

# Strategic Dialogue Cycle 4

Self-Evaluation Report

16 May, 2017

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**

### Overarching Statement

The Compact between Maynooth University and the HEA commenced in 2014 and the three-year term of the agreement was situated within the framework of the University's Strategic Plan 2012-2017. The purpose of this overarching statement is to focus on how the University as a whole has met the aims set out in the Compact and, more importantly, to reflect on the effectiveness and impact of the strategy as we move to develop our fifth strategic plan for 2018-2022.

Maynooth University has established itself as a university with a clear identity and sense of self within the national higher education system, taking a leadership role in undergraduate education reform, widening participation and addressing societal and scientific challenges through interdisciplinary and collaborative approaches. The adoption of the name 'Maynooth University' was in itself a mark of institutional confidence and progress.

Maynooth University grew rapidly during the period of the compact, continuing the upward growth trend of the institute since its foundation twenty years ago. Total student numbers grew by 22% between 2012/13 and 2016/17 (9,794 in 2012/13 to 11,923 in 2016/17, headcount). Student demand for undergraduate programmes has increased, with 3137 first preferences in 2010/11, and 3652 in 2015/16, with further growth of 5% anticipated for this year. This growth has not been without its challenges, particularly in terms of physical space on campus. Whilst the university has managed this growth in a planned and strategic way, investing its own capital and recurrent resources, state investment is urgently needed to ensure the university can continue to meet the needs of a growing and diverse student population, in line with national policies and priorities.

In order to support the rapid growth and increasing complexity of the University, new central systems (across IT, finance, HR and Registry) have been deployed and management structures have been scaled to be better able to respond and transition the University to its next stage of development.

Our strategy is underpinned by a culture of continuous improvement; in the period of the compact, all central service units have undertaken periodic quality reviews and the cycle of academic reviews is being implemented. The University will undertake an Institutional Review in 2018, in line with the Qualifications and Quality Assurance (Education and Training) Act 2012 and this process will be closely coupled to our strategic planning cycle.

Maynooth has always prioritised research quality over volume and expenditure. The university's research quality in science and technological areas is evidenced by the fact that Maynooth's publications for 2014/15 have the second highest field weighted citation index for all the universities, and that for most years the Maynooth index is closely behind the leading Irish institutions. This success

results directly from basic research investments and focus on excellence over the last fifteen years, which bear fruit in the longer term. It is these successes and platform of fundamental research in mathematics, communications, geocomputation and biosciences that have formed the platform for significant commercialisation successes, with a high return per euro invested in research and innovation.

The high quality of research in the social sciences and humanities is less easily quantified, but is very real. Maynooth scholars focus on important areas, and the winning of two ERC investigator awards in social sciences, and one in humanities is testament to the high level of research undertaken in these areas.

The University recognises that, despite significant advancements across many activities, more concerted focus and action needs to be taken in supporting the growth of research and graduate education. Research institutes and centres, will when fully implemented be an important means of supporting researchers and building the capacity to secure larger collaborative research programmes and grants.

The new Maynooth Curriculum was planned, launched and implemented during the period of this compact. It represents a substantial and comprehensive development and reform of undergraduate education, arguably the most wide-ranging one carried out in Irish higher education in recent decades. We have made substantial progress in developing a curriculum that emphasises fundamental skills of critical thinking and communication, providing unique subject combinations and flexibility, as well as expanding experiential learning. Coupled with this, Maynooth University has been a leader in Transitions reform nationally. The detailed planning and development required to bring about the new curriculum required a substantial whole-of-university response, involving all academic departments and central service units of the university. Of lasting impact and significance has been the embedding of a culture of strategic thinking and planning in curriculum development at institutional level, combined with increasing collaboration across departments and disciplines.

The priority given to the undergraduate learning experience and to developing and embedding the new curriculum necessarily required significant strategic focus and deployment of resources across the University. Whilst this development was prioritised, other key aspects of the university's activities in widening participation, research, engagement, internationalisation, consolidation and clustering continued apace. The commitment and professionalism of the university's staff were fundamental to ensuring such an ambitious set of aims was achieved. Key achievements include:

- The enhancement of the education and training of doctoral students, with the introduction and ongoing development of the structured PhD and professional doctorates;
- More than doubling the number of international students at Maynooth University, and have exceeded this, growing the number of international students from 541 (or 5.6% of total enrolments) in 2010/11 to 1070 (9.5% of total enrolments) in 2015/16.

- Maintaining our leadership in widening participation; Maynooth University has the most diverse student population in the sector.
- Significant successes with IRC, ERC and Horizon 2020 grants, and strong connections into major SFI Centres (primarily CONNECT, Marei, iCrag, Insight and LERO).
- The establishment of the Froebel Department of Primary and Early Childhood Education and the addition of International Development and Mediation and Conflict Intervention.
- The continued development of the Innovation Value Institute (Enterprise Ireland/ IDA Technology Centre in IT Innovation) with 5 year funded programme 2014-2019.

The national and international profile of the University has grown as a result of these successes. While international rankings are deeply flawed, they remain crude indicators of reputation and esteem. For the last two years in the Times Higher Education rankings, Maynooth University has been in the top 400 in the world, the top 200 for international outlook, and this year, for the first time, has entered the top 50 under 50 years of age, rising 18 places in the rankings.

The University will also exploit its considerable track-record in widening participation to develop new ways to reach out to sectors of society for whom higher education has, heretofore, not been a reality.

In addition to university-wide aims and achievements, Maynooth University has been at the forefront of regional cluster developments. The 3U Partnership (Maynooth University, Dublin City University and the Royal College of Surgeons in Ireland) is an important initiative, which also laid the groundwork for the wider Mid-East North Dublin (MEND) regional cluster (Maynooth University, Athlone Institute of Technology, Dublin City University and Dundalk Institute of Technology).

These collaborations are important for what they have achieved, but are just as important for the lessons learned about the challenges to collaboration and the policy environment necessary to ensure such partnerships flourish and remain relevant. Our learning and experiences have helped chart a course for the future of these partnerships, and will also support the development of similar consortia and clusters in other regions of the country.

# 1. Regional Clusters

The Midlands East North Dublin (MEND) cluster consists of four higher education institutions (HEIs) namely Maynooth University, Athlone Institute of Technology, Dublin City University and Dundalk Institute of Technology. The cluster is located in the area of greatest national population growth, and the institutions have seen strong growth in intake. The two universities (MU and DCU) account for one quarter of undergraduate intake into the university sector.

The cluster partners have collaborated actively, in five main areas:

- a. Shared Enrolment analysis and projections. The four HEIs in the cluster shared their enrolment data and intake projections for the purposes of shared enrolment analysis.
- b. Shared expertise in teaching and learning support.
- c. Establishment of a network linking further education (FE) and higher education (HE) providers in the region to enhance access, transfer and progression routes.
- d. Establishment of a web-based portal mapping pathways from FE to HE.
- e. Creation of a MAP of small and medium enterprises across the region and the development of systematic engagement with SMEs.

All five activities have been successfully concluded.

It was initially anticipated that analysis of enrolment might lead to opportunities for shared course provision. Analysis has not revealed viable opportunities for shared undergraduate programmes, which are very constrained by timetables and the limits to mobility of undergraduates. There appeared to be more viable scope for shared provision at postgraduate level, where it might be expected that students could take modules in different institutions. Two programmes established under the auspices of the 3U partnership acted as pilots for this approach, but have attracted very small numbers, and one has since been discontinued.

Institution objective	Performance indicator	Baseline	Final target, end 2016, commentary and data source	Summary
(a) preparation of projections of demand for higher education in the region and consideration of options for a	The cluster institutions will agree and implement a regional cluster plan for higher education provision.	There is a complete absence of systematically	Commence implementation of plan for regional academic programme provision and commence implementation of rationalised entry	

strategic approach to provision by the cluster institutions, (b) preparation of a scoping study that will map existing course provision, student numbers, catchment areas, and arrangements for access, transfer and progression. It will seek to identify areas of demand, potential for collaboration, and potential for more coherent and rational provision, and (c) a review of the student records and administrative systems and agreement of protocols for the development, approval, management and delivery of joint programmes, and also shared registration, alignment of marks and standards, and quality assurance procedures.

More specifically, we will monitor (a) the number of CAO entry routes by institution and (b) the number of, and enrolment on, joint academic programmes.

compiled data and information at the regional cluster level. routes, the number of, and enrolment on, joint academic programmes as agreed in shared academic programme finalised in 2015,

Complete review of pilot phase of delivery of shared and joint programmes at undergraduate and postgraduate levels.

The four HEIs in the cluster shared their enrolment data and intake projections for the purposes of shared enrolment analysis. This analysis indicated that:

- Enrolment in the MEND cluster has been growing rapidly. It now accounts for almost one fifth of the national intake to publicly funded HEIs. Growth has been particularly strong in the two universities which now account for one quarter of the intake to the university sector.
- This growth has been supported by favourable demographics, as the region is experiencing faster population growth than the country as a whole, particularly in the young adult age groups.
- An analysis of courses did not reveal significant opportunities for efficiencies.

			<ul> <li>The institutions have projected growth in undergraduate intake over the coming years.</li> <li>The cluster is projecting modest growth in enrolment, at both taught and research postgraduate levels.</li> </ul>	
Develop a regional approach to access, transfer and progression	The cluster institutions will (a) develop an integrated regional approach to access, transfer and progression, and (b) Prepare regional inventory of all options and mechanisms for ATP from FE to HE at programme and institutional level. The quantitative performance indicator will be the number of students transferring into or between institutions.	There is a complete absence of systematically compiled data and information at the regional cluster level.	Full implementation of new transfer and progression pathways under way.  (a) The establishment of the FET2HE Network. A formal Network of Further Education and Higher Education providers was established to collaboratively enhance access, transfer and progression opportunities across the region.  (b) MEND 'Pathways to Higher Education" Phase II (2016) A national web-based portal was developed which showed pathways from further education (FE) to higher education (HE).	

# 2. Participation, equal access and lifelong Learning

Maynooth University has grown undergraduate intake as planned in response to increasing demand and an increasing proportion of CAO first preferences. The university introduced a more flexible curriculum, which was available in full for the 2016 student intake. There has been a further increase in demand for the Maynooth BA degree, which is now the largest single entry route in the CAO system and attracts the greatest number of first preference applications. Our projections suggest that we will continue to grow undergraduate intake, but at a slightly slower pace, over the coming 5 years.

Maynooth University is a leader in widening participation, and the rates of low SES students, students with a disability, and mature students are higher than sector norms. The University has been successful in retaining these students, and the progression rates for low SES students, students with a disability and mature students are all similar to other students with similar points at entry. In the period since the Performance Compact, the number of students with a disability has grown rapidly, reflecting a national increase in the numbers (particularly students with learning disabilities). The proportion of students from low-SES backgrounds has been maintained despite the financial pressures on these students. Enrolment of mature students has proven more challenging, and has seen a decline in both absolute numbers, and as a proportion of total intake.

Postgraduate enrolment has been stabilised and is increasing, although this is in part due to the establishment of the Professional Masters in Education. However, it remains the case that finance is a major challenge for postgraduate students, and this is particularly visible in Maynooth, given the composition of the undergraduate intake.

Institution objective	Performance indicator	Baseline	Final target, end 2016, commentary and data source	Summary
Increase undergraduate intake in a planned manner.	New entrants to level 8 degree programmes at Maynooth University as a percentage of total new entrants to HEA funded HEIs	4.5% (2011-12)	5.4% (2016-17)	

	Undergraduate enrolment to level 8 degree programmes.	5,928	Original ta Revised ta HEA SRS 20	rget	7,478 <b>8,602</b> 8,519	Target met.
Stabilise the decline in postgraduate enrolments over short term and plan for subsequent increase in enrolment.	Maynooth University share of total postgraduate degree enrolment in HEA funded HEIs	6.0%	Original ta Revised ta 2014/15 da	rget	6.0% <b>5.3%</b> 5.3%	
	Postgraduate degree enrolment.	1,774	Target 2016 HEA SRS 201		4	Target met
Retain at least the current proportion of students from designated groups, despite an increasingly difficult economic context.	Proportion of students from Non-manual, Semi and Unskilled Socio Economic Backgrounds. Proportion of entrants with a disability. Proportion of mature entrants.	22%; 10%; 15%	Target 22% 10% 15%	Revised 20% 13.5% 11%	Actual 15/16 21.9% 15.0% 11.3%	Revised targets met.
Continue to increase provision of specialist supports provided for nontraditional entrants.	Provision of a pre-entry programme for mature students. Provision of transition supports for students from non-traditional backgrounds.	Pre-entry programme offered to all mature students. Learning to learn, and peer group support	Further enh	ations for e ancement o plementati	nhancement. of services on of at least	

Provision of an individual assessment for assistive technology for students with a disability.	provided to HEAR students. Assistive technology advice service available to incoming students with a disability	<ul> <li>Quality review conducted in 2015.</li> <li>The Access supports have been further enhanced with:</li> <li>Greater integration of the Access Services.</li> <li>An enhanced student budget advice service, guiding students in financial difficulties.</li> <li>Restructuring of the pre-entry programme.</li> </ul>	
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# 3. Excellent teaching and learning and quality of the student experience

Overarching Statement (maximum of 400 words)

Maynooth University has an outstanding reputation for teaching, staff engagement with students, and an exceptional learning environment. Building on this reputation, the University embarked in 2012/13 on a major reform of the undergraduate curriculum coordinated by a Curriculum Commission that included representatives of staff and students from across the University. The Curriculum Commission completed its work and, following extensive internal and external consultation, a final report with a comprehensive work programme was approved by the Academic Council and the Governing Authority. Key elements of the Maynooth Undergraduate Education Initiative were: (a) an explicit focus on the development of the skills of critical thinking, analysis, and clear communication. This was embedded in subject curricula and introduced as a specific first year course in critical skills; (b) a succinct statement on MU graduate attributes; (c) new structures for undergraduate degrees with greater flexibility in subject combinations and progression pathways; (d) credit bearing elective modules open to all students; (e) revised academic policies, rules and regulations; and (f) a framework for experiential learning.

The resultant new Maynooth curriculum is a major enhancement of our undergraduate offering, and its emphasis on intellectual skills, flexibility, unique subject combinations, electives, and experiential learning has resonated with students and driven increased demand for our programmes. A **Programme Advisory office** has been established within the Centre for Teaching and Learning to advise students about their choices within the new curriculum, working with the student engagement office to enhance orientation, and to oversee a student peer-mentoring programme that will support student transitions throughout their academic journey. Newly launched within the Office of the Dean of Teaching and Learning, the **Experiential Learning Office** aims to support the enhancement of student opportunities for short-term work placement, service learning, community engagement, and undergraduate research.

The office will advance experiential learning in the following areas:

- Community Based Service Learning
- Enquiry/Project Based Learning
- Undergraduate Research
- Community Engagement and Volunteering, in conjunction with the Student Engagement Officer

These experiential opportunities will provide several benefits to both students and staff, enhancing academic learning, integrating theory and practice, and promoting professional development and active citizenship.

Institution objective	Performance indicator	Baseline	Final target, end 2016, commentary and data source	Summary
1. Develop a distinctive Maynooth undergraduate curriculum	Introduction of a new undergraduate curriculum in Maynooth University. Quantitative performance metrics will include median CAO entry points; outcomes for engagement and learning from Irish Survey of Student Engagement; employer survey outcomes	Curriculum Commission established and holding consultations	Introduction of a new undergraduate curriculum in Maynooth University.  Evaluation of the first year of the programme, including student evaluations and reaction from an expert group including employers.  We have developed and implemented a new undergraduate curriculum. Some elements were piloted in 2015–16, and full implementation occurred from September 2016. The implementation has gone smoothly – students engaged well with the flexible structure and the take-up of critical skills by first year students was very high. The structure appears to have been attractive to applicants – CAO applications to the BA degree rose significantly at a time when nationally applications to humanities degrees declined.  Work is already progressing on devising a methodology to measure the impacts of the new curriculum. A research and evaluation framework has been devised to monitor the impacts of the new curriculum. A researcher has been appointed to undertake this project (see below).  Research and Evaluation Framework a) The University Curriculum Researcher has	
			been appointed and has been working closely	

- with the Curriculum Evaluation Steering Committee and VPA/Registrar in providing updates on the monitoring of the new Undergraduate Curriculum.
- b) The curriculum research and evaluation framework, established in 2016, is now in the implementation phase and is currently informing the Curriculum Researcher's evaluation of the first year of the programme. We are monitoring the uptake of critical skills and electives, and tracking gender, intake performance, and first year results.
- c) Work is underway to collect feedback from staff and students.

#### **Critical Skills**

At the end of the First Semester (December 2016) of the 2016/2017 academic year, 749 students were enrolled in Critical Skills modules offered by the Centre for Teaching and Learning and five academic departments. The enrolled students are from diverse academic programmes.

### **Experiential Learning**

A Framework for experiential learning has been developed, comprising a three-pronged approach;

- a) Professional development and employability skills
- b) Undergraduate research opportunities
- c) Community-based service learning

Following programme approval, an experiential pathway will be created whereby second year students will have the option of taking an

experiential learning 5 ECTS course. It is envisaged that this will be complemented with an MU Co-Curricular Award which will record and recognise student achievement beyond the curriculum.

Students at Maynooth University have consistently rated the quality of their entire educational experience very highly. According to the 2016 ISSE, 85.2% of final year undergraduates rate their entire educational experience at MU as either 'good' or 'excellent' and 86.5% of all students who have studied at Maynooth would chose Maynooth if they were starting again.

The 2017 U Multi-Rank scores for MU on the Teaching and Learning indicators compare very favourably with the scores for the other Irish universities that participated in the U Multi-rank survey (UCC, DCU, UL and NUIG). The MU scores are also in the upper end of the International Orientation indicators.

Academic standards in Maynooth University are constantly benchmarked against those in other Universities through the External Examiner system and periodic quality review.

2. Continue to
strengthen our
portfolio of taught
postgraduate
programmes

Revised portfolio of taught postgraduate advanced disciplinary and interdisciplinary programmes aligned to our academic and research strength and addressing important societal needs and challenges

**Profile** Number of 1560 1559 1583 1737 taught postgraduates (HEA headcount) Number of 753 854 937 1001 Taught Master Students

13/14

14/15

15/16

16/17

**Enrolment** 

Review of taught postgraduate programmes has commenced Master's enrolments have stabilised and improved slightly in 2016–17. Total PGT enrolments have increased from 1560 to 1737 between 2014 and 2017

**New postgraduate programmes** that have come on line in the past few years or are anticipated:

The Professional Master of Education and MSc Design Innovation were introduced in 2014–15.

2015–16: MSc IT Enabled Innovation (School of Business), MA Geography, MA Sociology (Work, Labour Markets and Employment), MA Sociology (Internet and Society), LLM Global Legal Studies, LLM International Justice,

2016–17: New MA Spatial e-Humanities (An Foras Feasa), MA san Aistriúcháin agus san Eagarthóireacht (Centre for Irish Language), MA Chinese Studies, MA Philosophy, Politics and

			Economics, MA Data Analytics, MSc Computer Science (Applied), significant update to the ME Electronic Engineering programme to MEng Embedded & Wireless Systems, MA in Comparative Criminology and Criminal Justice, MA International Development.  2017–18: MA in Critical and Creative Media  Proposed for 2017–18: New MA Marketing (School of Business) to be approved for next year, MA Anthropology new and updated MA streams, MA Peacebuilding, PG Dip Future Leaders (Education).	
3. Enhanced support for student learning, doubling of the numbers availing of writing centre, maths support and study skills support.	Numbers availing of the support centres.	933 individual students registered for support centres.	2000+ students using support centres.  The University continues to improve and expand the range of academic support services available to students, providing a mathematics support centre, a writing centre, and Student + (an MU programme designed to assist first year students in the transition to university). New developments this year include the additional online availability of the Library & Information Skills Tutorials (LIST) as well as increased academic advisory provision (via the programme advisory office).  The Programme Advisory Office was established in August 2016, answering over 1,400 UG student queries in the first six weeks of the academic year 2016–17. The Programme Advisory Office was central to the 1styear Subject Change process in	Target exceeded

January 2017. In April 2017, the Programme Advisory Office hosted a series of information sessions on Year 2 programme options for current first year students; over 500 students attended these sessions.

In 2015/16 special tutorials provided by the **Maths Support Centre** were attended by 1042 individual students, an increase of 5.79% over the previous year (985).

490 students attended one-to-one appointments with the **Writing Centre**. This is a 14% increase on the numbers in the previous year (430).

1641 attended the **Academic Advisory Office** in 2016–17.

172 availed of **Student+** (an MU programme designed to assist first year students in the transition to University), 12 of these were from Kilkenny. These numbers represent a decline from a total of 260 last year, potentially due to the introduction of Critical Skills.

Career Development Centre: The number of 1:1 career guidance appointments for students from 1<sup>st</sup> September 2016 to April 2017 stands at 635 – a 250% increase in comparison with 258 (to mid-June) last year, with a substantial decrease in waiting times (now approx. 1 week). In addition to the 1:1 appointments, the CDC addressed approx. 1039 students through talks, workshops, and seminars since the start of this academic year.

	There were approx. 1300 callers to the Help Desk during the current academic year.	
	<b>Library:</b> The total number of students that attended LIST (Library & Information Skills Tutorials) for September 2016 to April 2017 was 1,278, an increase of 7.75% on 15/16. The recently established LIST online had an additional 2,067 views. In 2016–17 a further 2,254 students undertook other training sessions.).	

# 4. High quality, internationally competitive research and innovation

Overarching Statement (maximum of 400 words)

Maynooth University is a research-led university, where the quality of published scholarly work across a wide range of areas is benchmarked as excellent by national and international standards, with a strong international dimension. The quality of the research base has led to significant successes with SFI investigators, IRC, ERC, Horizon 2020 and Enterprise Ireland Technology Centre grants, and strong connections into major SFI Centres (PIs in CONNECT, Marei LERO). The various centres' participations reflect very significant industry collaborations and funding commitments.

It is a fact however, that fundamental research and scholarship forms the bedrock of Maynooth's philosophy, and securing funding for fundamental research has become only more challenging over the last five years. To address these challenges, we are increasingly bringing significant multidisciplinary expertise to bear on important global issues. To do this effectively we have identified seven priority areas in which Maynooth University academic staff are at the forefront of current research and scholarship. These efforts are then focussed through a reorganisation towards a small number of university research institutes and centres (some still in formation):

- Maynooth University Hamilton Institute (Mathematics, Communication and Computation)
- Maynooth University Social Sciences Institute (including NIRSA and the National Centre for Geocomputation)
- Centre for Climate Research
- Innovation Value Institute (IT Innovation)
- Centre for Ocean Energy Research
- Maynooth University Humanities Institute (including An Foras Feasa, the Centre for Digital Humanities)
- Maynooth University Institute for Human Health (in formation, including Immunology Research Centre)

Several of these intersect with and support the various SFI research centres.

We have significantly enhanced the education and training of doctoral students, with the introduction and ongoing development of the structured PhD and professional doctorates, and have strengthened our scholarship programmes to retain talented students for postgraduate study – the rate at which these convert into successful IRC applications is a testament to the value of this approach.

Whilst our overall performance, as measured by the quality of our research outputs, is strong, the University recognises the need to address the lower than target levels of research income and postgraduate research student numbers; concerted actions will form part of the next strategic plan.

Institution Objective	Performance Indicator	Baseline	Final Target 2016, commentary and data source	Summary
1. Establish distinctive research priorities and increase our research capacity and impact	<ul><li>(a) Research income</li><li>(b) Publications per academic</li><li>(c) Field</li></ul>	€20M	MU's performance as judged by quality of research publications has been strong over the period, however this has been against a backdrop of falling funding for basic research and a concomitant limitation on the overall scale of research activity across the university.  Research Income: In 2015 MU revised its target for research and contract expenditure in 2015/16 to €18M.  This revision was largely due to the changing profile of	
	weighted citation index  (note: no baseline or targets were set for publications		national funding, with reduced funding for basic scientific research, and for research in the humanities and social sciences. A number of significant researchers have also left Ireland due to the lack of availability of funding. The revised target was not fully achieved, with total expenditure in the year amounting to €17.1M.	
	or citations)		Research awards tend to be somewhat cyclical and figures for these will fluctuate from year to year with significant dependence on large funding schemes, such as SFI centres. Maynooth is a significant partner in three SFI centres (Connect, Lero and Marei), but does not act as host for any. The total net awards in 2014/15 was €19.3m compared to €13.9m in 2013/14, with the difference attributable to a single Technology Centre award of €7.5M in 2014. Awards in 2015/16 have reached approximately €13M, with 76 successes.	

Over the last three years, the University has been significantly reconfiguring its centres of research excellence, with a focus on 4 research institutes of significant scale in ICT and Mathematics, Social Sciences, Human Health, and Arts and Humanities. A number of leadership posts have been filled by top-level international researchers. The Maynooth Social Sciences Institute, the first of the new research institutes, was formally launched with over 100 researchers in March 2017. This new institute is host to two ERC award holders, with a third award in the humanities.

**Publications:** The overall performance has been strong. 492 publications were recorded in Scopus for 2015, which is essentially the same as 2014 (Scopus figures fluctuate slightly as historical records are improved). This figure for publications does not, however, account for a significant number of books published, or public policy reports, which we estimate, would increase the figure by c. 50 publications per annum. Achieving this level of output at a time of major curriculum revision and with significantly increased numbers of students is regarded as strong performance.

Quality of research: The field weighted citation index (FWCI) sourced via SciVAL, is a key measure of the quality of publications, and Maynooth has performed strongly on this measure. The definition of this metric has been refined over recent years. It is now calculated on the citations accrued over three years to publications that are issued in a particular year. The figure will vary for three years after publication and then remain fixed and established for that year. This favours short-term impact, but is nonetheless an important indicator of quality.

			The FWCI for MU (as recorded in April 2017) has increased from 1.3 in 2011 to 1.69 in 2014 and 1.47 in 2015.  The 2014 index was the second highest of the Irish Universities, and is again strong in 2015. The 2015 index is slightly behind that of TCD and UCD, and approximately equal to that of UCC.	
			The 2017 U Multi-Rank classification (based on data to 2014) places Maynooth University in the highest category for the external research income per academic, and also for the number of internationally co-authored publications.  The high quality and impact of MU research is evidenced by the fact that the field weighted citations index is the single most important contributor to Maynooth's score in the THE Young Universities (under 50 years) and it is also the principal differentiator between MU and the two other Irish universities aged under 50. In 2017, Maynooth is ranked 49th in the world in universities under 50 years of age, and first in Ireland, based on 2014 data.	
2.Increase participation in EU Horizon 2020 programmes	(a) Annual number of applications (b) Success rate (c) H2020 income annual/ EU research income (€000's)	31 10-12% €1,436 (2011)	(a)Participation and success rate equal to or greater than Maynooth University share of total researchers in all HEA funded HEIs.  Revised in 2016 to 55 H2020 applications per annum with >12% success rate.	

Progress in EU programmes has been good with increased participation over FP7

A H2020 plan was formulated in 2014. This targeted making a total of 158 H2020 applications over 2014-17, and a success rate of over 12%. 19 awards were targeted, broken down across all H2020 programmes.

To end 2016, we have submitted 126 applications and achieved 14 awards totalling €4.2M projected expenditure at Maynooth, out of total project costs of €35M. This is a minimum success rate of 11% to date, with 15 applications still under review.

Based on EI figures, the Maynooth awards represent approximately 2.1% of the H2020 total awarded to the seven universities over the same period. We aim to increase this.

In addition to H2020, we are active in pursuing EU funding outside H2020. In 2016 25 non- framework applications were submitted, making a total of 57 EU applications in that year. Since 2014 to end 2016 we have secured €2.5M in non-framework EU funding.

Total EU funding then contributed €2.3M to university research expenditure in 2016, out of €17.1 M, or 13% of total expenditure. This represents a 53% increase over 2011 and is a strong overall ratio, although we would like to increase it in future years, along with the absolute amount of funding.

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3.Enhance doctoral	Percentage of	2011 All new	100% of PhD students enrolled to revised structured PhD.	
education with	research	students	Embed a 'continuous quality enhancement' approach to	
emphasis on	students	enrolled in	PhD modules and structure of PhD programmes; implement	
structured PhDs	enrolled in	first	new models to share PhD modules across the regional	
	structured PhD	generation	cluster	
	programmes	structured		
		PhD	Final target in 2016 achieved: 100% of PhD students	
	Review and	programmes	enrolled to revised structured PhD following 2014 review.	
	prepare revised	at Maynooth		
	structured PhD	University	Revisions to structured PhD in 2016 following review	
	programmes		include:	
			1) revised delivery methods for quantitative skills modules	
			(with subsequent increase in uptake in 2016);	
			2) new collaboration between Graduate Studies Office and	
			Research Development Office to expand and share newly	
			developed and existing modules across PhD students,	
			postdoctoral scholars and early career researchers (with	
			subsequent increase in uptake of modules during 2016);	
			3) improved annual review process by standardizing role of	
			departmental research student progression committee in	
			2016; and	
			4) establishment of research student August exam board	
			(first held in 2016) to monitor progression centrally.	
			(mist held in 2010) to monitor progression centrally.	
			Continuous quality enhancement approach to PhD modules	
			resulted in	
			1) development of new transferable skills modules	
			· ·	
			(including Digital Skills pending Academic Council approval	
			for 2016/17);	
			2) Identification of mechanisms to ease access of research	
			students to modules across disciplines (potential solutions	
			identified in 2016-17 were incorporated into 2017 strategic	
			planning process).	

		Modules are open to partner institutions in the cluster but there remain considerable practical barriers to uptake.	

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

Overarching Statement (maximum of 400 words)

Maynooth University's strategic goal is to strengthen its engagement with all stakeholders through sustained partnerships with enterprises, communities, civil society and public bodies, to build support for the mission of the university, to serve the needs of society, and to open new opportunities for research and learning.

A full review and plan for engagement will form part of the strategic planning 2018-2022. Notwithstanding this, significant knowledge exchange activities have been advanced and developed during the period.

Maynooth University's emphasis on knowledge transfer initiatives is evidenced by achievements include the Innovation Value Institute, the All-Ireland Research Observatory, the MaynoothWorks business incubator, a leadership role in the Technology Transfer Strengthening Initiative, an excellent position in relation to patents, licensing and spinouts, and a range of public policy, community and cultural engagements with significant impact.

Institution Objective	Performance Indicator	Baseline	Final target end 2016, commentary and data source	Summary
1. Prepare an	Completion of	University staff	A full internal review and co-ordination plan has been	
engagement plan that will	university	engaged in	deferred to the overall university strategic planning	
bring strategic coherence	engagement	discrete	for 2018-2022. Nonetheless, several strategic and co-	
and direction to a range	plan	engagement	ordinating initiatives have made significant progress.	
of enterprise engagement		activities with		
activities currently		limited	1. c. 400 students	
undertaken by individual		coordination	taking credit bearing modules on entrepreneurship	
staff			and creativity provided by EDEN	
			Commentary on 1. Establishment in January 2014 of	
			Maynooth University Centre for Entrepreneurship,	
			Design and Innovation (EDEN) with 2FTE staff. Its	
			remit is to foster and promote entrepreneurial	
			thinking and innovation within the university and to	
			build on links to external bodies.	
			346 students (40 FTE) enrolled in customised credit	
			bearing modules in 2016/17. This did not match the	
			projected headcount figure for delivery, but exceeded	
			the initial FTE estimation of 33 FTE (based on each	
			student taking a 5 credit module). The target has thus	
			been met.	
			The EDEN Centre runs a university-wide student	
			entrepreneurship competition, along with the	
			Enactus Social Entrepreneurship competition at	
			Maynooth. The winners receive cash seed funding	
			provided by external sponsors, and this has led to two	
			student spin out companies over the last two years.	
			These are now based in the MaynoothWorks	
			incubation centre.	

EDEN ran an Innovation Masterclass with Bank of Ireland at Carton House in February 2016. 80 local businesses participated and the topics covered involved business model innovation and making innovation happen in SMEs.

EDEN also hosted a focus group of 13 local SMEs in September 2016 to carry out a needs-assessment on their requirements for creativity and innovation.

EDEN and the department of Design Innovation partnered with Irish Research and Development Group (IRDG) to run two sets of four full day workshops on Design Thinking as a route to New Product Development.

One set of workshops was staged in Spring and the second in Autumn of 2016. Examples of the organisations involved as delegates are: Opennet; ESB; Coillte; Permanent TSB, Transitions Optical, Logitech, Intel. Building on this connection, IRDG inaugural meeting of a new special interest group on Design Thinking was held at Maynooth University in Feb 2017. Participants included Intel, SAP, ESB, Coillte, UCC

2. Launch of new locus for Experiential Learning and provision of a co-ordinated range of opportunities for undergraduates that will be integrated with the Maynooth Curriculum Initiative

Commentary on 2. Opportunities for student experiential learning are being significantly extended.

			Following planning in 2015 the Dean of Teaching and Learning has appointed an Experiential Learning Officer who commenced work in August 2016. This officer has initiated a new undergraduate research programme that will be open to 30 students in 2017 for a summer research programme, and is working to make external connections to bring additional innovative opportunities into the curriculum.  MU is an active participant in national Campus Engage network.  The views of a range of employers have been sought as to beneficial curricular developments and the qualities they seek in graduate employees (met once to date).	
2. Extension of research-led innovation activities to create value, and to support enterprise with a specific focus on the Midlands East/Dublin West region, and our sectoral enterprise partners.	Performance will be aligned with the primary indicators of success under Enterprise Ireland TTSi2	2012 TTSi 1 performance	Targets for years 2013-2016: minimum 30 invention disclosures; 15 patent applications; 15 licences, options or assignments; 5 new spin-out companies.  In 2016 Enterprise Ireland committed significant further funding of €4.2M to a Maynooth led consortium through TTSi-3 for the next five years. The Maynooth Commercialisation Team is developing an Enterprise Gateway that will cover both SME and large company interactions with the University. As part of this funding of €300k is being devoted to a	

managed consultancy initiative, to bring academic expertise to bear on supporting regional enterprises.

The TTSi-3 project involves the Maynooth team supporting knowledge transfer activities in Waterford IT, Carlow IT, and Athlone IT on a part-time basis, in addition to their main focus at Maynooth.

All commercialisation targets for 2013-2016 have been achieved: (see previous column for targets). Over the period to end 2016, we have achieved from MU:

56 invention disclosures

30 license agreements

18 patent applications

7 spin out companies incorporated

319 industry contracts signed including 80 contracts via the Innovation Value Institute (IVI). Over 100 different companies have been worked with.

In addition, the three institutes of Technology in the TTSi consortium have been supported to deliver in 2016:

21 invention disclosures;

10 licenses, options or assignments;

386 contracts;

1 spin out company;

5 patent applications.

The Maynooth Works incubation space opened on campus in June 2015. Its objectives are to support MU spinouts, early stage technology enterprises in the region and to foster links between MW tenants and the Maynooth research community. By end 2016

there were 17 client companies renting space in the incubator (90% occupancy), and with 79 jobs supported in these companies. The seventeen companies include two MU research spin outs (iGeotech and Avectas) and two student spin out companies promoted through EDEN centre activities (Access Earth and Moodley Manor). The level of activity at MaynoothWorks after only 18 months of operation is an indicator of the quality of the University supports and the high demand in the region for its excellent location.

The University has a very prominent role in the Mid-East Action Plan for Jobs. An MU Vice-President is Chair of the Mid-East Regional Skills Forum (RSF), and the University also hosts the Manager for the Mid-East RSF. This has led to several round table forums with regional enterprises on desirable graduate skills profiles.

The Enterprise Ireland funded New Frontiers programme to support regional entrepreneurship and new company development is run jointly between AIT and MU, and has provided training on the Maynooth campus to over 20 aspiring entrepreneurs over the last three years. Early stage entrepreneurs are supported with mentoring, a grant of €15K and space in MaynoothWorks.

The MaynoothWorks manager is now working with Kildare LEO and Chamber of Commerce to run an initiative to support candidates from the recent round of redundancies in Hewlett Packard who have expressed an interest in becoming entrepreneurs. In

			addition, he will sit on their LEO Funding board and also Kildare Economic Development SPC.  A European Space Agency business incubator based in MaynoothWorks was launched in Sept 2016 as a partnership with Athlone Institute of Technology, Tyndall Institute, and Irish Maritime and Energy Research Cluster. This incubator is funded by the European Space Agency and Enterprise Ireland and is intended to help companies gain access to space research and seed funding and to support the creation of high value jobs in the region. The centre is one of fourteen ESA BICs (ESA Business Incubation Centre) in Europe. 25 start-ups will receive €50,000 in seed funding, along with expert technical assistance and opportunities to access other funding mechanisms. The centre will also offer ten rounds of €40,000 funding to support technology transfer for	
3. Increase number of students taking work	(a) Number of students taking	80 students per annum on	demonstrators for new products and services using space technology.  (a)75% increase in number of work placements over baseline;	
placements as part of formal studies, thus improving students' preparation for the workplace and building university-enterprise relationships	work placement; and (b) number of enterprises (private and public) taking Maynooth	work placements in 2012, and number of companies working with the university	(b)50% more enterprises interacting with university via placements  The 2016 target (a) for placements has been achieved. The number of students on essentially full-	
	students for internships	on placements	time work placements over a full semester or year	

Baseline	has increased from 80 in 2012 to 193 in 2016/17	
corrected from	(140% increase).	
180 to 80		
	In addition, there are 1043 students taking	
	programmes that include part-time work placements	
	concurrent with modules in the programmes: these	
	students are mostly in programmes linked to	
	Education, Community and Youth Work, and	
	Geographic Information Systems. This represents an	
	increase from 595 students in 2012 (75% increase).	
	Indicator (b) has not been quantified at this time;	
	however, there has been a significant increase in the	
	number of companies taking Maynooth students for	
	placement activities.	
	The implementation of the revised Maynooth	
	Curriculum places significant emphasis on	
	experiential learning and we will continue to facilitate	
	greater numbers of students across wide areas to	
	avail of work placements.	

#### 6. Enhanced internationalisation

Overarching Statement (maximum of 400 words)

Internationalisation brings a special diversity to the university community, promoting learning and intercultural understanding. Maynooth University's goal in the period 2011 to 2017 was to achieve a step change in its international activities, doubling the number of international students on campus and doubling the number of domestic students spending time abroad, in order to create a truly intercultural and multilingual institution. Specific aims around internationalising the curriculum were part of the overall new curriculum of the university.

Not only has the objective of doubling the number of incoming international students been achieved, but also the range of study modes available to incoming students has increased to include full-degree, joint/dual, exchange, fee-paying study abroad, summer-school and short-term programmes. The greatest increases in numbers are in the Erasmus, study abroad and summer-school programmes. Although incoming students represent over 90 countries internationally, a strategic focus on core regions (e.g. North America, China & SE Asia) has enabled a more sustainable, streamlined and targeted approach to recruitment. The university places a strong emphasis on the international-student experience and this has resulted in greater collaboration between the International Office and student-support services at the university. Feedback from students, collected internally through post-arrival and predeparture surveys and externally by organisations such as iGraduate and Study Portals, has identified the student experience as a strength of the university. While demand for joint/dual programmes, study abroad and short-term programmes is forecast to grow, full-degree recruitment faces challenges in the form of the limited range of taught Masters programmes and small number of programmes with an integrated internship component.

Regarding outgoing mobility, the number of Maynooth students studying abroad increased by 140% between 2013 and 2016 (and by 280% since 2011). The majority of outgoing students participate in the Erasmus programme, with a slight increase in the number of students travelling to non-EU exchange destinations. The university now has a network of more than 150 partner universities and all students at MU are offered the opportunity to study abroad. While the increase in numbers is significant and is expected to grow further in the coming years, obstacles to outgoing mobility have been identified. These include financial obstacles, which may be linked to the composition of the undergraduate intake described in section 2 above, the current programme structure which allows only full-year mobility (and not semester-long), and a lack of awareness of the benefits of studying abroad (personally and professionally).

Institution Objective	Performance Indicator	Baseline	Final target end 2016, commentary and data source	Summary
1. Revise curriculum to provide greater opportunities for an international student experience	Increase number of outgoing students by 50% Additional international dimensions in new under- graduate curriculum	Degree offering in International Development scheduled to begin in 2013-14	Further increase in number of students taking options to study abroad, and study international topics  A new undergraduate degree programme in International Development Studies was introduced in 2013/14, and a 15-credit inter-disciplinary critical skills course on Globalisation will be included in the new Maynooth curriculum.  Within the 2016-2017 Academic Year, 'Globalization: Integrating Worlds' ran as a Thematic Critical Skills module (7.5 credit) in both Semester 1 and Semester 2. There were 35 students	
			enrolled in the module.  From 2016/17, MU will offer an MA in International Development through the Kimmage Development Studies Centre.  An increasing number of students are enrolling for the 4-year BA International programme – up from 76 in 2010/11 to 173 currently. The current number is 2.3 times the baseline number.	
			No targets were set for the number of out-going students. However, between 2011/12 and 2013/14 the numbers increased from 91 to 150 and has reached 194, more than doubling over three years. The number is expected to increase further as more students will be encouraged to avail of one semester integrated study abroad opportunities in context of the new curriculum.	
2. Increased recruitment of international students for degree and study	Development of a strategic plan for sustainable growth in	Number of international students domiciled outside	50% increase in enrolment of international students  The international student recruitment programme has become more strongly focused on North America and eastern Asia (China	

a bus a d	international	Inclosed	and lanen) with towarded offerts to atmosphere relations with	
abroad	international	Ireland	and Japan) with targeted efforts to strengthen relations with	
programmes	recruitment;	enrolled in	specific institutions.	
	International	Maynooth		
	student	University	The MU efforts are complemented by the joint efforts of the 3U	
	000.0.0.0	Oniversity	, , ,	
	enrolments		partnership via the 3U Pathways Programme.	
			The number of international students increased by 90% from 527	
			to 1003 between 2011/12 and 2014/15 – considerably ahead of	
			the target. A further increase of 9% to 1,094 has been achieved in	
			,	
			the current academic year. Since 2011/12 the fees earned from	
			non-EU students increased by €1,522k (71%) to €3,670k in	
			2015/16.	
			Mayna ath University spared particularly strongly on the	
			Maynooth University scored particularly strongly on the	
			International Orientation indicators in the 2016 and 2017 U	
			Multi-Rank surveys. MU is placed in the top category for the	
			indicators related to student mobility, international academic	
			staff, and international joint publications.	
			stan, and international joint publications.	
			Further confirmation of the Maynooth's position is provided by its	
			inclusion in the THE top 200 universities in the world for	
			international orientation.	
			international orientation.	

### 7. Institutional consolidation

The most significant development has been the transfer of the Froebel College in Blackrock to Maynooth University. This transition has been completed, the campus in Blackrock completely vacated and the Froebel programmes continued without interruption in Maynooth. While the Froebel department was initially in temporary accommodation in Maynooth, a new Education building was constructed in Maynooth, which now houses all three education departments (Primary, Secondary and Adult education).

The collaboration with St Patricks College Maynooth (SPCM) is working well, as the two institutions share a good deal of infrastructure, and all of the students of the main SPCM programme (the BA Theology) are also taking at least half of their programme in MU. With the recent MU curriculum changes, SPCM revised its curriculum and its assessment standards to match the revised MU model.

Institution objective	Performance indicator	Baseline	Final target, end 2016, commentary and data source	Summary
Fully integrate Froebel College of Education into NUI Maynooth academic structures, and develop Maynooth Centre of Excellence for teacher education spanning the continuum from early childhood through primary, secondary and tertiary education to adult and community education.	Successful transition of the Froebel staff and students to Maynooth University, and establishment of a centre of excellence for teacher education	Relocation of the Froebel staff and students in September 2013.	Consolidation of all education departments and support units into new structure for teacher education in Maynooth.  The Froebel college has completed the transition. The graduating class in 2017 began their programme in Maynooth.  The education departments relocated to a new School of Education building in October 2016.	

			They now collaborate as a cluster of education departments, within the Faculty of Social Sciences. The transition has been successful, with increased demand for the education programmes. The points for the Froebel B.Ed increased with transition to MU.	
Continue to strengthen our relationship with St Patrick's College Maynooth for the benefit of both institutions	Completion of a feasibility study for a shared student record system for Maynooth University and SPCM.  Collaboration on recruitment of study abroad students to enrol in jointly provided academic programme  Completion of review of feasibility of new jointly provided undergraduate programmes  Development of a shared vision for the future of the Maynooth campus.	High level Working Group established by Maynooth University Governing Authority and Trustees of SPCM	Recruit students into new jointly provided undergraduate programme:  Partly completed; the two institutions collaborate well, and jointly teach all of the students on the SPCM BA Theology.  Recruit study abroad students into jointly provided programme;  Shared international recruitment is working well. The MU international office is working with SPCM in shared recruitment of international students, who can take modules from either institution.  Commence implementation plan for future development of an integrated Maynooth campus.	

Agreements on shared use of the campus and a long-term vision for the campus are well developed. The two institutions have agreed in principle a Campus Master Plan. Negotiations on renewal of the lease for MU use of infrastructure on the South Campus are close to completion. Examination of a shared student record system indicated feasibility, but limited potential for savings. An option of a new joint programme has been discussed, but SPCM has decided to postpone a decision on this because of concern that it might undermine the existing BA Theology.

### Case studies

**Curriculum change**: A large-scale revision of the undergraduate curriculum was rolled out, commencing in 2016. The main changes are (i) the introduction of critical skills for first year students, (ii) greater flexibility in the range and balance of subjects that can be taken, (iii) a greater range of progression and specialisation options, (iv) opportunities to study areas outside the discipline as elective options. This model seems to have been attractive to students; for example, there has been an increase in applications to the Maynooth BA degree.

**Critical Skills:** A new subject namely Critical Skills was introduced as an option for first year students. This was piloted in 2015–16 and available to students in most programmes from 2016. The aim was to provide an intensive preparation focussed on the development of key graduate attributes of clear analysis, critique and written and verbal communication. As this is of necessity taught in small groups, it is also intended to provide an initial peer group for students who might otherwise be in large classes. In 2016, approx. 750 first year students took this option. Analysis in the coming year will examine whether taking this programme is associated with better performance in other subjects.

#### **Electives**

Under the new Curriculum, most students now have the option to take an Elective in their second year. Each Elective is 10 credits constituting 1/6 of a programme of study for the second year. Electives allow students to learn new knowledge and skills that will complement their chosen degree programme. In line with our Graduate attributes, students are encouraged to broaden their perspective by studying across disciplines through the Electives. The Electives were piloted in 2015–16 and in 2016–17 approximately 420 students registered across 24 different Elective streams. It is expected that 27 Electives will be offered in AY 2017–2018. The Centre for Interdisciplinary Studies, which will co-ordinate the administration of interdisciplinary and interdepartmental Electives, was established in April 2017. The Centre is also responsible for supporting the development of new Elective modules.

### **Programme Advisory Office**

The Programme Advisory Office was established in August 2016 within the Centre for Teaching & Learning as a dedicated advisory service to assist students with programme-choice related decisions. The Office consists of a full-time Programme Advisor, who is supported by a team of PG students during peak times. The Programme Advisory Office has a number of functions: (i) to provide advice to individual undergraduate students with programme related choices they may be unsure about; (ii) to promote the key components of the new Curriculum to current students including increased subject choice, Electives, Critical Skills, and experiential learning opportunities; (iii) to produce guidance documents for students mapping out their programme choices as well as establishing a significant online presence for the Office; (iv) to support undergraduate students as they transition into Maynooth University and as they transition between academic years (in collaboration with many other offices). The Programme Advisory Office intends to pilot an initiative in 2017–18 that will welcome back all UG students to the campus and encourage them to engage with the University's support services as they progress through their programme. The Programme Advisory Office will also contribute to the extended Orientation Programme for new students planned for 2017–18.

#### **Feedback in First Year**

From 2015-2017, Maynooth University led the 'Y1Feedback' teaching and learning enhancement initiative in collaboration with our Regional Cluster partners. The aim was to enhance feedback practice in first year undergraduate programmes by leveraging the potential of digital technologies, in order to better support student transition to first year. Key outputs included (i) a landscape study of feedback practice and experience across partner institutes (ii) a review of international scholarship in relation to technology-enabled feedback (iii) Design and development of 24 case studies involving over 30 academic partner teams across 16 disciplines, which explored a range of best practice and innovative approaches to feedback in first year (iv) Hosting of a National Symposium on Enhancing Feedback in First Year in January 2017. In the coming year, further work will examine student engagement with feedback and programmatic approaches. Y1Feedback was funded by the National Forum for the Enhancement of Teaching and Learning in Higher Education.

#### **Taught Masters Provision**

Recent innovations in MU's taught Master's programmes demonstrate the university's commitment to continuously improving the quality of our portfolio in order to engage diverse learners. The European Master's in Dependable Software Systems is an international double master's programme offered jointly by MU's Department of Computer Science, the University of St. Andrews (Scotland) and Université de Lorraine (France). MU's MSc in Design Innovation won the GradIreland award for Best New Course in 2016, and a Master's in Comparative Criminology and Criminal Justice, launched in 2016, has emerged as a new area of strength. The interdisciplinary MA in Digital Humanities leverages training in cutting edge technologies and project management skills with practical work experience through a required internship.

### **European Space Agency Business Incubator**

A European Space Agency business incubator based in MaynoothWorks was launched in Sept 2016 as a partnership with Athlone Institute of Technology, Tyndall Institute, and Irish Maritime and Energy Research Cluster. This incubator is funded by the European Space Agency and Enterprise Ireland and is intended to help companies gain access to space research and seed funding and to support the creation of high value jobs in the region. The centre is one of fourteen ESA BICs (ESA Business Incubation Centre) in Europe. 25 start-ups will receive €50,000 in seed funding, along with expert technical assistance and opportunities to access other funding mechanisms. The centre will also offer ten rounds of €40,000 funding to support technology transfer for established companies that want to develop demonstrators for new products and services using space technology.

### **Optics for Space: Terahertz Optics and Technology Group**

The Terahertz Optics and Technology Group at Maynooth University is a group of four Principal Investigators based in the department of Experimental Physics, led by Professor Anthony Murphy. The group's world-leading expertise in the theoretical foundations of long wavelength optics has led to their central involvement in several large-scale international astrophysics projects where the group undertakes the design and testing of novel and highly sensitive detectors, which enable fundamental insights into the deepest and oldest parts of the universe.

The Herschel Space Observatory (HSO) was launched in 2009 by the European Space Agency (ESA) after a decade of development work. It was active from 2009-2013, and produced over 35000 scientific observations across 600 distinct programmes using multiple instruments. The investigations included galaxy formation in the early universe and the evolution of galaxies; and the chemical composition of atmospheres and surfaces of Solar System bodies, including planets, comets and moons. The Maynooth group were responsible for the optical analysis and design of one of three instruments: HIFI

- the Heterodyne Instrument for the Far Infrared as part of an international consortium led by the Space Research Organisation of the Netherlands (SRON).

A second satellite observatory the group have helped design is the Planck Surveyor satellite of the European Space Agency, which was also active 2009-2013. The exquisite sensitivity of the Planck measurements and the deep space environment in which it operates has ensured observational data of unparalleled quality. The data from these have changed our understanding of cosmology and have been published, and highly cited, over the period 2012-2015. As one example, by combining observations of the distant Universe made with the Herschel and Planck space observatories, cosmologists have discovered what could be the precursors of the vast clusters of galaxies that we see today. This is basic science of the highest order. Optical Systems operating in the terahertz band of the spectrum also increasingly find terrestrial applications in security, defence and medicine, in addition to the established applications in astronomy, and these are also a focus of research at Maynooth.

The Terahertz Optics and Technology Group expertise was significantly enhanced by work funded through a major SFI investigator award in 2004; sadly, this type of science, although truly world-class, is not eligible for funding by SFI, since it does not directly serve any industry needs.