

INSTITUTE OF TECHNOLOGY BLANCHARDSTOWN

Strategic Dialogue Cycle 4

HEI SELF EVALUATION REPORT 2016

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Preface to Strategic Dialogue Cycle 4

This is the concluding performance report covering the final set of targets agreed between the Institute of Technology Blanchardstown (ITB) and the HEA, as set out in ITB's mission-based performance compacts 2014 -2016. It builds upon the Cycle 3 reporting that was submitted in June 2016, and specifically reviews the final set of institutional objectives to December 2016.

Whereas the reporting herein has due regard to ITB's performance in delivering on the strategic goals of the compact as a whole, the reporting period covered the in-progress strategic transformation into a Technological University by ITB and its TU4Dublin Alliance comprising of the Dublin Institute of Technology and Institute of Technology Tallaght. Therefore, evidences of enhanced performance through greater integration within the TU4Dublin consortium, and risk management strategies over a range of related operations have been highlighted.

I would like to acknowledge the contributions from our ITB community, the TU4Dublin Alliance partners and other key stakeholders in compiling this report.



May 16, 2017

Larry McNutt Ed.D
Registrar, IT Blanchardstown

Date

HEA Preamble

Strategic Dialogue Cycle 4 HEI Self Evaluation Report

Each higher education institution is required to complete a self-evaluation report setting out a review of institutional performance against the final set of targets, as at year end 2016.

The template should largely be populated as per the published compact. If an institution experiences a significant departure from their set targets, then this should be signalled to the HEA as part of their self-evaluation report, along with an explanation of the cause for such departure.

The self-evaluation should include a commentary on progress and description/ explanation of any departures from the expected/agreed performance as set out in the mission-based performance compact 2014 – 2016 with particular reference to (a) institutional objectives and performance indicators, (b) interim targets set as at end 2016 and having regard to (c) March 2017 data returns to the HEA.

The self-evaluation should, where possible, benchmark your institution's performance, either at institutional level or according to a particular objective, with that of chosen national and/ or international comparators and demonstrate any learnings from the process. Institutions should also set out the data source against which progress has been reported.

As this is the concluding round of reporting under this cycle of strategic dialogue, institutions are requested to commence their self-evaluation with a more general assessment of the progress made in achieving the key priorities set out by the institution in their compact.

The self-evaluation requires institutions to report performance under seven separate domains having regard to particular institutional mission. Institutions are requested to submit an overarching statement reporting on progress made and the impact this progress is having on developments in other domains, under each system objective.

Case studies/exemplars

One of the objectives of this process has been to improve the accountability of the Irish higher education system in respect of its performance. While the individual compacts, and overall system report provide a very significant level of data in this regard, institutions are also requested to set out any particular case studies/exemplars of performance, in the achievement of specific compact objectives. This can be at the level of an individual domain, or may cross a number of domains, and at the level of an institution, or cluster. It is not necessary at this stage to provide full details of the case study, but rather to indicate the particular focus of the case study, and the outcome which was achieved.

As before, progress to date on compact targets should be identified in the last column of the template using a colour code as follows:

	Target achieved or exceeded
	Substantial progress made, targets not met in full and reasons identified
	Target not met for identified reasons

Overview of institutional progress

Context of the HEA-ITB Mission-based Performance Compact

This Compact is an agreement between the Higher Education Authority and Institute of Technology Blanchardstown, and is the outcome of a process of strategic dialogue between the two bodies. The purpose of strategic dialogue is to align the missions, strategies and profiles of individual higher education institutions with national priorities, and to agree strategic objective indicators of success against which institutional performance will be measured and funding allocated. It demonstrates a shared sense of the balance that is required between institutional autonomy and public accountability and a recognition that a diverse range of strong, autonomous institutions is essential for the overall higher education system to respond effectively to evolving and unpredictable societal needs. The Compact also recognises that Institute of Technology Blanchardstown is an autonomous institution with a distinctive mission, operating within a regional, national and international higher education environment.

The Compact recognises that there is a tension between providing a transparent framework of public accountability for performance in relation to funding, and risks of unintended behaviours related to measurements. It addresses this tension by requiring higher education institutions themselves to propose the qualitative and quantitative indicators against which their performance should be assessed by the Higher Education Authority as basis for funding support. The principles under which State funding for higher education is provided are:

- Institutional autonomy balanced with public accountability for high quality outcomes; and
- Core funding allocations that are predictable, fair and transparent, and that provide reasonable stability from year to year and in which funding follows the student.

Therefore, the purpose of the compact process is to provide a strategic framework for the relationship between the Higher Education Authority and Institute of Technology Blanchardstown. It sets out how Institute of Technology Blanchardstown's mission and goals align with national goals for higher education. By detailing HEA funding commitments and reciprocal Institute of Technology, Blanchardstown commitments, this Compact also contributes to creating a transparent and accountable system of administration of State funding. To support this purpose, the HEA and ITB agreed that the Compacts will be published.

Original Aims at Commencement of the Compact Process

The mission of the Institute of Technology Blanchardstown (ITB) is to continue to serve its students and the community by meeting the skills needs in the economy and increasing the level of participation in higher education and training, particularly in Dublin North-West and its environs. The Institute will do this by achieving consistently high standards of relevance and quality in teaching, research, development and consultancy. ITB will offer a welcoming and supportive environment to students from all educational and social backgrounds and to adults wishing to increase or update their level of technical skills.

The original aims at the commencement of the Compact process were guided by the ITB Strategic Plan 2012-2015—*Forward Thinking, Transformation with Continuity*. The six Strategic Objectives detailed in the plan mapped to the HEA Compact Strategic Domains as described in the table below.

ITB Strategic Objective ¹	Related Strategic Domain in the HEA Performance Compact
1. Strengthen ITB as a vital resource for north-west Dublin and its environs within the broader alliance of DTU.	<ul style="list-style-type: none"> • Regional clusters. • Enhanced engagement with enterprise.
2. Continue to grow our student community while retaining its current diversity.	<ul style="list-style-type: none"> • Participation, equal access and lifelong learning. • Enhanced internationalisation.
3. Further develop our model of teaching and learning – same high standards, new styles and methods.	<ul style="list-style-type: none"> • Excellent teaching and learning and quality of student experience (mode of provision). • Participation, equal access and lifelong learning.
4. Extract the maximum benefit from our resources to meet the vision of DTU.	<ul style="list-style-type: none"> • High quality, internationally competitive research.
5. Create opportunities to relate, connect and develop our capabilities.	<ul style="list-style-type: none"> • Enhanced engagement with enterprise. • Enhanced internationalisation.
6. Be part of the formation of a new technological university for Dublin (DTU).	<ul style="list-style-type: none"> • Enhanced internationalisation. • Institute consolidation.

With constitution of the original Mission-based Performance Compact, between The Higher Education Authority (HEA) and The Institute of Technology Blanchardstown (ITB), dated February 2014, both the HEA and ITB acknowledged that institutional mission and strategy will evolve during the period covered by the compact. Therefore, periodic review and revision of the original targets have been pertinent to each cycle of the HEA compact returns by ITB.

Outline of ITB Performance

The Institute of Technology Blanchardstown (ITB) was established by an Act of the Oireachtas in 1999. At establishment, ITB’s primary mission was to provide opportunities for the rapidly growing population in Dublin north-west, which was deemed under-represented in higher education. Slightly over the following decade, ITB worked progressively to address this need, and flourished in the process, to become a significant provider of higher education in the region and beyond, by positioning itself firmly within the business, social and educational fabric of Blanchardstown and the Dublin north-west as a whole. It became a vital resource for its multiple stakeholders in the region. The National Strategy for Higher Education to 2030 (promulgated in January 2011), envisaged a transformed higher education with a central role in the transition to an innovation-driven society, that could make Ireland a country recognised for competitive enterprise and continuing academic excellence. It established a framework for transformation of the higher education sector by the strengthening of the higher education system as a whole, via the formation of regional clusters of collaborating institutions and institutional consolidation.

While ITB takes critical cognisance of the requirements of its statutory obligations (*viz.* the HEA Compact and the QQI Annual Institutional Quality Returns), the institute has strived to achieve and exceed the baseline expectations. The institute has developed and managed its strategic planning initiatives that primarily identify

¹ ITB Strategic Plan 2012-2015—Forward Thinking, Transformation with Continuity is available at: www.itb.ie/AboutITB/documents/ITBStrategicPlan2012-20154RSP02R1.pdf

with its mission, while targeting specific intents to enhance learning experience for the broad range of registered learner categories. Notable examples where the institute has sought to enhance its performance are:

- (1) *Proactive membership of regional clusters*— ITB has remained at the heart of formation and participation in activities of regional clusters that are aimed at enhancement of learning experience (e.g., membership of [The National Forum for the Enhancement of Teaching and Learning in Higher Education](#));
- (2) *Enhancement of participation, access and lifelong learning initiatives*— by maintaining innovative access provisions such as the [REACH Access Programme](#), flexible delivery modes, non-CAO offerings, working with NLN and AHEAD to incorporate Universal Design Principles (Further information is covered in Section 2 later)
- (3) *Making the enhancement of teaching and learning to be at the centre of ITB activities*— Specific target has been the development and maintenance of a welcoming and supportive *Academic Environment* that facilitate transition of secondary students and lifelong learners to higher education;
- (4) *Developing capacity for high quality, internationally competitive research and innovation*— while the institute mission, since inception, is notably weighted towards teaching and learning, ITB has managed to develop core areas of research supporting its own academic programmes (e.g., Transportation Engineering, Sustainable Energy Engineering, Computational Linguistics, Cybersecurity etc.). In these areas, ITB has aimed for and achieved high research impacts, through publications, innovations, and other research spin-offs. In other areas, ITB has leveraged its proactive facilitations for the upskilling of staff through enrolment for higher academic awards (Masters and PhD), institutional-level and industry collaborations, and staff mobility provisions to maintain participation in a broad-based research portfolio;
- (5) *Engagement*— ITB has continued to build and support the relationships with the business community in tangible and practical ways to promote job creation and economic development, with particular emphasis on indigenous Multi-national corporations and SME sector in the region; Encouragement and support to start-up businesses, and; to expand and deepen links with public sector bodies, community representative organisations, voluntary organisations and other education providers (See: [Industry & Innovation remits of the LINC Centre at ITB](#)). ITB also has a designated Head of Civic Engagement.
- (6) *Internationalisation*— ITB also recognises that internationalisation of academic/research programmes holds significant potential towards enhancement of quality of learning, teaching, and research, and therefore; the overall quality of learning experience. Therefore, ITB has strived to strengthen its relationships with priority countries outside of Europe, to include greater collaboration in mobility, research, and teaching, and also outward mobility of staff members and students (see Section 6 for detail)

The key intents of the ITB Strategic Plan 2012-2015—*Forward Thinking, Transformation with Continuity*, was to accelerate the transformation to a Technological University. It laid the foundation for institutional consolidation by initiating negotiated collaborations and initiatives for possible merger with the Dublin Institute of Technology and the Institute of Technology Tallaght, under the TU4Dublin² alliance umbrella. In the period January 2014 to July 2016, the TU4Dublin alliance developed the foundation themes for greater cohesion and cooperation across the alliance and within each of the constituent institutes, as part of the core mainstreaming activities necessary to meet the criteria for Technological University designation. The substantive works undertaken and completed are outlined in the [TU Workstream Reports](#), while the progress to-date is outlined in the [Dublin Technological University Alliance Progress Report 2014-2016](#). The follow-on Strategic Plan 2016-2019—*Transforming into a Technological University* (see Appendix 1) came into effect in the third quarter of 2016 that is covered by this compact. Its main aim is to achieve designation as a Technological University within the plan's lifetime. The collaborative activities and performance reported below specifically support the TU4Dublin programme.

² TU4Dublin is the working title for Technological University for Dublin Alliance

1. Regional Clusters

The current efforts in restructuring and development of the higher education system in Ireland are aimed at enhancing quality and diversity. The establishment of *Regional Clusters*, as part of intentional collaborative arrangements between HEIs in the same region and their stakeholders enables individual institutions to capitalise on their particular strengths and missions (smart specialisation), while maintaining cognisance of the inherent synergy of concerted actions in areas of common interest and satisfying common strategic goals. It enables the allocations to and prioritisation of goals in the strategic planning process by the individual HEIs. Where applicable, it may also lead to shared resources and available expertise, thereby enabling the clusters to collaborate and compete more effectively internationally. Therefore, the formation of *Regional Clusters* is a means of ensuring maximum benefits from investment in science, research and higher education thereby supporting regional developments.

In the compact reported herein, it was agreed with HEA that ITB, along with its Technological University for Dublin (TU4Dublin) alliance partners would focus on the development of the TU4Dublin as the primary goal for participation in the Dublin/Leinster Pillar II cluster. Therefore, in the period covered by this compact, ITB agreed to continue to maintain engagement in collaborative initiatives with the transition to Technological University under the TU4Dublin alliance remained the key strategic goal.

The TU4Dublin Alliance is an initiative by the three partners Dublin Institute of Technology (DIT), Institute of Technology, Blanchardstown (ITB) and Institute of Technology, Tallaght (ITT) to create a new technological university for the Dublin region. Substantial progress has been made in advancing the TU4Dublin initiative over the period of the Compact; a summary of the most recent developments is provided in Section 7. As a consortium, TU4Dublin is already a major player in Irish higher education sector, representing 12% of all new entrants (*HEA data 2015/16*). The Alliance continues to be an active participant in the Dublin region, contributing to the knowledge capital of the region through supporting technologically skilled students and graduates. In the academic year 2016/17, TU4Dublin had a total of 29,339 students, of which 6,742 were new entrants. This is a significant cohort of the student population in the region. Comparatively, for the year 2015/16 (for which the most recent HEA data is available), in the Dublin region TU4Dublin supported

- 25% of all students
- 25% of all new entrants
- 34% of new entrants in STEM disciplines and
- Over ½ (54%) of all learners on Level 6 & 7 programmes

Figure 1 shows that TU4Dublin has more than 3 out of every 4 students from the institution's county or bordering county, both a higher figure than (i) the national average and (ii) higher than the other institutions in the Dublin region. One important outcome of the TU4Dublin work to date has been the establishment of the joint Graduate Research School and the development and delivery of the structured PhD programme, whereby students from across the consortium can access and share greater knowledge and expertise.

While focusing its collaborative efforts towards the establishment of TU4Dublin and system diversity that are considered under Section 7 (Institutional Consolidation), ITB recognises the inherent potential and benefits of continued participation in regional clusters outside of the TU alliance activities. Key activities have been geared to enhancement of teaching and learning, and to ensure that these remain at the core of ITB activities. This is achievable by proactively participating in regional clusters with specific purposes of: Creating and maintaining rich learning environment through an innovative, flexible and multi-disciplinary curriculum model for all students; Expanding our innovative use of technology to further enhance the teaching and learning environment, and; Continuing to develop a learner-centred approach to quality enhancement for all students.

Institution objective	Performance indicator	Baseline	Final target, end 2016, commentary and data source	Summary
<p>To be an active participant, through the Dublin Technological University Alliance (DTUA), in the Dublin/Leinster Pillar II cluster, so as to enhance ITB's contribution to Dublin's regional development.</p>	<p>Number of active collaborative initiatives</p>	<p>Four initiatives, namely: 1. DRHEA 2. The Green Way 3. The Global City Innovation Initiative, 4. The Creative Dublin Alliance. 5. Maintain current engagements in collaborative initiatives</p>	<p>Target to End 2016: Maintain current engagements, plus engagement in 1 new active cluster-wide collaborative Initiative</p> <p>Progress In 2016/17, the TU4Dublin Alliance continued its work on preparing for technological university designation, whilst maintaining the consortium's presence in the Dublin region as a major multi-level higher education provider. Over the period of the Compact, some growth has been seen in both level 8 students and postgraduate research student numbers. At the same time student populations in both levels 6 and 7 have remained broadly constant. The breakdown of student numbers for 2016/17, by NFQ level, is given in Figure 2. In 2016/17 TU4Dublin also saw almost 8,000 students successfully graduate, 15% at postgraduate level. The breakdown of the disciplines for TU4Dublin graduates can be seen in Figure 3.</p> <p>In terms of supporting the widening participation agenda, the TU4Dublin partners have constantly supported students from the nationally targeted under-represented groups. As a consortium, TU4Dublin accounts for over 1/3 of new entrants from 'non-manual, semi-skilled and unskilled socio-economic' backgrounds. Drawn from the HEA's Equal Access Survey (EAS) for the years 2010/11 to 2013/14, this substantial and consistent contribution can be seen in Figure 4. In addition, TU4Dublin partners account for 15% of the total national figure of new entrants of mature students. This level of participation in 'access' groups continued in the TU4D partners throughout the period of the Compact.</p> <p>Research and innovation are important facets of the TU4Dublin profile. The consortium has been growing its research student population in recent years and currently represents accounts for 10% of this student cohort within the greater Dublin region (HEA data - 2015/16). In 2016, TU4Dublin partners were the only HEI/HEI grouping where significant growth in research student enrolment took place.</p> <p>Research capability building initiatives amongst the TU4D partners has resulted in important activity in the Alliance's areas of research strength:- (i)</p>	

			<p>Environment, Energy and Health; (ii) Information, Communications and Media Technologies; (iii) New Materials and Devices; and (iv) Society, Culture and Enterprise. Many research active staff are leaders in field weighted citation impact in their respective disciplines in Ireland.</p> <p>As lead partners in the Dublin Region Innovation Consortium (DRIC), TU4Dublin plays an important role in the region in enterprise creation and technology transfer. InTU4Dublin, enterprise development support is well established in the three incubators:- 'Hothouse' (DIT), 'Synergy Centre' (ITT) and 'LINC' (ITB), that provide practical assistance to new ventures and early stage companies in the region - approximately 180 start-up firms are supported annually through the campus incubation programmes. In addition, with a key aim to <i>'stimulate economic development in the Dublin Region by commercialising research from across the Institutes'</i> the DRIC consortium has been very successful over the period of this Compact in terms of licensing and spin-out development. Recognised in 2016 by Knowledge Transfer Ireland (KTI) as the top performer in commercialising research, the consortium was responsible for the the market launch of 23 products or services in the last three years. Examples include:- Optrace's holographic anti-counterfeit label; an antenna for Decawave's ScenSor (Single Chip Wireless Transceiver) chip; Opti Wifi's wireless internet optimisation solution and Checkventory's field-based auditing system. DRIC has also been successful in producing 19 spin-outs, 6 of which have already become High Potential Start-ups (HPSUs):- OptiWiFi; Optrace; Vizolve; Reflective Management Systems; Kastas and Smarter Surfaces.</p> <p>ITB has maintained current engagements and also extended the scope to include (among others):</p> <ul style="list-style-type: none"> • Partner in the Centre for Excellence in Universal Design • ePortfolios strategy to enhance student learning and assessment, and staff professional development (Appendix 2) • National Forum for the Enhancement of Teaching and Learning in Higher Education • CAST Inc (Universal Design for Learning) • Partner with CEUD and AHEAD in a range of Initiatives. • Young Women in Technology (YWIT) Programme 	
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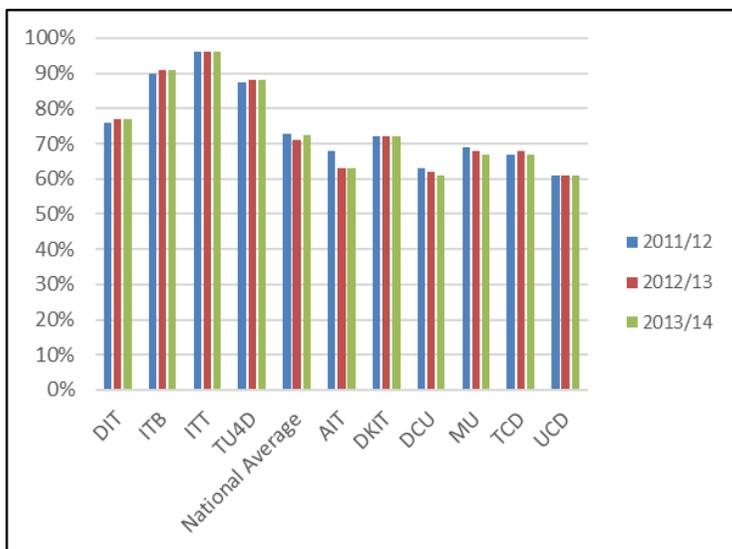


Figure 1 - Regional intake from the Institution's county & bordering counties (% of full-time enrolments) Source – HEA Statistics

	TU4D	DIT	ITB	ITT
Level	Total No. Students	Total No. Students	Total No. Students	Total No. Students
6	4,375	2,831	577	967
7	5,958	3,391	1,209	1,358
8	15,597	11,210	1,497	2,890
9	2,608	2,267	117	224
9-Taught	2,482	2,220	88	174
9-Research	126	47	29	50
10	469	448	12	9
Other	332	225		107
Total	29,339	20,372	3,412	5,555

Figure 2 – TU4Dublin Student numbers by NFQ Level, 2016/17 Source – TU4D Database

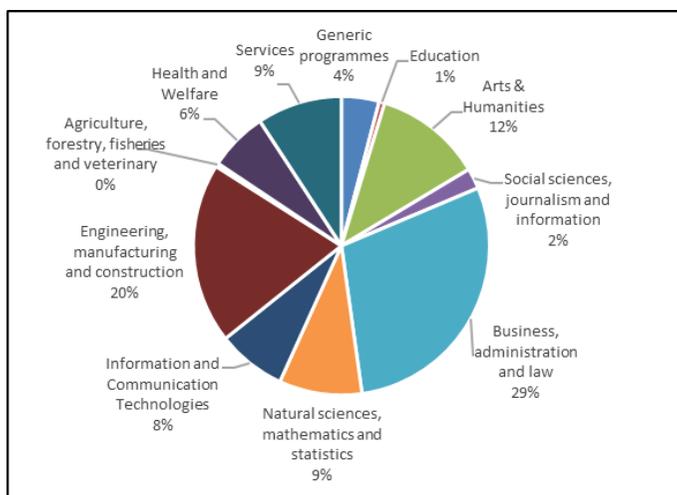


Figure 3 - TU4D Graduates 2016/17, by discipline Source – TU4D Database

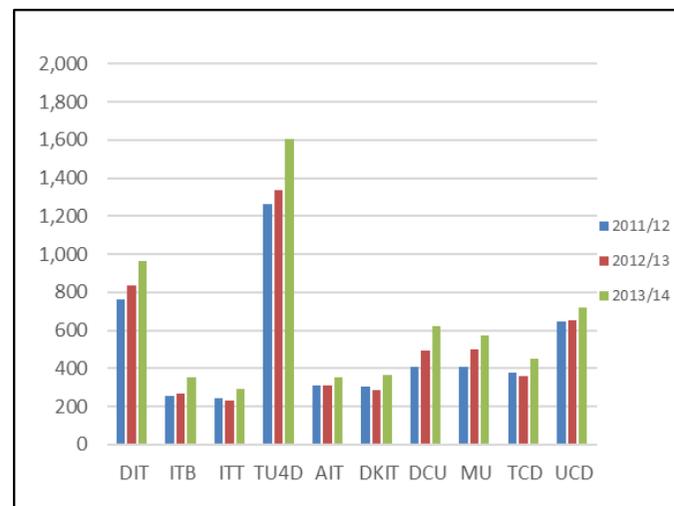


Figure 4 - New Entrants from Non-Manual, Semi-Skilled and Unskilled Socio-Economic Backgrounds for TU4D and selected HEIs (Headcount) Source – HEA (EAS) Statistics

2. Participation, equal access and lifelong Learning

The *National Plan for Equity of Access to Higher Education 2015-2019* provides justification and priority goals and targets for the five-year period. Targets include: the under-represented groups in third-level education; people disadvantaged by socio-economic barriers; ‘first-time’ mature students; people with disabilities; part-time/flexible higher education participants; holders of further education qualifications wishing to progress, and; the participation in higher education by Irish Traveller communities. In order to comprehensively address this increasingly important HEI performance indicator, ITB maintains a dedicated Access Service (AS) to meet its targets. The AS is responsible for coordinating and developing ITB’s Access Programme and for implementing policies such as to ensure that access to third level education becomes a reality for categories of learners who are currently under-represented. The AS focuses on providing opportunities to students who traditionally might have found it difficult to access third level education, as well as to promote positive perceptions of the value of third level education by catering for the following categories of learners: Socio-economically disadvantaged; Mature/Adult learners; Learners with a disability; Learners who do not have the usual Leaving Certificate qualifications, but who can meet entry requirements in other ways, and; Learners from the travelling community. The AS meets its remit through the following programmes (further information is available through the links):

- [REACH Access Programme](#)—The REACH programme offers places on ITB courses to school leavers from socio-economically disadvantaged backgrounds at reduced points.
- [Schools Programme](#)— Promotes links with primary/second schools, and particularly those designated as disadvantaged. Part of the remit includes (in collaboration with the schools), devising activities on campus, targeted at promoting awareness of the range and nature of courses on offer as well as benefits of further education, e.g.; Robotics Summer School; Science Week events; Schools Taster Programme, and the Languages Access Programme.
- Supports for Students with Disability—promotes opportunities for learners with disability, and post-entry supports are coordinated through the [Student Services Office](#).
- [Special Needs Applicants](#)— Applications from students with special needs, irrespective of the physical or sensory disability are encouraged. To cater for this, the ITB campus was designed and has continued to be upgraded with cognisance to enhancing accessibility and how best to accommodate students with special needs. Such applicants may also be eligible for reduced points for entry, subject to available vacancies. This programmes has been in operation for many years, and is similar to the recently established Disability Access Route to Education (DARE) Scheme.

Institution objective	Performance indicator	Baseline	Final target, end 2016, commentary and data source	Summary
Increasing our use of flexible modes of delivery, including on-line and blended approaches at all levels	Number of modules on programmes supported by Moodle.	At least 1 module in 70% of programmes. (2015 Target)	<p>Target to End 2016: At least 1 module in 80% of programmes.</p> <p>Progress The use of On-line delivery and blended learning at ITB is facilitated through Moodle VLE. All academic programmes at ITB now incorporate the use of Blended Learning within Moodle VLE at all levels.</p>	

		By Discipline			
		2016	2015	% Diff	
		Applied Social Studies	106	98	8%
		Apprenticeship	9	9	0%
		Business Studies	283	264	7%
		Computing	196	170	15%
		Creative Digital Media	64	64	0%
		Early Childhood Care and Education	101	98	3%
		Engineering	208	201	3%
		Horticulture	84	79	6%
		Social and Community Development	87	83	5%
		Sports Management	57	57	0%
		Other	120	105	14%
		Total	1315	1228	7%
		By School			
		2016	2015	% Diff	
		Informatics and Engineering	561	523	7%
		Business and Humanities	634	600	6%
			1195		
<p>Note: 'Other' courses not counted in school totals</p> <p>Usage data shows that the VLE service remains high and on an upward curve. From September 2015 to September 2016 Moodle handled 793,575 users sessions, an increase of 18% on the previous period. Page views also increased by 17% over the same period to 4,486,204. Mobile usage has increased by 11.34% while desktop users have increased by 21%. Interestingly tablet usage has decreased by 18% in the last 12 months, pointing to a shift in device usage by students.</p> <p>TurnItIn usage has grown to 11249 submissions for the period and statistics show growth in academic use of feedback studio, grading and quick mark tools. Growth in the usage of online classroom systems continues to increase, with 58 academics now delivering modules or seminars via Adobe connect. Connect usage for teaching and assessment is common across a range of lifelong learning modules and has been</p>					

			<p>trialled on a full time undergraduate programme in the school of Business and Humanities.</p> <p>The institute continues to invest in its infrastructure and is planning VLE upgrades in June 2017. The growth in usage of Adobe connect has resulted in a switch to cloud based service provision, which provides improvements in flexibility, scalability and security.</p> <p style="text-align: right;"><i>Source:</i> ITB e-Learning Coordinator</p>																			
<p>Achieve a steady rate of growth in student numbers on the ITB campus of DTU</p>	<p>Increase in student numbers</p>	<p>3821 (2015 Original Target)</p> <hr style="width: 20%; margin: 5px auto;"/> <p>Target Revised to 3600 WTE (or 3870 actual) in the 2015 Compact</p>	<p>Target to End 2016: 3600 WTE, and 3870 actual number (Revised downwards in the Strategic Dialogue Cycle 3 SAR of June 2016 from actual number of 4144)</p> <p>Numbers Attained: 3424, including 2575 Full-time and 849 Part-time WTE.</p> <p>The numbers were approximately equally distributed between two schools at ITB: School of Informatics & Engineering (1,553), and; School of Business & Humanities (1,871). The increment is modest (69), but should be considered the revised target of 3,600 declared in the 2015 HEA Compact.</p> <p style="text-align: right;"><i>Source:</i> ITB programmes HEA SRS returns (Dated November 1, 2016).</p>																			
<p>Achieve a year-on-year increase in overall student retention rates</p>	<p>Registration : completion ratio</p>	<p>67% (2015 Target)</p>	<p>Target to End 2016: 69%</p> <p>Attained Progress:</p> <p>Comparative progression figures</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">First year</th> <th style="text-align: center;">All years</th> </tr> </thead> <tbody> <tr> <td>2011-12</td> <td style="text-align: center;">68%</td> <td style="text-align: center;">73%</td> </tr> <tr> <td>2012-13</td> <td style="text-align: center;">59%</td> <td style="text-align: center;">71%</td> </tr> <tr> <td>2013-14</td> <td style="text-align: center;">59%</td> <td style="text-align: center;">69%</td> </tr> <tr> <td>2014-15</td> <td style="text-align: center;">61%</td> <td style="text-align: center;">71%</td> </tr> <tr> <td>2015-16</td> <td style="text-align: center;">62%</td> <td style="text-align: center;">73%</td> </tr> </tbody> </table> <p style="text-align: right;"><i>Source:</i> ITB internal records.</p> <p>In the Cycle 3 HEA Compact (June 2016), it was proposed to increase the target for first year retention year on year by 3% to 64%. This considered the projections in the Strategic Plan, and that ITB had implemented a range of initiatives to enhance student retention, with specific focus on the first year of study.</p>		First year	All years	2011-12	68%	73%	2012-13	59%	71%	2013-14	59%	69%	2014-15	61%	71%	2015-16	62%	73%	
	First year	All years																				
2011-12	68%	73%																				
2012-13	59%	71%																				
2013-14	59%	69%																				
2014-15	61%	71%																				
2015-16	62%	73%																				

			<p>The peer-mentoring programme, which was initiated in 2014-2015, was expanded to include all students in year 1 of study in academic year 2015-2016. Other efforts towards enhancing student retention include the close supervision of the learner transition process into ITB, including:</p> <ul style="list-style-type: none"> • Offering of relevant modules in Year 1 of study, e.g., Personal Development, and Skills for Success in Higher Education. • Implementation of extra support in modules such as Mathematics and Programming; • Collective initiatives such as maintenance of Student Information Desk, Student Information Hub and other student support services. • Maintaining schools initiatives such as the Taster and Young Women in Technology (YWIT) programmes, which offer secondary students the necessary course and career pathway information prior to their selection of courses. • Course integrated initiatives such as the RoboSumo initiative in Year 1 Engineering programmes, which provide exposure to design challenges that require peer-to-peer interaction, teamwork, and communication. <p>ITB is aware of the study on progression in Irish Higher Education 2013/14 to 2014/15 (Frawley et al., 2017)³, which identified the strongest predictors of non-progression from first year into second year at third level, as prior education attainment and gender. For the former, ITB will continue to accord its students the necessary course support as outlined above, with specific intentions to progressively minimise the rates of non-progression from first year to second year.</p>	
<p>Integrate student feedback into teaching and learning strategy).</p>	<p>Course boards analyse student survey results and assess necessity for change.</p>	<p>Existing policy for consideration of student feedback by course boards and student</p>	<p>Target to End 2016: Submit analysis of data from Irish National Students Survey 2015 to course boards. Ensure systematic analysis change implementation.</p> <p>Progress:</p>	

³ Frawley D, V Pigott & D Carroll. 2017. [A study of progression in Irish Higher Education 2013/14 to 2014/15](#). Higher Education Authority, Dublin.

		<p>membership of course boards.</p>	<p>Whereas, learner feedback may also be solicited by individual staff at module level, ITB has adopted the ISSE student feedback mechanism as a valuable sources of information for collecting learner feedback.</p> <p>During the period when the ISSE platform is open for submission in 2016, staff delivering any modules in lecture rooms and laboratories with access to computers were required to accord the initial part of their lecturer sessions to student to take the survey. The objective of the concerted action was to enhance the response rate so that the survey can capture a wider learner population upon which any need for restructuring programme/course could be evaluated by the course boards. The End 2016 ISSE data is currently being processed.</p>	
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3. Excellent teaching and learning and quality of the student experience

In order to offer high quality learner experience, the enhancement of teaching, learning and assessment is at the centre of ITB's core activities. Apart from the targeted enhancement of the students' future prospects in the labour market, planned activities are geared to initiating and maintaining the necessary learner engagement with both course related activities and other transformative social interactions. This is achievable through the creation of a rich learning environment through innovative, flexible and multi-disciplinary curriculum model for all students; expansion of innovative use of technology to further enhance the teaching and learning environment, and; continued development of a learner-centred approach to quality enhancement. The institute strives to meet this objectives through the following actions:

- Developing and maintaining a welcoming environment for all learners and according peer mentoring to all learners in Year 1 of study, as part of structured transition to higher education.
- Design of programmes supported by and with the involvement of community, business, enterprise, the professions, and other related stakeholders in the region including work-integrated learning.
- Development of programmes with flexible pathway options, including alternative progression routes, work placement options, blended learning/delivery, on-line delivery, multi-disciplinary options and modules significantly supported by learning technologies.
- Providing appropriate progression pathways to NFQ Level 7 and above, for learners in apprenticeship qualifications.
- Periodic review of assessment strategy and congruence to assessment of learning.
- Offer of up-skilling opportunities and training support for all staff, including enrolment for higher academic qualifications in areas of expertise and the use of technology supported teaching (including on-line delivery of courses).
- Offering blended-learning opportunities in all programmes.
- Maintaining coherent course/programme support initiatives and learner feedback/survey mechanism as part of quality assurance policy for enhancement of teaching and learning.
- Meeting statutory obligations with HEA, QQI and relevant professional accreditation bodies with regards to quality assurance and quality enhancement of teaching and learning, including the development of new programmes.
- Benchmarking of learner experience nationally and internationally in order to determine the pedagogical and other supports that learners expect.
- Supporting timely communication (including celebration) of achievement of excellence in teaching and learning.

Institution objective	Performance indicator	Baseline	Final target, end 2016, commentary and data source	Summary																
<p>Incorporating multiple modes of delivery into all programme design</p>	<p>Number of modules on programmes supported by Moodle.</p>		<p>Target to End 2016: At least 1 module in 80% of programmes.</p> <p>Progress: Total of 1,315 modules were supported by Moodle VLE in 2016, a figure that has increased by 7% over the 2015 figures. Breakdown by ITB academic schools was as I table below</p> <table border="1" data-bbox="1034 513 1904 679"> <thead> <tr> <th>By School</th> <th>2016</th> <th>2015</th> <th>% Diff</th> </tr> </thead> <tbody> <tr> <td>Informatics and Engineering</td> <td>561</td> <td>523</td> <td>7%</td> </tr> <tr> <td>Business and Humanities</td> <td>634</td> <td>600</td> <td>6%</td> </tr> <tr> <td></td> <td>1195</td> <td></td> <td></td> </tr> </tbody> </table> <p>Other course not included in the school totals add to 120 modules in 2016.</p>	By School	2016	2015	% Diff	Informatics and Engineering	561	523	7%	Business and Humanities	634	600	6%		1195			
By School	2016	2015	% Diff																	
Informatics and Engineering	561	523	7%																	
Business and Humanities	634	600	6%																	
	1195																			
<p>Develop an effective student feedback on line mechanism.</p>	<p>Course boards analyse Irish National Student survey (ISSE) results and assess necessity for change.</p>	<p>Existing policy for consideration of student feedback by course boards and student membership of course boards</p>	<p>Target to End 2016: Submit analysis of data from Irish National Students Survey 2015 to course boards. Ensure systematic analysis change implementation.</p> <p>Progress: ITB has maintained the policy of student representation at course boards (including the Academic Council) for purpose of receiving timely student feedback by course boards.</p> <p>The ISSE data for 2015 were distributed and considered by the course boards. Since the initial consideration of ISSE data, ITB has adopted the policy for consideration of the ISSE feedback by course boards Data to End 2016 are currently in analysis stage and will be considered by the relevant course boards in due course.</p>																	

<p>Contributing to the development of the teaching profession by putting methods in place to disseminate whatever good practice exists across ITB and giving those who have been really innovative, visibility and a platform for their work</p>	<p>Publicise relevant material.</p>	<p>First publication of Teaching and Learning Innovations report in 2012.</p>	<p>Target to End 2016: Publicise relevant material in relation to DTU.</p> <p>Progress: The narratives below highlight some of the achievements.</p> <ul style="list-style-type: none"> • The Peer Mentoring Programme that first was initiated in 2014/15 Academic Year provides a supportive and friendly environment for student in the Year 1 of study at ITB. Learner feedback to-date indicates that the programme contributed to the decision by some students to progress with their chosen programme after the first year of study, and assisted them to settle at ITB during the transition into higher education. • Development of ePortfolio Framework— As part of a National Forum-funded project, the Institute of Technology Blanchardstown, Dublin Institute of Technology, Institute of Technology Tallaght and Hibernia College developed the ePortfolio Hub website, which will provide an ePortfolio framework for enhancement of Teaching and Learning Teaching in the collaborating institutions. The ePortfolio Hub website offers a one-stop-shop for anyone interested in incorporating ePortfolios into their teaching or creating their own ePortfolio, using available templates, guides, presentations, videos and research findings. • During the reporting period, the ITB piloted the ‘Global Classroom’ concept that is designed to provide students with International Learning Experience. The concept was initiated by Durham College (Canada), a long-standing ITB collaborative partner in joint programmes. The initial pilot programme was held in November 2015, where 30 Business undergraduate students in Year 1 of study at ITB participated in a test Global Class with students from Durham College and Illorin University (Nigeria). The Business Ethics class considered the topical Volkswagen emissions scandal in a class led by Mr. Ryan Turnbull a Canadian entrepreneur whose company, Eco-Ethnomics, specialises in supporting Canadian companies achieve best practice ethical behaviour. Mr Turnbull participated from a fourth location, Whitby, Ontario, in Canada. See further details in Appendix 3. • The National Forum for the Enhancement of Teaching and Learning in Higher Education in partnership with the Union of Students in Ireland 	
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			<p>(USI) presented 37 Teaching Hero Awards to teachers from Ireland's higher education sector on Thursday 27 October 2016. The Awards marked the culmination of a 2016 Teaching Hero campaign that saw over 800 higher education teachers nominated by their students for these awards. Two nominees from ITB received the Teaching Heroes 2016 awards.</p>	
ITB benchmarking itself against relevant peers in other countries			<p>Target to End 2016: Full participation in U-Multirank.</p> <p>Progress: ITB has scheduled to be fully involved in U-Multirank. The delayed participation was due to the limited number of staff in the QA designated process. The personnel reassignments from the TU work has provided the scope for participation in the U-Multirank system.</p>	
Training staff professionally	Number of development days per staff member.	2012: 2 days per person per year	<p>Target to End 2016: 3 days per person per year</p> <p>Progress: In 2016, ITB attained 2.51 days per person per year, which was a drop from the 2.9 reported for Cycle 3 Compact. The drop was ascribed to the relatively lower attendance of two specific training courses compared to 2015. ITB will endeavour to organise staff training session to coincide with off-peak academic demands to enhance attendance.</p> <p>To End 2016, 29 academic staff were registered in PhD/Professional Doctorate programmes (NFQ Level 10); 10 in Masters Programmes (NFQ Level 9) and; three academic staff completed PhDs, and one an MBA in the academic year 2015-16. These are part of professional development of staff and will also contribute to meeting the TU designation criteria. Each of the staff members enrolled on higher academic award programmes, receives support by way of course fees and/or facilitation via flexible teaching timetable arrangements.</p> <p>Overall, ITB is satisfied that it is addressing staff training and development needs towards meeting the requirements of the current Strategic Plan.</p> <p style="text-align: right;"><i>Source:</i> ITB internal records</p>	

4. High quality, internationally competitive research and innovation

The Institute of Technology Blanchardstown (ITB) is working towards designation as part of the first Technological University in Ireland (TU). The TU Key Performance Indicators include (among others): provide teaching and facilitate learning that is informed by research; provide opportunity for staff and students to conduct research; collaborate on joint research projects with other institutions, and; support a body of research and pursue excellence in the conduct of such research⁴. In this transition, the Institute has continued to invest in sector-specific and cross-sector research topics/themes, including: Intelligent transportation Systems; Biomedical Instrumentation; Avionics Research; Magnetic and Machine Research; Computational and Functional Linguistics; Data Mining & Business Intelligence; Network Security and Digital Forensics; Computer Graphics and Gaming; eLearning, and; Language Education and Cultural Studies. Crosscutting research areas include; Data Analytics, Transport, Renewable Energy and Energy Systems Integration, Systems and Sub-systems of the Internet of Things Technologies, and Innovative Teaching and Learning. Industry Partners in the research have included: Intel, IBM, Wavebob, Eirplay, Transport Infrastructure Ireland, HSE, RITS Forensics Division, Espion, ESB, EC Charging Ltd., NALA, Irish Software Association, Blanchardstown Area Partnership, National Learning Network (see Appendix 4), and the Irish Research Council. Institutional partners have included: TCD, UCD/SFI, Maynooth University, and Enterprise Ireland. The Institute has also brought on-stream, two innovative research-oriented Structured Masters programmes, including the; MSc in Computing (Applied Cybersecurity) and MEng in Internet of Things Technologies.

As part of the Strategic Plan 2016-2019⁵, ITB set out to strengthen its research, enterprise and innovation capability, by: developing the research culture to foster and support research, innovation and enterprise initiatives; broadening the research, enterprise and innovation capacity, build capability and enhance performance, and; deepening the integration of research and scholarship into academic programmes. Underpinning actions include (among others):

- (1) Working with stakeholders, within the current national research priority framework for Science Technology and Innovation (STI)⁶, to define the current and the near-future research priorities, and develop the critical mass for the relevant research subjects/themes.
- (2) Align research in the core academic disciplines areas with the national research priorities in STI.
- (3) Increase the number of postgraduate students undertaking research.
- (4) Place research informed learning at the heart of the institute's programme delivery, and upon which staff may elect to become research-active without undermining the efficiency of undergraduate programme provisions (Level 6 through Level 8)⁷.
- (5) Aim for and achieve high research impacts, through publications, innovations and patents, and other research spin-offs

⁴ Technological University Bill, 2015.

⁵ ITB. 2016. Strategic Plan 2016-2019, Transforming into a Technological University, 26 pp.

⁶ Forfas. 2012. Report of the Research Prioritisation Steering Group, February 2012. 96 pp.

⁷ IOTI. 2013. A strategic position paper development by Heads of Research Group. IOTI, 13 pp.

Institution objective	Performance indicator	Baseline	Final target, end 2016, commentary and data source	Summary
Stimulate research, development and innovation activity with strong links to industry and the public sector	Number of research students	12	<p>Final Target to End 2016: 16</p> <p>Number Attained: 41</p> <ul style="list-style-type: none"> • 21 Enrolled in degrees by research (9 Masters, and 12 PhD) • 20 Enrolled in Structured Masters (Programme BN528M with 60 ECTS Research Project). <p>Source: ITB Postgraduate Research Register February 27, 2017.</p>	
	Research and technology transfer: number of innovation vouchers awarded	6	<p>Final Target to End 2016: 15</p> <p>Number Attained: 2</p> <p>Reason for shortfall: The reason this is lower than anticipated is that the research at ITB is wholly driven by personnel on academic contracts. The LINC Centre was aware that there was no engagement with IVs primarily due to teaching workloads. The LINC is aware that other institutes have the ability to engage with the IVs, primarily through researchers employed in the respective technology gateways. ITB intends to address this issue in the same lines.</p> <p>Source: ITB Learning & Innovation Centre (LINC)</p>	
	Research and technology transfer: number of invention disclosures per year	2	<p>Target to End 2016: 5</p> <p>Number Attained in 2016: 0</p> <p>Reason for shortfall: Two IDFs were expected in 2016 from the commercialisation fund project, as ITB had expected to hire a research assistant for this project in early part of 2016. Approval from Enterprise Ireland to move to stage 2 in the project was required for this, but was not received until the Summer of 2016. Implications were that, the recruitment was deferred to September 2016. Therefore, these IDFs will be expected in 2017.</p> <p>Source: ITB Learning & Innovation Centre (LINC)</p>	

	Enterprise: Number of companies supported through New Frontiers	37	<p>Target to End 2016: 64</p> <p>Number Attained: 54</p> <p><i>Source:</i> ITB Learning & Innovation Centre (LINC)</p>	
	Enterprise: Number of companies supported through the LINC	65	<p>Target to End 2016: 75</p> <p>Number Attained: >100 supported through clinics, training, seminars and networking events</p> <p><i>Source:</i> ITB Learning & Innovation Centre (LINC)</p>	

5. Enhanced engagement with enterprise and the community and embedded knowledge exchange

Benefits of enhanced engagement with enterprise and the community includes:

- Benefits to the institution, e.g., enriches teaching and learning, demonstrates accountability, and enhances brand/identity and public appreciation;
- Benefits to students and staff, e.g., motivation, enriching learning experience, and helps to sensitise social and political issues;
- Benefits to society, e.g., flow of knowledge between HEIs and society, contributes to social justice and corporate responsibility, building of trust and mutual understanding, and enhancement of creativity and innovation capacities.

Core aspects of the HEI-employer engagement is in the two way communication exchange and series of interactions that can take many different forms, including (among others): employer involvement in the development of occupational standards; work based learning; mentoring relationships; involvement in curriculum design or the accreditation of programmes; knowledge transfer, research and development and supporting start-ups. When effectively implemented, HEI-employer engagement will support a change agenda, challenge current educational practices, promote greater connectivity between the worlds of education and work, smooth transitions for learners and enhance the quality of education and training provision including teaching and learning practices. It will also facilitate cooperation and collaboration between providers and employers leading to greater commitment to joint action and enhanced clarity regarding their respective contributions and roles.

Intents of ITB Strategic Plan 2012-2015 included, among others: Deepening of the institute's impact in the wider community within the broader TU4Dublin alliance institutes (DIT, ITB and ITT). This was to be achieved by, among others: continuing to build and support the relationships with the business community in tangible and practical ways to promote job creation and economic development, with particular emphasis on indigenous Multi-national corporations and SME sector in the region; Encouragement and support to start-up businesses, and; to expand and deepen links with public sector bodies, community representative organisations, voluntary organisations and other education providers. The follow-on Strategic Plan 2016-2019 is intended to foster visible and effective engagement with key stakeholders (nationally and internationally), and; to promote a culture of collaboration with local communities. These are to be realised through: Further development of strong links with business, enterprise, the professions and other stakeholders in the region to support civic and industry engagement, and; to develop procedures for programme development, that respond to the needs of the stakeholders, and with evidenced engagement with industry in programme design and delivery.

⁸ National Coordinating Centre for Public Engagement. 2017. [Benefits of Engagement](#). <Accessed: May 6, 2017>

⁹ QQI. 2014. Education and Employers— A Strategic Approach to Employer Engagement. Quality and Qualifications Ireland, 23 pp.

Institution objective	Performance indicator	Baseline	Final target, end 2016, commentary and data source	Summary
<p>Develop diverse range of civic engagement community partners.</p>	<p>Number of community partners involved.</p>	<p>14</p>	<p>Target to End 2016: 22</p> <p>Progress: ITB has maintained the engagement with community partners in excess of 100, and thereby exceeding the target set to end 2016. The range of key partners include: local schools, local community organisations, Fingal County Council (as the authority responsible for local government), and bodies such as the Money Advice and Budgeting Service and the Citizens Information Service. The formal engagement structure is overseen by ITB Head of Civic Engagement, while implementation is by the individual academic programmes within ITB.</p> <p>Outline of Civic Engagement in ITB is captured in the short (10 minute video) that is accessible in the following link: https://www.youtube.com/watch?v=Xh7MtaRjbTo&feature=youtu.be</p> <p>In 2016, ITB adopted the voluntary Carnegie Community Engagement First-time Classification Framework (CCEFTCF), as a vehicle for monitoring and assessment of the impacts of its extensive community engagement activity. The CCEFTCF is an evidence-based documentation of institutional practice that is used in a process of self-assessment and quality improvement. On application to join framework, the documentation is reviewed to determine whether the institution qualifies for recognition as a community engaged institution. The Community Engagement Classification takes place on a five-year cycle.</p> <p>Source: Carnegie Community Engagement First-time Classification Framework Application Document, May 2016 <Document Updated 12-04-2017>.</p>	

<p>Develop capacity for community-based research¹⁰ among civic engagement community partners and other community services.</p>	<p>Number of community based research initiatives classified by academic staff and student modules Involved.</p>	<p>1 Staff Member¹¹</p>	<p>Target to End 2016: 3 Staff members</p> <p>Progress: Up to 50 were involved in community related research, far exceeding the End 2016 target. The declared baseline 2012 figure of 1 staff was an interpretation error, and which led to the setting of a modest target 3 staff members for 2016. This target will be revised upwards in the next strategic dialogue cycle, as ITB will continue to focus on maintaining the desirable high level of engagement with stakeholders.</p> <p style="text-align: right;"><i>Source:</i> Carnegie Community Engagement First-time Classification Framework Application Document, May 2016 <Document Updated 12-04-2017>.</p>	
		<p>50 Student Modules¹²</p>	<p>Target to End 2016: 57 student modules</p> <p>Number Attained: 1350 student modules were recorded to End 2016. This follows from the 228 student modules recorded to end 2015.</p> <p style="text-align: right;"><i>Source:</i> Academic Departments Records.</p>	
<p>Responsive to labour market and skills needs by systematically seeking feedback from employers on the value and relevance of graduates' skills; and by acting appropriately on such feedback</p>	<p>Compare programme learning outcomes with top three recommendations of National Employer Survey</p>	<p>Review most recent report.</p>	<p>Target to End 2016: Course boards assess and report on implications of the three most important findings in the National employer Survey</p> <p>Progress: From the outcomes of the National Employer Survey¹³ considered, the noted recommendations by employers for improvement of collaboration between Further Education and Higher Education Institutions and enterprises recommended the need to:</p> <ol style="list-style-type: none"> (1) Reach out, liaise, collaborate, engage, interact, in more proactive, less bureaucratic and inflexible formats; (2) Find out what skills are required and map that to course content 	

¹⁰ Community Based Research relates to primary research that is undertaken in collaboration with the community or community services. Alternatively, the work could be an analysis of community related data, which is already in existence, to assist in greater understanding of community challenges. An example of this would be the analysis of demographic data by electoral area in Dublin 15.

¹¹ Relates to staff teaching a module or supervising research for a dissertation or conducting their own research.

¹² This is the sum of the products of modules offering a Community Based Research component and the respective number of students who engaged in such research related activity

¹³HEA/SOLAS/QQI. 2015. National Employer Survey, Employer's views on Irish Further & Higher Education and Training Outcomes. Commissioned by the Higher Education Authority, SOLAS and Quality and Qualifications Ireland. 71 pp.

			<p>(3) Implement a more practical component to courses by proactively seeking (long-term) placements, internships for their students</p> <p>(4) Collaborate and update companies on progress and/or changes to curriculum</p> <p>(5) Arrange industry/open days and career fairs bringing both sides together and organise interesting speakers</p> <p>(6) Organise secondment of staff to industry, up-skill lecturers with live working experiences and recognise the value of applied research</p> <p>(7) Market and promote themselves better.</p> <p>The development and periodic review of all academic programmes at ITB include systematic processes for proactively seeking and considering feedback from industry, as part of maintaining the programmes current. It is also an intrinsic Quality Assurance and Quality Enhancement process. Methods and processes used for consultation with industry at ITB include:</p> <p>(1) Continuous peer-to-peer consultations between ITB staff and relevant industry/professional partners;</p> <p>(2) Participation in relevant regional skills programmes and initiatives via the Learning and Innovation Centre (LINC);</p> <p>(3) Participation in industry-relevant conferences, seminars and consultative meetings.</p> <p>(4) Organising focused industry consultation workshops to support new course development, including the review of ongoing programmes with specific intent to determine (among others):</p> <p>(a) Programmes' adequacy in meeting the employability criteria determined by relevant industry/profession stakeholders;</p> <p>(b) If course provisions, meet the stakeholder needs and flexibility to accommodate part-time entrants and work-based learning.</p> <p>(c) The expected roles in continuous monitoring/oversight of learner development in any integrated work-placement.</p> <p>Information provided in Appendix 5 illustrate how a sample of both undergraduate and postgraduate programmes map the Programme Outcomes with criteria derived from industry consultation processes above. These are also cognisant of the recommendation of the National Employer Survey.</p>	
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6. Enhanced internationalisation

The primary objectives of the International Education Strategy (IES) 2010-2015 was towards Ireland to become internationally recognised and ranked as a world leader in the delivery of high-quality international education by providing a unique experience and long-term value to students. The follow-on IES 2016-2020 has the vision of “*Ireland becoming internationally recognised for the development of global citizens*”, to produce globally connected learners for long-term benefit to the learners and for Ireland. While the accreditation of academic programmes by professional bodies such as Engineers Ireland and Accounting Technicians (both to which relevant ITB programmes subscribe) are intended for benchmarking of Quality Assurance and Quality Enhancement of ITB’s academic programmes, secondary benefits are accrued in instances where such accreditations are attached to mutual recognition of awards, and the international recognition of such academic awards. For example, this is the basis of the accreditation of undergraduate engineering programmes with Engineers Ireland (EI), and that EI are signatories to the multi-lateral agreements under the Dublin Accord (<http://www.ieagreements.org/accords/dublin/>) and Sydney Accord (<http://www.ieagreements.org/accords/sydney/>), which cover the Engineering Technicians and Engineering Technologists qualifications, respectively. The mutual recognition of EI awards in 10 jurisdictions allow for ITB graduates’ mobility and access to professional practice in the increasingly globalised engineering roles.

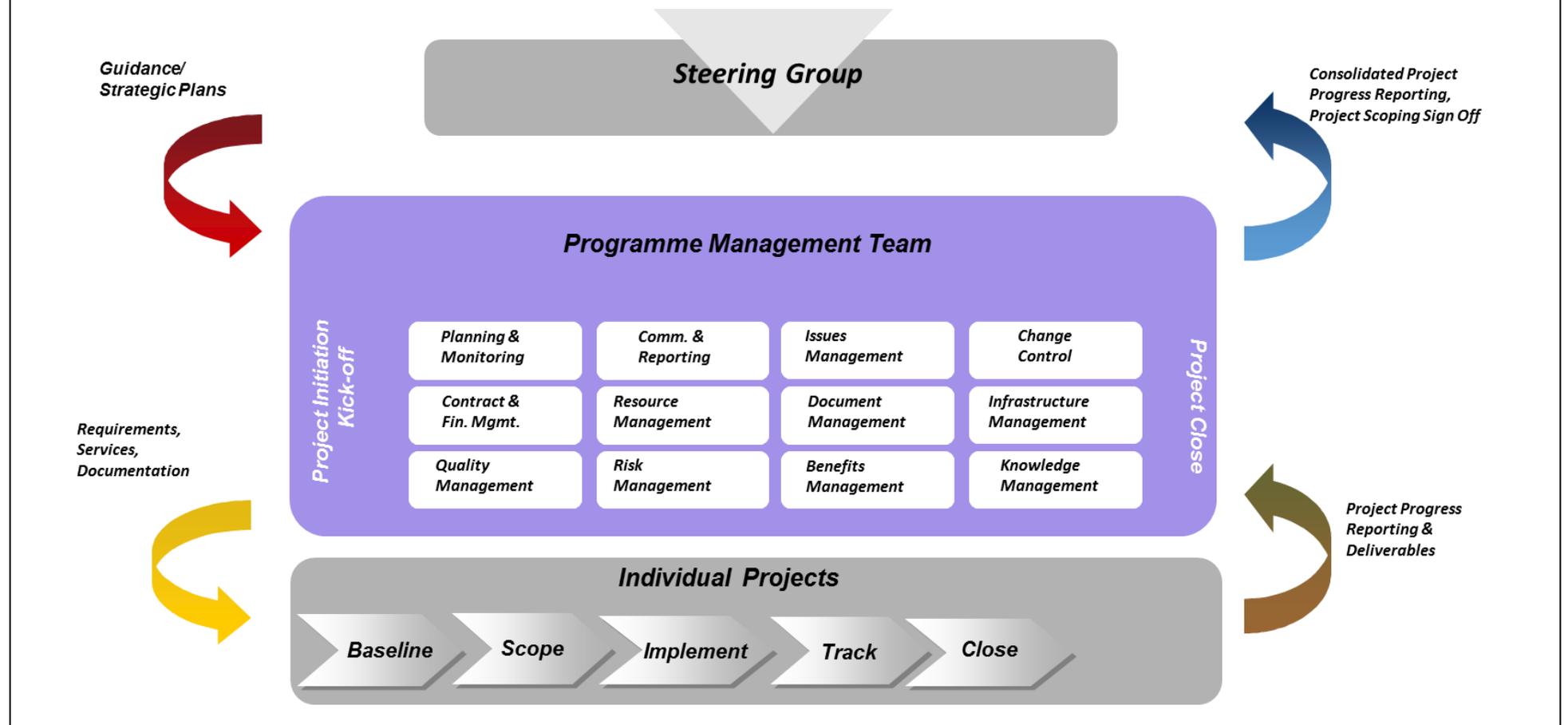
ITB also recognises that internationalisation of academic/research programmes holds significant potential towards enhancement of quality of learning, teaching, and research, and therefore; the overall quality of learning experience. In this mission-based performance compact 2014-2016, and as part of the Higher Education Sector’s response to the International Education Strategy 2010-2015, ITB strived to strengthen its relationships with priority countries outside of Europe (viz., Canada, China, India, Malaysia, Oman and Pakistan), to include greater collaboration in mobility, research, and teaching, and also outward mobility of staff members and students. In this regard, ITB has promoted and facilitated staff activities towards internationalisation, and that are aimed at fostering the inward and outwards student/staff mobility system. For example:

- (a) Since 2012, the Institute of Technology Blanchardstown has maintained Academic Partnership with the Advanced Systems and Networks School in Esisar, Valance, Grenoble Institute of Technology, Université Grenoble Alpes (Grenoble INP: <http://esisar.grenoble-inp.fr>). In May each year, staff from ITB visit Esisar for a weeklong series of lectures and workshops in Cyber Security and Esisar send visiting researchers to ITB for the summer to work in the Security Research Lab. ITB and Esisar are also partners in the Erasmus programme.
- (b) ITB is a founding member of the *Canada-Ireland: Centre for Higher Education Research, Policy and Practice* (<http://www.tu4dublin.ie/news/alliance-strengthens-links-with-canadian-partners/>). The second Ireland-Canada Higher Education in Transformation (HEIT2016) Symposium, held in November 2-4, 2016 in Oshawa, Ontario Canada witnessed the signing of the Memorandum of Understanding to create the centre. The centre’s key objectives are; to extend Canada-Ireland inter-institutional activities promoting mobility for academic staff and postgraduate scholars, undergraduate students exchange (where appropriate), and maintaining the joint Higher Education in Transformation Conference.
- (c) Since the last quarter of 2016, one ITB staff has undertaken Visiting Researcher position with Alphabet X, a subsidiary of Google, and located in Mountain View, California. The ITB scholar is currently working with the Self-driving Vehicle team in the company.

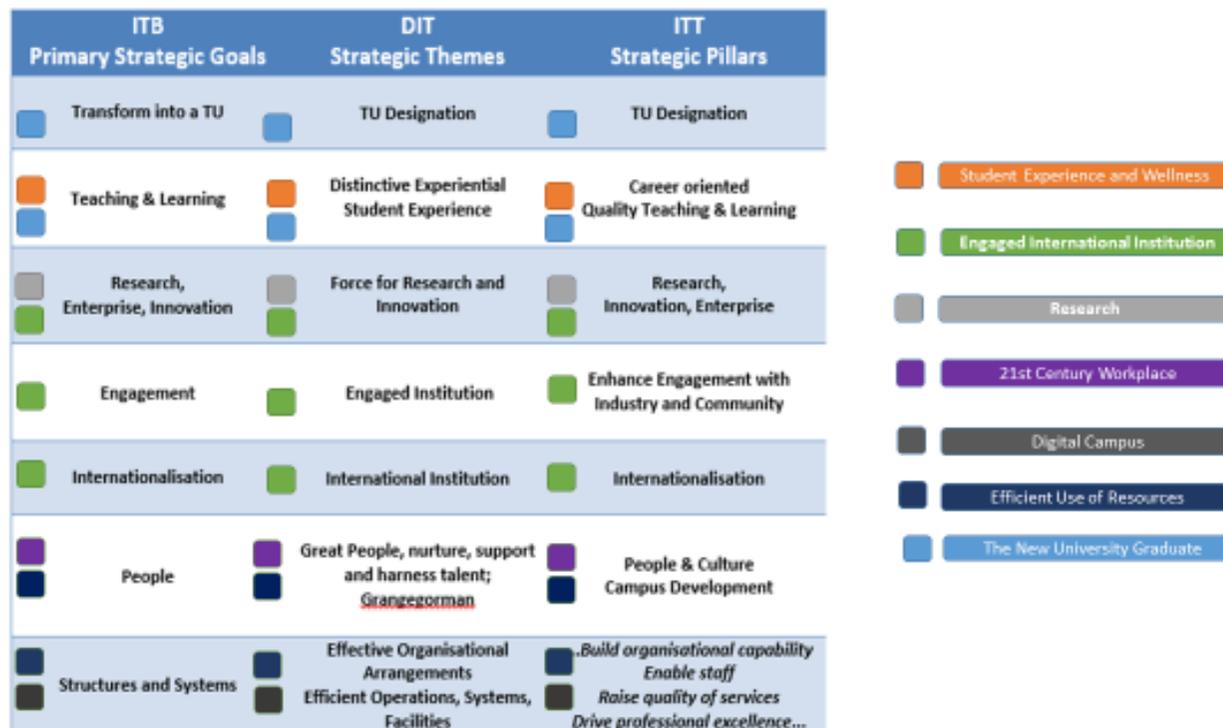
Institution objective	Performance indicator	Baseline	Final target, end 2016, commentary and data source	Summary
<p>Increasing numbers of international students in partnership with third level providers in India, China, Canada, Brazil and Malaysia and other countries</p>	<p>The proportion of students (expressed as %) who register for studies at ITB who are living outside Ireland.</p>	<p>2012: <1%</p>	<p>Final target to End 2016: 6%.</p> <p>Progress:</p> <ul style="list-style-type: none"> • A final figure of 4.5% was achieved at the end of 2016. Although this fell short of the original target, it still reflects significant progress in the recruitment of international students, considering the baseline of <1% in 2012. • Although the target to end 2016 was not achieved, there were three additional source countries for the student pool; therefore, it is envisaged that the current growth ≈1% per year will be sustainable into the future. However, with additional effort, and specifically intended at taking advantage of the possible visa control due to the impending Brexit, there will be potential for higher growth in international student numbers into the future. <p style="text-align: right;"><i>Source: March 2017 HEA SRS Return</i></p> <ul style="list-style-type: none"> • The signed MOU for the establishment of the Canada-Ireland Centre for Higher Education Policy and Practice (see outline in the overarching statement above) considers both postgraduate and undergraduate student mobility (where appropriate). The MOU will therefore be expected to contribute to the number of inward international students. See Appendix 6 for details. 	

7. Institutional consolidation

The TU4Dublin Alliance has a stated aim of creating a new Technological University for Dublin through consolidation of three existing Institutes, namely; Dublin Institute of Technology, Institute of Technology Blanchardstown and Institute of Technology Tallaght. The Alliance has successfully completed three stages of the four stage process for designation as a Technological University as set out by the HEA. The TU4Dublin Alliance is on target to achieve designation in 2018 subject to enactment of the required legislation in accordance with the legislative timetable published by Government. To ensure that the final phase of this exciting project is completed in a timely manner, the Alliance has now set up a formal Programme Management Office (PMO), with operational structure depicted in the figure depicted below.



Using the approach outlined above, the PMO has prioritised in excess of fifty projects, which will be completed by September 2018 to ensure the successful designation of the TU4Dublin Alliance as a Technological University. This work is being undertaken through the management of seven programmes which deliver on the agreed strategic vision of the TU4Dublin. These programmes are also integral to the delivery of the three individual strategic plans, which were prepared collaboratively by the partner institutions with the oversight of a joint Governing Body Strategy Group. Work has now commenced on the strategic plan for the new University. A schematic showing the high-level goals of the three strategic plans, and how the TU4Dublin programme office is assisting in delivery is included below.



The TU4Dublin Alliance is confident that it will deliver the first Technological University for Ireland in 2018 (See Appendix 7). This confidence is based on an appraisal of our current position with regard to the criteria required for designation as published in the Technological Universities Bill coupled with the significant number of projects which will be delivered by September 2018.

Institution objective	Performance indicator	Baseline	Final target, end 2016, commentary and data source	Summary
<p>Enhance ITB's/DIT's/ITT's national and international positioning through appropriate designation, mergers and collaborations</p>	<p>Establishment of a Dublin technological university with formal designation, with TU4D Alliance partners, DIT and ITT</p>	<ul style="list-style-type: none"> • MOU in place • Proposal to HEA regarding positioning within the HE landscape submitted and accepted by Minister • Programme plan for TU4D development in train 	<p>2015 Target: <i>Maintain progress in implementation of TU4Dublin Implementation Plan</i></p> <p>Original targets for 2016</p> <ul style="list-style-type: none"> • Implementation of priority actions within TU4D programme plan • Application for designation as a Technological University <p>Revised targets for 2016</p> <ul style="list-style-type: none"> • Implementation of priority actions within TU4D that do require legislation programme plan • Application for designation as a Technological University when legislation permits. <p>Commentary</p> <ol style="list-style-type: none"> 1. The TU for Dublin Alliance is on target to achieve designation as a Technological University in 2018. Implementation of priority actions are set out below 2. Work in preparation for application has been substantial and is reflected in the profile of the TU4D with respect to the criteria. <ul style="list-style-type: none"> • Establishment of the TU Programme Office • As part of the joint activities with international perspectives, the TU4Dublin Alliance signed a Memorandum of Understanding with University of Ontario Institute of Technology, and Durham College to create the <i>Canada-Ireland: Centre for Higher Education Research, Policy and Practice</i> (CHERPP) (http://www.tu4dublin.ie/news/alliance-strengthens-links-with-canadian-partners/). The centre's key objectives are; to extend Canada-Ireland inter-institutional activities promoting mobility for academic staff and postgraduate scholars, undergraduate students exchange (where appropriate), and maintaining the joint Higher Education in Transformation Conference. 	

			<p>2015 Target: <i>Progress with respect to the development of the overall curriculum framework for TU4Dublin.</i></p> <p>Target to End 2016:</p> <ol style="list-style-type: none"> 1. Progress with implementation of identified aspects of the overall TU4Dublin curriculum framework. 2. Identified '<i>Programmes of the Future</i>' in place. <p>Progress</p> <p><i>Academic Policies Reviews</i></p> <p>Quality Assurance and Quality Enhancement Policies & Procedures (QA-QEPP), including Marks and Standards/General Assessment Regulations, will provide the overarching framework for the development and delivery of the TU4Dublin programmes. The specific work that has been undertaken in the area is as follows:</p> <ol style="list-style-type: none"> (a) Terminology review and standardisation of terms for QA, incorporating Marks and Standards; (b) Building on Internal Review and Setting out Current Processes/Steps/ Policies/ Practices in respect of QA and M&S for Taught Programmes Activities; (c) Building on Internal Reviews, and Setting out Current Processes/Steps/ Policies/ Practices in respect of QA and M&S for Research Activities. <p><i>TU4D Curriculum Framework</i></p> <ul style="list-style-type: none"> • The Graduate Attributes for the TU4Dublin have been developed. • The underlying characteristics of the Curriculum Framework for all TU4D programmes - including practice based teaching and learning, research informed teaching, progression pathways, work based learning, employer links in curriculum design, strong professional/vocational focus, flexible delivery, regional provision, multi- and trans-disciplinary themes in programme design and delivery, and a commitment to lifelong learning have been developed. • Alignment of existing L6-L8 programmes to the TU4D Curriculum Framework, has commenced with a pilot in 'Engineering' – 	
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		<p><i>Pilot Programme on Engineering Programme Alignment</i></p> <p>The Architecture Engineering and Construction (AEC) Programme initiated work in 6 Thematic Areas, including:</p> <ul style="list-style-type: none"> (a) Taught Masters Programmes; (b) Internationalisation; (c) Working at Existing Programme Level; (d) Industry & Professional Engagement; (e) New opportunities for Enterprise and Innovation (including New Academic Programmes, and; (f) Research <p>The AEC working-group on Mechanical Engineering (MechEng) developed new arrangements to deliver MechEng programmes in the new TU. They proposed a three year, phased approach to the consolidation of delivery.</p> <p style="text-align: center;">Note: <i>The piloting work paused because of TUI embargo</i></p> <ul style="list-style-type: none"> • <i>TU4Dublin Programmes of the Future</i> Seven programmes and modules across a range of NFQ Level 6 to Level 9 programmes were developed collaboratively between the TU4Dublin partners. These included <ul style="list-style-type: none"> • Masters in Applied Culinary Nutrition; • MA in Management for the Non-profit Sector • MEng in the Internet of Things Technologies; • MA in Social Research. <p>Modules in mathematics to support the transition from further education to higher education were developed. The following links provide examples of the developed content:</p> <ul style="list-style-type: none"> • https://www.youtube.com/channel/UCjZlIX9YZuEyjLWefruaHg • https://www.youtube.com/channel/UCToDUyU4j6rCNBOEuouD0EQ <p>In addition a module on, “Emotional and social competency training for final year students” was developed and delivered per details at: http://www.sciencedirect.com/science/article/pii/S1877042816310059</p>	
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			<p>2015 Target: <i>Development and implementation of 1st Year Experience (FYE) strategy</i></p> <p>Target to End 2016: In progress with a view to completion of all FYE projects by Q2 2017.</p> <p>Progress Strategies for 1st year experience have been developed and implemented. Examples of the projects that have been delivered include:</p> <ul style="list-style-type: none"> • Group Work, Research and Presentation Workshops; • Virtual learning community & environments; • The Global Classroom Concept—a cost-effective FYE with an international dimension(see Appendix 3 for detail) • Peer mentoring & peer-assisted learning programmes¹⁴; • Web-based Stimulating Learning System; • Transitioning support systems such as; learner profiling, creativity boot camp, digital library welcome-pack, • Introduction to integration of Professional Practice in teaching and learning; • Transitioning Mathematics for STEM Programmes. 	
			<p>2015 Target: <i>Establishment of joint Graduate Research School</i></p> <p>Target End 2016: Full implementation of the joint Graduate Research School as set in the joint Collaboration Agreement.</p> <p>Progress The joint Graduate Research School (GRS) is now operational and functions under the leadership of the Head of the Graduate Research School and a Director, with a mandate across the 3 TU4Dublin partners.</p>	

¹⁴ Webb, N., Carthy, A. and Cox, D. (2016) *You’ve got a friend in me – peer mentoring and the first year experience*. Paper presentation at the Higher Education in transformation conference, November 2-4, 2016 Oshawa, Canada.

		<p>The inter-institutional signed by all three partners in 2015 provides the basis for GRS operations to facilitate module delivery, student mobility and credit exchange for research programmes according to an agreed common framework.</p> <p>The Graduate Research School Office provides a common support service to all members across TU4Dublin including: -</p> <ul style="list-style-type: none"> • Marketing of PhD and MPhil opportunities, • Recruitment of graduate research students, • Maintenance of the graduate research registers, • Administrative support for the progression and examination of graduate research students, • Co-ordination of structured PhD programmes, • Provision of events to enhance the graduate research student learning experience and • Promotion of the achievements of the graduate research community. <p>The GRS Board with representation from all three Institutes meets monthly to oversee quality assurance of graduate research. The joint GRS Board has responsibility for developing and monitoring the administration of the regulations for postgraduate studies through research.</p> <p>The GRS operates an agreed system of transitional arrangements for the conduct and awarding of research degrees prior to TU designation. It provides an important opportunity to offer an integrated approach for delivery of Masters and doctoral education, including provision for joint supervision and collaborative research.</p>	
		<p><i>2015 Target: Development and implementation of Structured PhD programme</i></p> <p>Target End 2016: All students enrolled on structured PhD programme.</p> <p><u>Progress</u></p>	

		<p>The Structured PhD programme was successfully validated in 2014 and rolled out on a pilot basis throughout 2015. The programme was implemented in full from Sept 2016 with all new students registered at DIT, ITT and ITB have enrolled on the structured PhD programme. The Structured PhD programme is fully aligned with the National Framework for Doctoral Education.</p> <p>Student registering to the programmes are initially registered to MPhil Programme, and transfer to the PhD upon successful completion of a confirmation examination at the end of Year 2 of the programme. http://www.dit.ie/researchandenterprise/graduateresearchschool/</p> <p>The registered students must gain the following credits in their first year: 7.5 ECTS Credits for the Research and Professional Development Plan (RPDP); 10 ECTS Credits employability skills training, and; 10 Credits for discipline specific training. The modules contributing to the employability skills training and discipline specific training are electable from NFQ Level 9 modules delivered by the alliance members. See examples of selection range from Semester 2 Module Descriptors at: http://www.dit.ie/researchandenterprise/graduateresearchschool/currentresearchstudents/</p> <p>The Structured PhD Programme is designed to enhance graduate employability within the economy, both within a graduate’s discipline area but also in sectors and roles not directly linked to their academic background. The programme includes formal induction, progress monitoring, regular professional development, and access, in accordance with individual needs, to disciplinary skills development opportunities.</p> <p>The programme structure is designed to be flexible so as to facilitate both full-time and part-time modes of study and also incorporates masters and postgraduate diploma students.</p> <p>A success of the programme to date has been the creation of a common framework for the 600 DIT, ITT and ITB research students from diverse disciplines, enabling the sharing of experience, the fostering of interdisciplinary modes of problem solving and discovery and the</p>	
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			<p>support for learning at the interface between different knowledge domains.</p> <p>The annual Graduate Research School Symposium is an illustration of this approach. Research students and supervisors from all three-partner institutions join together in an inspiring event with oral and poster presentations spanning the four designated research themes: Environment, Energy and Health - Information, Communication and Media Technologies - New Materials and Devices - Society, Culture and Enterprise.</p>	
			<p>2015 Target: <i>Delivery of joint technology transfer measures</i></p> <p>Target End 2016: Please refer to Section 5</p> <p>Progress</p> <p>As partners in the Dublin Region Innovation Consortium (DRIC), DIT, ITT and ITB have longstanding successful experience of working together in the delivery of joint technology transfer measures. The DRIC consortium was established to maximise the impact of research in the member institutions. The consortium has an outstanding record in the licensing of new technologies and support for start-up companies achieving overall four times more commercial licences and four times the number of spin-out companies compared to higher education institutions generally in Ireland and internationally.</p> <p>The DRIC consortium has a particular focus on the translation of research into new products and new services that have real economic impact. A mid-term review by an international panel commissioned by KTI noted that this <i>“was a gold standard consortium with a good sense of purpose, where all partners are treated with equality. The panel noted good staff management practices at the lead institution implementing a full range of staff management processes resulting in a high performing TTO team.”</i> (KTI Mid-term review, 2015).</p> <p>Following a successful bid under the TTS13 programme, the partnership now includes the Dublin Institute for Advanced Studies (DIAS) and has developed a specific focus on the SME sector, with easier access to knowledge transfer expertise and improved engagement with the start-up ecosystem supported by each of the partners.</p>	

			<p>2015 Target: <i>Identification of issues pertinent to integrated student services in TU4Dublin</i></p> <p>Target End 2016: Continue to develop student services transition plan. This will be implemented upon confirmation of merger date.</p> <p>Progress The student services transition plan is under development. The work is being carried out within seven identified work packages as listed below.</p> <ul style="list-style-type: none"> • Application to Acceptance process for applicants. • Student recruitment and marketing of programmes. • Registration and Fee Payment. • Identification of Enhanced Programme Opportunities for Current Students • TU Exams Process • Induction and Orientation • Access and Widening Participation <p>25 projects are currently underway and will be delivered by September 2018.</p>	
			<p>2015 Target: <i>Development of strategy for embedding engagement and enterprise characteristics in TU4Dublin</i></p> <p>Target End 2016: Implementation actions to be mainstreamed across the TU4D partner-institutions.</p> <p>Progress The TU4Dublin alliance considers engagement as significantly important because it offers multi-lane opportunities for meeting its mission. A key challenge is for engagement to be a central force to illustrate institute-wide commitments. Embedding of engagement requires development of KPIs to measure success in terms of co-ordinated responses to requirements and opportunities for multi-level collaboration with the diverse communities.</p>	

			<p>Work undertaken in the TU4Dublin Foundation Theme, <i>Dublin's Globally Engaged University: The Enterprising University</i>, has drawn together institutional strengths and commitment to engagement previously established in DIT, ITB and ITT to explore how best the nature, rationale, extent and centrality of an engagement and enterprising culture can infuse the work of the technological university. To do this each working group explored and shared knowledge, experience, and insights through a process of consultation, research and discussion with a very wide cross-section of stakeholders of all types, from staff and students to external organisations and individuals, in the period from September 2014 to June 2016. The process took the draft TU4Dublin Mission, Vision and Values as the starting point. The progress to-date, which includes identification of implementation actions to be mainstreamed across the TU4D partner institutions are covered in the TU4Dublin 2016 report, <i>Creating an Engaged University</i>.</p> <p>The Agreed Actions, as follow-on to the Engagement Report are:</p> <ul style="list-style-type: none"> • Complete the pilot of the Carnegie Community Engagement Framework in Ireland (pilot completed and reported at: http://www.itb.ie/AboutITB/documents/CarengieFirstTimeClassificationDocument-ITBreportforTU4DsubmissionR1.pdf), and build on the cross-campus collaboration to identify synergies and agreed metrics for civic engagement; • Deliver on the outputs of the Carnegie Community Engagement Framework in Ireland; • Agree and develop a co-ordinating structure for all engagement activities for the technological university, including a one-stop-shop interface for all stakeholders to manage all engagement activities for the technological university; • Develop a “sources of revenue model” for the technological university; • Introduce the model for student internships into the Technological University Curriculum Model as part of the process in transforming programme provision; • Develop cross-campus staff development programmes for engagement; • Integrate cross-campus engagement activities, to include careers and internship programmes, under one coordinating organisational unit; 	
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			<ul style="list-style-type: none"> • Develop an optimal model in conjunction with the Finance workgroup to reward areas of the technological university that deliver on strategic targets in such areas as innovation, student recruitment, retention, progression, and collaboration with both internal and external clients; • Work with academic teams and stakeholders to develop engagement modules and content appropriate by level, stage and discipline as features of the technological university Curriculum Model; • Work with student services to develop a plan for implementing student engagement within the technological university; • Conduct a socio-cultural and economic impact of TU4Dublin. 	
			<p>2015 Target: <i>Joint prospectus and entry in CAO handbook/ website</i></p> <p>Target End 2016: Subject to confirmation of merger date.</p> <p>Progress</p> <ul style="list-style-type: none"> • The TU4Dublin project is on target for designation as a Technological University in 2018. • Work has commenced on the design and development of a website for the new University, which will provide information on the programme offering and entry mechanisms. • The processes are in place to produce a joint prospectus and entry in the CAO handbook on designation. 	
			<p>2015 Target: <i>Joint marketing to international student markets.</i></p> <p>Target End 2016: Continue to develop international office transition plan. This will be implemented upon confirmation of merger date.</p> <p>Progress</p> <p>A joint international strategy has been developed and is currently being implemented.</p> <p>As part of the joint activities with international perspectives, the TU4Dublin Alliance signed a Memorandum of Understanding with University of Ontario Institute of Technology, and Durham College to create the <i>Canada-Ireland: Centre for Higher Education Research, Policy and Practice (CHERPP)</i> (http://www.tu4dublin.ie/news/alliance-strengthens-links-with-canadian-partners/). The centre's key objectives</p>	

			<p>are; to extend Canada-Ireland inter-institutional activities promoting mobility for academic staff and postgraduate scholars, undergraduate students exchange (where appropriate), and maintaining the joint Higher Education in Transformation Conference.</p>	
			<p>2015 Target: <i>Develop a TU position on skills and apprenticeship.</i></p> <p>Target End 2016: Action Plan for Skills and Apprenticeship within TU4Dublin to be developed by end of 2016.</p> <p>Progress A draft position paper developed by End 2016, covering the following key aspects to enable appropriate discussions, leading to strategic decisions on the positioning of the TU4Dublin to support apprentice education:</p> <ul style="list-style-type: none"> • Contextualising of apprentice education within Ireland and review of standards-based apprentice model; • Review of status of apprentice programmes in Ireland with reference to key reports and strategies that have informed policy, and; • Identification of strategic issues and considerations for the Technological University. <p>A draft position paper has been published on: The Role of Apprenticeship within TU4Dublin—Strategic Review for the TU4Dublin Steering Group.</p>	
			<p>2015 Target: <i>Progress Organisation Design for Academic & Service Functions of TU4Dublin</i></p> <p>Target to End 2016: Maintain progress with respect to all aspects of organisation design (Governing Body, Academic Council, Senior Leadership Team, Academic Schools and Support Services) to ensure completion in 2017. Governing Body and Academic Council design subject to passage of and final form of TU legislation</p> <p>Progress Significant progress has been made in relation to the proposed organisation design for Academic and Service Functions of the</p>	

			<p>TU4Dublin. Specific deliverables achieved for the Technological University include:</p> <ul style="list-style-type: none"> • An organisation design for the academic structure has been developed. • Frameworks for both the Governing Body and Academic Council have been developed. • All functional areas across the partner institutes are now actively working on service delivery and organisation design for the Technological University, with a view to phased implementation commencing in September 2018. 	
			<p>2015 Target: <i>Development of TU4Dublin Digital Campus</i></p> <p>Target to End 2016: Completion of project to identify detailed vision. Initial scoping of detailed implementation plan commenced.</p> <p>Progress In July 2016, the Digital Campus & Learning Transformation Directorate (DC&LT) was established in DIT, with objectives to develop and implement the TU4Dublin vision of its Digital Campus (DC). A tender process was undertaken in summer 2016 for support to the development of the Digital Campus vision with IBM Ireland being selected to provide external support. Between October and December 2016 a series of workshops involving staff and students from the 3 TU4Dublin partners was undertaken using IBM’s Design Thinking methodology and this underpinned the development of the Digital Campus vision. A detailed implementation plan to underpin the delivery of the vision is in development and will be progressively implemented from September 2017.</p> <p>The status report on the development of the DC has been published.</p>	
			<p>2015 Target: <i>Development of a financial model for TU4Dublin.</i></p> <p>Target to End 2016: Complete initial project scoping.</p> <p>Progress The initial project scoping for the development of a financial model for TU4Dublin has been completed. In addition a discussion paper on the</p>	

			<p>financial strategy for the University has been developed. Work had now commenced on detailed financial modelling using the 2017 Programmes and Budgets documents from the three partner Institutions.</p>	
			<p>2015 Target: <i>Continue work with the multi-party forum to agree key actions to achieve a 'Workplace of the Future'</i></p> <p>Target to End 2016: Subject to lifting of current industrial action by TUI, re-engage a 'Safe Space' process with the engagement of all relevant unions.</p> <p>Progress</p> <ul style="list-style-type: none"> • A successful national conference on Technological Universities was hosted by the IMPACT trade union and supported by the TU4Dublin alliance. In addition, IMPACT has continued to contribute to the on-going work of developing a Technological University through a dedicated member of staff seconded to the TU4Dublin Programme. • While the TUI are still involved in industrial action across all Institutes of Technology, members of the TU4Dublin alliance continue to work at national level to try to address the issues of concern to TUI. It is envisaged that the "Safe-Space" process will be replaced by a National Negotiation Forum for all Technological Universities. 	
			<p>2015 Target: <i>Implement a framework for engagement with the collective TU4Dublin student body.</i></p> <p>Target to End 2016: Continue pro-active student engagement process including consideration of student union organisation models appropriate to a new Technological University for Dublin.</p> <p>Progress</p> <p>Student Unions from the three members of the TU4Dublin alliance (DIT, ITB, ITT) are well represented in all the project planning and work groups of the TU process. Also, the students out of own initiatives, attended the last USI Congress as one entity.</p>	

			<p>2015 Target: <i>Amalgamation of DIT, ITB and ITT within a suitable legal vehicle in preparation for application for Technological University designation.</i></p> <p>Target to End 2016: Substantive progress on this item requires the passage of the TU legislation. Implementation plans and timelines can be identified once the timing of enactment of the TU legislation is known.</p> <p><u>Progress Attained:</u></p> <ul style="list-style-type: none"> • As a result of significant Government Amendments to the proposed legislation, it is now envisaged that it will no longer be necessary for the TU4Dublin consortium to amalgamate to a suitable legal vehicle prior to application for designation as a Technological University (a previous pre-condition). The consortium is also aware that it is the Government's intent to facilitate the consortium to be in a position to apply for TU status, and if successful, for merger and designation to take place simultaneously. • The TU4Dublin alliance has therefore restructured its programme to incorporate all pre-merger activities into a coherent project plan, which is on target for designation in 2018. • Significant development has been achieved in the coordinated development of the three current strategic plans of the members of the TU4Dublin alliance. 	
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Case study outline: Energy Training for Construction Workers for Low Energy Building

Project Title: Intelligent Energy Europe Agreement IEE/12/BWI/339/S12.659728---BUILD UP Skills QualiBuild

Project Duration: November 11, 2013 ---August 1, 2016

Coordinators: Limerick Institute of Technology/Institute of Technology Blanchardstown

Eligible Cost: €1.163 million

EC Contribution: €871, 969

Introduction

The [QualiBuild Project](#), funded by European Commission BUILD UP Skills Initiative, was set up in 2013 as part of wider efforts to create employment in the sector and to assist Ireland in achieving the EU 2020 energy efficiency target, by encouraging all Irish building construction workers to undergo training and up-skilling at a National Level. Ireland is committed to reduce its total energy consumption by 20% by the year 2020, which corresponds to the European 2020 targets. As the Residential and Commercial/Public Sectors account for approximately 40% of energy consumption in Ireland, improving energy efficiency and renewable energy uptake in buildings are important elements of meeting these sustainable energy targets. To achieve these targets a new approach towards the construction of new and retrofitted building activities must be applied. This means that those working in or entering the construction sector require new knowledge, skills and competences to achieve the standards introduced by the new building regulations and understand the principles of Quality Low Energy Building.

The BUILD UP Skills QualiBuild Project (QualiBuild), funded under the Horizon2020's Intelligent Energy Europe Framework, was a collaborative project that was initiated and completed within the lifecycle of the HEA-ITB Compact that is reported herein. The QualiBuild project consortium was made up of the following partners (see the Published Final Report at: http://www.qualibuild.ie/wp-content/uploads/2015/01/QualiBuild-Publishable-Report_final.pdf):

- Limerick Institute of Technology (LIT) — Coordinating Partner of BUSI Irish Roadmap and QualiBuild projects. LIT constitutes of 5 campuses in Limerick, Clare and Tipperary delivering academic programmes in the NFQ Level 6-10, including (among others): training programmes under lifelong learning initiatives, energy efficient buildings, renewable technologies, enterprise, research, and community and social projects.
- Institute of Technology Blanchardstown (ITB)— Lead Partner delivering academic programmes in Informatics & Engineering, and Business and Humanities at NFQ Level 6-10, including (among others): training programmes under lifelong learning initiatives. Specific to this project, ITB has been involved in delivery of Craft Apprenticeship and upskilling programmes covering sustainability and energy efficient building construction and utilisation.
- Dublin Institute of Technology (DIT)— Lead Partner. In the reporting period, DIT consisted of 6 campuses based in Dublin City Centre delivering academic programmes at NFQ Level 6-10 with remits covering research, innovation and a wide range of technological, economic, social and cultural aspects.
- The Irish Green Building Council (IGBC)— Established in 2011, IGBC roles encompass organisations and businesses from the entire value chain of the built environments, with a common goal to accelerate the rate of change in Ireland to a sustainable built environment.
- The Construction Industry Federation (CIF)— CIF is the Irish construction industry's representative body that supports the construction sector directly with information and expert advice on a range of construction specific issues through regional offices throughout Ireland.

Overall, there were 14 active organisations on the QualiBuild Project's steering committee representing all the relevant key actors.

Project Summary

The core principle of the BUILD UP Skills QualiBuild project was one of Quality Low Energy Building. By focusing on quality buildings, of which low-energy buildings is a priority theme, this creates greater opportunities for the construction supply chain to take ownership of the issue. BUILD UP Skills QualiBuild addressed the main issues identified within the Irish BUILD UP Skills (BUSI) Roadmap by:

- (1) Developing a Foundation Energy Skills Programme for the target group, which would increase their knowledge and capacity in the field of low energy buildings. The Irish BUILD UP Skills Roadmap highlighted the need to back up training provision with mechanisms which allow workers to benefit, in the market place, from having taken such training.
- (2) Implementing a Train the Trainers programme to increase the knowledge and competency of trainers involved in construction training. The Irish BUILD UP Skills Roadmap highlighted the need to back up training provision with mechanisms which allow workers to benefit, in the market place, from having taken such training.
- (3) Building on experiences from other schemes in Ireland, the project developed and piloted an industry backed Quality Building Training Registration Scheme.
- (4) Developing a focused, innovative and targeted communication campaign to convince consumers, workers and construction companies of the value of addressing quality when completing low energy building projects.
- (5) Developing a national rollout Plan, which ensures that the BUSI Roadmap actions have been fully integrated into the Irish construction sector's policy and practice. The National Roll-Out Plan has set a path for the full implementation of the BUSI Roadmap, transfer ownership of Skills, outputs to relevant stakeholders and set objectives for post 2020, in particular the continuation of the QualiBuild FES and Train the Trainer courses nationally.

The just concluded QualiBuild Project, is selected as Case Study for this HEA-ITB Compact Strategic Dialogue Cycle 4 as its constituents demonstrated evidence of:

- Lead participation in development and collaboration with other HEI, industry and skills forums in Regional Clusters;
- Lead in development and provision of access to higher education including lifelong learning;
- Enhancement of teaching and learning for quality learner experience;
- Development of training programmes and course material informed by research;

- Proactive seeking enhanced engagement with enterprise and the community with embedded knowledge exchange;
- Utilising the value of EC funding mechanisms, through the provisions of targeted study exchange with partners in continental Europe.
- Leading a collaborative skills development programme focusing on sustainable energy systems, which is in line with the strategic Institutional Consolidation towards TU designation.

Project Work Packages and Deliverables

Work Package 1— Project Management

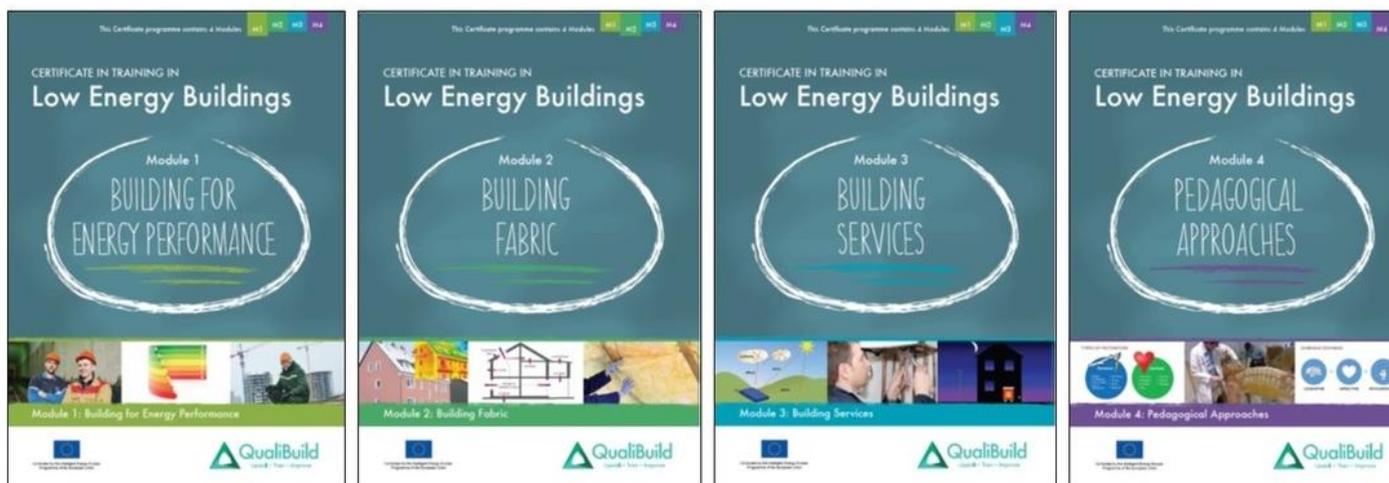
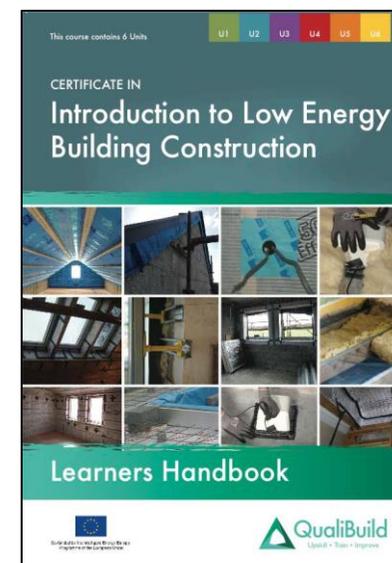
WP1 aimed to ensure that the project achieved its stated objectives in an efficient and cost-effective manner

Work Package 2— Foundation Energy Skills

WP2 focused on the development of the Foundation Energy Skills programme (NFQ Level 7), with capacity to train 200 participants and course offered to all construction workers nationally via scheduled regional delivery programmes.

Work Package 3— Development and Piloting of Train-the-Trainer Programme

WP3 developed a train-the-trainer programme intended to train 100 existing trainers of construction skills in Ireland, with comprehensive training manuals and web-based virtual learning environment supports for flexible delivery.



QualiBuild Training Manuals for the Train-the-Trainer Programme, including: Building Energy Performance (Module 1); Building Fabric (Module 2); Building Services (Module 3), and; Pedagogical Approaches to Training Delivery (Module 4)

Work Package 4— Development of quality building training registration system

WP4 developed a Quality Building Training Registration System for construction workers in relation to energy training. The voluntary register was to be industry driven, with the intention to ultimately progress to a statutory (i.e., mandatory) system.

Work Package 5— Quality Building Communication Campaign

WP5 aimed to develop a Quality Building Information and Awareness Campaign to overcome poor image associated with the building industry in Ireland, including raising awareness of the benefits of high quality building and low energy construction.

Work Package 6— Roadmap Implementation & National Rollout

WP6 sought to address 6 of the 12 core actions that were set out in the BUILD UP Skills Ireland Roadmap for action. It was also the planning vehicle for long-term implementation of the Roadmap beyond the project lifetime.

Work Package 7— Communication

WP7 was to complement the Quality Building Information Awareness Campaign from WP5 by securing the support of a wide range of stakeholders through communication of project aims and activities. WP7 focused on general communication at strategic level and for the entire project.

Work Package 8— EU Exchange Activities

WP8 aimed to add pan-European value to the project through targeted study tour and staff exchange activities. The exchanges were organised by the [Executive Agency for Small and Medium-sized Enterprises](#) (EASME) to and to monitor and evaluate the impact of any adopted actions. The EASME is used by the European Commission to manage several EU programmes manage on its behalf. The range of project include the IEE programme, which has oversight on projects towards energy sustainability improvement.

EU Exchange Meetings during the lifetime of QualiBuild

- 5th EU Exchange Meeting, Brussels, 26-27 November 2013
- 6th EU Exchange meeting, Brussels, 12 November 2014 (Pillar II objectives): The event focused on BUILD UP Skills' Pillar II objectives: supporting qualification and training schemes in EU Member States.
- 7th EU Exchange Meeting, Brussels, 18-19 January 2016
- 8th EU Exchange Meeting, Budapest, 2-3 June 2016: This meeting was open to BUILD UP Skills project coordinators and partners involved in the BUILD UP Skills Pillar I, completed and ongoing BUILD UP Skills Pillar II, and ongoing Horizon2020 construction skills projects.

Internationally refereed conference paper

Ferns, S. Hickey, R., Keyes, M., Ryan, R., Cussen, J. & Hynes, D. (2016) *Active Learning Student-Centered Workshop*. Higher Education in Tranformation (HEIT), Oshama, Canada

Ferns, S. Hickey, R., Keyes, M., Ryan, R., Cussen, J. & Hynes, D. (2016) *QualiBuild Train the Trainer; Lessons learned from the development of a program for training trainers of construction workers in Ireland*. Higher Education in Tranformation (HEIT), Oshama, Canada

Ferns, S., Hickey, R., Keyes, M. & Ryan, R. (2015) An Approach to the training of trainers of construction workers using flipped learning and peer assessment International Conference on Engaging Pedagogy

Nationally refereed conference paper

Ferns, S., Hickey, R., Keyes, M. & Ryan, R. (2015) Peer assessment for trainers of Low Energy Buildings with Moodle Workshop Module EdTech 2015
Beyond the Horizon: Policy, Practice and Possibilities

Extracts of the Final Technical Evaluation Report (Received October 28, 2016)

The project received a very positive approval and ITB's Industry Programmes' coordinator, who was also the ITB Lead Participant, has been invited to make a presentation on the project at the *EU Green Week 2017 High Level Conference* that is scheduled for May 30-31, 2017, Hotel Crowne Plaza – Le Palace, Brussels. This is a unique recognition, depicting the overall success of the QualiBuild Project in meeting its aims and objectives. The full version of the Final Project Evaluation Report is attached to this Compact.

Attachments:

- (1) EC Technical Assessment Report
- (2) EU Green Week 2017 Programme, Brussels



Technical Assessment Sheet

Unit B1 Energy

Brussels,
EASME/Unit B.1/PM/IEE/12/BWI/339

Project Reference: Agreement IEE/12/BWI/339/SI2.659728 – BUILD UP Skills QualiBuild

Title: Energy Training for Construction Workers for Low Energy Buildings

Action start date: 01/11/2013
Action end date: 01/08/2016
Coordinator: Limerick Institute of Technology
Eligible costs: 1,162,627 EUR
EC contribution: 871,969 EUR

1. General information

Report type	No.	From	To	Received
Final technical report	1	1	33	28/10/2016

2. Technical comment on the state of advancement

OVERVIEW

BUILD UP Skills QualiBuild (www.QualiBuild.ie) formed part of the second pillar of the BUILD UP Skills initiative for the Republic of Ireland. Its starting point was the Irish BUILD UP Skills Roadmap which was the result of the Pillar I project BUSI (BUILD UP Skills Ireland). This Pillar II project focused on core knowledge for construction workers in relation to low energy buildings. It addressed this via a Foundation Energy Skills Programme for on-site construction workers (EQF Level 4 & 5), a Train the Trainers programme to develop skilled trainers (EQF Level 5 & 6), a Continuous Professional Development (CPD) scheme for the trainers, an industry-backed Quality Building Training Registration Scheme, and a National Roll Out Plan to ensure that the BUSI Roadmap action could be sustained beyond the lifetime of the project. All of this was complemented with a concerted communications campaign targeting consumers and the construction sector.

The Final Report provides a clear and concise summary of the project's activities and results.

BUILD UP Skills QualiBuild was completed successfully, despite missing some of its targets. For example, only 59 trainers were trained from a target of 100, and the Construction Worker Skills Register was so delayed that only 38 qualified people registered on it, from a very ambitious target of 2000. Nevertheless, all Deliverables were completed to a high or very high standard, and the level of engagement with government and stakeholders in Ireland is such that the action appears very likely to be sustained after the end of the project. The pilot Foundation Energy Skills programme was successfully delivered, resulting in 195 construction workers trained and certified. Some excellent feedback and lessons were gathered by the project team from all of these efforts which should ensure that Ireland is well placed to train its construction workforce in a future national roll-out. The Irish Construction Worker Skills Register was successfully completed and is online (www.constructionworkerskillsregister.ie). This is a unique development, a place where workers qualified in energy efficient construction can advertise themselves to prospective employers, but also where the public can search for qualified workers in their area.

COMMENTS ON WORK PACKAGES

Work Package 1 – Project Management

This work package aimed to ensure that the project achieved its objectives in an efficient and cost effective manner.

Management of the project was effective overall, showing a proactive approach to overcome a number of difficulties. Six partner meetings were held in the reporting period: the kick-off meeting took place on 17.11.2013

in Tipperary, and all subsequent meetings took place in Dublin. Additionally, three Steering Committee meetings were held during the lifetime of the project. Minutes and signed attendance sheets were submitted together as D1.1. The project partners were in regular contact by teleconference and dedicated work package meetings.

The Risk Management Plan (D1.2) was well considered and updated continuously throughout the project duration.

Work Package 2 – Foundation Energy Skills

This work package focused on the development of the Foundation Energy Skills programme, which was developed for national roll-out to all construction workers.

All Deliverables were completed to a high standard. D2.1 (Foundation Energy Skills Programme – General Principles) set out general guidance for the development of the Foundation Energy Skills training programme, including target audiences, entry requirements and assessment. This was further developed in D2.2 (Foundation Energy Skills Programme – Outline) which set out the main objectives of the project, namely to transfer knowledge and information to craftsmen, to raise their awareness of best practice, and to focus on quality of construction for improved energy efficiency.

D2.3 (FES Training Content) resulted in several documents and items produced to a high quality: the "Learner Handbook # Introduction to Low Energy Building Construction", the "Trainers' manual" and several training videos which are available on the project's YouTube channel. This material was made available in draft form for the pedagogical module of the Train the Trainer course (Phase 1) to enable the trainers to understand the content and delivery of the FES course.

Work Package 3 – Train the Training Programme and Piloting

This work package developed a Train the Trainers programme which would train 100 existing trainers in the education sector in Ireland, and a "Foundation Energy Skills" programme of basic energy efficiency training for workers, to be piloted for 200 participants.

Project team members benefitted from an exchange with BUILD UP Skills counterparts in France and Luxembourg, hosted by ADEME which informed the design of the course and material, and which ultimately resulted in validation of a 4-module Special Purpose Award at NFQ Level 7 (20 ECTS Credits). The study tour to France showed that courses would be most effective in a participatory group format, avoiding PowerPoint presentations. Emphasis was also placed on delivering training to mixed groups of trades and disciplines, using practical demonstrations and plenty of images and graphical examples, avoiding too much text.

The target to train 200 workers was achieved, with 232 participants registered and 195 of them completing the course with certification. Fourteen pilot courses were delivered in two phases. For the trainers, 59 participants completed the course out of 85 registered, which is lower than the target of 100.

Deliverable D3.1 (Train the Trainer Modules and Content) was carried out to a good standard. Four training modules were written:

- Certificate in Low Energy Buildings Module 1: Building for Energy Performance
- Certificate in Low Energy Buildings Module 2: Building Fabric
- Certificate in Low Energy Buildings Module 3: Building Services
- Certificate in Low Energy Buildings Module 4: Pedagogical Approaches

Deliverable D3.2 (Train the Trainer Implementation Report) summarises the Train the Trainer programme that was carried out. The report is well written and clearly explains why the programme was necessary, how the programme was delivered, and it makes recommendations for the future. The fact that the training was implemented in two phases allowed lessons from Phase I to be applied to Phase II. For example, feedback from participants and relatively high drop-out rates due to workload issues led to a revision of the timing of training sessions and of deadlines for submission of assignments. The overall conclusions are that the lack of a formal structure of CPD (Continual Professional Development) for construction trainers in Ireland is a significant barrier to successful roll-out. Without such a structure, potential participants are obliged to find information themselves and rely on their employer's support to facilitate their attendance. There is also a perceived lack of opportunities for construction-related training.

Deliverable D3.3 (Foundation Energy Skills Evaluation Report) is well written and summarises the pilot training programme for workers, making recommendations for the national roll-out. The Foundation Energy Skills course was an introduction to the principles of low energy buildings for all construction workers; this was

identified as a need in the BUSI Roadmap. Training took place in 14 daytime and evening courses across Ireland, in two phases in 2015 and 2016. In total almost 200 participants attended and received certification. The evaluation of the FES course was very positive. Most participants stated that the course was necessary and expressed a wish for further training. They also stated that the demand for training, although currently great, would be further supported with increased recognition of the certification. Many participants believed that it should become a mandatory requirement for all building construction workers. It is now up to the national authorities in Ireland to take on this task.

Deliverable D3.4 (Proposal for a system of Continuous Professional Development) is well written and presented. Ireland currently lacks a formal CPD system for trainers of construction skills. This means that many Irish trainers lack the knowledge to properly train workers in energy efficient building methods, especially in the light of ever tighter building regulations for energy efficiency. The report goes on to recommend a robust CPD system for trainers of construction skills and outlines how this might be achieved in Ireland.

Work Package 4 – Quality Building Training Registration System

This work package developed a Quality Building Training Registration System for construction workers in relation to energy training. The initial aim was for the register to be driven by industry on a voluntary basis, with an intention to move ultimately to a statutory (i.e. compulsory) system at a later date.

The Construction Worker Skills Register was successfully completed and is online (www.constructionworkerskillsregister.ie), however its development was delayed and therefore it has so far attracted only a limited number of registered workers. The consortium found that there was an unexpected conflict between the proposed QualiBuild Register of individual construction workers and the national Construction Industry Register Ireland (CIRI), which complicated the process of setting up the register. Nevertheless, the consortium took the necessary steps to ensure that the register was completed and working before the end of the project, and the end result is good.

Deliverable 4.1 (Review of existing Registration Systems) was delayed due to the emergence of the issues with the CIRI register, but is well written. It examines a number of existing registration systems for different professions in Ireland, also with some examples from other countries. Workshops and consultations were held across the country to assess various questions including how the registration would be managed and by whom, and the likely cost of registering to both workers and their employers. The pilot phase of the Construction Worker Skills Register (CWSR) is reviewed in D4.2. This includes the entry requirements, copyright and legal issues, design and functionality of the online tool, and practicalities of the piloting. Of the 195 construction workers and 58 trained trainers who completed the FES training course, only 15% joined the register. The report collects useful feedback on the reasons why most trained people chose not to join the pilot register. One of the key reasons is the short 16-day period of promotion that coincided with a holiday period. It is expected that rates of registration could be dramatically improved with better promotion, with a national roll-out of training resulting in a larger pool of potential registrants, and with the adoption of the Register by a credible national body.

As well as setting up a pilot register of trained workers, the project researched the implications of making this mandatory across the country (D4.3). In particular it looks at the possible relationship between the QualiBuild training schemes and the national statutory Construction Industry Register of Ireland (CIRI), which is a relatively recent development. One area in which QualiBuild could complement CIRI is in the domestic retrofit market that is typically dominated by self-employed craftsmen who might fall outside the CIRI system that targets larger employers.

Work Package 5 – Quality Building Communication Campaign

The aim of this package was to develop a Quality Building Information and Awareness Campaign, with the intention of overcoming the poor image associated with building in Ireland. It supported the development and launch of a communications campaign to raise awareness on the benefits of high quality building and low energy construction.

In general, communication was one of the strong aspects of the QualiBuild project. Communication materials were all delivered to a professional level of quality. Deliverable 5.1 (Communications Strategy) was well considered and written and included a timetable of key events throughout the project lifetime, target audiences and key performance indicators for each target group. Deliverable 5.2 (Materials from Communication Campaigns) gives very clear guidelines on the project branding. The consortium reported that partner CIF (Construction Industry Federation) would not be able to fulfil their tasks under WP5, therefore it was decided to reallocate resources to other partners. This resulted in a natural concern that the quality and effectiveness of communication activities might suffer as a result, since the CIF was a key partner. Despite these fears

the communication activities exceeded all targets and were effective, as is summarised in Deliverable D5.3 (Evaluation Report of Communication Campaigns). A particular strength of the communication activities in QualiBuild was the large variety of media used to deliver the message. This included YouTube videos (12,602 minutes watched), slideshare presentations (1,569 views), Twitter (878 followers). All of these figures are quite impressive for a small project operating in only one relatively small Member State. The project also found some imaginative ways to reach the target groups, for example 10 interviews on national and local radio (a particularly effective way of reaching construction workers who often listen to the radio on site), coffee talks for construction workers, as well as the more traditional press articles and conferences. The range of communication channels used, the numbers reached and the overall quality of work was excellent.

Work Package 6 – Roadmap Implementation and National Rollout

This work package sought to address 6 of the 12 core actions for implementation that were set out in the BUILD UP Skills Ireland Roadmap, and to plan for the long term implementation of the Roadmap beyond the project's lifetime.

Deliverable D6.1 (Sustainable Funding Plan) was delayed, primarily due to the issues outlined above surrounding the CIRI. Nevertheless, the eventual report was well written and researched. It sets out a variety of funding options ranging from national and EU funds, levies on construction materials, and tax breaks, as well as potential costs. Encouragingly, the report finds that future training courses could be self-funding, based on the pilot training programme experience and feedback from participants and their employers.

Deliverable D6.2 (Other Roadmap Training Actions) explains how other existing training schemes might use the results of the FES course that was piloted under this project. Specifically, the report finds that there are existing specialist courses available that would benefit from the participants having first sat the basic FES introduction. However, some work would be necessary to revise their curricula.

Deliverable D6.3 (Roadmap Supporting Measures) is a confidential report that explains how the national roll-out of training programmes might be achieved in practice, and what support measures might be necessary. One option that is being explored, and which is as yet unresolved, is the possibility of requiring proof of quality training (such as FES) in the procurement selection criteria for construction projects.

Deliverable D6.4 (Handover and National Rollout) provides an overview of the proposals to roll out the training scheme across Ireland. It covers various aspects including funding, communication campaigns, responsible bodies, and it examines the principal results from the QualiBuild project.

Work Package 7 – Communication

Complementing the Quality Building Information and Awareness Campaign of WP5, this work package aimed to secure the support of a wide range of stakeholders through communication of project aims and activities. Whereas the communication work in WP5 covered the Quality Building aspect, this Work Package focused on more general communication at a strategic level for the entire project.

The website design was very good overall, with an embedded Twitter feed and a facility to watch videos of past events. A link to the Construction Skills Register is prominently displayed as a top heading of the website. A high quality communication strategy was produced (D7.1).

Work Package 8 (EU Exchange Activities)

This work package aimed to add value at the European level through targeted exchange activities, organised by the EASME, and to monitor and evaluate the impact of the action.

Project representatives attended the BUILD UP Skills EU Exchange meeting in Brussels on 12th November 2014, and the Concerted Action event the following day. The project partners maintained a good level of contact with other BUILD UP Skills and IEE projects.

Deliverable D8.1 (Report on IEE Common Performance Indicators) was updated at the Final Report stage and provides a comprehensive overview of the various indicators and their methods of calculation. It is anticipated that the project will eventually lead to 368,739 tCO₂/year of reduced Greenhouse Gas emissions and 107,058 toe/year of primary energy savings by 2020.

3. Recommended position of the EU

The report is approved.

4. Actions to be taken

The coordinator is to be informed of the results of this analysis and final payment is to be made according to the provisions of the Grant Agreement.

5. Remarks on financial statements

None

Status: APPROVED

Project Officer	Date	Signature
Philippe MOSELEY	27/2/2012	

EU Green Jobs Summit, Brussels

Draft External Programme

30 & 31 May 2017

Hotel Crowne Plaza – Le Palace

Tuesday 30 May

Tuesday 30 May	
14:30	<p>Scene setter Green Week 2017 looks to the future, through the lens of green employment. Environment Commissioner Karmenu Vella and guests set the scene for the next few days, asking what green jobs are, why we need them, and if they are a passport to a sustainable future.</p> <p>Plenary room</p> <ul style="list-style-type: none"> • Brief welcome by Karmenu Vella, Commissioner for Environment, Maritime Affairs & Fisheries, European Commission <p>Speakers:</p> <ul style="list-style-type: none"> • The Hon. José Herrera, Minister for Sustainable Development, the Environment and Climate Change, Malta • Vien Truong, Director, Green for All
15:00 16:00	<p>Opening session Europe needs policies that are good for its economy, good for the environment, and good for Europe's citizens. This opening session looks at how these priorities can be tackled at the same time, with actions that protect citizens, create employment, and safeguard the environment we depend on. Policymakers reflect on the challenges, asking, is the appetite there? Do we have the tools required? And what do we have to gain?</p> <p>Plenary room</p> <p>Chair:</p> <ul style="list-style-type: none"> • Karmenu Vella, Commissioner for Environment, Maritime Affairs & Fisheries, European Commission <p>Speakers:</p> <ul style="list-style-type: none"> • Vice-President Valdis Dombrovskis, European Commission • Jean Lambert, MEP, UK Green Party, European Parliament • Vic van Vuuren, Director Enterprise Department, International Labour Organisation (ILO) <p>Signing of social declaration onstage by Commissioner Vella and the Social Partners</p> <ul style="list-style-type: none"> • Statement from the Social Partners - BusinessEurope, UEAPME, CEEP and ETUC
16:00 16:30	Coffee break
16:30 18:00	<p>TEDx session: The green scene – a world of sustainable employment We are already surrounded by people doing green jobs, in different walks of life, from agriculture and construction to manufacturing and waste management. This TEDx-style session highlights this existing variety, showcasing green jobs that are being created by businesses and NGOs, and with support of LIFE, the Commission's funding programme for environmental projects.</p> <p>Plenary room</p> <p>Introduction:</p> <ul style="list-style-type: none"> • Prof. dr. Jan Jonker, Radboud University, Nijmegen <p>Speakers:</p> <ul style="list-style-type: none"> • Willem Ferwerda, CEO Commonland

	<ul style="list-style-type: none"> • Karita Kinninen-Raudaskoski, Co-Founder and Chief Research Officer, Paptic Ltd • Eric Scotto, President and Founder, Akuo Energy • Prof. Dr. Ir. Egbert S.J. Lox, Senior Vice President Government Affairs, Umicore <p>Chair:</p> <ul style="list-style-type: none"> • Joanna Drake, Deputy Director-General, Directorate-General for Environment, European Commission
18:00 18:30	Coffee break
18:30 20:00	<p>"Green Awards" ceremony</p> <p>In 2017, LIFE, the EU funding instrument for the Environment, celebrates 25 years of success. This special edition of the annual LIFE awards looks back over this past quarter century, and singles out projects that have had remarkable effects both for the EU's natural environment, and in creating green jobs and boosting green growth.</p> <p>Plenary room</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Karmenu Vella, Commissioner for Environment, Maritime Affairs & Fisheries, European Commission • Yvon Slingenberg, Director, Directorate-General for Climate Action, European Commission <p>Moderators:</p> <ul style="list-style-type: none"> • Rick Thompson, Moderators Europe • Aminda Leigh, Moderators Europe
20:00-21:00 Networking cocktail	

Wednesday 31 May			
09:00 09:30	Welcome coffee		
09:30 09:50	<p>What is a green job? Setting the scene for the day</p> <p>Daniel Calleja Crespo, Director-General Directorate-General for Environment, European Commission</p> <p>Plenary room</p>		
10:00 11:30	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>Session 1.1</p> <p>Contribution of EU nature policy to creating green jobs</p> <p>The EU nature policy aims to safeguard Europe's rich biodiversity and natural heritage, whilst also creating employment and sustainable socio-economic development. The session will present a new scoping study on Natura 2000 and jobs, as well as other recent activities in the EU, highlighting the role of Natura 2000 and the protection of biodiversity in creating employment, related either directly to conservation and restoration measures and sustainable production activities or to the indirect use of natural</p> </td> <td style="width: 50%; vertical-align: top;"> <p>Session 1.2</p> <p>Green jobs – Current state and future profiles.</p> <p>What are green jobs and green skills? What is the EU doing to foster green skills and integrate environmental concerns into existing employment policies?</p> <p>From around 2009 and during the following years of financial and economic crisis, greater attention has been paid to green jobs and skills because of the employment potential deriving from the transition to a green economy. This session will shed light on what green jobs and green skills are. It will further discuss how environment and employment policies can come together to maximise the benefits of green growth and foster employment. It will look at new green skills requirements, and how labour,</p> </td> </tr> </table>	<p>Session 1.1</p> <p>Contribution of EU nature policy to creating green jobs</p> <p>The EU nature policy aims to safeguard Europe's rich biodiversity and natural heritage, whilst also creating employment and sustainable socio-economic development. The session will present a new scoping study on Natura 2000 and jobs, as well as other recent activities in the EU, highlighting the role of Natura 2000 and the protection of biodiversity in creating employment, related either directly to conservation and restoration measures and sustainable production activities or to the indirect use of natural</p>	<p>Session 1.2</p> <p>Green jobs – Current state and future profiles.</p> <p>What are green jobs and green skills? What is the EU doing to foster green skills and integrate environmental concerns into existing employment policies?</p> <p>From around 2009 and during the following years of financial and economic crisis, greater attention has been paid to green jobs and skills because of the employment potential deriving from the transition to a green economy. This session will shed light on what green jobs and green skills are. It will further discuss how environment and employment policies can come together to maximise the benefits of green growth and foster employment. It will look at new green skills requirements, and how labour,</p>
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	<p>capital in a range of sectors such as tourism, recreation, health, and education.</p> <p>Vision room</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Nathalie Tessier, Head of Office for Training, Employment & Social Transitions, French Ministry of Employment, Energy & Oceans • Patrick Ten Brink, Director, Institute for European Environmental Policy (IEEP) • Prof. Dr. Panayotis Dimopoulos, Professor in Botany and Ecology, University of Patras, and Chair of the Hellenic Botanical Society <p>Moderator:</p> <ul style="list-style-type: none"> • Ignace Schops, Director Regional Landscape of Kempen and Maasland and President of the Europarc Federation 	<p>education and training policies can be better tailored to ensure a fast transition to a green economy</p> <p>Klimt room</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Maria Krautzberger, President of the German Environment Agency • Steve Bainbridge, Assistant to the Directorate, CEDEFOP • Thomas Gaudin, an environmental expert who specialises in exploring the market, labour, training and skill-set implications of environmental projects • Representative from Eurostat <p>Moderator:</p> <ul style="list-style-type: none"> • Rene Wyndham, Moderators Europe
<p>10:00 11:30 & 12:00 13:30</p>	<p>Side session</p> <p>LIFE 2017 call for project proposals – A new opportunity for green jobs and growth. Part 1</p> <p>The EU's LIFE programme has been funding nature conservation, green technology and climate action projects all over Europe for more than 25 years. LIFE-funded projects have created profitable green businesses with sustainable jobs contributing to the emergence of a green jobs market. At this information session participants will learn about opportunities for project funding under the 2017 call for proposals on close-to-market environmental solutions, biodiversity, and climate change adaptation and mitigation.</p> <p>A networking session will also take place from 14:30 to 16:00 in the Vision room: participants interested in applying for LIFE funding will have the chance to find potential project partners or seek advice from European Commission experts and National Contact Points in one-to-one meetings. Once registered to the LIFE side event, you will be invited to upload your profile in a matchmaking tool to help you find matching profiles and set up bilateral meetings.</p> <p>Plenary room</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Marco Malacarne, Acting Director, Executive Agency for Small and Medium-sized Enterprises (EASME), European Commission • Jean-Claude Merciol, Head of Unit LIFE, Directorate-General for Environment, European Commission • Philip Owen, Head of Unit on Climate Finance, Mainstreaming and the Montreal Protocol, Directorate-General for Climate Action, European Commission • Angelo Salsi, Head of Unit, LIFE and Eco-Innovation, EASME • Fabio Leone, Head of Sector, Unit LIFE and Eco-Innovation, EASME • Anne Vermaelen, Head of Sector, Finance Unit, EASME 	
<p>09:00 13:30</p>	<p>Side session</p> <p>EU Ecolabel – Highlighting contribution to green jobs creation in the context of the 25th anniversary</p> <p>The EU Ecolabel is celebrating its 25th anniversary by highlighting its success stories. The EU Ecolabel not only helps consumers identify products and service with reduced environmental impact, but it leads also to business development and green job creation.</p>	

	<p>2000 companies hold an EU Ecolabel licence for more than 35000 products under 32 product groups, from detergents, textile to tourist accommodation. Presented success stories will highlight that concern for environment goes hand in hand with growth and jobs creation. This side event will be connected to events taking place in several Member States simultaneously.</p> <p>Creativity Room</p> <p>Speakers:</p> <ul style="list-style-type: none"> • TBC <p>Moderator:</p> <ul style="list-style-type: none"> • Katrina Sichel, Wit and Word Communications sprl 	
11:30 12:00	Coffee break	
12:00 13:30	<p>Session 2.1 Blue Jobs in the Ocean Energy Sector</p> <p>If managed well, oceans can offer great potential for the maritime economy, both for traditional and emerging activities. Today, in the EU, the "blue" economy represents roughly 5.4 million jobs and generates a gross added value of almost €500 billion a year.</p> <p>Ocean energy is the next generation of renewable "blue" energy that could contribute to the transition to the low-carbon economy of the future and the fight against climate change. Europe is taking the lead globally with over half of wave and tidal energy companies coming from the EU. We have a good chance to maintain leadership in a global market expected to be worth hundreds of billions of euros in the next decades. Making ocean energy a success will mean big business and more high-skilled jobs. It is estimated that approximately 27,000 jobs could be created in the sector by 2035 under favourable conditions.</p> <p>Join us for a session to discuss how jobs in the ocean energy sector can promote the sustainable development of the blue economy and ensure global opportunities for the EU.</p> <p>Vision room</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Bernhard Friess, Director of Maritime Policy and Blue Economy , Directorate-General for Maritime Affairs & Fisheries • Jacopo Moccia, Policy & Operations Director, Ocean Energy Europe • Essi Paronen, Environmental Specialist, AW-Energy • Eileen Linklater, Client Relationship & Marketing Manager, The European Marine Energy Centre (EMEC) Ltd <p>Moderator:</p> <ul style="list-style-type: none"> • Anya Sitaram, Moderators Europe 	<p>Session 2.2 Investment as a driver of green jobs.</p> <p>Where are we as regards funding to generate green jobs? How can the EU and its Member States accelerate the development of green jobs and skills?</p> <p>Moving towards a greener, more circular and low-carbon economy will require significant investments towards activities that produce more value with fewer resources, decouple emissions from economic growth and preserve natural capital. This comes with a demand for new skills and abilities on the labour market. Investments will be needed both at small and large scale, and for mainstreaming sustainability into every component of the economy. How can we get investors on board for this challenge? Which investments and policies can facilitate the re-allocation of capital and labour across economic sectors, and minimise the adjustment costs that might result?</p> <p>Klimt room</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Jonas Byström, Senior Engineer, Urban Development Division, European Investment Bank • Sharon Carroll, Economic Development Unit, Galway City Council • Agnès Guth, Coordinator of the VALORG project (Recovery of Organic Waste project) • Andreas Uihlein, Scientific/Technical Project officer, Joint Research Centre, European Commission • Vincenzo Maria Emma, Project manager, Puglia Active Network <p>Moderator:</p> <ul style="list-style-type: none"> • Aminda Leigh, Moderators Europe

13:30 14.30	Lunch break
14:30 15:30	<p>Plenary session: "Green jobs for the future" In a fast-changing job market, where career paths are more complex than ever before, what core skills will be required? How can the world of education respond, and help young people who are starting out on a new career? Experts in business, recruitment and higher education make their predictions for future trends, and consider how education should respond.</p> <p>Plenary room</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Brenda King, President of the Sustainable Development Observatory, European Economic & Social Committee (EESC) • Mark Keyes, Industry Training Coordinator, The LINC, Institute of Technology Blanchardstown, Dublin, and coordinator QualiBuild programme • Valérie Borrell Estupina, Director of HydroSciences Laboratory Montpellier, University of Montpellier • Representative from SUEZ (TBC) • Antoine Mallia, Free movement of workers and EURES Portal, Directorate-General for Employment, Social Affairs and Inclusion, European Commission <p>Moderator:</p> <ul style="list-style-type: none"> • Anya Sitaram, Moderators Europe
15:30 16:00	<p>Closing session Plenary room</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Markus J. Beyrer, Director General, BusinessEurope • Marianne Thyssen, Commissioner for Employment, Social Affairs, Skills & Labour Mobility, European Commission • Karmenu Vella, Commissioner for Environment, Maritime Affairs & Fisheries, European Commission <p>Moderator:</p> <ul style="list-style-type: none"> • Daniel Calleja Crespo, Director-General, Directorate-General for Environment
16:00-18:00 Networking cocktail	

Appendices

Appendix 1: Overview of ITB Strategic Plan 2016-2019

The main theme of this strategic plan is to achieve designation as a Technological University within the plan's lifetime. This theme is common to three separate Institutes (Institute of Technology Blanchardstown, Dublin Institute of Technology and Institute of Technology Tallaght) prior to merging as one Institute, in advance of seeking Technological University designation. The three TU4Dublin partners are working towards creating an exciting, vibrant and modern university that will provide cohesive and differentiated technological education in Dublin. The TU4 Dublin will be deeply embedded in the economic, civic, social, creative and cultural life of the city region.

Combining the collective experiences, capabilities, passion and resources of the three institutions, student-centred learning environments are under development on the three physical campuses and through the TU4Dublin digital campus. TU4Dublin also aims to enhance its contribution to the Greater Dublin Region and the country as a whole, through globally significant research and innovation that supports enhanced competitiveness. Our TU4Dublin will provide practice-led and research informed higher education of the highest quality, for a new style of university graduated, who is innovative, creative and entrepreneurial.

Key strategic actions need to be taken by all three Institutes to align functions to those of a Technological University and to ensure the criteria for designation is achieved. This plan outlines the strategic intent as identified by ITB.

The full version of the ITB Strategic Plan 2016-2019 is available at: www.itb.ie/AboutITB/strategicplan.html

Appendix 2: An ePortfolio strategy to enhance student learning and assessment, and staff professional development

The Institute of Technology Blanchardstown (ITB) recognises the value of ePortfolios at both the programme and individual level. To the end of 2016, ITB was one of a consortium of partners to complete a project on ePortfolios which was funded by the *National Forum for Teaching and Learning*. The six-month project entitled, “*An ePortfolio strategy to enhance student learning and assessment, and staff professional development*”, was funded by the Teaching and Learning Enhancement Fund 2016 (Building Digital Capacity). This project created an ePortfolio framework which should encourage and enable academic staff to incorporate ePortfolios into their programmes, in order to empower students, allow for more authentic forms of assessment and foster a student-centred approach to learning. The development of this framework included consideration of appropriate ePortfolio organisational principles and reflective approaches, the production of exemplars and guidelines, and the exploration of ePortfolio systems and models appropriate to the higher education and student context. The project developed resources, guidelines, exemplars and training materials to support these approaches. These were made freely accessible at: <http://eportfoliohub.ie/>

The institute encourages the use of ePortfolios on a number of academic programmes including engineering, computing, early childcare and social studies. The ePortfolio systems and technologies vary from programme to programme with WordPress being the most popular application technology base. This is centrally-supported by the institute’s eLearning coordinator. The institutes Moodle VLE has also been configured to allow students to easily export assignment submissions and other materials to personal ePortfolio platforms. The institute investigated a number of commercial system including Mahara and PebblePad, and adopted a combination of VLE functionality and open source systems such as Wordpress.

Appendix 3: The Global Classroom Concept

The 'Global Class' is a concept which has been employed at Durham College Canada to provide students with an international learning experience. In practice, a Global Class runs for 90 minutes and employs interactive videoconferencing to bring together students from three international locations with a subject matter guest from a fourth location to explore specific topics

In November 2015, thirty first year business undergraduate students from the Institute of Technology Blanchardstown (ITB), Dublin, Ireland participated in a Global Class. Students from Durham College, Canada, and Illorin University, Nigeria, also participated. The class focussed on business ethics, using the Volkswagen emissions scandal as a backdrop. The class was led by Mr. Ryan Turnbull a Canadian entrepreneur whose company, Eco-Ethonomics, specialises in supporting Canadian companies achieve best practice ethical behaviour. Mr. Turnbull participated from a fourth location, Whitby, Ontario, in Canada. The class was facilitated by one of the authors (Lon Appleby, a lecturer at Durham College) and the Dublin participation was coordinated by Paul Dervan (Business Studies Lecturer at ITB).

During the class, each location could see, hear, and interact with each other. Students in Canada and Ireland had access to large video screens and additionally the students in Ireland used a roving wireless microphone to participate in the discussions and interactive exercises in which flip charts were employed at each location. Students in Nigeria had access to a PC with high definition camera and microphone

In the week following the class, the ITB students were given the opportunity to write a reflective log based on their experience of the class. It was an optional assessment topic (i.e. students could have chosen to reflect on a different topic) worth 5% of their coursework. Nineteen logs were submitted electronically to Moodle/Turnitin¹⁵, representing 63% of the students who attended the class. With the consent of the students and using an inductive thematic analysis approach, their logs were reviewed by one of the authors (PD who previously graded them) to identify feedback (both positive and negative) based on phrases and words used in the logs. Table 1 below sets out the main themes and the frequency of occurrence within the logs.

Table 1 Thematic Response Analysis

Thematic Response	Repetition
Effectiveness of external speaker in supporting my learning	21
Cultural awareness	13
Do more Global Classes	8
Expanded my understanding	8
Insufficient time	7
Interaction	6
Technical difficulties with Nigeria	5
Enjoyable	4
Quality of Technology	3
Facilitation	1
Fun	1

The analysis suggests students' learning was supported by the external speaker, and this is consistent with findings from the literature. Students also identified cultural awareness, expanded understanding and interaction. The following excerpts evidence this:

- "when it comes to business ethics, no news is bad news ... we were asked to list seven things which we found important for business, we put religion at six and the Nigerian college put it second. The Canadian college didn't even list it ... the amount of similarity between the lists ... I liked the fact that we got some new knowledge from people across borders ... It was a huge success, would like to do it again ... better than taking notes at ordinary lectures..."

¹⁵ Moodle is the Virtual Learning Environment used by ITB and Turnitin is used to check for plagiarism

- The logs also identified that the class was enjoyable and “fun”. In terms of “negative” themes, it can be seen that technical issues (poor sound and some drop-outs at the Nigerian college) featured in the feedback.

Table 2. Range of topics that have been covered under the Global Classroom concept. It is notable that, since the initial class dealing with business ethics in November 2015, the classes have addressed themes beyond business topics.

Date	Topic	Participants	Lead Collaborator	ITB Student Cohort
February 2016	Inequality in Society – Facing up to the challenges	DC Canada ¹⁶ Zambia	Sheila Coyle ITB ¹⁷	Social Care, UOIT ¹⁸ and Barefeet facilitators Zambia
October 2016	World View	DC Canada ITB	Dr. Ed McDaniel(USA)	Year1 Marketing
January 2017	The interactive classroom	ITB, DC Canada, Christ College, Bangalore, India	Dr. Bill Hunter, (Canada)	Professional Educators and students, Canada, India & Ireland
March 2017	Racial Diversity	Sakhnin College & the Moffet Institute, Tel Aviv, Israel, ITB & DC Canada	Dr Bill Hunter Dean – UOIT Department of Education, Canada	ITB Staff
March 2017	Health and Wellness	ITB, DC Canada	Prof. Astrid Stolpmann, Dr Natalie McCulloch and Dr Nicole Sandilands (Canada)	Year 3 Social Care
April 2017	Sustainability and Peak Oil	DC Canada, ITB, Budapest Business School	Mr John Hofmeister former President, Shell USA	Year 2 Business & Accounting

Feedback from students continues to be positive. Verbatim comments provided via an anonymous ‘exit survey’ from the most recent class dealing with ‘Peak Oil’ include:

- “had a huge impact and broadened my knowledge and perspective” ... “brilliant interactive way to learn”
- “I feel this class was extremely beneficial, it brought your slides to life and it was great to have real interaction. Also was interesting to have discussion with people also interested in the topic” ... “it was very helpful to my learning, and I liked how I got to listen to other students opinion on the topic”

Recognising the potential of the Global Class to deliver high quality experiential learning to students, ITB is investigating the provision of a dedicated Global Class Learning Space so as to make it easy for academic staff across ITB’s programmes to introduce an international dimension to the learning of their student cohorts.

¹⁶ Durham College, Canada

¹⁷ Institute of Technology Blanchardstown

¹⁸ University of Ottawa Institute of Technology (UOIT)

Appendix 4: National Learning Networks Education Support Service at ITB

National Learning Network is the largest private provider of education, training and employment supports and services for people with disabilities and individuals with educational support needs in Ireland. National Learning Network is the training and employment division of the Rehab group. The mission of National Learning Network is to promote equality by providing world-class training, education and employment access services and by actively influencing the creation of a more inclusive society. The NLN services include:

- Learning and Assessment Services in the Institute of Technology Blanchardstown
- Learning & Assessment Services in the National College for Art and Design, UCD
- Mental Health Support with University of Maynooth (MU)
- Disability Support Services in Dun Laoghaire Institute of Art and Design Technology
- Disability Support Services with City of Dublin ETB
- Further Education and Training Services funded by SOLAS in 50 locations nationally
- Community Based Rehabilitation Services funded by the HSE
- Continuous Professional Development Training
- Training and Consultancy Services to Business in Disability and Equality Issues
- Red Hill Primary School for Children with Autism in Limerick

The National Learning Network has been providing a student support service for the Institute of Technology Blanchardstown (ITB) since September 2003 to date. The service, which originated in a number of successful projects, has grown from strength to strength over the past 14 years, so much so that both ITB staff and students perceive NLN staff as being an integral part of the day-to-day student services within ITB. The highly qualified team currently working in the service have the competencies and skills to provide a number of services that are necessary for a diverse student population, from supporting students with general study skills to supporting students who experience stress, anxiety, and more serious mental health difficulties. The team includes a full-time Educational Psychologist, one full-time Assistant Psychologist, and a full-time peer mentor coordinator. The team have access to a panel of interdisciplinary specialists, including, the national NLN team of Rehabilitation Psychologists, two senior psychologists, and an Occupational Therapist.

These services have been developed from 14 years of working with individual students and groups of students and from interviews and discussions with students about the types of support they require while studying a course at ITB. Services have evolved from needs identified through screening and profiling of student's own perceptions of their learning strengths and weaknesses and learning styles and preferences.

This partnership between NLN and ITB allows for profiling of all First Year ITB students and the provision of specialist and general support to students during the entire calendar year (including academic holidays). Each individual student receives feedback on his/her learning profile and receives advice and strategies for supporting him/her with study at the beginning of their first year in the college. There is a high uptake on the voluntary screening and profiling exercise, which is offered online as part of induction. Students receive immediate printed feedback on their learning styles with some suggestion about how they should best study. The data from this exercise is analysed, and, approximately 10% of the cohort will be deemed to have possible difficulty without support or intervention and will be invited to visit the service for verbal feedback, which usually leads to a series of support meetings. There is exceptionally high uptake on this initiative, which ensures that those most likely to be vulnerable in the essential early weeks of the new course will be supported and reassured from the earliest possible opportunity. A further benefit of this screening and profiling exercise is that any lecturer may request a group learning styles profile report (example appended at the end of this section) which will indicate ways in which the group will best respond and make suggestions to the lecturer in respect of delivery.

The success of the service and the maintenance of a high level of commitment and enthusiasm are due to the structure employed and the creation of the Assistant Psychologist role. The assistant psychologist provides support to the entire student population on an open door basis, that is, any student who feels that he/she needs support is welcome to come to the service at any time to make an appointment. Certain students attend consistently throughout the year, and other students attend for a certain number of weeks and then develop

the skills to support themselves. There are a number of students who are sufficiently empowered through the reflective learning process commenced at induction, and who only need one or two sessions to confirm the way they will approach the course. NLN staff strive to promote students' independence and encourage them to develop the skills to see them through their time in college. These skills range from general study skills to anxiety management skills, social skills or self-esteem/confidence. All the above proliferate in the domain of specific learning difficulties.

Approximately 90% of all students accessing the NLN Service at ITB experience some level of stress and anxiety in relation to balancing college work and home-life. As expected, levels of stress and anxiety increase dramatically prior to exam time in January and again in May and students require a lot of support at those times. Additionally, the issue of mental health and wellness has increasingly featured in support provided. However, the primary concern of NLN staff is to support the students' academic needs and link in with other college personnel including the college counsellor when the students' needs go beyond the remit of the service. For students experiencing anxiety, stress or depression, the service supports can range from anxiety management strategies to maintaining positive mental health. The relationship within the institute is now such that communication between the student counsellor and the student support services create seamless service provision for the learner. In respect of mental health a large number of learners have been provided with the support that has prevented escalation of these difficulties and in other case external agencies have been involved in safeguarding the learner until he or she is well enough to return to study.

A key-underpinning factor to its success is the partnership that has been developed with ITB and the overall campus awareness and access to the service. Lecturers and administrative staff alike are offered seminars on learning styles, and a range of specialist issues that may arise, in particular with respect to SPLD. Many lecturers assess their own delivery styles and match them to the needs of their current course cohorts.

Appendix 5. Illustration of Module Learning Outcomes Mapping to Programme Learning Outcomes

- The appended grid (Heatmap) illustrates how ITB Programmes are designed to meet the designated Award Standards, including recommendations of National Employer Survey, and other industry consultation initiatives.
- For the illustrative case, the QQI Award Standard for Engineering (QQI, 2014)¹⁹ and the requirement for linkage between education and training (QQI, 2014)²⁰ were applied. The BSc in Process Instrumentation and Automation that is used was designed in the period to End 2016, which is covered by this Compact.

¹⁹ QQI. 2014. Award Standards— Engineering, July 2014.

²⁰ QQI. 2014. Education and Employment, Joining forces to promote quality and innovation across further and higher education and training— A Strategic Approach to Employer Engagement. Quality & Qualifications Ireland, 28 pp.

Programme Outcome Learning Outcome Map

[Semester 1-10] BSc in Process Instrumentation & Automation [With Option B Final Stage, 2 Year Duration]

[Semester 1-6] BSc in Process Instrumentation & Automation [With Option A Final Stage, 1 Year]

[Semester 1-4] Higher Certificate in Science in Electrical Technology

Rating of Module Learning Outcome (LO) to Programme Outcomes & Area Descriptors

No Contribution (=0)

Contribution Small (=1)

Contribution Moderate (=2)

Contribution Fairly Strong (=3)

Contribution Strong (=4)

Department of Engineering & Trades

BN046 Bachelor of Science in Process Instrumentation & Automation [NFQ Level 7]	Programme Outcome (1)		Programme Outcome (2)		Programme Outcome (3)		Programme Outcome (4)		Programme Outcome (5)		Programme Outcome (6)		Programme Outcome (7)		Programme Outcome (8)		Addressed Programme Area Descriptor		
	Knowledge-Breadth: Specialised knowledge across a variety of areas.	Knowledge-Kind: Recognition of limitations of current knowledge and familiarity with sources of new knowledge; integration of concepts across a variety of areas.	Knowledge-Kind: Recognition of limitations of current knowledge and familiarity with sources of new knowledge; integration of concepts across a variety of areas.	Know-How & Skill-Range: Demonstrate specialised technical, creative or conceptual skills and tools across an area of study.	Know-How & Skill Selectivity: Exercise appropriate judgement in planning, design, technical and/or supervisory functions related to products, services, operations or processes.	Competence-Context: Utilise diagnostic and creative skills in a range of functions in a wide variety of contexts.	Competence-Role: Accept accountability for determining and achieving personal and/or group outcomes; take significant or supervisory responsibility for the work of others in defined areas of work.	Competence-Learning to Learn: Take initiative to identify and address learning needs and interact effectively in a learning group.	Competence-Insight: Express an internalised, personal worldview, manifesting solidarity with others.										
Modules by Semester	ECTS	AM	Rating	LO	Rating	LO	Rating	LO	Rating	LO	Rating	LO	Rating	LO	Rating	LO	Rating	LO	
Semester 1																			
PIAA H1011 Algebra, Geometry and Calculus	10	E	4	1,2,3,4,5	0	-	4	1,2,3,4,5	0	-	3	1,3,4,5	0	-	0	-	0	-	1,6
PIAA H1012 Science for Instrumentation	10	E,L,P,R	1	1,3	1	1,3	3	2,3,4,5	1	2,3	2	1,2,3	2	2,3,4	1	5	1	4,5	1,2,3,6
PIAA H1013 Electrical / Electronic Technology 1	10	E,L,R	1	-	1	3	4	2,3,4,5,6	1	2,4	3	2,3,5,6	1	6	1	6	1	2,6	2,6
PIAA H1014 Workshop Practices & CAD	10	L,R	0	-	1	3	2	2,3,4	1	1,2	0	-	1	1	0	-	0	-	4,5,6
Semester 2																			
PIAA H1015 Industrial Services	10	E,L,R	3	2,3,4,6	4	1,2,3,4,5,6	1	4,7	2	1,4,5	1	1	3	1,2,5,7	2	1,5,7	1	1,7	1,2,3,4,5,6
PIAA H1016 Work-based Learning Stage 1	10	P,R	1	1	1	1	1	2,3	2	1,2,3	1	2,3	1	2,3	1	1,2	2	1,2,3	2,3,4,5,6
Semester 3																			
PIAA H2011 Calculus and Statistics	10	E,L	4	1,2,3,4,5,6,7	0	-	4	1,2,3,4,5,6,7	1	7	4	1,2,3,4,5,6,7	1	7	1	7	0	-	1,4,6
PIAA H2012 Electrical / Electronic Technology 2	10	E,L,R	2	1,2,6	1	2	4	2,3,4,5,6	1	4,5	3	2,3,4,5	1	5,6	1	6	1	6	1,2,6
PIAA H2013 Process Instrumentation 1	10	E,L,R	3	1,3,4,5	3	2,3,4,5	1	2,6	1	6	1	2,6	1	2,6	0	-	0	-	1,2,3,6
PIAA H2015 Electrical Power & Machines	10	E,L,R	3	1,2,3,5	1	1	2	3,4,5	1	4,5	1	3,4	1	5	1	5	1	1,5	2,3,4,5,6
Semester 4																			
PIAA H2014 Programmable Logic Controllers	10	E,L,R	2	1,2,3	2	1,2,3	4	2,3,4,5	1	3,4	1	3,4	1	4,5	0	-	1	5	2,3,6
PIAA H2016 Work-based Learning Stage 2	10	P,R	1	1	1	1	1	3,4	3	1,2,3,4	2	2,3,4	2	2,3,4	2	1,2,3	3	1,2,3,4	2,3,4,5,6
BSc Option A																			
Semester 5																			
PIAA H3011 Process Instrumentation 2	10	E,L,R	4	1,2,3,4,5,6	4	1,2,3,4,5	1	5,6	4	1,2,3,5,6	1	5,6	2	1,2,6	2	1,2,6	2	1,2,6	2,3,4,5,6
PIAA H3012 Industrial Automation	10	E,L,R	1	2,3	2	1,2,7	4	3,4,5,6,7	4	1,3,4,5,6,7	4	3,4,5,6,7	1	1	1	1	1	1,7	2,3,4,6,6
PIAA H3013 SCADA & Industrial Networks	10	L,P,R	1	1,2	2	1,2,5	3	3,4,5,6	2	3,4,5	1	3,4	2	1,5,6	2	1,2,5	3	1,2,5,6	3,4,5,6
PIAA H3014 Energy Management & Quality Systems	10	E,L,R	0	-	4	1,2,3,4,6,7	1	5,7	4	1,2,3,4,5,6,7	2	4,5,7	4	1,3,4,6,7	1	1,2	4	1,2,3,4,6,7	1,2,3,4,5,6
Semester 6																			
PIAA H3015 Industrial Process Control	10	E,L,R	2	1,3,4	1	1,3	2	2,5,6	4	2,3,4,5,6	1	2,5	2	2,5,6	1	6	1	6	1,2,3,4,5,6
PIAA H3016 Work-based Learning Stage 3	10	P,R	1	1	1	1	2	3,4,5	4	1,2,3,4,5	3	2,3,4,5	3	2,3,4,5	2	1,2,3	4	1,2,3,4,5	1,2,3,4,5,6
BSc Option B (Two-year Add-on)																			
Semester 5																			
PIAA H3021 Instrumentation and Calibration 2	5	E,L,R	1	1,2	3	1,2,3,4	1	3,4	2	1,3,4	1	3,4	1	3,4	1	4	1	4	2,3,6
PIAA H3022 Programmable Logic Controllers 2	5	L,R	1	3,5	1	1,5	3	2,3,4,5	3	1,2,3,4	3	2,3,4,5	4	1,2,3,4,5	1	1,5	1	1	3,4,5,6
Semester 6																			
PIAA H3023 Environmental Monitoring Systems	5	E,L,R	1	2	2	1,2,5	1	4,5	3	1,2,4,5	1	4,5	3	1,2,4,5	2	1,2,5	2	1,2,5	1,2,3,4,5,6
PIAA H3024 Computer Interfacing and Industrial Networks	5	L,P,R	1	2	2	2,4,5	2	1,3,5	1	3,4	2	1,3,5	4	1,2,3,4,5	2	2,4,5	1	4,5	3,4,5,6
Semester 7																			
PIAA H3025 Facility Energy Management	5	E,L,R	1	3,4	4	1,2,3,4,5	2	3,4,5	3	1,2,3,4	2	3,4,5	4	1,2,3,4,5	2	1,2,5	2	1,3,5	2,3,4,5,6
PIAA H3026 Quality Systems	5	E,L,P,R	1	3,4	3	1,3,4,5	1	2,5	3	1,2,3,5	3	2,3,4,5	4	1,2,3,4,5	2	1,3,5	3	1,3,4,5	1,2,3,5,6
Semester 8																			
PIAA H3031 Programmable Logic Controllers 3	5	L,P,R	0	-	1	4	3	1,2,3,4	2	1,2,3	3	1,2,3,4	3	1,2,3,4	0	-	1	3,4	3,4,5,6
PIAA H3032 Process Control	5	E,L,R	2	1,3,4	2	3,4,6	2	2,5,6	4	2,3,4,5,6	2	2,5,6	4	2,3,4,5,6	1	6	1	6	2,3,4,6
Semester 9																			
PIAA H3033 Fluid Power Systems	5	E,L,R	1	2	2	1,2,5	2	3,4,5	3	1,3,4,5	2	3,4,5	3	1,3,4,5	1	1,4	1	1	1,2,3,4,6
PIAA H3034 SCADA	5	L,P,R	1	1	2	1,3,4	2	2,3,4	3	1,2,3,4	1	2,3	3	1,2,3,4	1	3	1	3,4	3,4,5,6
Semester 10																			
PIAA H3035 Project	10	P,R	1	2	1	1,4	3	1,2,3,4	3	1,2,3,4	1	1,2	3	1,2,3,4	2	1,2,4	2	1,2,4	1,2,3,4,5,6

Programme Area Descriptor

1: Mathematics
2: Sciences

3: Information Technology
4: Design & Development

5: Business Context
6: Engineering Practice

Assessment Method (AM)

E: Examination (including Continuous Assessment Tests)
L: Laboratory & Practical Assignments

P: Presentations (including Interviews)
R: Reports (individual & Group)

Programme Validation Date: May 16, 2017

Appendix 6: Memoranda of Understanding (MOU)

- (a) MOU for Establishment of the Canada-Ireland Centre for Higher Education Policy & Practice;
- (b) MOU with CAST Inc

November 16, 2016

Diarmuid O'Callaghan
President
Institute of Technology Blanchardtown
Blanchardtown Road North
Dublin 15 D15 YV78 Ireland

Subject: Canada-Ireland Centre for Higher Education Policy and Practice

Dear Dr. O'Callaghan,

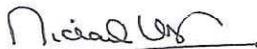
Please find attached a signed copy of the Memorandum of Understanding (MOU) between our five institutions and the Technical University for Dublin Alliance.

This MOU supports the establishment of a Canada-Ireland Centre for Higher Education Policy and Practice and extends our inter-institutional activities to include research mobility for faculty and post-graduate research, undergraduate student mobility (where appropriate), and our joint Higher Education in Transition (HEIT) Conference.

I will be e-mailing you separately in early December for a quotation for a press release/web announcement for the Canada-Ireland Centre for Higher Education Policy and Practice. Prior to such an announcement, we want to make sure that we have a live web-site and information on our activities (e.g., faculty mobility, research, etc.)

Should you have any questions, please do not hesitate to contact me.

Sincerely



Michael Owen, PhD.
Vice-President Research, Innovation & International

Cc: Dr. Tim McTiernan, President, University of Ontario Institute of Technology
Dr. Larry McNutt

November 16, 2016

Mary Meaney
Project Lead
Technology University for Dublin Alliance
c/o Dublin Institute of Technology
Bacon Street
Dublin, Ireland

Subject: Canada-Ireland Centre for Higher Education Policy and Practice

Dear Dr. Meaney,

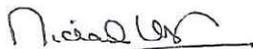
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I will be e-mailing you separately in early December for a quotation for a press release/web announcement for the Canada-Ireland Centre for Higher Education Policy and Practice. Prior to such an announcement, we want to make sure that we have a live web-site and information on our activities (e.g., faculty mobility, research.)

Should you have any questions, please do not hesitate to contact me.

Sincerely



Michael Owen, PhD.
Vice-President Research, Innovation & International

Cc: Dr. Tim McTiernan, President, University of Ontario Institute of Technology
Dr. Larry McNutt



TU4 Dublin

Canada-Ireland Centre for Higher Education Policy and Practice

Memorandum of Understanding (MOU)

Between

University of Ontario Institute of Technology
Oshawa, Ontario, Canada L1H7K4

and

Durham College
Oshawa, Ontario, Canada L1H7K4

and

Dublin Institute of Technology
DIT Kevin Street, Dublin, Ireland

and

Institute of Technology Blanchardstown ITB
Blanchardstown Road North, Dublin 15, D15 YV78

and

Institute of Technology Tallaght
Dublin, D24 FKT9, Ireland

and

Technical University for Dublin Alliance
Dublin, Ireland

The higher education institutions (“institutions”) above (University of Ontario Institute of Technology, Durham College, Dublin Institute of Technology, Institute of Technology Blanchardstown and Institute of Technology Tallaght) agree in principle to establish a Canada-Ireland Centre for Higher Education Policy and Practice (hereinafter “Centre”).

The Centre will promote inter-institutional research collaborations, joint publications, joint conferences and faculty, staff and student mobility focused on exploring higher education policy and practice in the two nations and more broadly.

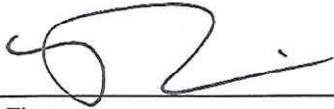
The Centre will have two co-directors, one appointed by UOIT and one appointed by the three Ireland-based institutions, who will be responsible for organizing the biennial Higher Education

in Transition (HEIT) conference, promoting opportunities for collaborative research, and identifying opportunities for student, staff and faculty mobility.

The Institutions agree to develop supplementary agreements to support collaborative research and implement student, staff and faculty mobility, in accordance with their respective institutional policies and procedures.

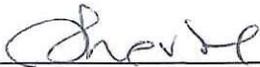
The term of this MOU will be October 15, 2017 to December 31, 2020 and maybe renewed upon written mutual agreement amongst the Institutions.

As representatives of their respective institutions, the undersigned are authorized to enter into this MOU:



Tim McTiernan
President and Vice-Chancellor, University of Ontario Institute of Technology

Date: Nov 2, 2016



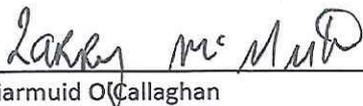
Don Lovisa
President, Durham College

Date: Nov 2, 2016



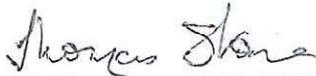
Brian Norton
President, Dublin Institute of Technology

Date: 2/11/16



Diarmuid O'Callaghan
President, Institute of Technology Blanchardstown

Date: 2nd NOV 2016



Thomas Stone
President, Institute of Technology Tallaght

Date: Nov 2, 2016



Mary Meaney
Project Lead, Technical University for Dublin Alliance

Date: 2/11/16

Memorandum of Understanding

Between

Technological University for Dublin Alliance (TU4 Dublin)

And

CAST, Inc.
40 Harvard Mills Square,
Suite 3, Wakefield, MA, 01880
781-245-2212

Purpose

This MOU serves four purposes:

- 1) To describe the background and scope of the work and the organisations involved
- 2) To put forth a basic understanding of how CAST and TU4D will work together
- 3) To articulate the voluntary and collaborative nature of CAST and the Technological University for Dublin's (TU4D) relationship (collaborative parameters)
- 4) To address the issue of ownership as it pertains to CAST's consulting services.

1. Background and Scope

Background

The team developing the Technological University for Dublin Alliance (TU4 Dublin) has indicated its interest in bringing in the Universal Design for Learning (UDL) framework as a design paradigm for the development of this new type of university. In so doing, there is a need for additional consulting and professional work to build the capacity of the leadership team and faculty to advise and support key aspects of the design process from a UDL perspective. Dr. David Rose, CAST has been working with Dr. Gerald M. Craddock, of NDA Larry McNutt of ITB in 2015 to provide initial keynotes and consultation on UDL. That background work completed in 2015 will serve as a foundation for the proposed work.

Organizations

TU4 Dublin: The Technological University for Dublin is a new type of university being established by Dublin Institute of Technology (DIT), Institute of Technology Blanchardstown (ITB) and Institute of Technology Tallaght (ITT). These institutions have come together to explore the benefits of structured cooperation and collaboration and to jointly seek designation as a new unitary university, providing educational opportunities that are practice-based and research-informed. DIT, ITB and ITT established a formal alliance in October 2011 and since then colleagues from the three institutions have been working together to develop a program of work which will culminate in the submission of a joint application for designation as a Technological University. TU4D will be supported in its endeavors by the Centre for Excellence in Universal Design which has a statutory remit under the Disability Act 2005 to promote Universal Design in education.

CAST: Founded in 1984, CAST is a not-for-profit, educational research and development organization based in the US whose mission is to expand opportunities for all individuals, especially those with disabilities and at-risk learners, through innovative uses of technology and Universal Design for Learning. As a pioneer and a leader in the growing field of UDL, CAST has earned international recognition for its innovative contributions to educational products, classroom practices, and policies. CAST fulfills this mission through specific activities in the following areas:

- Research and development of innovative approaches to teaching and learning across the curriculum, including media and materials, and assessment;
- Growing the field of UDL through the development and delivery of guidelines and standards, professional development and technical assistance, and dissemination and outreach;

Potential Key CAST Staff/Consultants (Biographies available upon request)

Dr. David Rose, Founder, Chief Education Officer

Dr. Sam Catherine Johnston, Research Scientist, Postsecondary, Online/OER

Jose Blackorby, Sr. Director Research and Development

Tracey Hall, Sr. Research Scientist

Skip Stahl, Director of Policy, Co-Director AEM Center, Online Learning

Boris Goldowsky, Director of Technology

Kim Ducharme, Director of Design

Rachel Currie Rubin, Research Scientist, Professional Learning, UDL Implementation

Joy Zabala, Co-Director AEM Center, AT/Accessible Materials

Kirk Behnke, Sr. Director Professional Learning

CAST may also draw from its UDL Cadre of experts on specific aspects of the project where external expertise is required.

Universal Design for Learning

CAST's principles on Universal Design for Learning (Rose and Meyer, 2002, Meyer, Rose, Gordon, 2014) offer a framework for the design of materials and instructional methods that are useable by a wide range of users. The Universal Design term was adapted from the concept of universal design in architecture, where considerations of physical access for individuals with disabilities are incorporated into the original design, rather than added on as an afterthought. Over the past 30 years, CAST has been applying similar principles to support learning not just access to curriculum. UDL draws on current brain research and new media technologies to respond to individual learner differences. UDL curricula, teaching practices, and policies are inherently flexible and therefore, may have the potential to meet individual learning needs more effectively.

2. Overall Scope and approach to the work

This MOU is intended to extend and formalize support during the period May 2016 through December 2017. This MOU is divided into four parts: 1) consulting 2) program or curriculum redesign; and 3) faculty development. Specific scopes of work will be developed and contracted

on a per project basis, with timelines, key personnel and cost negotiated across one or more of the areas described below in line with procurement guidelines:

- 2.1 Support Services**– customized consulting to lay out an overarching framework for UDL in the formation and design of the TU4D is required in order to determine leverage points for impact, capacity building approaches, and to prioritize efforts, resources and to leverage existing efforts.
- Potential consultant activities include:
 - Keynotes, workshops
 - Development of online tools and resources.
 - Responses to specific requests plans other units within TU4D,
 - Online and telephone consultation as required,
 - Site visits as needed to meet with designated groups, to present ideas, to respond to questions and, in general, to give a face to the consultation
 - Other forms of advice and support as may at times be needed.

2.2 Program/Curriculum Design: A variety of curriculum issues arise in the creation of a new university that incorporates the programs of existing institutes. Further new programs and curricula will be designed. For both the challenge of re-design and for anticipating new approaches, UDL will be a core design framework to ensure that the diversity of learners and learning needs are addressed.

2.3 Faculty Development: The creation of a new technological university requires new approaches to teaching and learning and, in particular, about new approaches for supporting faculty in using technology in their teaching. UDL is an important design framework for teaching, learning and the integration of technology with learning sciences. It is therefore important that the teaching and learning services offered to faculty during the early years of the new university be responsive to the faculties' perceived learning needs and that they take a proactive role in gathering information about those needs and a leadership role in activating for and supporting the use of technology in teaching. CAST can provide a variety of faculty development efforts including workshops, institutes, online learning, and custom programs.

3. Collaborative Parameters

The collaboration between CAST and TU4 Dublin is voluntary and nonbinding. Should either party feel the relationship is untenable, they may end the collaboration without legal implications. Should the working relationship between CAST and TU4 Dublin end prematurely, the terminating party will provide written notification of its decision to the other party.

4. Curriculum Ownership

TU4 Dublin will retain full ownership of the Curricula/Programs it develops. All contributions made by CAST to TU4 Dublin's curricula/programs will be owned free and clear by TU4

Dublin. Further any intellectual property on UDL that CAST brings to the collaboration shall remain the property of CAST.

Duration

This MOU is at-will and may be modified by mutual consent by the authorized officials from CAST and TU4 Dublin. This MOU shall become effective upon signature date below and will remain in effect until completed, modified or terminated by either partner.

Key Contacts:

CAST

Lisa Poller, Director of Strategy, lpoller@cast.org, 781-245-2212 x253
Carole Lacy, Chief Financial Officer, clacy@cast.org 781-245-2212 x229
David Rose, Founder, Chief Education Officer drose@cast.org 781-245-2212 x246

TU4 Dublin

Dr. Larry McNutt, ITB larry.mcnutt@tu4dublin.ie; Larry.McNutt@itb.ie
Telephone: 01-8851080 | 087 6814232

Signatures:

TU4 Dublin

Name *Mary Meany*

Title *PRESIDENT*

Date *12/7/16*

CAST

Name *Carole Lacy*

Title CFO

Date 7/6/2016

Appendix 7. Overview of the TU4Dublin Alliance Progression to Technological University Designation

Designation Criterion	Status
(a) of the students of the merged institute registered on a programme that leads to an award to at least honours bachelor degree level—	
(i) at least 4 per cent are research students registered on a programme which leads to an award to at least masters degree level, and	This target will be achieved by March 2018 .
(ii) at least 30 per cent fall within one or more than one of the following classes of students:	√
(I) students who are registered on a programme that is provided on a flexible basis, such as by means of part-time, online or distance learning;	√
(II) students who are registered on a programme that has been designed, and is being delivered, with the involvement (which shall be construed in accordance with <i>subsection (2)(b)</i>), of business, enterprise, the professions and other related stakeholders in the region in which the campuses of the merged institute are located;	√
(III) students who are not less than 23 years of age;	√
(b) the merged institute has a plan that demonstrates, to the satisfaction of the advisory panel, that it would have capacity, as a technological university to increase within 10 years of the date of the making of an order under <i>section 46</i>, from at least 4 per cent to at least 7 per cent, the proportion of its research students referred to in <i>paragraph (a)(i)</i>	In preparation for inclusion in the application.
(c) of the full-time academic staff of the merged institute engaged in the provision of a programme that leads to an award to at least honours bachelor degree level—	
(i) at least 90 per cent hold a masters degree or doctoral degree,	√
(ii) at least 45 per cent hold—	
(I) a doctoral degree, or	√
(II) subject to <i>subparagraph (iii)</i> , a terminal degree, as well as sufficient practical experience gained in the practice of a profession to which the programme relates, such that the degree and experience together can reasonably be viewed by the advisory panel as equivalent to a doctoral degree, and	√
(iii) not more than 10 per cent hold only the qualifications referred to in <i>subparagraph (ii)(II)</i> ;	√
(d) the merged institute has a plan that demonstrates, to the satisfaction of the advisory panel, that it would have capacity, as a technological university, to increase, within 10 years of the date of the making of an order under <i>section 46</i>, from at least 45 per cent to at least 65 per cent, the proportion of its full-time academic staff referred to in <i>paragraph (c)(ii)</i>;	In preparation for inclusion in the application.
(e) of the full-time academic staff of the merged institute engaged in both of the following, at least 80 per cent hold a doctoral degree—	
(i) the provision of a programme that leads to an award at doctoral degree level, and	√
(ii) the conduct of research;	
(f) each of the full-time academic staff of the merged institute engaged in the supervision of students registered on a programme that leads to an award to doctoral degree level—	
(i) holds—	
(I) a doctoral degree, or	√
(II) a terminal degree, as well as sufficient practical experience gained in the practice of a profession to which the programme relates, such that the degree and experience together can reasonably be viewed by the advisory panel as equivalent to a doctoral degree, and	
(ii) has a record of continued conduct of research in an area relevant to the programme;	√
(g) in respect of not less than 3 fields of education—	

(i) the merged institute provides programmes that lead to awards to doctoral degree level, and	√
(ii) the academic staff and students of the merged institute conduct research;	√
(h) in relation to a programme referred to in paragraph (g), a merged institute demonstrates, to the satisfaction of the advisory panel—	
(i) that it carries out innovation activity and conducts research to a high standard, and	√
(ii) that the innovation and research has positive social and economic effects on business, enterprise, the professions and other related stakeholders in the region in which the campuses of the merged institute are located;	√
(i) all programmes provided by the merged institute that lead to an award to doctoral degree level comply with any policy relating to doctoral education as may be agreed from time to time between An tÚdarás and the Qualifications and Quality Assurance Authority of Ireland following consultation with bodies representing the interests of an institute, a technological university or a university specified in paragraphs (a) to (d) of section 4(1) of the Universities Act 1997;	√
(j) the merged institute has a plan that demonstrates to the satisfaction of the advisory panel that it would have capacity, as a technological university to increase within 5 years of the date of the making of an order under section 46, from at least 3 to at least 5, the fields of education referred to in paragraph (g);	In preparation for inclusion in the application.
(k) the merged institute demonstrates to the satisfaction of the advisory panel that the merged institute has, at the time it applies under section 39 for an order under section 46, the capacity to effectively perform the functions of a technological university and in particular demonstrates—	
(i) that it has integrated, coherent and effective governance structures in place concerning academic, administrative and management matters,	In preparation for inclusion in the application.
(ii) that it has strong links with business, enterprise, the professions and other stakeholders in the region in which the campuses of the merged institute are located,	√
(iii) that it has, under section 28 of the Act of 2012, established procedures in writing for quality assurance in relation to which—	√
(I) no notice has been furnished by the Qualifications and Quality Assurance Authority of Ireland under section 36(1) of the Act of 2012, or	√
(II) approval has not been withdrawn under section 36 of that Act,	√
(iv) that it develops and has procedures in place for development of programmes that respond to the needs of business, enterprise, the professions and other stakeholders in the region in which the campuses of the merged institute are located,	√
(v) that it—	
(I) provides opportunities for staff and students of the merged institute to teach, learn or conduct research at institutions that provide higher education outside the State, or to obtain relevant work experience outside the State,	√
(II) provides opportunities for staff and students of institutions that provide higher education outside the State to teach, learn or conduct research at the merged institute, and	√
(III) collaborates with institutions that provide higher education outside the State, including on joint research	