is working to ensure the Institute has the capacity to respond to capital growth opportunities whether funded from the exchequer or private sources.

4.106 The finance structures are positioned to respond to complicated accountability measures including external financial audits from European Union and examination of performance outputs related to the fulfilment of strategic and research objectives.

4.107 A clear Intellectual Property Policy that has enabled profit sharing in the disposal of shares in spin out company.

4.108 In the future it is planned to sustain and increase further the diversity of funds through increases in autonomy including the provision of a borrowing framework and the development of partnership arrangements. Professional services integrating and cooperating further with the Faculties and also business and industry partners will ensure innovative funding solutions are delivered.

4.109 It is proposed to extend autonomy for and within the Institute in relation to the management of financial resources. In this context, it will be important to introduce incentive schemes to encourage income generation. Faculty decision-making will be encouraged and enabled around financial priorities, and there will be in the TU a reduced reliance on and control by the “parent” central office. This approach will encourage and enable the matching of resources to specific operational and strategic needs.

**CHAPTER SUMMARY**

This chapter has described the change readiness of WIT with regard to the characteristics of the TU and the criteria for university designation. It has described the Institute in terms of its profile—both learner profile and staff profile—and its research performance, cross-referenced to the relevant designation criteria. It has described the Institute’s orientation towards the region and, related to this orientation, its international positioning. And the chapter has offered some remarks on the Institute’s current organizational structures, particularly as they relate to teaching and learning organization, curriculum design, and the structures supporting that activity.

**Appendix C**

**Table 1: Distribution of level 10 Programmes by Field (SRS, March, 2014)**

| Field | Number | Percentage |
|---|---|---|
| Education | 2 | 1.8 |
| Humanities and Arts | 18 | 16.1 |
| Science | 35 | 31.3 |
| Social Science, Business and Law | 42 | 37.5 |
| Engineering, Manufacturing and Construction | 5 | 4.5 |
| Health and Wellbeing | 10 | 8.9 |
| Totals | 112 | 100% |

**Table 2: Number of Lifelong Learning Students (SRS, March, 2014)**

| Student Type | Number | % of overall |
|---|---|---|
| Mature CAO | 955 | 30% |
| Part-time Evening Accredited | 1356 | 43% |
| Part-time Evening Non-Accredited | 561 | 18% |
| Students on Minor, Supplemental, Special Purpose Awards | 217 | 7% |
| Other | 66 | 2% |
| Totals | 3155 | 100% |

**Table 3: Number of Trade Apprenticeship Students (FTEs) (SRS, March, 2014)**

| Trade | Number |
|---|---|
| Plumbing | 16 |
| Electronic Security Systems | 16 |
| Motor Mechanics | 16 |
| Electrical Engineering | 32 |
| Totals | 80 |

**Table 4: WIT's Research Performance in Context (Source: HEA Facts & Figures 2012/13)**

| Metric | All HEIs | Universities | IOTs | WIT |
|---|---|---|---|---|
| PhDs per 10 staff members | 1.6 | 3.06 | 0.2 | 0.3 |
| PRTLI Funding (€000) | | | | |
| FP7 income per staff | 17,469 | 26,521 | 3,417 | 20,605 |
| IRCSET Funding per staff | 1,831 | 2,976 | 213 | 461 |
| IRCHSS Funding per staff | 853 | 1,362 | 73 | 151 |
| SFI Funding per staff | 11,167 | 18,180 | 697 | 3,237 |
| TSR Funding per staff | 352 | 0 | 914 | 1463 |
| Patents applied | 339 | 279 | 38 | 6 |
| Patents granted | 86 | 80 | 1 | 0 |
| Licenses | 276 | 235 | 35 | 5 |
| Spin-out Companies created | 81 | 68 | 13 | 3 |

**Table 5: WIT Research Funding Awards**

| Year | Funding (€) |
|---|---|
| 2009-10 | 12,894,837 |
| 2010-11 | 8,455,503 |
| 2011-12 | 8,872,788 |
| 2012-13 | 17,395,549 |
| 2013-14 | 13,146,356 |
| Totals | 60,765,033 |

**Table 6: Relative Performance of Irish HEIs in FP6 and FP7 Programmes**

| HEI | Funding to Irish Participants (€m) 2000-2006 | Funding to Irish Participants (€m) 2007-2013 |
|---|---|---|
| TCD | 28.6 | 76.2 |
| UCD | 22.6 | 68.4 |
| UCC | 30.1 | 67.4 |
| NUIG | 24.1 | 38.8 |
| DCU | 9.4 | 27.2 |
| UL | 5.0 | 17.2 |
| WIT | 4.9 | 13.3 |
| RCSI | 2.7 | 12.2 |
| NUIM | 3.1 | 9.6 |
| DIT | 1.9 | 2.9 |
| CIT | 0.6 | 2.9 |

**Table 7** ***Examples of regional impact of WIT research programmes***

- In the academic year 2013 / 2014 WIT secured €7.8m funding from EU, National and private sources to employ 172 professional researchers including postdocs, research fellows, project manager, engineers and technician, a critical intellectual and knowledge resource for the region.

 ArcLabs currently supports 23 knowledge intensive enterprises in Waterford and Kilkenny employing in excess of 130 staff

 During the period 2010 – 2014 WIT has created 5 direct spin out companies from its research programmes including FeedHenry which was recently acquired by US multinational RedHat for €63.5m and employed 85 staff based in Waterford, Dublin, UK and US at the time of acquisition.

 School of Business continues to support the development of 9 knowledge intensive start-up enterprises each year via the New Frontiers 2013 – 2015.

 WIT's 3 Technology Gateways – Mobile Services (TSSG), SEAM and PMBRC completed more than 110 projects for regional and national based companies over the 2 year period (2013 / 2014)

 WIT researchers collaborate with more than 25 regional and national companies from the services, ICT, food/agri, medical devices, engineering and health care sectors on 19 Innovation Partnership projects, total value (€4.44m) (2010 – 2014)

 365 Innovation Vouchers completed for SMEs by WIT researchers (2009 – 2014)

 More than €1 million paid directly by industry for the provision of specialised consultancy services by WIT researchers (2009 – 2014)

 PMBRC leveraged €840,000 EU funding through EU Marie Curie Industry Academic Partnership Programme and collaborates with Waterford based Eirgen Pharma and partners in Wales to examine methods for the delivery of high potency drugs across the skin.

 SEAM secured funding from the EU SME programme to collaborate with regional partner the Schivo Group and partners in Norway, Italy & Poland to develop a smart sensor for monitoring tool wear in precision engineering (2013)

 PIs from PMBRC, TSSG, RIKON, Eco-Innovation, the Schools of Engineering and Business collaborate with regional and international partners on 7 Inter – regional Co-operation Programme - Interreg funded projects, securing more than €4.1m investment into the South East region (2009 -2014)

 WIT Department of Chemical & Life Science develops and delivers accredited training programme to 45 Glanbia staff employed in the new €200m Diary Processing Facility in Bellview

 The Centre for Enterprise Development & Regional Economy leads a €3.8m EU funded e-DigiRegion project (2013) and collaborates with regional stakeholders in the south east such as Local Authorities, academic institutions and industry to increase regional competitiveness via the development of research-driven clusters in the technology domain.

**Table 8: Number of Formal Agreements with International Partners**

| Country | Number of Formal Partners |
|---|---|
| ***Americas*** | |
| Argentina | 1 |
| Brazil | 9 |
| Canada | 7 |
| Mexico | 2 |
| United States | 9 |
| *Asia, Africa, Oceania* | |
| China | 18 |
| Australia | 2 |
| Malaysia | 1 |
| Nigeria | 2 |
| India | 2 |
| Taiwan | 1 |
| *Europe* | |
| Austria | 3 |
| Belgium | 5 |
| Czech Republic | 1 |
| Denmark | 4 |
| Finland | 3 |
| France | 24 |
| Germany | 14 |
| Italy | 3 |
| Hungary | 1 |
| Lithuania | 1 |
| Netherlands | 2 |
| Norway | 1 |
| Poland | 3 |
| Portugal | 2 |
| Slovakia | 1 |
| Slovenia | 2 |
| Spain | 11 |
| Sweden | 1 |
| Turkey | 3 |

**Table 9: International Research Collaboration (Funded Projects)**

| *Academic Institution* | *Country* | *Discipline Area* |
|---|---|---|
| Karl-Franzens Universität | Austria | Health Science |
| Katholieke University Leuven | Belgium | Science / ICT / Humanities / Business |
| University of World and National Economy | Bulgaria | Business |
| University of Guelph | Canada | Business |
| Memorial University Newfoundland | Canada | Business / Eco-innovation |
| Aarhus University | Denmark | Humanities |
| Aalborg University | Denmark | Humanities |
| University of Eastern Finland | Finland | Science / Eco - innovation |
| Tampere University of Technology | Finland | Science / ICT |
| Reim Management School | France | Business |
| National Technical University of Athens | Greece | Science / ICT |
| Universitatii Politehnica Din Bucuresti | Hungary | Business |
| The University of Naples Federico II | Italy | Engineering |
| University of Turino | Italy | Humanities |
| Ulster University | Northern Ireland | Health Science /Engineering |
| Queens University | Northern Ireland | Humanities / Engineering |
| Høgskolen i Gjøvik | Norway | Engineering |
| Warsaw University of Technology | Poland | Engineering |
| Wroclaw University of Environmental & Life Science | Poland | Science / Eco - innovation |
| University of Oporto | Portugal | Business |
| Qatar University | Qatar | Science / Eco - innovation |
| University of Aberdeen | Scotland | Science / Eco - innovation |
| Heriott Watt University | Scotland | Science / ICT |
| University of Nis | Serbia | Science / IC |
| Medical Research Council, South Africa | South Africa | Health Science |
| University of Castilla-La Mancha | Spain | Business |
| KTH Royal Institut of Technology | Sweden | Science / ICT |
| Scuola Universitaria Professionale della Svizzera Italian (SUPSI) | Switzerland | Health Science |
| ETH Zurich, the Swiss Federal Institute of Technology | Switzerland | Science / ICT |
| Loughborough University | UK | Business / Engineering |
| Kings College London | UK | Health Science |
| University of Lincoln | UK | Health Science |

| *Academic Institution* | *Country* | *Discipline Area* |
|---|---|---|
| Coventry University | UK | Science / ICT / Business |
| Georgia State University | USA | Business |
| University of Missouri | USA | Business |
| University of South Florida | USA | Education |
| University of Georgia, Athens | USA | Education |
| Browns University | USA | Engineering |
| Tufts University, Boston | USA | Health Science |
| University of Aberystwyth | Wales | Business |
| Cardiff University | Wales | Science / Pharma |
| Bangor University | Wales | Science / Pharma / Engineering |