

Higher Education System Performance

First report 2014 -2016

Report of
The Higher Education Authority
to the
Minister for Education and Skills

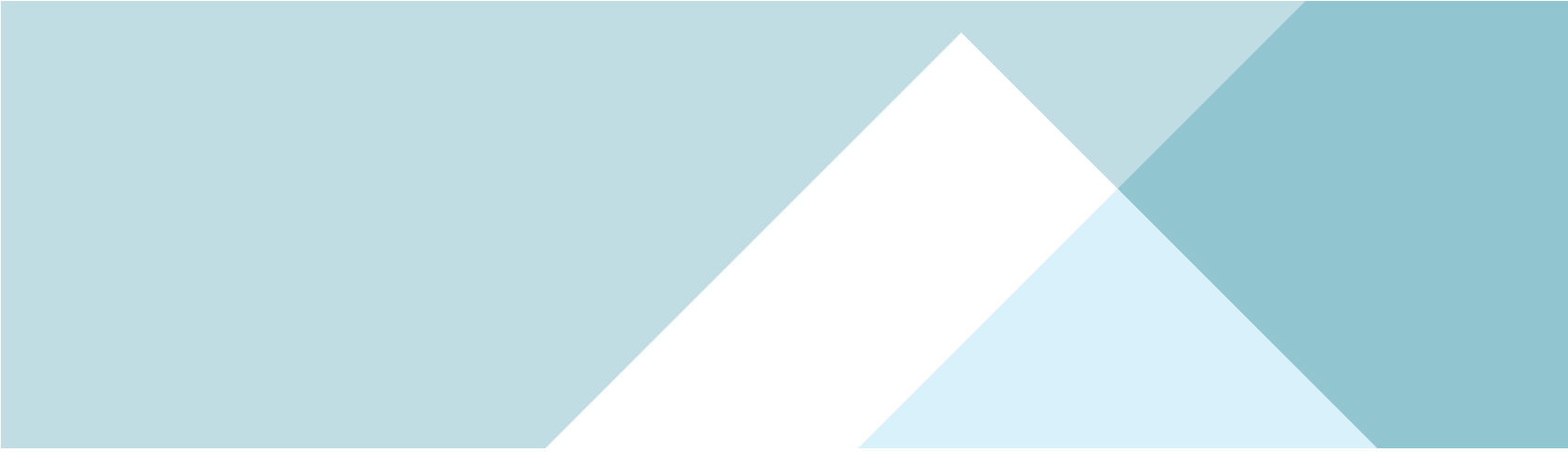
Contents

INTRODUCTION	6
National priorities.....	6
Structure of this report.....	6
PART 1: EXECUTIVE SUMMARY, KEY CONCLUSIONS AND POLICY IMPLICATIONS	8
Key Conclusions and Policy Implications	9
Delivering for Ireland at a time of economic crisis.....	9
Further growth is proposed but carries risks – a review of supply and demand needed.....	10
Major structural reform is now also under way.....	10
Quality of outcomes is a core value – but a comprehensive funding policy is an essential enabler	11
Other reform enablers – leadership capacity	11
Other reform enablers – HR toolkit.....	11
Executive Summary	12
System Objective 1: Meeting Ireland's human capital needs – higher education responding to the jobs crisis	12
System Objective 2: Equity of Access and Student Pathways.....	14
System Objective 3: Excellence in teaching and learning to underpin a high quality student experience.....	16
System Objective 4: Excellent public research and knowledge exchange actors.....	18
System Objective 5: Globally competitive and internationally oriented institutions	20
System Objective 6: Restructuring for quality and diversity – a higher education system engaged in and committed to reform	22
System Objective 7: Accountability for public funding and public service reform.....	24
PART 2: SYSTEM OBJECTIVES	26
System Objective 1 Meeting Ireland's Human Capital Needs	28
1.1 More graduates: growing tertiary attainment levels	30
1.2 Proportion of MSC, ICT and STEM graduates.....	33
1.3 Employer satisfaction with graduates.....	35
1.4 Employer satisfaction with collaboration	38
1.5 Graduate employment rates.....	39
1.6 Profile of graduate outflow by discipline.....	39
1.7 Tertiary attainment rates: international comparisons.....	42
System Objective 2 Equity of Access and Student Pathways	44
2.1 Progress towards national access targets to reflect population diversity.....	45
2.2 Increase in entry from further education and training.....	45
2.3 Flexibility of provision	46
2.4 Completion by target groups.....	48
2.5 International benchmark on flexibility of provision.....	50

System Objective 3 Excellence in Teaching and Learning	52
3.1 Cooperation with QQI.....	53
3.2 The Irish Survey of Student Engagement (ISSE).....	53
3.3 Progression data.....	54
3.4 Transition to higher education.....	57
3.5 Academic staff with pedagogical qualifications.....	57
3.6 Staff–student ratios.....	57
System Objective 4 Excellent Public Research System	60
4.1 Increase HERD and increase diversity of funding sources.....	63
4.2 Maintain citation ranking and international reputation.....	64
4.3 Increase collaboration with industry.....	66
4.4 Increase commercialisation activity.....	67
4.5 Masters, PhDs and the Doctoral Education Framework.....	67
4.6 Align research with priority and underpinning areas.....	68
System Objective 5 Globally Competitive and Internationally Oriented Institutions	70
5.1 Meeting EU mobility targets.....	71
5.2 Alignment of internationalisation activity.....	71
5.3 Mobility of researchers and staff.....	74
5.4 Transnational activity.....	74
System Objective 6 Restructuring for Quality and Diversity	76
6.1 System reform for a new landscape.....	78
6.2 Maintaining and advancing system diversity.....	79
6.3 Regional clusters.....	80
6.4 Initial teacher education.....	82
6.5 Creative and performing arts.....	83
6.6 Technological universities.....	83
6.7 Thematic reviews.....	84
6.8. Indicators.....	84
System Objective 7 Accountability for Public Funding	86
7.1 System funding.....	88
7.2 Increased efficiency: shared services and procurement.....	91
7.3 Utilisation of facilities.....	92
7.4 Relative unit costs.....	93
7.5 Implementation of Strategic Dialogue and Next Steps.....	94

PART 3: APPENDICES	98
Appendix 1 The Strategic Dialogue Process	99
Appendix 2 System Profile and Trajectory to 2016	103
Appendix 3 Higher Education System Performance Framework 2014 –16 System Level Objectives	116
Appendix 4 Strategic Dialogue External Panel Members	126
Appendix 5 Attendance at Strategic Dialogue Meetings	128

INTRODUCTION



The *National Strategy for Higher Education to 2030* provides a roadmap for the most fundamental reform of Irish higher education in the history of the State. While the sector has performed well to existing accountability and performance standards, reform is timely such are the demands on the system; the centrality of a well performing higher education system to social and economic development and the pressures of globalisation of higher education. That reform is now underway. It will see the creation of a more coherent system of higher education institutions, working as a system to deliver on stated national objectives. Each institution has entered into a compact with the HEA, undertaking how it will contribute to national objectives from the position of its particular mission and strengths. The compacts provide for how performance is to be measured and a proportion of funding will in future years be contingent on performance. The sector will also see the most substantial structural reform in its history, including the merging of institutions and the development of clusters of collaboration to enhance quality of outcomes and create scale. Overall the programme of reform in higher education, encompassed in the phrase “strategic dialogue”, is one of the most significant and wide-ranging reforms in the Government’s wider strategy of reform of the public sector.

A System Performance Framework¹, stating national priorities and key objectives of Government for higher education was set out by the Minister for Education and Skills for 2014-2016. The HEA presents this first Annual System Performance Report against those objectives.

The initial focus in strategic dialogue has necessarily been more on planning and establishing baselines, than on performance and outcomes. The HEA has tested the plans submitted by the higher education institutions against previous institutional performance, national targets and policy. Progressively, over further iterations of strategic dialogue, we will move to a stronger focus on performance against agreed targets, with funding implications.

National priorities

The framework of higher education system objectives set out by the Minister roots them in wider national goals. The objectives articulate the expectations from the system across all areas of activity and from across Government, including commitments made in *A Strategy for Growth, Medium Term Economic Strategy 2014-2020*, the *Action Plan for Jobs (2014)*, the *Report of the Research Prioritisation Steering Group (2011)*, the *National Plan for Equity of Access to Higher Education 2008 - 2013* and the *ICT Skills Action Plan 2014 - 2018*. The following national priorities are taken from the *Higher Education System Performance Framework 2014-2016*.

National priorities of Government

- 1 Economic renewal and development at national and regional levels
- 2 Social cohesion, cultural development and equity at national and regional levels
- 3 Public sector reform towards greater effectiveness and efficiency
- 4 Restoration of Ireland's international reputation

Structure of this report

Part I of this report provides an executive summary, beginning with the key conclusions drawn from the strategic dialogue process and policy implications. Part 2 provides the main body of the report setting out in detail how the higher education system is positioned to meet each of the national objectives.

¹ Department of Education and Skills (2013) Higher Education System Performance Framework 2014-2016, Dublin: DES

Part 1

Executive Summary

KEY CONCLUSIONS AND POLICY IMPLICATIONS



Key Conclusions and Policy Implications

Taking the range of issues outlined in the Executive Summary, the key conclusions from this first engagement with strategic dialogue and related implications for policy are now set out.

- Irish higher education is competitive internationally and performs well against international benchmarks in tertiary attainment, STEM graduates, and student engagement and employer satisfaction.
- Against a background of economic crisis, a resilient system has provided significant extra capacity to meet increased demand for higher education and to address areas of specific skills needs as well as providing capacity for labour market activation programmes.
- Ireland needs higher education capacity to grow both to support demographic growth and also to meet increased demand for graduates, as demand for Irish graduates bounces back and economic recovery continues.
- The Irish higher education system is engaged in and committed to reform. Public service reforms and the restructuring and strategic refocusing of Irish higher education institutions are providing opportunities to improve and monitor quality and performance.
- Success in implementing the reform programme, in maintaining and enhancing the quality of outcomes and in meeting other national objectives is dependent on a number of enablers:
 - The leadership capacity of the institutions themselves, empowered by an appropriate toolkit for managing human resources
 - The capacity in the HEA, working with the institutions, to develop further the capacity for setting performance metrics and performance evaluation
 - The implementation of a comprehensive funding policy.
- Failure to meet national objectives will have a direct, and negative, impact on economic recovery and development.

Delivering for Ireland at a time of economic crisis

Over the six-year period to 2014, the higher education system delivered 25,000 extra student places. These extra places have been essential to respond to student demand, both from school leavers and for those who have lost employment in the recession and are seeking to up-skill as a means of access to future employment. In terms of the jobs crisis, the data in this report shows that the higher education system has prioritised an effective response through the supply of graduates – with a good mix of discipline-specific and employability skills, and with a renewed emphasis on entrepreneurship development. The provision of up-skilling, retraining and targeted skills places remains strong. The first national employer survey shows that employer satisfaction is high and graduate employment outcomes have recovered to pre-crisis levels. Recent data on earnings and education levels shows that graduates in Ireland continue to have a significant wage premium over those without higher education. The system is generally on course to meet current targets for the supply of graduate skills to the labour market.

This level of performance has been achieved against a backdrop of national economic crisis with a consequent reduction in resources. In the period, core expenditure per student has declined by 15%, with a reduction of almost 2,000 in staff numbers. As a result the staff–student ratio has declined from 1:15 to 1:16 (a norm in OECD countries) to 1:19.5. At the same time there has been severely limited investment in capital infrastructure, including maintenance – this in the context where the HEA has concluded in a space survey for 2010 that about 41% of the existing space is not of an appropriate standard.

Further growth is proposed but carries risks – a review of supply and demand needed

This combination of growth in numbers and the reduction in resources carries risks (outlined later) that are further exacerbated by the fact that, taken at a system level, the projection is for continued growth. The total number of learners, including full-time and part-time, undergraduate and postgraduate, new entrants and the impact of increased entrants in previous years, is set to increase by approximately 20,000 or 10%, from 196,397 in 2011 to 216,732 in 2016.

These increases are well aligned with the projected expansion of demand for higher education that will arise from an increasing flow of school leavers in coming years and from the demand for graduates from a recovering economy. In this context, the level of ambition across the range of national objectives shown by the system and by individual higher education institutions is a strong positive outcome in this initial phase of the new relationship between Government and higher education. However, given the environment in which the institutions are now operating, in particular the funding environment, the targets are very ambitious and will require, at the least, careful risk management.

Demand for quality skilled graduates may be even greater. While target levels of graduate output seemed, until relatively recently, adequate for labour market outcomes, there is increasing evidence of a risk of under-supply that means that we must capitalise on our very significant demographic advantage of a young population keen to enter higher education. The most recent data on jobs growth² show a labour market in rapid transition. Unemployment, while still high, is falling. Skills shortages in certain areas are evident. Longer term projections (ESRI³ and SOLAS⁴) show a recovering labour market with the majority of demand for higher education graduates. The HEA is conscious that further refinements to these projections may be necessary in the balance of demand between experienced and new graduates. Nonetheless, these forecasts point to the general importance of higher education skills in sustaining economic growth and the role of the system in producing those graduates. The scale of demand for those with higher education qualifications may even exceed the very significant growth in the system that has been projected, and despite Ireland's almost unparalleled record (by comparison with our global competitors) in increasing tertiary attainment in the population. As a result, it is the view of the HEA that national policy on the supply and demand for graduate skills should be reviewed and should encompass all post-secondary education and training. It should address the issue of the capacity, physical and otherwise, of the system to accommodate the growth needed – a capacity which does not yet exist. It also needs to address how under-participating sectors of society can be mobilised to access education and how the significantly increased student numbers can be provided for and funded.

Major structural reform is now also under way

In addition to addressing reforms that will see a much increased focus on outcomes from the higher education institutions, those institutions are, in parallel, also implementing a major programme of structural reform. The objective of that process is to support quality outcomes through, among other things, more coordinated use of resources, better planning and delivery of programmes across programmes, the creation of critical mass, and enhancing academic supports. Overall the engagement of the institutions with that programme has been a very constructive one. The programme involves 16 institutions in a number of mergers, the concentration of initial teacher education from 19 centres to 6 centres of excellence, and the creation of 5 regional clusters. The latter are showing good progress in putting in place the necessary governance structures and in addressing the key objectives of developing pathways to support access and coordinated academic planning.

² CSO (2013). Quarterly National Household Survey 2013 Q4 and Live Register February 2014

³ ESRI Medium Term Review: 2013-2020

⁴ Occupational Employment Projections 2020. Skills and Labour Market Research Unit SOLAS January 2014

⁵ Survey of Research and Development in the Higher Education Sector 2010/2011, Forfás 2013



Quality of outcomes is a core value – but a comprehensive funding policy is an essential enabler

Ireland's future prosperity depends on the projected demand for higher education being met by the higher education system. But increasing the required number of graduates, although necessary, is not in itself sufficient to underpin prosperity: maintaining Ireland's international reputation for quality graduates must be a central priority. While conclusive indicators of declining quality can only be provided retrospectively, stresses on the system, with implications for quality, are flagged in this report. It is the view of the HEA that there is now a high and growing level of risk that significant unfunded expansion in student numbers will damage the quality of graduate outcomes, defeat the objective of improving the quality of outcomes generally across the system and restrict economic development.

Apart from the potential risks to quality, funding constraints carry risks across all aspects of the system. For instance, it is reasonable to conclude that reduction in student supports, combined with increasing demand and continuing increases in student charges, will impact on student access and progression. The HEA is also concerned that projected growth in international student numbers is driven by income considerations and may undermine the broader internationalisation strategy. The higher education system is projecting modest growth in PhD numbers, reflecting the profile of funding available nationally and internationally. The reforms required to enhance the quality of PhDs through the new doctoral education framework will themselves probably lead to new costs, further increasing the strain on the system as already mentioned. The increasing workload arising from growing undergraduate student numbers and shrinking resources is also reducing research activity in higher education as illustrated in the recent Forfás report on R&D spending in higher education.⁵

The HEA advises that the development and implementation of a comprehensive policy on the funding of higher education is an urgent national priority requiring a whole-of-Government response. The Minister has indicated that these matters will be considered separately to this report.

Other reform enablers – leadership capacity

While addressing the funding issue is a key priority that underpins the overall reform programme, there are other key enablers of success. At institutional level, the capacity to plan and act strategically – including the capacity to identify clear mission and strengths, to integrate the various activities across an institution and to identify appropriate performance benchmarks – is variable across the system, with the longer-established institutions having, in general, a more developed capacity. In addition institutions must develop the capacity to act as partners in a cluster and deliver improved regional outcomes. This is something that will be given attention by the HEA, working with the institutions.

Other reform enablers – HR toolkit

Reform is also likely to be held back as the higher education institutions do not currently have the full management and governance toolkit typical of institutions in the best performing higher education systems. Some of these issues will be addressed in the Minister's programme of legislative reform, particularly as it relates to the governance of higher education institutions. But there remains an urgent need to examine, at a systemic level, the arrangements in place for the management of human resources so as to optimise the performance of the system.

In brief summary, the higher education system is responding proactively and constructively to reform, but if the potential of the reform programme is to be fully realised and enhanced quality of outcomes achieved, key enablers need to be put in place.

The next section of the Report provides an executive summary under each of the system objectives.

Executive Summary

System Objective 1:

Meeting Ireland's human capital needs – higher education responding to the jobs crisis

- Irish higher education is competitive internationally and performs well against international benchmarks in tertiary attainment, in numbers of STEM graduates, and in student engagement. Irish tertiary attainment levels of the 30 to 34-year-old population are now at 51%, the highest in Europe, helping Ireland to rank first in the world for the availability of skilled labour in the IMD world competitiveness rankings⁶. Ireland now has the fourth highest proportion in Europe of graduates in Maths, Science and Computing, at almost 12%.
- Against a background of economic crisis, a resilient higher education system has met significantly increased demand for higher education, addressed areas of specific skills needs, and provided labour market activation programmes. Since the start of the economic crisis, the Irish higher education system has provided 25,000 extra places while staffing levels have been reduced by 10%. In addition, funding has been reduced by 20% per student⁷.
- Research shows that graduate skills accumulation contributes significantly to GDP growth.
- In a pilot survey, 75% of employers expressed confidence in Irish graduates.
- Graduate employment rates have now recovered to pre-crisis levels.
- The system plans further growth to meet demographic growth and also to meet increased demand for graduates, and is well aligned with areas in demand by employers.
- As there is new evidence that labour market demand may grow significantly faster than projected graduate output to 2020, the HEA urges a whole-of-Government approach to plan strategically for Ireland's human capital provision against expected needs.
- The combination of increased student numbers and reducing resources per student carries risks which need careful management, including a risk to the quality of graduates and outcomes generally.
- The HEA will continue to work with the institutions to further improve alignment between the HE sector and enterprise – in terms of graduates and research outputs, and social and economic needs.



The Government has stressed that creating jobs is its major policy priority. The higher education system has an essential role to play in addressing this priority – through the development of new knowledge and the provision of skilled graduates. This report sets out many of the areas where higher education has responded to the jobs crisis of the last six years, such as increasing the number of places for new entrants, the provision of retraining and up-skilling places and in providing support for entrepreneurs.

Recent UK research evidence⁶ from one study of 15 advanced economies indicates that graduate skills accumulation contributes significantly to GDP growth. It contributed roughly 20% of GDP growth in the UK from 1982–2005 – each 1% increase in the share of the workforce with a degree raises the level of long-run labour productivity by 0.2–0.5%. At 51%, Ireland now has the highest tertiary education attainment rate for the population aged 30–34 in the EU; and, unlike many European countries, Ireland has a growing young population. The combination of these two factors positions the country well to reap significant competitive dividends.

The job prospects of higher education graduates have now recovered to pre-crisis levels, although many graduates continue to have difficulty accessing high-quality relevant employment immediately following graduation. Nevertheless, the unemployment rate for Irish university graduates in 2012 was 7%, approximately half the overall national rate at the time of 14.7%, and approximately one third of the rate of those without higher education. There is strong employer satisfaction with graduates, with 75% reporting that they are satisfied with graduate skills.

According to the new ICT Skills Action Plan 2014–18, domestic supply from higher education programmes met only 45% of demand for ICT graduates in 2012. A target has been set to meet 74% of demand through domestic supply by 2018, with the current enrolments projected to meet 63% in 2014. The previous ICT Action Plan (2012) target to double Level 8 graduate output by 2018 is now expected to be achieved by 2015.

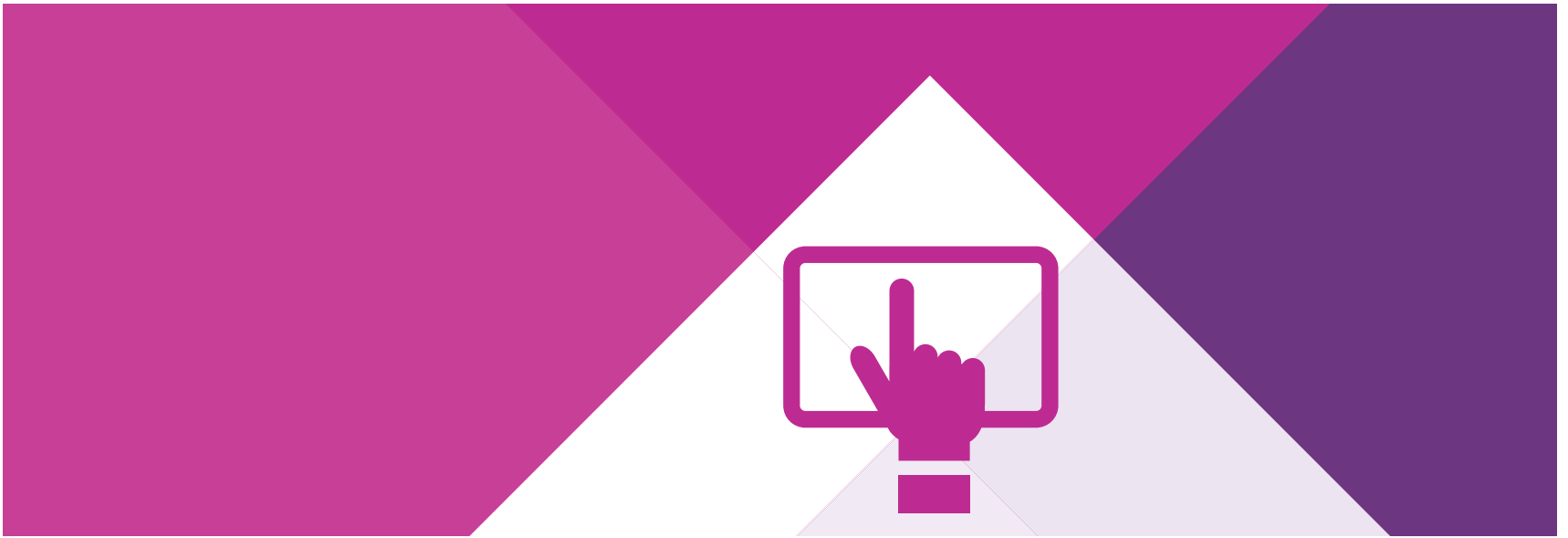
⁶ IMD World Competitiveness Center (2014) IMD World Competitiveness Yearbook 2013. Switzerland: IMD World Competitiveness Center.

⁷ 4% of this 20% is accounted for by reductions in pay levels

² Department of Business, Innovation and Skills (2013) The relationship between graduates and economic growth across countries. UK: Department of Business, Innovation and Skills.

System Objective 2: Equity of Access and Student Pathways

- Equity of access is a critical priority for reasons of social equity, but is also an essential element in meeting Ireland's requirements for higher education skills.
- The system is making progress on targets but some inequalities remain. The Irish system has met the access targets set in the *National Plan for Equity of Access 2008-2013* for flexible learners and for students with a disability, but has fallen short of the targets set for some specific under-represented socio-economic groups and full-time mature new entrants. These will be a particular focus in the next National Plan.
- Whole of system reforms, with the establishment of regional clusters, SOLAS and Education and Training Boards offer new opportunities for coordination of planning and delivery and for the development of coherent pathways between higher education institutions and from further education and training into higher education.
- The evidence of deterioration of non-progression rates at Level 6 and 7 requires further analysis, particularly in relation to differing socio-economic profile of non-progression, and to arriving at a better understanding of the reasons for such differences.



Progress towards equity of access and improving pathways from second level and further education are critical goals for Ireland and real enablers of economic development and social cohesion. This is especially the case in the light of the scale of labour market demand for higher education graduates presented under Objective 1. Ireland will not be able to meet this demand without making significant progress on equity of access. Meeting our future human capital needs and achieving greater social cohesion are essential, and complementary, tasks.

The numbers and proportions of students from targeted under-represented socio-economic groups are increasing, as are the numbers entering higher education from further education and training. We can also report greater flexibility in provision and increased access by students with a disability. The development of regional clusters will facilitate the improvement of coherent pathways from further education and the development of non-traditional entry routes. Clusters have agreed to map the existing non-standard entry routes and the numbers entering higher education along these routes in each region in the first instance. This will be done with a view to agreeing targets to achieve a coordinated expansion of the number of routes and entrants.

The numbers and proportions of students coming from targeted under-represented groups are projected to increase over current levels by 2016. However, these increases are unlikely to be sufficient in all cases to meet the targets set in the National Plan for Equity of Access 2008 – 2013. In particular, the system is falling short of the targets for students from targeted socio-economic groups and for full-time mature entrants. There is a significant growth in part time mature new entrants. The next plan, which will be published shortly, will provide additional focus and direction.

System Objective 3:

Excellence in teaching and learning to underpin a high quality student experience

- Excellence in teaching and learning must be a keystone of system performance.
- Some institutions demonstrated good practice approaches to planning and delivery of a tailored strategy for excellence in teaching and learning. Through the process of strategic dialogue and assessment of performance, the HEA will promote this as the norm across all institutions.
- The staff–student ratio, which was in line with international norms five years ago, has rapidly deteriorated. It is now 1:19.5, significantly outside of the stable OECD norm of between 1:15 and 1:16.
- Early findings of the ISSE show that Irish students are well engaged in comparison to their international peers but that first year undergraduates feel that they need more contact time.
- The overall system non-progression rate from first year to second year has moved from 15% in 2008 to 16% in 2011. Progression at Level 8 has held steady, while progression at Level 6 and Level 7 shows sharp deterioration in some settings and disciplines.
- This and other trends present evidence of increasing stresses on the system, with implications for quality and a clear need for HEA to work with QQI in this regard. It is the view of the HEA that there is now a high and growing level of risk that significant unfunded expansion in student numbers will damage the quality of graduate outcomes generally across the system with implications in particular for economic development.



It is critically important to keep the student voice at the centre of the reform process. The first pilot Irish Survey of Student Engagement (ISSE) was carried out in 2013. The survey presents positive findings in the main. The next steps will be to improve response rates and to ensure that findings are acted upon, with a focus on enhancing teaching and learning. This will be monitored in future strategic dialogue.

The HEA will work closely with QQI to ensure that institutions fulfil their commitments to address the findings of institutional quality reviews and will engage with institutions to achieve this aim through the strategic dialogue process.

The National Forum for the Enhancement of Teaching & Learning has been established and is in the course of agreeing governance, operation, funding arrangements and a work plan. The Forum presents significant opportunities to improve student outcomes and the quality of the student experience through academic-led determination of strategic investments to support excellence across all higher education institutions.

The process of strategic dialogue exposed a number of areas of variability of performance among institutions. Institutions need to clearly identify planned outputs and outcomes as part of the teaching and learning strategies outlined in their compacts. Several need to demonstrate better integration of teaching, learning and assessment strategies and enhanced alignment between their teaching and learning strategies and the profile of their distinctive student body. Benchmarking of their own internal performance against relevant external peers and exemplars is also important in establishing challenging objectives.

There is some evidence that the system is under stress. The staff–student ratio, which was in line with international norms five years ago, has decreased over the last five years. It is now 1: 19.5, significantly outside of the stable OECD norm of 1:15 to 1:16. In addition, there has been some change in the overall system non-progression rate from first year to second year from 15% in 2008 to 16% in 2011. Progression at Level 8 has held steady, while progression at Level 6 and Level 7 shows sharp deterioration in some settings and disciplines, particularly in Level 6 and 7 programmes.

Greater focus is required by institutions to identify the reasons for non-progression and to preparing appropriate teaching and learning and other strategies in response to findings. Over half of all institutions have included measurable targets addressing specific or particularly problematic aspects of progression in their compacts. The Transition Reform process is providing an opportunity for higher education institutions to review their programme portfolios with a view to improving the experience of first year undergraduate students, and both the universities and the institutes of technology are engaging well with the reform process.

System Objective 4:

Excellent public research and knowledge exchange actors

- The research system is moving from a high growth phase to a phase of consolidation to improve impact, quality and international competitiveness.
- Based on international performance indicators, the impact of Irish investment in higher education research and innovation is strong, and improving:
 - Irish universities are now in the top 1% of research institutions in the world in 18 fields, spanning natural sciences, social sciences and the humanities and as a country Ireland is currently ranked 18th across all fields, having risen from 36th in 2003.
 - Almost 50% of Irish research papers are now co-authored with international collaborators
 - Ireland was ranked third in Europe in the 2013 Indicator of Innovation Output by the European Commission and above average in the EU Innovation Scorecard.
- The target of €600 million from FP7 has now been achieved, largely driven by the performance of the higher education system. A continued coordinated national approach is essential to maximise Ireland's success in Horizon 2020.
- There is clear evidence of strong alignment with national priorities, an increase in PhDs in Science, Mathematics, Computing, Engineering, Manufacturing and Construction, with a decrease in the Health and Welfare category. STEM is set to account for 48% of all doctoral enrolments by 2016. A planned 42% increase in masters by research reflects the demand for such skills from the private sector.
- It is important to strike a balance between focusing on priority areas (as set out under the Research Prioritisation Exercise) and ensuring that Ireland enhances its capacity and capability to participate actively in world knowledge production and world science. Institutions must remain well positioned to participate in funding schemes, such as Horizon 2020, which invite applications from a broader suite of areas than those covered by the priority areas. This for instance would include areas of Arts, Humanities and Social Sciences where Ireland has a well established reputation internationally.
- Research indicators will be further developed to better capture performance through indicators of excellence and broad impact.
- A gap in the Irish research funding system for Arts, Humanities and Social Sciences needs to be addressed.
- The system is projecting modest growth in PhD numbers, reflecting the difficult funding environment; while the forthcoming reform of PhD programmes will lead to new costs, further increasing the strain on the system.
- Further evidence of strain is visible in that increasing teaching workloads and shrinking resources are reducing research activity.



In the period since 2000, investment in research in the Irish higher education system has contributed to a marked increase in Ireland's international reputation for research. During this period funding from the Programme for Research in Third Level Institutions (PRTLTI) was used to build the capacity of the Irish research and development system. There is a strong commitment within the higher education system to this track record being maintained but this will require continued development of the underpinning system.

The research and innovation system has reoriented itself to become more focused on nationally prioritised areas and to being more collaborative. Knowledge transfer and innovation outputs continue to increase as does the citation ranking of Ireland's research outputs. Ireland was ranked third in Europe in the 2013 Indicator of Innovation Output by the European Commission. This indicator measures outputs from the innovation system, of which higher education is a key part. Ireland was also ranked above average in the EU Innovation Scoreboard, with the Southern and Eastern region being among leading European regions in this measure.

The positive outcomes outlined above are the fruits of earlier significant investments in higher education research capability. However, the latest survey of Research and Development investment in higher education (the HERD survey)⁹ indicate a decline in both the level of financial investment available for higher education research and in the time devoted by academics to research between 2008 and 2010. The outcome for the 2012 HERD survey is due later this year and it will determine whether this decline is continuing.

The system is now in a period of prioritisation, concentration and consolidation. The emphasis is now on increasing the impact from investments through enhanced focus on knowledge exchange along with concentration of national capacity, in particular around centres aligned with prioritised national areas. There is also a focus on diversifying the sources of funding for research, specifically enhancing non-Exchequer sources – this is driven by a national target to double funding from EU competitive research funds through the Horizon 2020 programme, but also by changes in the funding environment where a number of programmes (e.g. PRTLTI), will be effectively wound down by 2016.

Ireland has set a highly challenging national target to win €1.25bn of competitive funding over the next seven years from the European Union research and innovation programme Horizon 2020, aimed at supporting growth and job creation in Europe to 2020. While the national target was set after the strategic dialogue process, higher education institutions had already signalled, as part of that process, that work is under way to plan their approach to Horizon 2020. The HEA recognises the very challenging international environment for research funding – where, for example, only 2% of European Research Council applications are successful. Success in Horizon 2020 will require continued support to grow the underpinning research base necessary for institutions to participate in global science and to enrich the educational experience of the students in these institutions. As the performance framework in relation to research continues to be developed, it will be important to ensure that the type of conditional indicators used by Horizon 2020 will become embedded in Irish research funding – including interdisciplinarity, impact and benefit, gender equality etc. A coordinated national approach to help maximise Ireland's success in Horizon 2020 is vital and the HEA will continue to work with the institutions, the relevant Government departments and other key stakeholders in the coming months to develop and implement this approach.

The system overall is projecting modest growth of 7% in doctoral enrolments up to 2016, most of which is planned for the technological sector (coming from a low base). The system is well focused on the priority areas as set out in the Research Prioritisation Exercise. It must also be enabled to engage at the same time with potential EU funding opportunities and demonstrate a track record in a wider range of disciplines. Overall, the balance of research provision and doctoral enrolments is moving towards Science and Technology, with STEM disciplines accounting for 48% of all enrolments in 2016. The HEA and QQI will work in partnership with higher education institutions to implement a National Framework for Doctoral Education to maintain and enhance quality as the number of doctoral enrolments grows.

⁹ Forfás (2013) Survey of Research and Development in the Higher Education Sector 2010/2011. Dublin: Forfás

System Objective 5:

Globally competitive and internationally oriented institutions

- International student recruitment is rapidly growing and will meet national targets.
- Some institutions demonstrated too narrow a focus on increasing the numbers of international students without taking sufficient account of the wider benefits of internationalisation – such as internationalisation of curricula and of research relationships and internationalisation of staff and student bodies through ERASMUS and other programmes
- In some institutions projected growth may be driven by financial need to an extent that risks undermining the broader internationalisation strategy. The scale and pace of growth also exposes institutions to risks. Through the process of strategic dialogue the HEA will work with HEIs to improve the framework for planning and risk management.
- The institutional diversity that is an objective of strategic dialogue provides an opportunity to institutions to become more internationally competitive.
- Maintaining quality is essential. QQI will establish a code of practice for the provision of programmes of education and training to international learners, and will authorise the use of the international education mark (IEM) by providers that comply with the code. It is expected that the quality mark will be used to help intensively market Irish higher education internationally.



Investing in Global Relationships 2010-2015, Ireland's International Education Strategy noted that 'internationalisation will need to be developed as a long-term and sustainable process, based on high-quality and balanced engagement with international partners', and set a target of 15% international enrolment by 2020. Achieving this target would place Ireland among the stronger performers within the OECD. Good progress has clearly been made in recent years, and there is alignment with Enterprise Ireland's target high growth markets, with 45% of international students coming from USA, China, India, and the Middle East. The implementation of the recommendations in the forthcoming review of the international education strategy will be crucial to maintaining momentum and sustainable growth at national and institutional level.

Looking forward to developments in the period to 2016, the cumulative ambition of institutions suggests that international students as a proportion of overall enrolment will rise from 6% in 2011 to 13% in 2016. This represents extremely rapid growth. Achieving this level of growth at institutional level will require realistic targets and strategies, clear definition of an international offering which reflects institutional strengths, appropriate orientation of teaching and curriculum, relevant student supports and practices for international learners, and strong engagement under the Education in Ireland national brand.

Quality must be kept at the heart of internationalisation activity. Our international education strategy states 'growth must not take place faster than the necessary supports can be put in place to ensure a high-quality experience'. The introduction of the International Education Mark by Quality and Qualifications Ireland will be a crucial development in ensuring that quality is maintained alongside growth in international student enrolment. In this respect, the HEA has identified some key risks and concerns through the strategic dialogue process and emphasises the need for careful risk management.

There has been slower progress in moving towards the target of 20% of graduates having an EU mobility experience. Among the factors that affect this are language competence, financial issues, and academic programme considerations. However, the Irish system increased the proportion of graduates gaining a mobility experience by 40% since 2008, and with 10% of all Level 8 graduates gaining a mobility experience, the system is at the European average on this indicator and should continue to build on this.

There has been growth in the development of transnational provision, including overseas campuses. Such developments can present significant opportunities, but also risks. Institutional risk management will need to take account of this. The absence of an agreed framework for making payments to academics working on overseas campuses is a constraint on developing this aspect of internationalisation.

System Objective 6:

Restructuring for quality and diversity – a higher education system engaged in and committed to reform

- The purpose of restructuring is to enhance quality, to release capacity and to improve diversity – it is not an end in itself. Irish HEIs need to seek out their distinctive role within the system, to articulate it more explicitly, to improve the quality of outcomes nationally, and to enhance their reputation internationally.
- The system is demonstrating commitment to major structural reforms. Five new regional clusters have been established. Initial teacher education is being restructured into six centres and will be completed by 2017. Technological university consortia are planning to submit Stage 2 applications in 2014. The total number of institutions will be reduced from 39 to 25 – this will ensure that individual institutions have greater critical mass and will bring wider diversity across the system.
- Some further enablers are essential to success, including:
 - Leadership capacity of the higher education institutions needs to be empowered by an appropriate toolkit and flexibility for managing human resources
 - The capacity in the HEA in setting performance metrics and in performance evaluation needs to develop further as the process evolves
 - The implementation of a comprehensive funding policy is essential to underpin the quality of education and research.
- Strong technological universities, institutes of technology and universities in close collaborative alliances and regional clusters, will provide the framework for a more effective system capable of delivering high quality outcomes for students, increasing impact from research and offering better support to regions and enterprise.
- Given the complexity and workload challenge inherent in the restructuring of the landscape, risk management must be kept under review by HEIs and this will be monitored by HEA in strategic dialogue.



The ambition is to create a coherent system of differentiated but complementary institutions. This involves the creation of regional clusters, mergers, the consolidation of teacher education provision and the process for the designation of technological universities.

Since the publication of the System Reconfiguration report¹⁰ by the Minister for Education and Skills in May 2013, there has been substantial work done on restructuring the landscape of higher education and the inter-relationships between different institutions. In relation to technological universities, all three consortia, whose expressions of interest have been agreed by the Minister, are expected to progress their applications to Stage 2 in 2014. This is the stage at which institutes set out how they propose to meet the criteria to achieve designation as technological universities within a reasonable period of time.

In the reform of initial teacher education, the consolidation of nineteen providers into six new centres is proceeding as planned. Three of these centres require a major institutional merger involving seven of the institutions.

In the Dublin region, institutions in the creative performing arts and media continue to develop and strengthen alliances. A thematic cluster has been formed that will connect the sector to the creative industries and to further education.

The complexity and workload challenge inherent in the restructuring of the landscape, establishment of clusters and particularly, in the implementation of mergers, is significant and should not be underestimated. In all cases it will be important to have robust risk management systems in place at institutional and system level.

There is buy-in to the new regional clusters evidenced by all HEIs participating in the establishment of the clusters, agreeing governance arrangements and adopting the initial two national objectives for regional clusters in their individual compacts with the HEA. Different clusters are at different stages of development, however, and are progressing initially at different paces. Five new regional clusters have now been established. Each cluster has formally met and agreed a governance structure, operational arrangements and agendas for work plans. They are committed to completing a mapping of existing academic provision and of routes of entry, generally by mid-2014, with plans to address the findings of this exercise to be completed soon afterwards; and they have agreed liaison arrangements with the HEA. The regional clusters are an integral part of ongoing strategy development, particularly in ensuring that institutional and national objectives are aligned and delivering system coherence.

¹⁰ HEA (2013). Report to the Minister for Education and Skills on system reconfiguration, inter-institutional collaboration and system governance in Irish higher education. Dublin: HEA.

System Objective 7:

Accountability for public funding and public service reform

- The introduction of the strategic dialogue process is a significant development in enhancing the governance and accountability of the higher education system
- The system has adapted to significant reductions in public funding in recent years. Some of the impact of these reductions has been ameliorated through efficiency measures such as increased shared services and shared procurement where the sector has a strong track record. Existing shared services include CAO, HEANet, An Chéim, LIRE (shared access to large items of research equipment), the Education Procurement Service, ALCID (academic libraries co-operation in Ireland), ICHEC (shared high-end computing service), shared international student recruitment, shared academic planning, and the establishment of regional graduate schools in regional clusters. Inter-institutional collaboration is incentivised by the HEA through strategic funding schemes.
- The HEA will continue to work with the sector to identify further opportunities for improved efficiency, and will identify any necessary enablers such as targeted voluntary redundancy mechanisms. These efficiencies should form part of a wider strategy for longer-term financial sustainability of the system.
- The system has achieved significantly more with less as expenditure per student falls by more than one fifth – this is due to reduced funding coupled with growth in student numbers. The pace of reduction is exceeding the capacity of many institutions to respond and one third of HEIs are presenting deficit budgets for 2014.
- Public service reform has the potential to release further efficiencies as the higher education system engages in the shared services and procurement reform programmes and continues to improve staff performance management and development systems.
- Approaching public service reform initiatives on a whole of sector basis will enable the achievement of greater efficiencies and ensure scale is achieved where required. We expect to see the whole of sector approach to public service reform initiatives further strengthened over the period of this framework and the governance structures now in place will support this. We will work with the sector to achieve greater transparency and accountability for the use of public funds over the period of this framework.
- There is evidence that work practices are already being reformed through implementation of public service agreements and development of workload management models in the university sector. These are being reviewed by the HEA.
- By 2016, private student contributions (excluding higher education grants) will amount to 19% of total institution income.
- This diversification of funding sources into the system means that public funding as a share of total institutional income will be 64% in 2016 compared to the latest OECD average of 68.4% and the EU21 average of 77.3% (2010).



The introduction of the new strategic dialogue process has been a significant step forward in the governance and accountability of the higher education system in the context of public service reform. For the first time the Minister has set out the range of priority national objectives against which Government will hold the system of higher education to account. The HEA can report in this first system report that the institutions individually and the system collectively are already performing well against these objectives and are projecting to continue to strengthen this performance. The higher education system is working to transform how it does its business, and major improvements in collaborations of all kinds are expected to release capacity to meet some of the increase in demand and to help maintain and improve quality. For example, the need to increase efficiency is driving collaboration in shared services and shared procurement.

There is an extensive range of shared services and sharing of resources across the higher education sector, and this provides a strong base for the further development of shared services in the sector. The Higher Education Reform Programme Board recently agreed the higher education section of the Shared Services Plan for Education and Training Sector 2014 – 2016 and implementation of the plan is under way. Addressing inflexibilities in the management of human resources will play a major role in improving the gain from these collaborations.

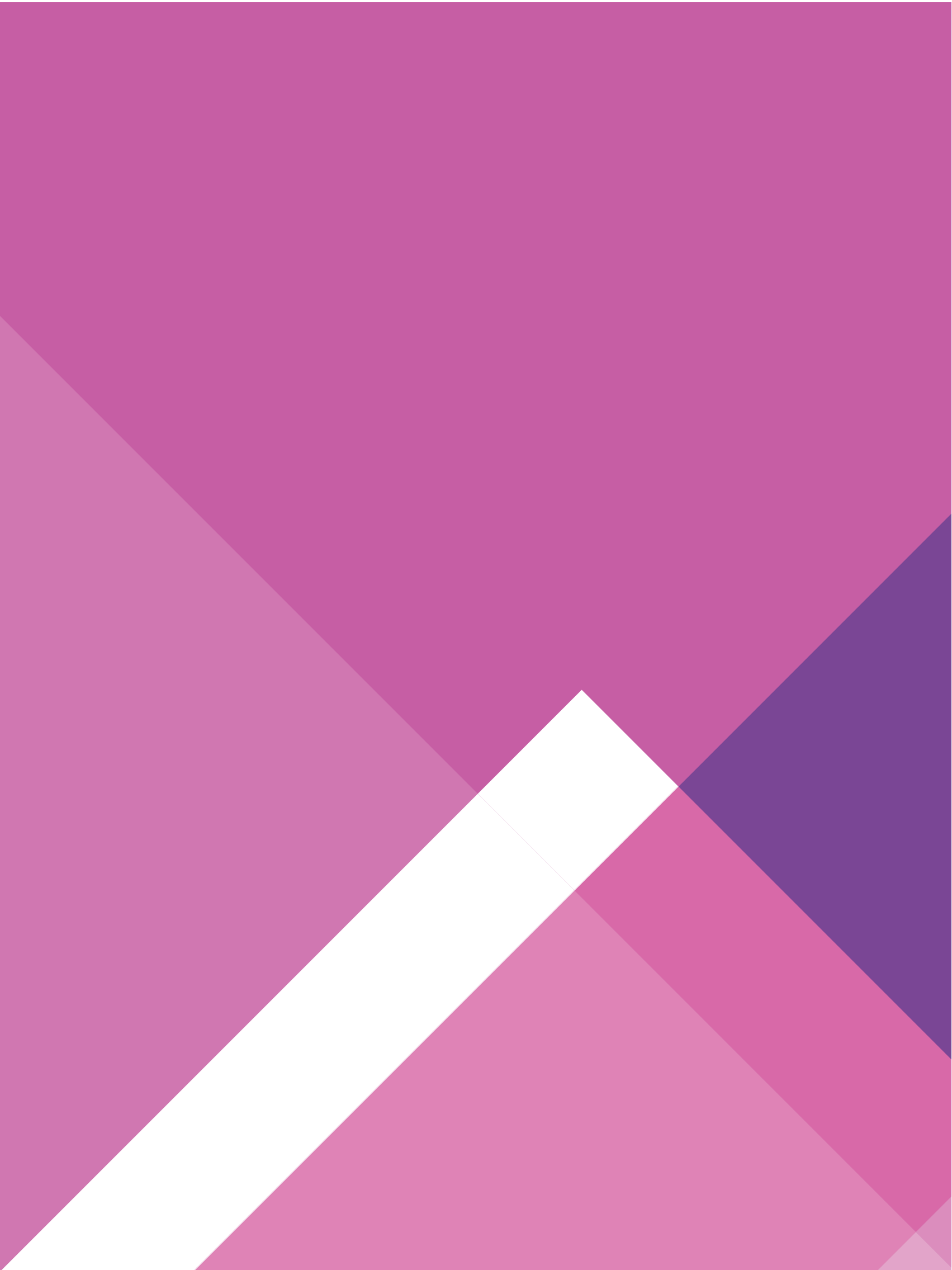
Outsourcing of non-core functions and services has been a strong feature of the higher education sector for some time with extensive outsourcing of cleaning, catering, security and maintenance. Further work in this area will be progressed in the context of the External Service Delivery Plan for the Education and Training Sector 2014–2016 and in the implementation of the Procurement Reform Programme being led by the Office of Government Procurement (OGP).

The higher education sector has provided significant input to the development and implementation of the OGP Procurement Reform Programme throughout 2013 and this work is continuing. The Education Procurement Service, based in the University of Limerick, is being reconfigured as the sectoral sourcing hub for the education and training sector.

The overall level of funding into the HEA-funded institutions has declined significantly since 2007/08. The pace of reduction is exceeding the capacity of many institutions to respond and one third of HEIs are presenting deficit budgets for 2014. Exchequer funding as a proportion of the total funding has dropped over the five years to 2014 from 76% to 56% and is projected to drop again to 51% in 2016 as the student contribution increases. This is offset by the fact that approximately half of the student charge income is indirectly paid by the Exchequer through student higher education grants. When this is taken into account, the balance of exchequer to other sources of funding is 68% in 2013 and will move towards 64% in 2016, compared to a current OECD average of 68.4% and EU21 average of 77.3%.

Part 2

System Objectives



System Objective 1

Meeting Ireland's human capital needs – higher education responding to the jobs crisis

Meeting Ireland's human capital needs, across the spectrum of skills, by engaged institutions, through a diverse mix of provision across the system and through both core funding and specifically targeted initiatives.

- Irish higher education is competitive internationally and performs well against international benchmarks in tertiary attainment, in numbers of STEM graduates, and in student engagement. Irish tertiary attainment levels of the 30 to 34-year-old population are now at 51%, the highest in Europe, helping Ireland to rank first in the world for the availability of skilled labour in the IMD world competitiveness rankings¹¹. Ireland now has the third highest proportion in Europe of graduates in Maths, Science and Computing, at almost 12%.
- Against a background of economic crisis, a resilient higher education system has met significantly increased demand for higher education, addressed areas of specific skills needs, and provided labour market activation programmes. Since the start of the economic crisis, the Irish higher education system has provided 25,000 extra places while staffing levels have been reduced by 10%. In addition, funding has been reduced by 20% per student¹².
- Research shows that graduate skills accumulation contributes significantly to GDP growth.
- In a pilot survey, 75% of employers expressed confidence in Irish graduates.
- Graduate employment rates have now recovered to pre-crisis levels.
- The system plans further growth to meet demographic growth and also to meet increased demand for graduates, and is well aligned with areas in demand by employers.
- As there is new evidence that labour market demand may grow significantly faster than projected graduate output to 2020, the HEA urges a whole-of-Government approach to plan strategically for Ireland's human capital provision against expected needs.
- The combination of increased student numbers and reducing resources per student carries risks which need careful management, including a risk to the quality of graduates and outcomes generally.
- The HEA will continue to work with the institutions to further improve alignment between the HE sector and enterprise and – in terms of graduates and research outputs, and social and economic needs.



Ireland's economic renewal and development depends on our capacity to develop our human capital to meet the needs of an evolving labour market. That means that we need more graduates, and they need to have the mix of skills and expertise that the workplace demands. This is particularly important given the strong research-backed correlation between higher graduate numbers and GDP growth.

The HEA can report a steady and continuing increase in student numbers and graduate output that will meet the projected increase in demand from school leavers for the next three years, broadly maintaining our current rate of participation in higher education and the tertiary attainment rates of the population¹³. Programmes and disciplines are well aligned to market needs; there are good rates of employer satisfaction with graduates entering the workforce, and there is good and improving graduate employment. In addition, the HEA can report that the alignment of discipline areas to emerging skill needs is a reflection of a planned response, with particular emphasis on STEM (Science, Technology, Engineering and Maths) and in its sub-set MSC (Maths, Science and Computing). Taken together, these represent a strong commitment to national objectives.

It should also be noted that over the last six months there has been a substantial and surprising rise in the projected demand for graduate skills¹⁴, on the basis of which the higher education system will fall significantly short of the number of graduates required to support national recovery, despite Ireland's outstanding record in increasing tertiary attainment in the population to date. The HEA is urging an integrated government approach to plan for the required increase in graduate output in a timely and sustainable way. The plan should address the issue of the capacity of the system (physical and otherwise) to accommodate the growth needed – a capacity which as of now does not exist; and it should address how under-participating sectors of society can be mobilised to access education and how the significantly increased student numbers can be provided for and funded.

The level of ambition demonstrated by the system (and by the individual higher education institutions) for continued growth and improved performance across the range of national objectives is a strong positive outcome from this initial phase of strategic dialogue. However, given the environment in which the institutions are now operating, in particular the continuing reduction in resources, the targets are very ambitious and will require, at the least, careful risk management to avoid damage to outcomes, including the quality of graduates and research outputs.

The strategic dialogue has shown the extent to which the higher education institutions are increasingly looking to improve the extent and the quality of their engagement with enterprise. The HEA will continue to monitor and report on this engagement and will develop clearer indicators of enterprise engagement as the dialogue process develops. These will be aimed towards improved liaison between the HEIs and industry/enterprise across a range of issues such as stronger industry engagement in the development and review of programmes, more structured dialogue on future skills needs, and development of more appropriate structures for engaging enterprise.

There are, however, some significant emerging risks that need to be addressed. These include a risk to the sustainability of increasing graduate output in the context of declining funding and the strains this places on the system – including worsening staff–student ratio and higher drop-out rates.

¹¹ IMD World Competitiveness Center (2014) IMD World Competitiveness Yearbook 2014. Switzerland: IMD World Competitiveness Center.

¹² 4% of this 20% is accounted for by reductions in pay.

¹³ The context for this chapter is set by ESRI forecast of labour market demand – see ESRI (2012) A Study of Future Demand for Higher Education in Ireland. Dublin: ESRI

¹⁴ SOLAS (2014) Occupational Employment Projections 2020. Dublin: SOLAS

1.1 More graduates: growing tertiary attainment levels

Ireland aims to have 60% tertiary attainment of 30 to 34-year-olds by 2020

The contribution of higher education to human capital and economic growth

The major contribution of the higher education system to meeting Ireland's human capital needs lies in continuing to progress the achievement of Ireland's EU2020 target of having 60% tertiary attainment¹⁵ by those in the 30–34 age group by 2020. The achievement of the target is a function of admission and completion rates, and of graduate migration.

Recent research commissioned by the Department for Business Innovation and Skills (UK)¹⁶ quantifies the material impact of higher education on economic growth, concluding that graduate skills accumulation on its own contributed to roughly 20% of GDP growth in the UK from 1982 to 2005 and that each 1% increase in the share of the workforce with a degree raises the level of long-run labour productivity by 0.2-0.5%. This research provides an important benchmark for the assessment of higher education relative to other factors in enhancing productivity over the period.

Meeting national demand for higher education

In order to reach national targets, Ireland needs at the very least to maintain its existing participation and completion rates, and the current report concentrates on system performance against the challenge of maintaining existing entry rates, which in the view of the ESRI are at a level that will keep pace with demographic demand and with minimum forecast labour market demand. However, projected labour market demand has changed significantly in recent months and on the basis of the latest projections¹⁷, our annual increase in intake and thus in our graduate output, will fall well short of demand in the scenario of recovery by 2020.

In the area of tertiary education, the *Europe 2020 Strategy* set the headline target that at least 40% of those in the 30–34 age group should have a tertiary or equivalent qualification by 2020. Figure 1.1 presents the position of member states in relation to the EU headline target, national targets and the EU average and shows that the current tertiary attainment level of Ireland in the reference age group is the leading one in the EU29.

¹⁵ Tertiary education in an Irish context refers to NFQ Levels 6, 7, 8, 9 and 10. It is defined by the OECD as comprising Tertiary type-A (ISCED 5A) and Tertiary-type B programmes (ISCED 5B). Tertiary-type A programmes are largely theory-based and are designed to provide sufficient qualifications for entry to advanced research programmes and professions with high skill requirements, such as Medicine, Dentistry or Architecture. Tertiary-type A programmes have a minimum cumulative theoretical duration (at tertiary level) of three years' full-time equivalent, although they typically last four or more years.

Tertiary-type B programmes (ISCED 5B) are typically shorter than those of Tertiary-type A and focus on practical, technical or occupational skills for direct entry into the labour market, although some theoretical foundations may be covered in the respective programmes. They have a minimum duration of two years full-time equivalent at the tertiary level.

¹⁶ Department of Business, Innovation and Skills (2013) The relationship between graduates and economic growth across countries. UK: Department of Business, Innovation and Skills.

¹⁷ SOLAS (2014) Occupational Employment Projections 2020. Dublin: SOLAS

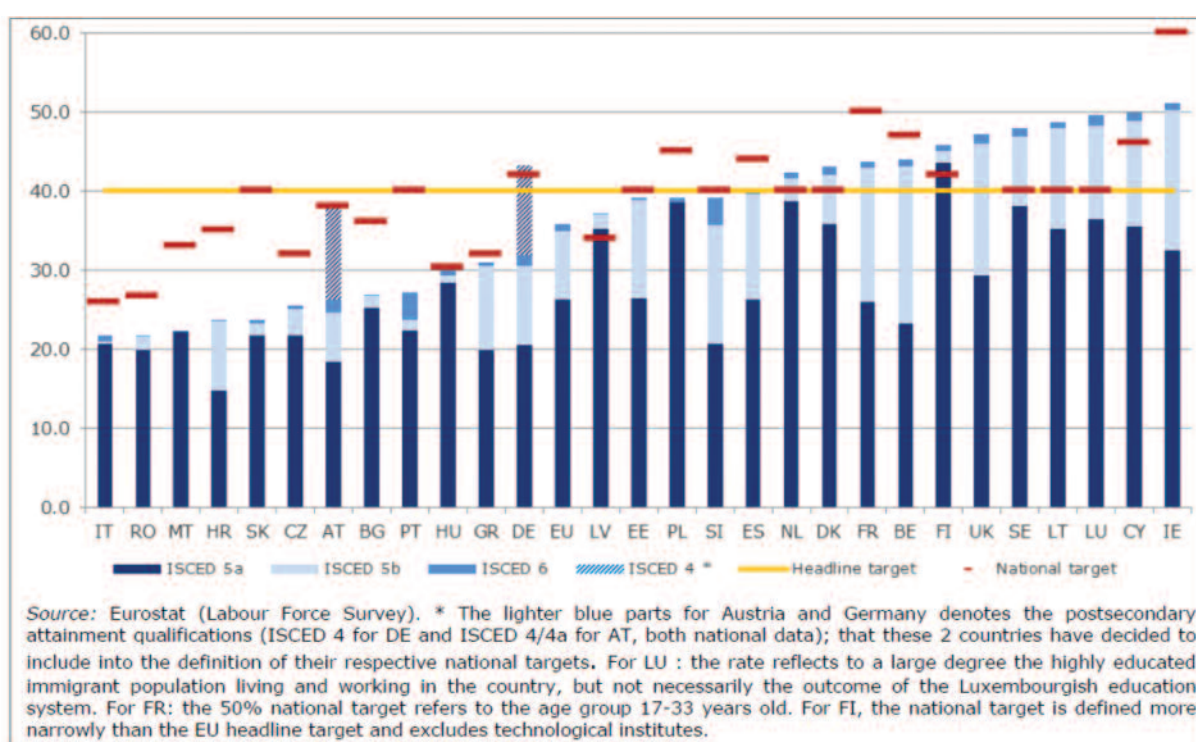


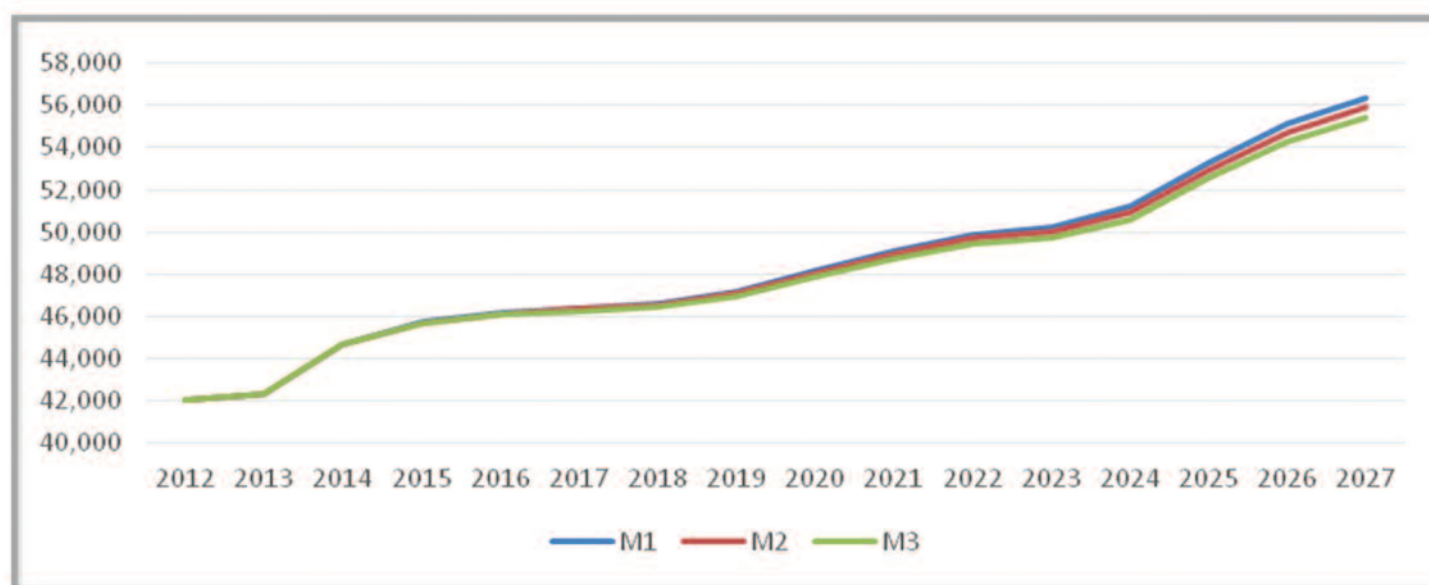
Figure 1.1: Tertiary attainment rate 2012, Europe 2020 target and national targets

Maintaining current participation rates requires that the number of full-time new entrants to the system must grow by at least 25% to 2030 to keep pace with the increase in demographic demand¹⁸. This in turn means growing new entrants by approximately 11% over the period of the compact – that is, from 41,009 in 2012/13 to 45,657 in 2015/16, including non-EU students. The sum of the compacts indicates that institutions are planning to reach this target level of intake. Some caution is required however in regard to this projection as HEI assumptions in relation to the funding required to meet these increases in intake may need further clarification. And many institutions have signalled that more flexibility is required in the management of human resources to allow them to reach this target.

Figure 1.2 gives Department of Education and Skills projections of new entrants to third level in the period 2012–2017. The total number of learners, including full-time and part-time, undergraduate and postgraduate, new entrants and the impact of increased numbers of entrants in previous years, is set to increase by approximately 20,000 or 10%, from 196,397 in 2011 to 216,732 in 2016. Irish and EU enrolments account for approximately 12,500 of the total increase and non-EU enrolments approximately 7,500.

¹⁸ ESRI (2012) A Study of Future Demand for Higher Education in Ireland. Dublin: ESRI

Figure 1.2: Projected new entrants to third level education from 2012–2027.



Source – DES Projections for Demand for Full Time Third Level Education 2013 – 2027, July 2013¹⁹

Changing labour market outlook

Projections of labour market demand for graduate skills have recently been updated by the Skills and Labour Market Research Unit of SOLAS on the basis of the ESRI Medium Term Review 2013-2020 of July 2013. In that review the ESRI sets out three scenarios for the Irish economy:

- *2020 Zombie* in which the EU economy stagnates
- *2020 Constrained Credit* in which the EU economy grows but there is a failure to resolve the remaining issues with the Irish banking sector
- *Recovery by 2020* in which the EU economy grows and domestic policy succeeds in restoring the Irish banking system

If the higher education institutions succeed in realising the rates of increase in new intake that are projected in their compacts, graduate outflow to 2020 would exceed the employment demand projected by SOLAS on the basis of the *2020 Zombie* scenario, outflow would be just enough to meet the mid-range scenario of *2020 Constrained Credit*. However, graduate outflow would fall short by 20% of labour market demand in the scenario of *Recovery by 2020*. There would be an average shortfall in outflow to the labour market of in excess of 7,000 graduates per year. Demand at this level may even exceed the very significant growth in the system that has been projected, despite Ireland's almost unparalleled record in increasing tertiary attainment in the population to date by comparison with our global competitors.



1.2 Proportion of MSC, ICT and STEM graduates

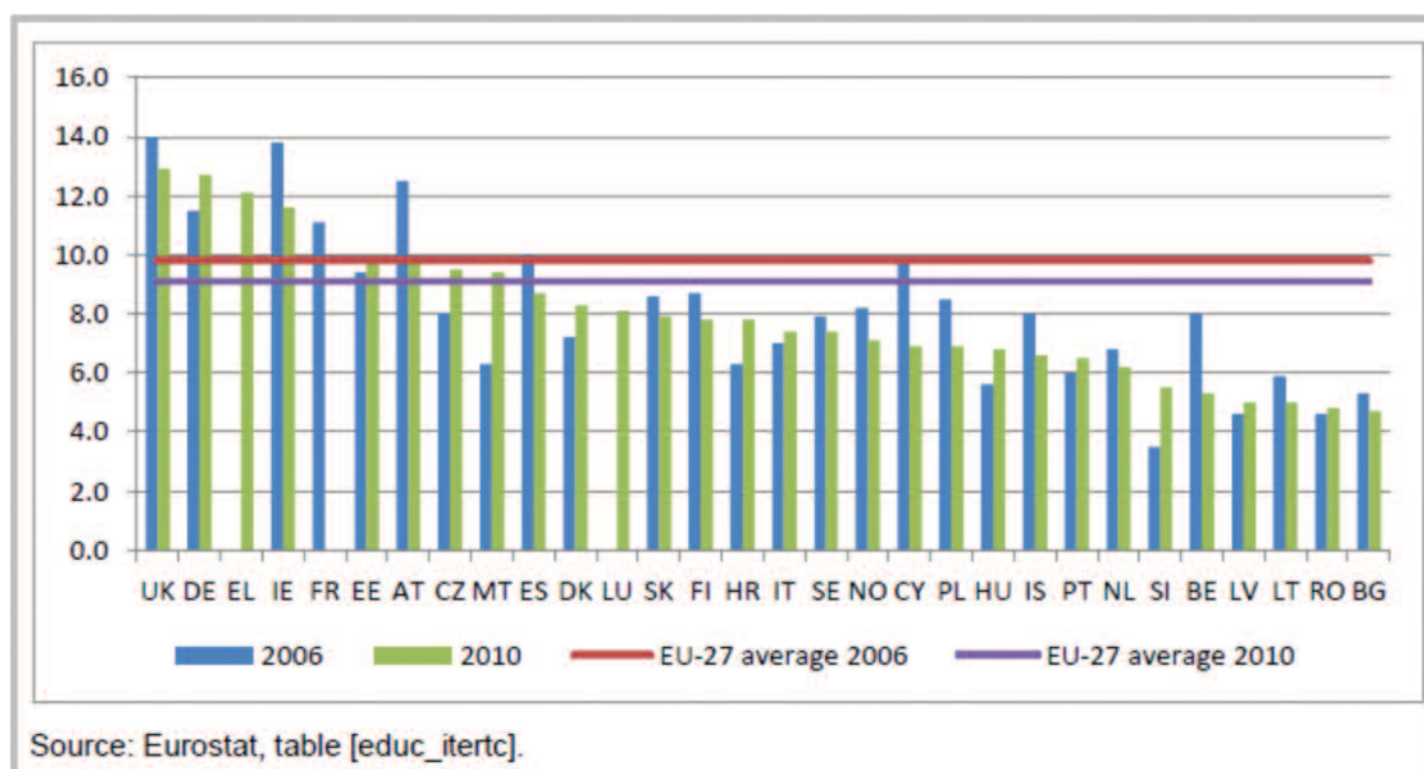
Ireland aims to have the highest proportion of MSC and ICT graduates in the EU by 2018.

The profile of system provision is on target to maintain a well-balanced proportion of provision in terms of NFQ level and discipline mix. The 2016 system profile shows our higher education institutions will maintain Ireland's rich mix of STEM as a proportion of total enrolments – at 45% in 2012, moving to 44% in 2016, and within STEM the subset of maths science and computing (MSC) is also increasing.

As stated in the *Action Plan for Jobs* (2013)²⁰, Ireland intends to have the highest percentage of computing graduates as a proportion of all tertiary graduates in the EU by 2018. Data published by Eurostat²¹ (2013 report on 2011 data) indicates that the trend for Ireland is a positive one, with the number of computing graduates as a percentage of all tertiary graduates up to 5.2% in 2011 (from 3.8% in 2009). This compares favourably, for example, with Austria (which is at 4.1%, down from 5.6% in 2009), the Czech Republic (at 3.9%, down from 4.2%) and the UK, which is holding steady at 4.1%. The EU27 average has also held steady at 3.4% in this period.

Ireland's current position on Maths, Science and Computing (MSC) is fourth in the EU as illustrated in figure 1.3.

Figure 1.3: Graduates (ISCED 5-6 – (that is Irish NFQ levels 6 and up)) in science, mathematics and computing, as a % of all fields, 2006-2010²²



¹⁹ Where M1,2 and 3 refer to varying migration assumptions

²⁰ Department of Jobs, Enterprise & Innovation (2013) *Action Plan for Jobs 2013*. Dublin: Stationery Office.

²¹ Eurostat stat/12/47. The data refers to first and second stage of tertiary education (International standard classification of education Levels 5 and 6).

²² http://euskills panorama.cedefop.europa.eu/docs/AnalyticalHighlights/STEMskills_en.pdf

²³ Department of Education & Skills and Department of Jobs, Enterprise & Innovation (2014) *ICT Skills Action Plan 2014 – 18*. Dublin: Stationery Office.

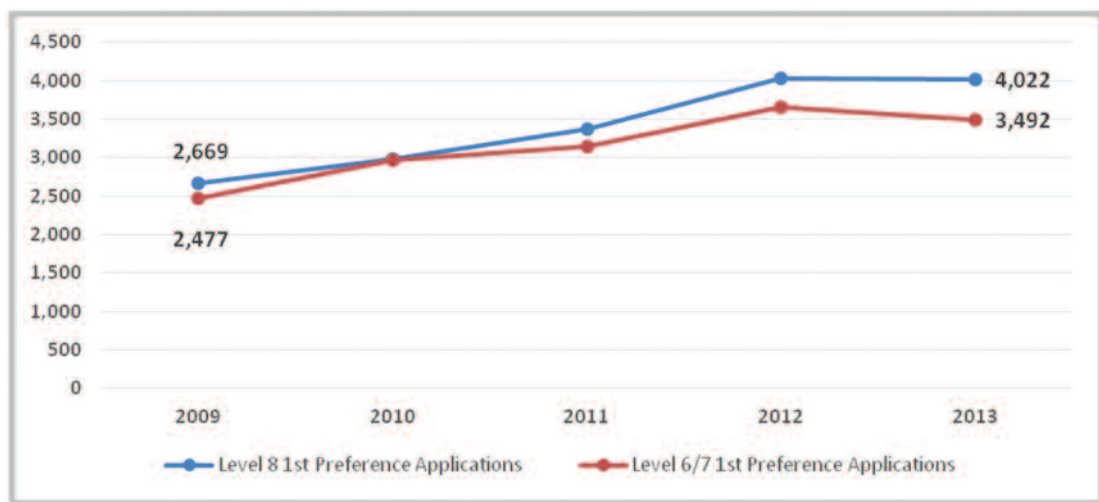
²⁴ Expert Group on Future Skills Needs (2013) *Addressing Future Demand for High-Level ICT Skills*. Dublin: Stationery Office.

The higher education system contributes to the development of high-level ICT skills in Ireland through mainstream undergraduate and postgraduate courses, ICT skills conversion courses and (since 2011) through the targeted Springboard initiatives. The ICT sector is vitally important to Ireland, both in terms of the numbers of professionals employed (approx. 68,000 in 2012) and in terms of its contribution to export performance (estimated at €70 billion annually)²³. A report from Forfás and the Expert Group on Future Skills Needs, *Addressing Future Demand for High-Level ICT Skills*, published in November 2013, forecast continuing strong demand for high-level ICT skills both within the ICT sector and across other sectors of the economy, and its central forecast for average new ICT job creation is in the order of 7,000 per annum²⁴. The report points to the need for an increased output of deep ICT skills provided through *ab initio* Level 8 provision. It advises that ensuring an adequate supply of creative and innovative ICT talent from both the domestic and international talent pool is key to that effort.

According to the new *ICT Skills Action Plan 2014–18*, domestic supply from higher education programmes met only 45% of demand in 2012. The picture has improved somewhat in 2014 owing to targeted initiatives and increased undergraduate numbers. In 2014 it is estimated that the domestic supply will meet 63% of ICT skills demand. The ultimate aim of the 2014–18 Plan is to increase supply to meet three quarters of local demand by 2018. The Plan focuses on building the supply of graduates and skilled professionals with core ICT and electronic/electrical engineering qualifications at honours degree level and above, as it is at these levels that the majority of new job openings are expected to be created. It is notable that at present, there are approximately 2,000 graduates on ICT reskilling / conversion courses at Level 8 and above and that the 2012 *ICT Action Plan* target to double Level 8 graduate output by 2018 is now expected to be achieved by 2015.

An analysis of CAO acceptances in 2013 shows that student demand for places on ICT programmes is now strong and increasing. In 2013, 8.5% of new entrants to college chose a computing programme, up 1.4% from three years earlier. CAO first preference ICT Level 8 applications increased by 51% from 2009 to 2013 while Level 6/7 ICT first preference applications increased by 41% over the same time period – reflecting the high demand for such courses in Ireland in the last five years. In 2013 first preference ICT Level 8 applications comprised 6.6% of all Level 8 first preference applications (up from 4.5% in 2009), while Level 6/7 ICT applications constituted 9.3% of all Level 6/7 first preferences (up from 6.4% in 2009).

Figure 1.4: CAO first preference applications to computing courses, 2009–13





1.3 Employer satisfaction with graduates

The first national survey of employers was carried out on a pilot basis in collaboration between the HEA and IBEC and published in December 2012. A second pilot survey is planned for 2014. The following are the main findings from the first national survey of employers:

- Companies, while generally satisfied with the range of skills of graduates, had lower satisfaction levels with graduates' written communication, business awareness and entrepreneurship skills.
- Over 75% of companies are confident about graduates having the right workplace and transferable skills and relevant subject of discipline knowledge.
- 70% of companies are confident about graduates having the 'right attitude'.
- More than 80% of companies who had recruited STEM graduates were satisfied with the calibre of graduates and felt the skills they were learning were relevant to industry.
- Satisfaction with the speed at which course content changes were made to meet changing needs ranged from over 60% in Computing, to 77% in Engineering and 82% in Science and Maths.
- Companies were asked to identify if they used any of a preset list of minimum entry standards for graduate applications. Slightly fewer than two out of five respondents used 'relevant work experience' as a minimum entry standard. Also used by around a third of respondents were 'completion of specific courses' or 'have or expect a 2.1 degree or above'.

Figure 1.5: Confidence in supply of graduates in the next 5–10 years

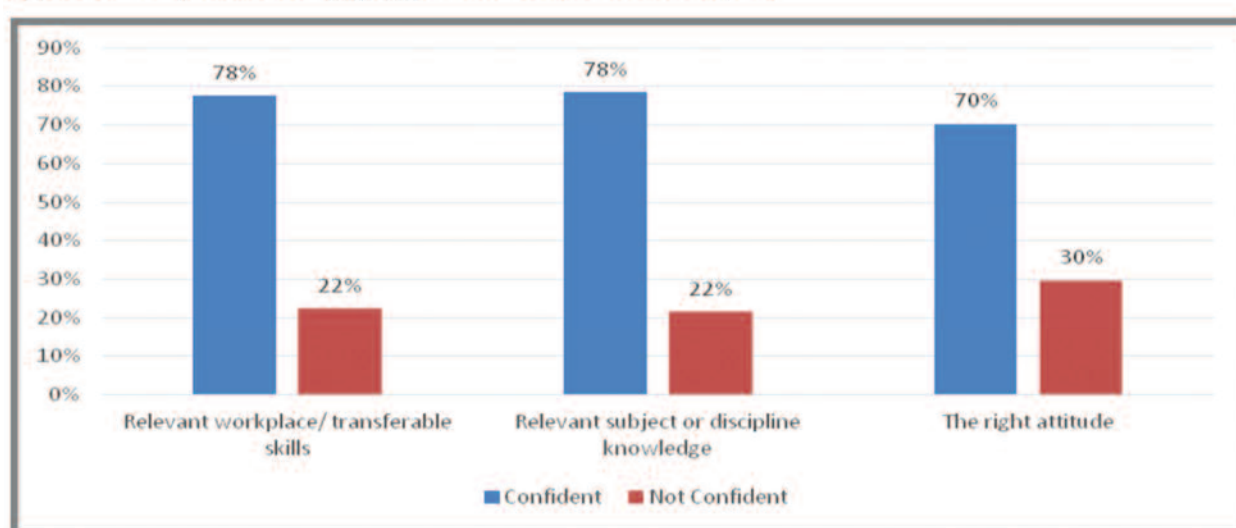
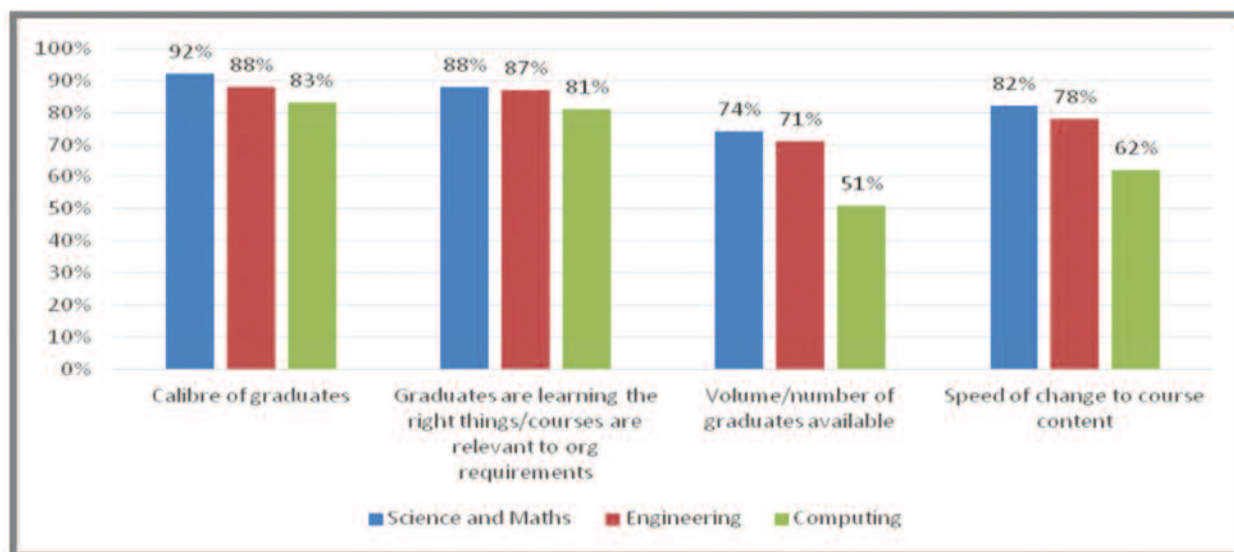


Figure 1.6: Satisfaction with STEM graduates



Source: National Survey of Employers' Views of Irish Higher Education Outcomes, IBEC, December 2012

These results are positive and are a strong endorsement of performance by the sector. However, there is a need for caution. A similar survey undertaken at an EU level, which was released in 2010, shows some important differences to this survey. An area of possible concern is that of graduates' readiness to work in an employer's firm – the 2010 EU report and the national survey in 2012 showed about 88% and 75% respectively of Irish employers taking this view. Given that this is a new survey in the Irish context this might be explained as the need to take time to bed down this sort of survey approach. However, the risk is that it indicates some degree of deterioration in quality, as measured by employers' perspectives on readiness for work.

Regular feedback from employers, graduates, labour market representatives and other relevant organisations or stakeholders has been a long-standing requirement of the programme validation process used in the institutions. In addition, many institutions have signalled reinvigoration of well-established and high-level systematic involvement of employer groups in consultative and advisory boards dealing with employability, programme design and content.

A large number of the institutions have included in their compacts objectives relating to improved employability of their graduates and in many cases have developed direct links between graduate entrepreneurs and incubation centres.

Over half of the institutions have indicated in their compacts that they are planning to increase their already extensive provision of structured work placements, internships and service learning, in line with their particular mission and profile emphasis.

Bespoke programme provision for employers and industry sectors

A number of HEIs are involved in expanding bespoke provision of a continuing professional development nature for particular employers and particular industry sectors.



Generic and transferable employability skills and competences

Most institutions are involved in embedding enhanced employability skills across all programmes and many have identified distinctive graduate attributes related to the particular teaching and learning strategies and programmes of the institution. The type of skills that employers want correlates strongly with student engagement and deep learning and the development of a broad set of cross-cutting capacities. The ISSE will be used to monitor and develop student engagement, and the National Forum for the Enhancement of Teaching & Learning will seek to support the types of teaching and learning associated with the development of these capacities. A number of institutions are developing an e-portfolio approach to allow students to have attestation of generic skills acquired throughout the full duration of their undergraduate and postgraduate programmes.

Entrepreneurship education development

In addition to providing business incubation support for entrepreneurs and high potential start-up companies, most institutions are targeting a very significant development and embedding of entrepreneurship education in programmes at both undergraduate and at postgraduate level.

Table 1.1: *Entrepreneurship in institutional compacts*

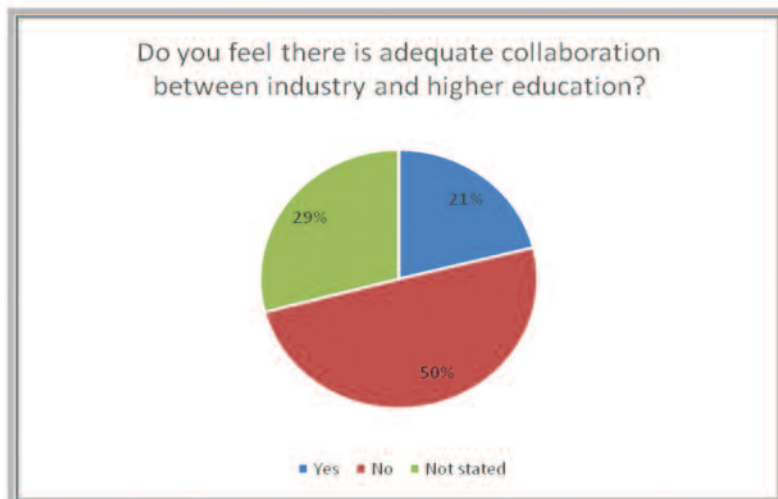
Institution(s)	Details
UCD, TCD	Provision for entrepreneurship jointly through the Innovation Academy; both are committed to mainstreaming entrepreneurship into the wider student experience.
UCC	UCC is planning to have an entrepreneurship component available to all programmes by 2016.
GMIT	In GMIT, employability, including entrepreneurship, is identified as a key driver of its teaching and learning strategy; and GMIT aims to have an entrepreneurship module provided to all students by 2016.
DCU, AIT, DKIT, NUIM Cluster	Dublin Leinster Pillar 2 regional cluster is planning a coordinated regional approach to the development of student entrepreneurship.
IT Tralee	The IT Tralee Centre for Entrepreneurship Education Development targets all aspects of entrepreneurship and embeds it across the Institution. The Institute has an emphasis on researcher entrepreneurship and at present has particular emphasis on the food industry and on intergenerational entrepreneurs.
CIT	CIT treats entrepreneurial skill as a core graduate attribute which it aims for all CIT graduates to have.
NCAD	NCAD has restructured all of its undergraduate programmes to provide an emphasis on generic skills including entrepreneurship.
IADT	IADT recognises that a high proportion of its graduates will be employed as sole trading entrepreneurs and seeks to embed preparation for this in its programmes; regionally it is focused on provision of entrepreneurship education for the creative industries.
IT Tallaght	IT Tallaght has student entrepreneurship awards from its incubation centre.
NUIG	A core principle of NUIG institution research strategy is that research should be entrepreneurial.
UL	Junior entrepreneurship programme in Shannon consortium. Entrepreneurial Research Culture.
LYIT, IT Sligo, GMIT (CUA Alliance)	These institutions have agreed regional entrepreneurship education programme linked to three incubation centres.
DIT	Entrepreneurial skills and competence is a core part of the mission, vision, values of DIT, and these inform its research strategy. DIT has a formal objective to include an entrepreneurship module in 30% of programmes. Technological universities Entrepreneurship education features strongly in the vision for the new proposed technological universities.
Technological universities	Entrepreneurship education features strongly in the vision for the new proposed technological universities.

1.4 Employer satisfaction with collaboration

The National Employers' Survey found the following:

- Half of the companies surveyed do not feel there is adequate engagement between industry and higher education.
- Participating in work placement programmes and providing information for surveys or answering questions are seen as the most important areas to engage on generally, and the area where most engagement occurred was with the careers services. Greater communication and involvement on both sides is seen as essential to change this.

Figure 1.7: National Employers' Survey



A single point of contact for enterprise has been developed by most institutions and these contacts are now publicised on the Enterprise Ireland website. Such activities and services include not just technology transfer services, innovation centres, incubation centres and work placement offices, but also careers services, alumni offices and others. As regional clusters advance their agendas, single regional contact points will be put in place to direct and coordinate the contacts between higher education and enterprise, particularly with smaller businesses, and work will continue to enhance the coherence of institutional and systemic interface with enterprise.



1.5 Graduate employment rates

Data from the annual study of the first destinations of university graduates for 2008-2012 are summarised in table 1.2. The results for 2012 show an increase in those in employment, from 48% to 52%, in the proportion of Level 8 graduates in employment compared to the previous year, and a corresponding decline in those going on to further study.

Data on the first destinations of graduates from the technological sector is currently being reviewed and updated for inclusion in future reports. More generally HEA will, as a priority, investigate whether the use of PPS numbers might enable the extension of these surveys not just to an assessment of the first destination of graduates, but also their progress in their career over a longer term.

Table 1.2: First destinations of graduates with Level 8 honours bachelor degrees 2008–2012 (7 universities)

Honours bachelor degree	2008	2009	2010	2011	2012
<i>In employment – Ireland</i>	45%	37%	38%	39%	42%
<i>In employment – overseas</i>	5%	8%	8%	9%	10%
Further studies training	34%	44%	42%	41%	37%
Work experience schemes	-	-	-	0%	0%
Seeking employment	10%	7%	8%	7%	7%
Unavailable for work or study	6%	4%	4%	4%	3%

In 2012 the unemployment rate for graduates with Level 8 qualifications from the university sector was 7%. This compared to a national average unemployment rate of 14.7% in the same year²⁵. While those with higher education attainment constitute 42% of the labour force aged 15–64 they comprise 22% of the unemployed²⁶. The relative protection from unemployment afforded by having a higher education qualification applies not just to new graduates entering the workforce, but is in evidence for graduates of all ages, suggesting that higher education confers a long-term benefit in regard to reducing the likelihood of unemployment.

1.6 Profile of graduate outflow by discipline

The current and projected outflow of graduate awards is given in Table 1.3.

Table 1.3: Current and projected outflow of graduate awards

	2011/12	Projected 2016	Change 2011/12 to 2016
Undergraduate graduates	41,799	44,487	6%
Postgraduate graduates	17,152	18,874	10%
Total	58,951	63,361	8%

²⁵ Expert Group on Future Skills Needs (2013) National Skills Bulletin 2013. Dublin: Stationery Office.

²⁶ Expert Group on Future Skills Needs (2012) National Skills Bulletin 2012. Dublin: Stationery Office.

Table 1.4 gives current graduates (2012) by programme type and field of study.

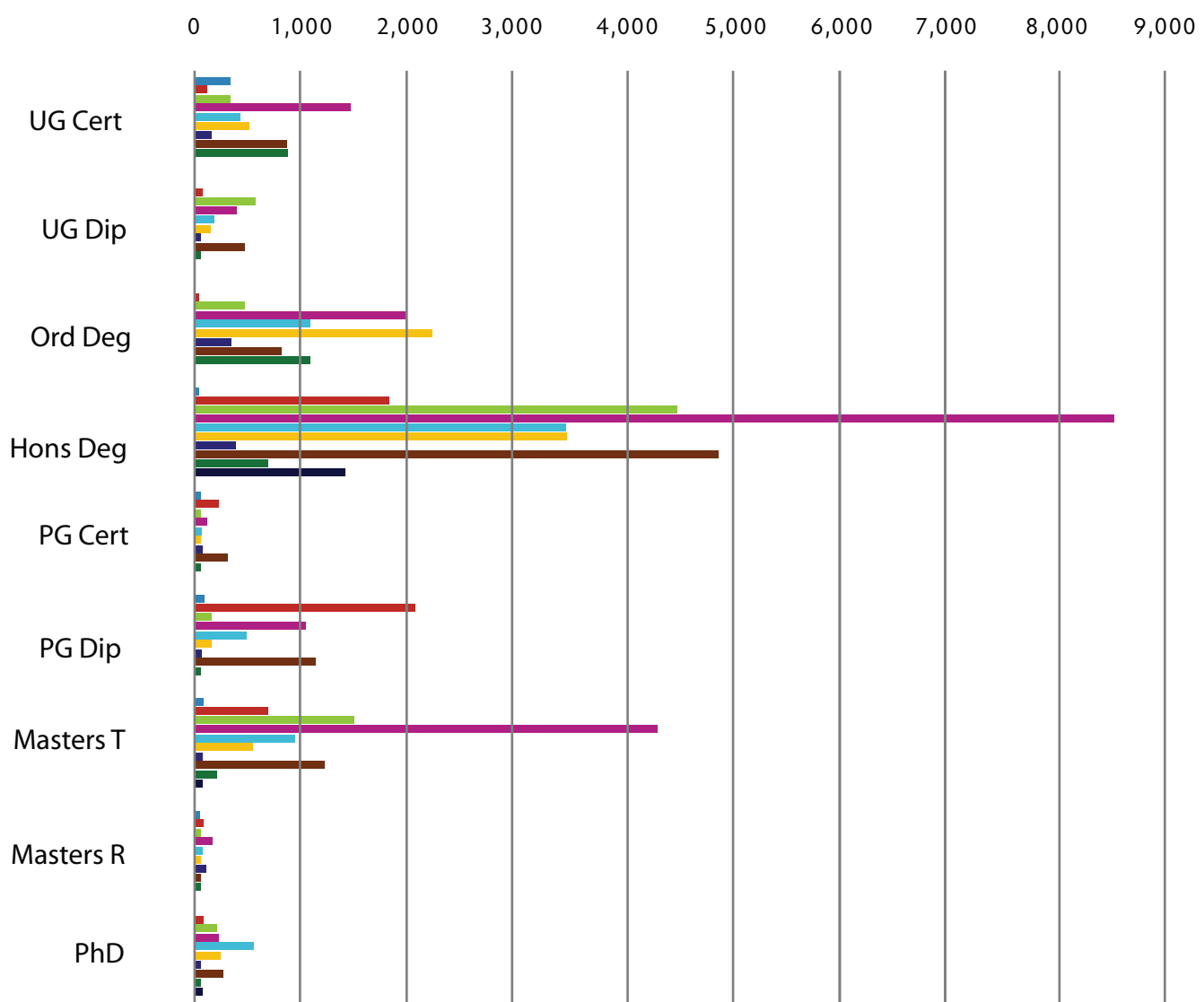
Table 1.4: Current and projected outflow of graduate awards

	UGCert	UGDip	OrdDeg	HonsDeg	PGCert	PGDip	MasterT	MasterR	PhD	Total
General Programmes	384	–	2	–	6	–	36	–	–	428
Education	31	18	11	1,806	140	2,098	712	19	36	4,871
Humanities & Arts	277	489	441	5,347	22	226	1,697	74	233	8,806
Social Science, Business and Law	1,587	381	2,101	7,895	132	1,015	4,501	63	218	17,893
Science, Mathematics and Computing	403	110	889	3,580	43	407	1,065	133	512	7,142
Engineering, Manufacturing and Construction	582	127	2,189	3,104	6	159	680	71	204	7,122
Agriculture and Veterinary	152	43	255	301	–	1	33	4	15	804
Health and Welfare	924	578	786	4,180	189	988	870	37	173	8,725
Services	1,066	78	951	731	10	80	215	13	15	3,159
Combined	–	–	–	–	–	–	–	–	1	1
Total	5,406	1,824	7,625	26,944	548	4,974	9,809	414	1,407	58,951

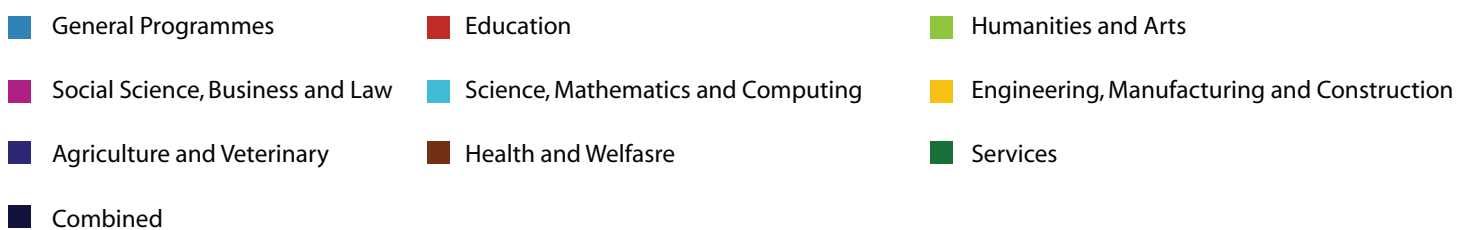
Approximately 37% of all award recipients continue to further study, particularly at Levels 6 and 7 where almost three quarters remain in the system for further study. The annual graduate outflow to the labour market is currently c. 35,000 graduates.



Figure 1.6: Graduates by award level and field of study



Graduates by award level and field of study



1.7 Tertiary attainment rates: international comparisons

The percentage of the population aged 25–34 that has attained tertiary education (as reported in the OECD 2008 and 2013 *Education at a Glance* reports) is given in table 1.5, which shows the top 10% and 25%, the OECD average and Ireland's position)²⁷. Ireland remains in a strong position internationally in terms of its tertiary attainment levels of the younger population. Its position in relation to attainment rates of Tertiary-Type B qualifications (qualifications at Level 6 and 7) is high but falling, and significantly exceeds the EU average. Rates of attainment of Tertiary-Type A qualifications (Level 8 and above), exceed EU and OECD averages but are not in the top 25% of the OECD. Total tertiary attainment rates, of the population aged 30–34, are now just outside those of the top 10% of OECD countries.

Table 1.5: Percentage of the population aged 25-34 that has attained tertiary education

<i>OECD Education at a Glance 2013</i>			
	Tertiary-Type B	Tertiary-Type A and Advanced research	Total Tertiary
Top 10 %	20	39	47
Top 25%	14	35	45
OECD average	10	30	39
EU21 average	9	28	36
Ireland	16	31	47
<i>OECD Education at a Glance 2008</i>			
	Tertiary-Type B	Tertiary-Type A and Advanced research	Total Tertiary
Top 10 %	21	33	49
Top 25%	14	30	41
OECD average	10	25	33
EU21 average	9	23	30
Ireland	14	28	42

The percentage of the population aged 30–34 that has attained tertiary education (as reported in the OECD 2013 *Education at a Glance* reports) is given in table 1.6 (top 10%, top 25%, OECD average and Ireland's position).



Table 1.6: Percentage of the population aged 30–34 that has attained tertiary education

OECD *Education At A Glance 2013* (report's position in 2010)

	Tertiary-Type B	Tertiary-Type A and Advanced research	Tertiary-Type B
Top 10 %	19	40	50
Top 25%	14	37	47
OECD average	10	30	39
EU21 average	9	29	37
Ireland	18	32	49

²⁷ Note that the Tertiary-Type B column and the Tertiary-Type A and Advanced Research columns do not necessarily amount to the Total Tertiary column as data was not provided by every country in this regard and averages are thus provided.

System Objective 2:

Equity of Access and Student Pathways

To promote access for disadvantaged groups and to put in place coherent pathways from second level education, from further education and other non-traditional entry.

- Equity of access is a critical priority for reasons of social equity, but is also an essential element in meeting Ireland's requirements for higher education skills.
- The system is making progress on targets but some inequalities remain. The Irish system has met the access targets set in the *National Plan for Equity of Access 2008-2013* for flexible learners and for students with a disability, but has fallen short of the targets set for some specific under-represented socio-economic groups and full-time mature new entrants. These will be a particular focus in the next National Plan.
- Whole of system reforms, with the establishment of regional clusters, SOLAS and Education and Training Boards offer new opportunities for coordination of planning and delivery and for the development of coherent pathways between higher education institutions and from further education and training into higher education.
- The evidence of deterioration of non-progression rates at Level 6 and 7 requires further analysis, particularly in relation to differing socio-economic profile of non-progression, and to arriving at a better understanding of the reasons for such differences.

Progress towards equity of access and improving pathways from second level and further education are critical goals for Ireland and real enablers of economic development and social cohesion. This is especially the case in the light of the scale of demand for higher education graduates presented earlier. Ireland will not be able to meet this demand without making significant progress on equity of access. Meeting our future human capital needs and achieving greater social cohesion are essential and complementary tasks.

The numbers and proportions of students from targeted under-represented socioeconomic groups are increasing, as are the numbers entering higher education from further education and training. We can also report greater flexibility in provision and increased access by students with a disability. The development of regional clusters will facilitate the improvement of coherent pathways from further education and the development of non-traditional entry routes.

However the system is falling short of the targets set out in the National Plan for Equity of Access 2008-2013 for students from targeted socioeconomic groups and for full-time mature entrants. It is also noteworthy that, in the course of strategic dialogue, the institutions presented evidence that for many students difficult personal circumstances are hindering participation.

As we seek to improve equity of access and improved student pathways, there are a number of actions that we need to take. For example, we need to take account of latest data from the labour markets, and this will be done in the forthcoming Access Plan for higher education which will be finalised by the HEA in 2014. This needs to be well integrated with SOLAS's plans for access to further education and training, and will need to take a coherent 'whole of education' system perspective. It also needs to have an increasing focus on successful student completion.

Targeted provision for the needs of the unemployed continues to be developed through the Springboard programme, which has been evaluated as a successful programme meeting the specific needs of this group and targeting areas of identified skills needs.



2.1 Progress towards national access targets to reflect population diversity

Access by target groups

Table 2.1 shows progress against access targets for four groups: mature students, students from under-represented socioeconomic groups, students following flexible programmes, and students with a disability. It is based on analysis of the compacts against the existing key *National Access Plan 2008–2013* targets (which are currently under revision). It shows that while the projected position to 2016 will, in the main, improve over current levels, it will not be sufficient to reach national targets.

Table 2.1: Progress against targets for target groups

	Target group			
	Mature students as % of FT new entrants	Students from under-represented SEGs as % of FT new entrants	Flexible students as % of all learners	Students with a disability as % of all learners
Target 2008–13	20%	31%	17%	5%
Actual 2011/12	14%	20%	18%	5%
Projected 2016	14%	21%	20%	7%

The compacts indicate a continuing improvement in equity of access, albeit modest, and an increase in the number of students from under-represented socio-economic categories (SEGs) as a proportion of new entrants. In the case of the mature students category, however, the proportion remains constant.

The number of students following flexible or part-time programmes is set to increase from 35,750 in 2011/12 to 42,330 in 2016, thus increasing as a proportion of all learners from 18% in 2011/12 to 20% in 2016.

As above, the projected total future profile is not meeting currently agreed system targets for mature or SEG categories in 2016. These targets are under review at present.

2.2 Increase in entry from further education and training

One of the two priority objectives set for regional clusters by the Minister for Education and Skills is to improve student transfer and progression pathways. As a first step, all five regional clusters have agreed to map the existing non-standard entry routes and the numbers entering higher education along these routes in each region. Following this mapping analysis, clusters are expected to agree targets to achieve a coordinated expansion of the number of routes and the number of entrants on them. It is expected that more comprehensive regional coverage of routes from each Education and Training Board region will be achieved as a result of this cluster initiative and the performance of regional clusters will be assessed in this regard.

Based on CAO data, Table 2.2 details numbers of students over the past five years who entered higher education on the basis of a FETAC award and shows a 76% improvement over the past five years. There is potential for the work of regional clusters to further improve on this as they address the national objective of improved pathways. Targets related to the recognition of prior learning have also been included in a number of compacts and will make a significant contribution in this regard.

Table 2.2: Number of higher education acceptances, 2009–2013

Year	Number of acceptances based on an offer based on FETAC results (all levels)	Number of overall acceptances (all levels)	Proportion of acceptances from FETAC based offers
2009	1,721	45,582	3.8%
2010	2,294	45,598	5.0%
2011	2,757	45,767	6.0%
2012	3,065	46,281	6.6%
2013	3,031	46,162	6.6%

2.3 Flexibility of provision

The 17% target for flexible provision contained in the *National Plan for Equity of Access 2008–13* has been reached. Flexible provision (including part-time and remote learning programmes) is set to increase further from a current level of 18% of total learners to 20% in 2016. Within this, remote learners are projected to almost double.

Figures 2.1 and 2.2 detail the number of part-time undergraduates and postgraduates enrolled, actual (2008–2013) and projected (2016). Figure 2.3 details the number of remote enrolments, actual (2008–2013) and projected (2016).

Both part-time undergraduate and part-time postgraduate provision have increased by 10% over the last three years, with projections of further increases of 9% and 10% respectively to 2016. While this represents significant progress, the 2016 target of 20% flexible provision compares to an EU average of 24% flexible provision and means that the profile of the Irish system is still heavily weighted towards full-time provision.

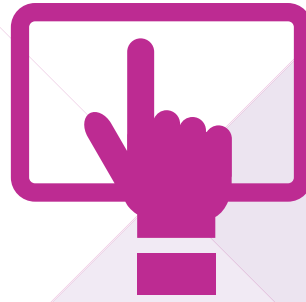


Figure 2.1: Part-time undergraduates: all HEA-funded institutions. 2008–16

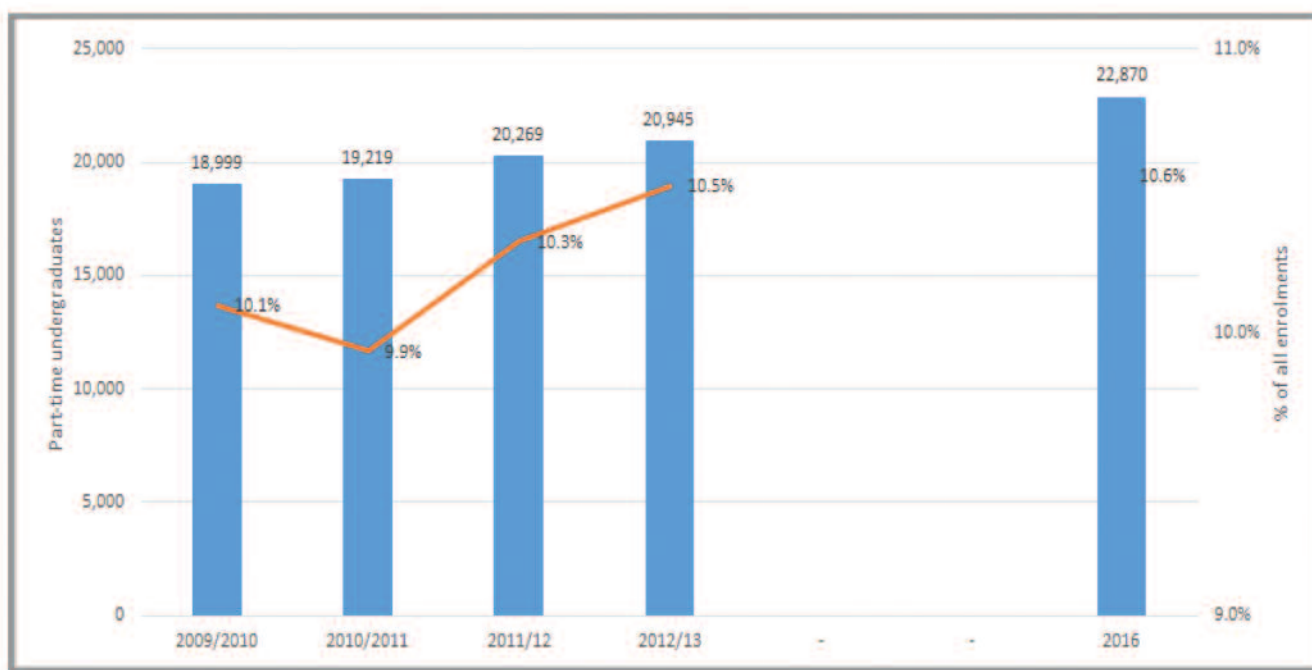


Figure 2.2: Part-time postgraduates: all HEA-funded institutions 2008–16

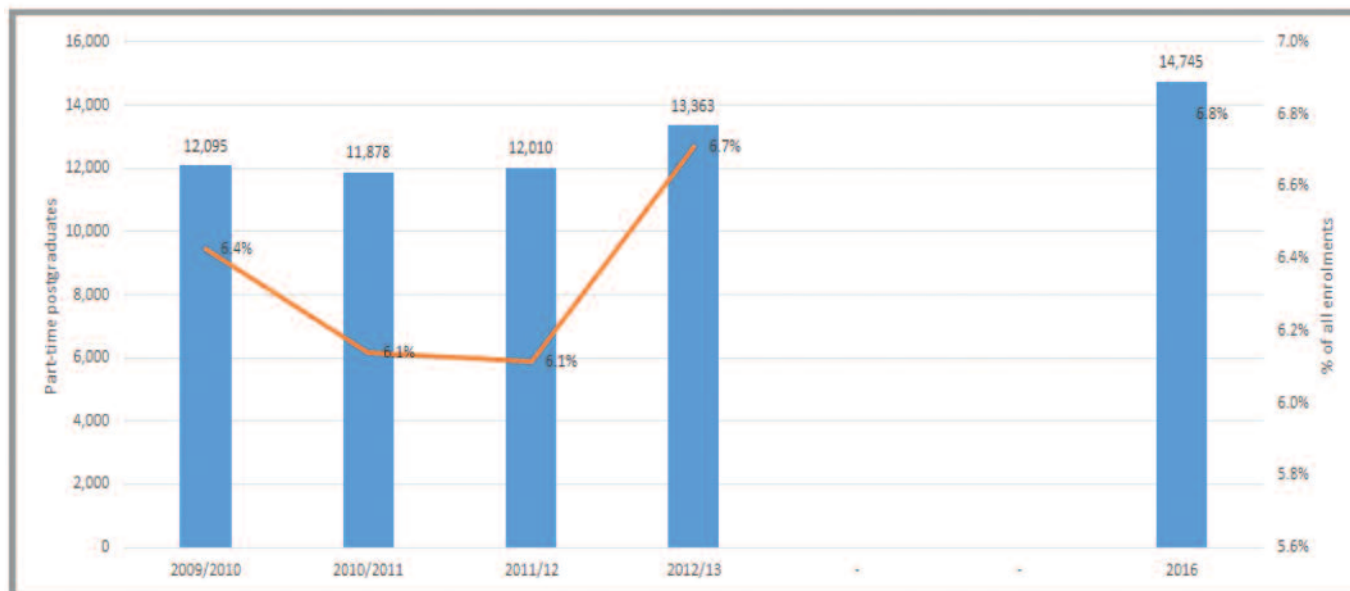
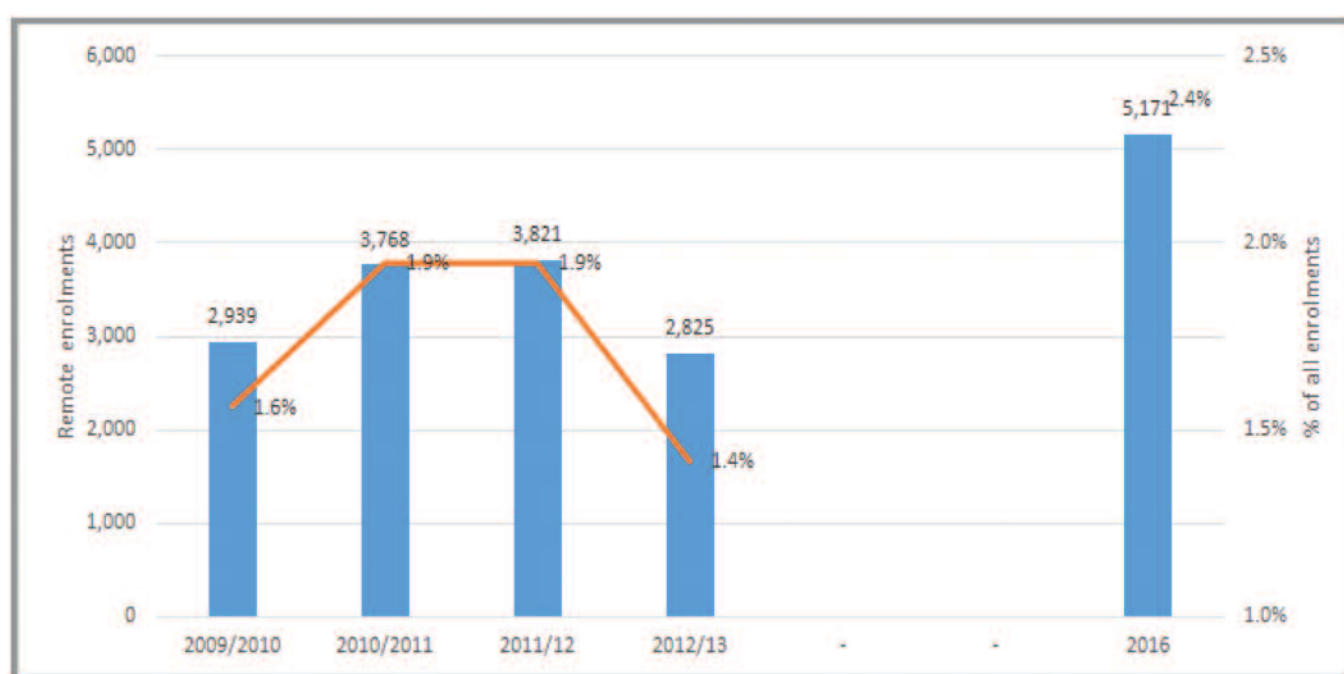


Figure 2.3: Remote enrolments: all HEA-funded institutions, 2009–16



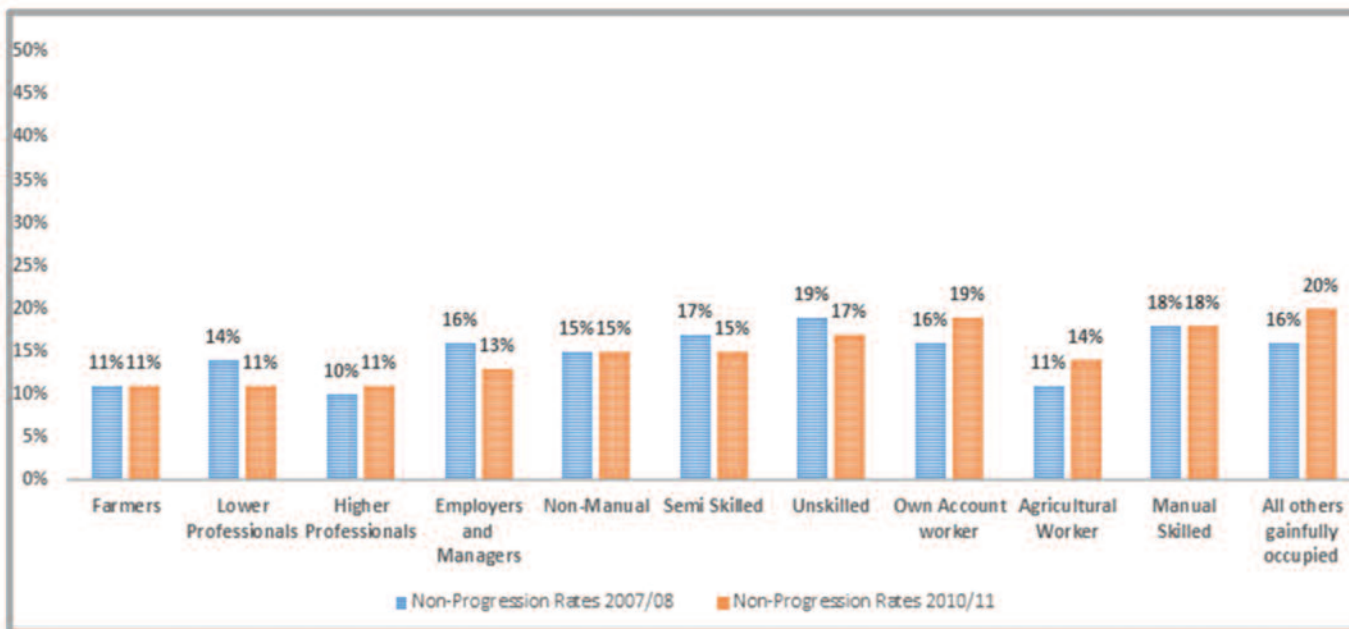
2.4 Completion by target groups

The HEA's *Study of Progression in Irish Higher Education Institutions* (2010) dealt comprehensively with the issue of progression through higher education in Ireland, based on empirical evidence drawn from the new entrant cohort of 2007/08. This study found that the impact of socio-economic circumstances on the likelihood of progression was significant, with students from unskilled manual backgrounds being far less likely to progress from first year than those from higher professional backgrounds. However, the impact of socio-economic circumstances was not found to be as pronounced in the Irish system as that shown by research in other countries. Furthermore, other relevant international research has found no direct correlation between socio-economic group and non-progression when other factors such as pedagogies and institutional strategies for learner engagement are considered. Following the principles of this study, the HEA has since published updated evidence based on more recent years, with a view to developing trend data in higher education progression. The study and the update provide data to inform policy and the development of interventions to improve rates of retention and completion. The trend data will allow institutions to observe changes in progression rates both nationally and sectorally as well as in individual institutions. The results will open dialogue between providers of higher education to understand which interventions are working best to improve retention.



Figure 2.4 presents data on non-progression rates for the years 2007/08 and 2010/11.

Figure 2.4: Non-progression rates 2007/08 and 2010/11 by family socioeconomic group



The groups with the lowest non-progression rates (i.e. those with the best levels of progression) are farmers, higher professionals and lower professionals. This corresponds to the overall pattern of access to higher education. The lowest levels of progression are found amongst the unknowns, manual skilled, semi-skilled, unskilled, own account workers and agricultural workers. In 2007/08 the unskilled group had the highest non-progression rate, while in 2010/11 the unknowns group had the highest non-progression rate, up from 16% in 2007/08 to 20% in 2010/11. Non progression by those from the agricultural workers group has increased from 11% to 14% over this period.

The unknown group accounts for 17% of new entrants, and the non-progression rate of this group increased from 16% to 20% over this period. It is believed likely that this group includes many students from under-represented socioeconomic groups, and for that reason, an action is being included in the forthcoming national access plan to examine how growth in 'other/unknown' socioeconomic groups can be better analysed managed, and how to continue to measure and target people disadvantaged by socioeconomic factors from 2016 on.

2.5 International benchmark on flexibility of provision

Table 2.3 presents 2013 OECD figures²⁸ (reflecting the position in 2010) on the percentage of students undertaking part-time education.

While Ireland has made progress over recent years in increasing the flexibility of provision, it was still behind the OECD average for 2010 in this regard. Barriers related to the funding of institutions have been removed – core grant funding is now provided to institutes of technology in respect of part-time students and to universities and institutes in respect of open and distance education. However, part-time students are not eligible to receive free tuition fees or higher education grants.

Table 2.3: Percentages of students in part-time education

	Tertiary type B (Levels 6 and 7)	Tertiary type A (Levels 8 and 9)
Average for top 10% of countries	64	34.9
Average for top 25% of countries	51.5	28.5
OECD Average	27	22
EU21 Average	24	24
United Kingdom	72	24
Germany	13	13
Ireland	26	12

²⁸ OECD (2013) Education at a Glance 2013: OECD Indicator. OECD Publishing.



System Objective 3:

Excellence in teaching and learning to underpin a high quality student experience

To promote excellence in teaching, learning and assessment to underpin a high-quality student experience.

- Excellence in teaching and learning must be a keystone of system performance.
- Some institutions demonstrated good practice approaches to planning and delivery of a tailored strategy for excellence in teaching and learning. Through the process of strategic dialogue and assessment of performance, the HEA will promote this as the norm across all institutions.
- The staff–student ratio, which was in line with international norms five years ago, has rapidly deteriorated. It is now 1:19.5, significantly outside of the stable OECD norm of between 1:15 and 1:16.
- Early findings of the ISSE show that Irish students are well engaged in comparison to their international peers but that first year undergraduates feel that they need more contact time.
- The overall system non-progression rate from first year to second year has moved from 15% in 2008 to 16% in 2011. Progression at Level 8 has held steady, while progression at Level 6 and Level 7 shows sharp deterioration in some settings and disciplines.
- This and other trends present evidence of increasing stresses on the system, with implications for quality and a clear need for HEA to work with QQI in this regard. It is the view of the HEA that there is now a high and growing level of risk that significant unfunded expansion in student numbers will damage the quality of graduate outcomes generally across the system with implications in particular for economic development.

Ireland's future prosperity depends on the projected demand for higher education being met by the higher education system. But increasing the required number of graduates, although necessary, is not in itself sufficient to underpin prosperity. Maintaining Ireland's international reputation for quality graduates must be a central priority. Excellent teaching and learning are fundamental requirements for giving students a high-quality experience, enabling them to realise their full potential, and providing society with the graduates needed for social, economic and cultural progress.

The system is committed to promoting excellence in teaching and learning as a prioritised and core element of its mission. The commitment of the institutions to this objective, together with supporting actions such as the recent establishment of the National Forum for Teaching and Learning, and the development of improved systems of cooperation between the HEA and Quality and Qualifications Ireland (QQI) will greatly facilitate enhanced performance in the years ahead.

There is evidence of increasing stresses on the system, with implications for quality. It is the view of the HEA that there is now a high and growing level of risk that significant unfunded expansion in student numbers will damage the quality of graduate outcomes, defeat the objective of improving the quality of outcomes generally across the system and restrict economic development.

During the strategic dialogue process, some institutions presented a coherent vision within which particular portfolios of academic areas were linked to institutional strategy and mission, which included considered strategies for teaching, learning and assessment, and which took into account the particular profile of their student body. Other institutions, however, expressed a concern that they did not have the necessary institution support structure to plan and deliver a tailored teaching, learning and assessment strategy to the level that they would wish. The HEA aims to ensure that the good practice demonstrated by some institutions becomes the norm across all institutions.



3.1 Cooperation with QQI

The role of the HEA, as the statutory funding, planning and policy development body for the higher education sector is complementary to that of the QQI, which is the statutory authority for quality assurance and qualification recognition. A central role for the QQI is to provide public assurance about standards, while also supporting continuous improvement. There are therefore strong synergies between the separate and distinct roles of the HEA and QQI, and these will be explored and developed in the process of implementing strategic dialogue. Cooperation between the QQI and the HEA is imperative in order to ensure that accountability and quality enhancement go hand-in-hand, and in particular that enhanced performance evaluation and the introduction of performance-related funding do not discourage the openness, self-appraisal, and self-disclosure of difficulties on the part of institutions – all of which are vital to effective quality assurance processes. Closer coordination between HEA and QQI will be pursued (through a memorandum of understanding) with the objective of minimising the bureaucratic burden and maximising the value of strategic dialogue for higher education institutions and enabling a report to be made to the Minister in respect of the high level system indicator 3.1 'Meeting the Bologna objective to ensure that quality assurance procedures are in line with international best practice'. In this first year of strategic dialogue, institutions demonstrated that outstanding issues from institutional reviews had been incorporated into institutional strategic planning and were being addressed.

3.2 The Irish Survey of Student Engagement (ISSE)

The HEA has had no way up to now of incorporating the student perspective on teaching and learning into its evaluation framework. On this key issue, higher education institutions have worked in partnership with students and with the HEA to establish the Irish Survey of Student Engagement (ISSE). The central objective of this project is to develop a rich source of information about students' experiences of higher education. This information will support institutions to identify practice and provision that are effective, and will inform discussion on aspects of existing practice that present particular issues or challenges. The results of the survey are intended to add value primarily at institutional level, while also informing national discussion and policy²⁹. Following a successful national pilot study in 2013 involving all universities and institutes of technology, full scale roll-out of the ISSE is a priority from 2014 onwards. This significant national initiative has the potential to transform the quality and relevance of the evidence-base on teaching and learning available to the Irish higher education community.

The conclusions emerging from the national pilot of the Irish Survey of Student Engagement reflect well on the quality of Irish higher education:

- 72% of all participating students reported positive relationships with teaching staff, finding them to be available, helpful and sympathetic (a score of 5 or greater on 7 point scale).
- 62% of all participating students selected often or very often, when asked if they were improving knowledge and skills that will contribute to their employability
- 50% of all participating students selected / reported quite a bit, or very much when asked if they were solving complex real world problems
- The index score for student satisfaction with student - staff interactions, however, was lower for first year undergraduates than for other groups of students surveyed

²⁹ See <http://studentsurvey.ie/wordpress/survey-results/>

The report of the national pilot study concludes:

In general, the comparison of Irish scores with equivalent international results reflects relatively positively on the levels of student engagement and satisfaction in Irish higher education. Furthermore, results from the ('year zero') Irish national pilot reflect strong potential for improvement. The feedback from postgraduate students was particularly strong and provides a basis to further improve the quality and international reputation of postgraduate study in Ireland in the years ahead.³⁰

While the response rate to the first pilot survey was low, it was evident from the strategic dialogue process that many institutions viewed the survey as an important means to develop and refine their approaches to the student experience. The dialogue process will, in the future, monitor trends in the survey and actions taken by the institutions.

3.3 Progression data

Successfully completing the first year of undergraduate study is key to going on to achieve a higher education qualification. In 2010 the HEA undertook major research to determine actual progression rates by sector, level, discipline and student characteristics, and it has recently updated this work. The overall results are outlined below and indicate a system that is broadly maintaining current rates of progression.

Table 3.1: Non-progression rates among full-time undergraduate new entrants 2007/08 to 2010/11

	Level 6	Level 7	Level 8	All New Entrants
2007/08	25%	26%	11%	15%
2010/11	31%	28%	11%	16%

The report examines the issue of progression across a range of fields of study, NFQ levels and institutions. Significant attention is paid to the extent to which individual students' characteristics, such as gender, age, socioeconomic background and prior educational attainment have an impact on progression.

While progression rates for Level 8 programmes held steady between 2008 and 2011, the levels of non-completion in Level 6/7 programmes deteriorated quite severely in some discipline areas. These declines were particularly significant in some institutions. The deterioration in progression rates is of particular concern in view of the national objectives for excellence and quality.

Institutions with outlying progression rates have included targets to address these in their performance compacts to 2016, with at least half of the compacts containing a target in this regard. Examples of proposals include greater support for students entering first year, monitoring of attendance to identify students at greater risk of drop-out, and greater support and development for academic staff to enable them to support students at risk of drop-out. Internationally, completion rates are positively correlated with full-time attendance; and as the Irish system moves towards more flexible provision, the challenge will be to ensure efficient overall completion rates.

³⁰ http://studentsurvey.ie/wordpress/wp-content/uploads/2013/12/ISSE_Survey_final2013.pdf

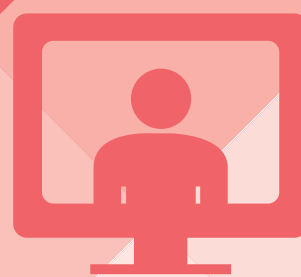


Table 3.2: Non-progression rates by institution type and level 2007/08 and 2010/11

Institution type	Non-progression 2007/08	Non-progression 2010/11
Universities, Level 8	9%	9%
Institutes of Technology, Level 8	16%	17%
Other colleges, Level 8	4%	4%
National average, Level 8	11%	11%
National average, Level 7	26%	28%
National average, Level 6	25%	31%

Table 3.3 Non-progression rates by field of study at level 8, 2010/11

Field of Study	Universities Level 8	Colleges Level 8	Institutes of Technology Level 8
Education	5%	2%	8%
Healthcare	5%	–	11%
Science, Agriculture and Veterinary Science	9%	0%	16%
Social Sciences, Business, Law, Arts, Humanities	8%	8%	18%
Engineering	9%	–	22%
Construction and related fields	9%	–	21%
Services	23%	–	21%
Computer Science	16%	–	23%
Combined and other disciplines	11%	–	17%
Average	9%	4%	17%

Table 3.4 Non-progression rates by field of study at level 6/7 in institutes of technology, 2010/11

Field of Study	Level 7	Level 6
Education	18%	-
Healthcare	16%	13%
Science, Agriculture and Veterinary Science	22%	27%
Social Sciences, Business, Law, Arts, Humanities	29%	30%
Engineering	29%	39%
Construction and related fields	40%	39%
Services	28%	33%
Computer Science	34%	31%
Average	28%	31%

The data in Figure 3.1 shows that while mean OECD completion rates for ISCED 5a (equivalent to Level 8) are relatively fixed in the 68-70% range, Irish rates are in the 77-78% range. While figures are not provided for Ireland in the above table after 2004, the HEA progression studies of 2009 and 2013 indicate that these rates have been maintained or slightly improved.

Figure 3.1 International Benchmark: ISCED 5A Completion rates selected years 1997 – 2008³¹

	1997	1999	2000	2004	2005	2008
Australia	65	65	69		72	80
Austria	53	53	59		71	64
Belgium (FL.)		63	60	80	76	72
Canada (Quebec)					75	
Czech Republic	79	79	61	63	68	70
Denmark	67	67	69		81	82
Estonia					67	
Finland	75	75	75	71	72	72
France	55	55	59	79	64	64
Germany	72	72	70	75	77	67
Greece				56		
Hungary	81	77		62	57	
Iceland			73	69	66	72
Ireland	77	77	85	78		
Israel			70			62
Italy	35	35	42		45	
Japan	90	90	94	90	91	93
Korea			79			84
Mexico	68	68	69	69	61	58
Netherlands	70	70	69	76	71	72
New Zealand	76	76		50	58	57
Norway					67	63
Poland				66	63	61
Portugal	49	49		66	73	86
Russian Federation					79	80
Slovak Republic					70	63
Slovenia					64	64
Spain			77	75		79
Sweden			48	61	69	49
Switzerland	74	74			70	72
Turkey	55	55	88	76		
United Kingdom	81	81	83	71	79	81
United States		63	66		56	57
Mean	67.89	67.20	69.76	70.05	68.92	70.14
(s.d.)	(13.75)	(12.91)	(12.59)	(9.37)	(9.18)	(10.68)

Note: From OECD Education at a Glance (OECD), 1998, 2000, 2001, 2007, 2010).

³¹ Source EAG data as quoted in "Evaluating Cross-National Metrics of Tertiary Graduation Rates for OECD Countries A Case for Increasing Methodological Congruence and Data Comparability" Journal of COLLEGE STUDENT RETENTION, Vol. 14(1) 9-35, 2012-2013.



3.4 Transition to higher education

The system is committed to the transitions reform agenda which will reduce upward pressure on CAO points and simplify options, helping students to make better choices and improving their prospects of success in higher education, while also reducing pressure on them at second level.

In general, the senior management teams of higher education institutions demonstrated commitment to the reform agenda and a number of developments are in prospect at undergraduate level from key institutions on this issue. On the other hand, the trends in course offerings evident in many institutions were directly contrary to the principles of broader entry, which were adopted by academic councils in all universities and institutes of technology in 2013. At the next formal engagement with institutions under the strategic dialogue process, institutions will be expected to provide clarity on the specific reforms that they will implement in fulfilment of their commitments to broaden entry to Level 8 programmes and to improve the transition for students between second-level and higher education. Given the sensitivity of this issue, timing will be an important factor – ideally each sector should move simultaneously to reform entry to undergraduate Level 8 programmes. The mapping exercise for academic planning at cluster level can align with and help to advance the transitions agenda. It needs to be recognised that ensuring successful transitions requires a multi-faceted approach and that broadening routes of entry is but one action, which will begin to bear fruit when taken in conjunction with other actions – such as development of flexible pathways and the changes under way in post-primary curriculum.

3.5 Academic staff with pedagogical qualifications

The strategic dialogue revealed evidence of strong commitment and emphasis throughout the system to improving the pedagogical qualifications of higher education staff. Many strategies emphasised the importance of improving the pedagogical qualification and training of staff. While this development is welcome, it needs to be coupled with an understanding of the student profile and the type of curriculum offered. Otherwise there is a risk of disconnect between (on the one hand) staff development in relation to teaching and/or qualifications, and (on the other hand) the teaching, learning and assessment needs of the institution.

3.6 Staff–student ratios

The ratio of academic staff to students is a widely used but imperfect proxy indicator for quality in higher education systems. It is but one of a number of factors that contribute to student success. The ratio does not take into account the amount of instruction time for students compared to the length of a staff member's day, nor how much time academics spend teaching, and it is not a measure of class size. It is important therefore that other measures of student staff interaction such as student contact hours also continue to be monitored at discipline level by higher education institutions. Research indicates that the greatest impact on student success arises from students' total level of engagement across their academic, interpersonal and extracurricular involvement.^{32 33} Student–faculty contact is a key element of the good practice in undergraduate education required to underpin student engagement and is related to staff–student ratios. Other elements of good practice include high quality of teaching (one important aspect of which is dealt with in section 3.5

³² Pascarella, E. & Terenzini P. (2005) *How College Affects Students*. San Francisco: Jossey Bass.

³³ Chickering, A. & Gamson, Z. (1987) 'Seven principles for good practice in undergraduate education', *The Wingspread Journal*, 9 (June 1987).

³⁴ All HEA-Funded Institutions excluding RCSI.

above), pedagogies that allow active learning, prompt feedback, respect for diverse learning styles, and cooperation among students. A number of these aspects are directly related to the ratio of academic staff to students. Table 3.5 shows staff and student numbers across the higher education sector³⁴ from 2007/08 to 2012/13, with a projection for 2016. Staff–student ratios in the HEA-funded institutions have worsened, rising from 1:15.6 in 2008 – the long run OECD average³⁵ – to 1:19.5 in the current year and are set to further worsen over the coming years.

Table 3.5 Staff and student numbers 2007/08 to 2016/17

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	Projected 2016/17
WTE Student Numbers (full time + part-time/2)	158,057	164,180	173,723	177,329	179,105	181,308	191,194
WTE Core Staff Numbers	19,500	19,411	18,524	18,321	17,899	17,604	17,604
WTE Academic Staff Numbers (including self-funded)	10,100	10,041	9,772	9,697	9,418	9,297	9,297
Ratio of academic staff to students	1:15.6	1:16.4	1:17.8	1:18.3	1:19.0	1:19.5	1:20.6

Note: these figures may differ from those provided in the 2011/12 and 2016 profiles. This is due to the inclusion, in the above figures, of apprenticeship numbers (estimated) in the WTE student numbers and inclusion of non-Exchequer funded teaching (estimated) in the WTE Academic and Core Staff numbers.

The arrangements agreed under the Public Service Pay Agreements of 2010 and 2013 whereby academics may be required at the discretion of management to provide up to two additional lecturing hours per week, and whereby Institute of Technology lecturers were required to work an additional 78 hours per year have mitigated the impact on student contact time of staffing reductions. Given the scale of the recent deterioration in staff–student ratios and the fall in progression rates, it is reasonable to conclude that the system is now at the bounds of what can be achieved from existing resources if it is to continue to address national objectives for excellence, quality and growth in participation. Indeed it may have exceeded those bounds already.

The Irish universities are implementing workload management systems to ensure that the workloads of academic staff and academic units are appropriate – across the core components of academic work, including research, teaching and other work. The HEA is undertaking a review of the academic workload management models currently in place with a particular focus on the transparency of workloads, and will report on this shortly. This will help to provide clearer visibility on the effective use of resources in the sector.

The quality threshold can only be identified when it has been crossed. There is evidence to date that quality remains good, as for example in the evidence of employer surveys. But it is reasonable to conclude that the scale and pace of the recent rapid deterioration in the Irish system staff student ratio and its departure from stable international norms, will have an impact on the quality of the student experience.

³⁴ All HEA-Funded Institutions excluding RCSI.

³⁵ OECD (2013) Education at a Glance D2.2.



System Objective 4:

Excellent public research and knowledge exchange actors

To maintain an open and excellent public research system focused on the Government's priority areas and on the achievement of other societal objectives, and to maximise research collaborations and knowledge exchange between and among public and private sector research actors.

- The research system is moving from a high growth phase to a phase of consolidation to improve impact, quality and international competitiveness.
- Based on international performance indicators, the impact of Irish investment in higher education research and innovation is strong, and improving:
 - Irish universities are now in the top 1% of research institutions in the world in 18 fields, spanning natural sciences, social sciences and the humanities and as a country Ireland is currently ranked 18th across all fields, having risen from 36th in 2003.
 - Almost 50% of Irish research papers are now co-authored with international collaborators
 - Ireland was ranked third in Europe in the 2013 Indicator of Innovation Output by the European Commission and above average in the EU Innovation Scorecard.
- The target of €600 million from FP7 has now been achieved, largely driven by the performance of the higher education system. A continued coordinated national approach is essential to maximise Ireland's success in Horizon 2020.
- There is clear evidence of strong alignment with national priorities, an increase in PhDs in Science, Mathematics, Computing, Engineering, Manufacturing and Construction, with a decrease in the Health and Welfare category. STEM is set to account for 48% of all doctoral enrolments by 2016. A planned 42% increase in masters by research reflects the demand for such skills from the private sector.
- It is important to strike a balance between focusing on priority areas (as set out under the Research Prioritisation Exercise) and ensuring that Ireland enhances its capacity and capability to participate actively in world knowledge production and world science. Institutions must remain well positioned to participate in funding schemes, such as Horizon 2020, which invite applications from a broader suite of areas than those covered by the priority areas. This for instance would include areas of Arts, Humanities and Social Sciences where Ireland has a well established reputation internationally.
- Research indicators will be further developed to better capture performance through indicators of excellence and broad impact.
- A gap in the Irish research funding system for Arts, Humanities and Social Sciences needs to be addressed.
- The system is projecting modest growth in PhD numbers, reflecting the difficult funding environment; while the forthcoming reform of PhD programmes will lead to new costs, further increasing the strain on the system.
- Further evidence of strain is visible in that increasing teaching workloads and shrinking resources are reducing research activity.



In the last decade and a half, Government and the higher education institutions have worked together to create the bedrock of the Irish research system. Today, that investment is evident in the strong base of high quality research outputs, with good facilities and increasing engagement with enterprise. The report of the Research Prioritisation Steering Group³⁶ recognises the twin aims of creating a) a broad base of research to inform research for policy making and b) research for knowledge to underpin cutting edge curricula for all graduates, while at the same time focusing research investments into 14 discrete areas that can provide maximum economic return for Ireland. The strategy makes it explicit that implementation of research prioritisation is itself now the Government's priority goal for Science, Technology and Innovation, and it has set specific targets and indicators to monitor delivery of this goal. A Prioritisation Action Group (PAG) has been established to oversee the implementation of the strategy.

The HEA can report ongoing improvement in research performance. This is demonstrated by the impact in terms of citations per paper and by continued improvement in the impact of research as evidenced by Ireland's ranking 3rd out of 28 member states in the European Commission's proposed new Indicator of Innovation Output, published in September 2013³⁷.

There is also evidence from the strategic dialogue process of the development of enablers of improved quality of research outputs – this is seen in the adoption of the new Framework for Doctoral Education (which is due to be launched shortly) in the emergence of effective thematic clusters through Science Foundation Ireland centres, and in the emergence of regional graduate schools as part of the work of regional clusters. However, HEIs also highlighted the need for a more integrated research strategy to ensure greater success in drawing down funding from Horizon 2020, the €79 billion funding programme.

There is a need to continue to develop the data (including targets and indicators of research performance) to capture the broad range of research impacts. HEIs could develop process indicators demonstrating systematic case study evaluation of impact from research across all disciplines. There is also a need to provide clearer reporting on prioritisation and a wider range of indicators of collaboration with industry and knowledge exchange, beyond the main commercialisation indicators.

The HEA and DES will give further consideration to the indicators for measuring performance and the full breadth of the research system outlined in the Minister's system performance framework. These include indicators of excellence and broad impact such as success in competitive funding, research student completions, peer reviewed quality of research knowledge outputs, reputational factors and the benefit of research outputs to their field and beyond, assessed through case study analysis.

The higher education system is projecting modest growth in PhD numbers, reflecting the profile of funding available nationally and internationally. The reforms required to enhance the quality of PhDs through the new doctoral education framework will themselves probably lead to new costs, further increasing the strain on the system as already mentioned. The increasing workload arising from growing undergraduate student numbers and shrinking resources is also reducing research activity in higher education as illustrated in the recent Forfás report on R&D spending in higher education.³⁸

³⁶ Forfás (2011) Report of the research prioritisation steering group. Dublin: Forfás

³⁷ Measuring innovation output in Europe: towards a new indicator. European Commission COM (2013) 624. 13.9.2013

³⁸ Forfás (2013) Survey of Research and Development in the Higher Education Sector 2010/2011. Dublin: Forfás

The report of the Research Prioritisation Steering Group explicitly noted that certain areas of research funding, such as the HEA core grant, were outside the current prioritisation exercise. Such funding continues to enable baseline support for non-prioritised areas in order to address present needs and to future-proof the system. Notwithstanding the reductions in institutional budgets, there remains the need for investment to build capacity in the current priority areas which are eligible for prioritised funding. The funding for non-prioritised areas is therefore at risk of being completely diminished or eliminated, in spite of demonstration of world-leading performance in some areas. There is a need for careful coordination of research policy across the research funders and Government departments to manage this risk.

Bibliometric data has limited utility in the fields of Arts and Humanities and only some utility in Social Sciences –this is due both to the paucity of coverage of publications in these fields by the citations databases along and to the character of research outputs in these disciplines³⁹. Thomson Reuters databases cover fewer than two thirds of all peer-reviewed journals; they index only one third of journals in Social Sciences and fewer than one quarter of journals in Arts and Humanities disciplines; and they do not index books or book chapters. In the further development of the system performance framework, consideration will be given to the inclusion of indicators that better capture research excellence, that deal with a wider range of research impacts related to enhanced societal benefit, that address the need to continue to improve relative performance in an international context, and that adequately reflect performance in the Arts, Humanities and Social Sciences.

³⁹ RIA (2009) Developing Key Performance Indicators for the Humanities A report of a meeting convened by the Royal Irish Academy and the Irish Research Council for the Humanities and Social Sciences



4.1 Increase HERD and increase diversity of funding sources

Table 4.1 shows expenditure in Ireland on higher education research and development (HERD) from 2000 to 2010. For the purposes of this report, the figures for 2010 are taken as the baseline.

Table 4.1: Higher education expenditure (current and capital) on R&D (HERD) 2000-2010 at current prices

	2000	2002	2004	2006	2008	2010
HERD	€238m	€322m	€492m	€600m	€750m	€708m
HERD as % GNP	0.26	0.30	0.39	0.39	0.49	0.54
Ireland's rank out of 35 countries	26	23	19	19	15	14

As HERD is largely dependent on government investment, it is difficult to project growth over the coming period. The system is anticipating relatively modest growth in contract research funding, from €453m in 2011 to €457m in 2016. The system is aiming to consolidate the current base first by focusing on those areas where funding has already been or is likely to be secured for major developments (such as SFI-funded centres or EI centres); and second, by diversifying funding sources, with a major emphasis on Horizon 2020 and non-Exchequer sources. Table 4.2 sets out the current baseline position for sources of funding – this information is drawn from the published accounts of the higher education institutions. This data will be examined annually.

Table 4.2: HE contract research funding sources 2010/11 from HEI Income & Expenditure accounts (most recent academic year for which data is available)

	Universities		Institutes		Total	
	€m	%	€m	%	€m	%
State and Semi-State	274.2	73%	68.0	90%	342.2	76%
European Union	40.6	11%			40.6	9%
Industry	20.5	5%	7.6	10%	28.1	6%
Other Non-State	33.4	9%			33.4	7%
Overheads	8.8	2%			8.8	2%
Total	377.5	100%	75.6	100%	453.1	100%

A detailed breakdown of funding sources was not available from the institutes of technology audited accounts at this time and so, funding is not broken down into EU, overheads and Other Non-State as is the case for the universities. However, in a number of the larger institutes of technology, EU funding is significant.

While the anticipated growth in funding is modest, it will require significant effort to maintain funding levels up to 2016 – this is due to

⁴⁰ Note that PRTL formed 17% of all state competitive funding in the system in 2011

⁴¹ Thomson Reuters Essential Science Indicators, March 2014 update

⁴² Swinbanks, D. 2013. "Five Countries to Watch". Nature Publishing Index 2012, 25-26. http://www.natureasia.com/en/publishingindex/pdf/NPI2012_Global.pdf

the potentially challenging funding situation over the next number of years and to the fact that the Programme for Research in Third Level Institutions (PRTLTI)⁴⁰ will largely have terminated funding by 2016. To meet this shortfall, most institutions are setting out strategies and implementation plans to increase funding from other sources, in particular from Horizon 2020. Both the institutions and the HEA recognise the inherent uncertainty and highly competitive nature of such processes. For example, only around 2% of applications for the European Research Council are successful.

Accordingly, institutions distinguished between their internal targets for competitive research funding – which they noted were ambitious – and the more realistic targets that they included in the compacts, which they felt were achievable. Institutions also noted that they have well developed plans and have put in place new structures to support applications to win significantly increased European competitive research funding.

4.2 Maintain citation ranking and international reputation

Ireland's universities are now in the top 1% of research institutions in the world, in terms of research impact, in 19 fields spanning Natural Sciences, Social Sciences and the Humanities⁴¹, having risen from 36th in 2003. There is a strong commitment within the higher education system to maintaining or improving this position, and a number of institutions have set targets to increase their reputational indices. In Nature Publishing Index 2012⁴² (published June 2013), Ireland was included as one of five 'countries to watch' (along with China, Brazil, Kenya and Saudi Arabia) which were rapidly increasing their research output. The five countries were chosen for 'the magnitude of their increase in corrected count, for the speed of their climb in the NPI rankings, and for their regional scientific leadership'.

Table 4.3 shows that Ireland's overall impact in terms of citations per paper⁴³ has been steadily rising.

⁴¹ Thomson Reuters Essential Science Indicators, March 2014 update

⁴² Swinbanks, D. 2013. "Five Countries to Watch". Nature Publishing Index 2012, 25-26. http://www.natureasia.com/en/publishingindex/pdf/NPI2012_Global.pdf

⁴³ While bibliometric data provide internationally recognised indicators of research quality, a number of caveats must be observed when reviewing these data. Bibliometric data are never used as the sole indicators of research quality or as the sole measures of research outputs, but are always used alongside a range of other qualitative and quantitative indicators. Bibliometric data are never compared across disciplines. Publication patterns and citation patterns vary enormously from discipline to discipline. Therefore a discipline is only ever compared with itself over time.



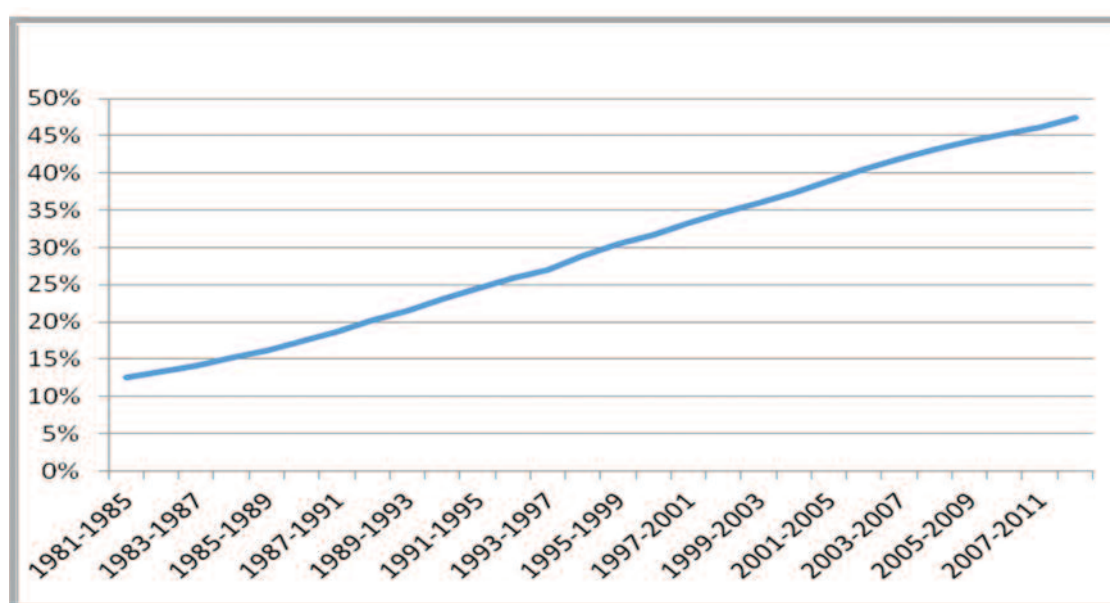
Table 4.3: Ireland's national citation ranking 1990–2012

Years	Ireland: Impact (citations per paper) relative to world
1990-1994	0.78
1991-1995	0.78
1992-1996	0.79
1993-1997	0.78
1994-1998	0.82
1995-1999	0.87
1996-2000	0.96
1997-2001	1.05
1998-2002	1.01
1999-2003	1.05
2000-2004	1.05
2001-2005	1.08
2002-2006	1.05
2003-2007	1.10
2004-2008	1.14
2005-2009	1.21
2006-2010	1.26
2007-2011	1.28
2008-2012	1.33

The proportion of research papers authored with international collaborators has also increased over time, as illustrated in Figure 4.1 below. This indicator is used internationally as a proxy for the quality and reputation of research.

⁴⁴ Taken from Thomson Reuters InCites, which is based upon Thomson Reuters (ISI) SCI (Science Citation Index), SSCI (Social Sciences Citation Index), AHCI (Arts & Humanities Citation Index).

Figure 4.1: Proportion of research papers authored with international collaborators 1981–2011⁴⁴



While neither of these indicators (citation ranking or proportion of international collaborators) reflects the totality of outputs, outcomes or quality of research in the higher education system, they will continue to be monitored, and supplemented where possible with other metrics and performance information.

4.3 Increase collaboration with industry

All compacts feature enhanced collaboration and engagement with enterprise and other knowledge users. The system is committed to establishing new processes for collaboration and engagement, and to capturing and disseminating good practice from initiatives already in place.

Many interactions with industry are less formal but make an important contribution to knowledge transfer and enterprise support – an example is the trend for institutions to incorporate real-world business problems into the project work and dissertations of Level 8 and 9 students in particular. A number of institutions have developed portals to foster this type of engagement with enterprise.

The establishment of an accurate baseline will help to improve performance and will also help to better coordinate and disseminate the work of the sector in this space.

In relation to research collaboration with enterprise, the system is planning to increase research agreements from 274 per year to 379 per year – an increase of 38%.



4.4 Increase commercialisation activity

All institutions have set challenging targets for commercialisation of research, as summarised in Table 4.4. The establishment of the Central Technology Transfer Office (CTTO) will help to ensure that these targets are met.

Table 4.4 Targets for commercialisation of research 2012-2016

	2013	2014	2015	2016	Increase:2013-2016	4-year total
Spin-outs	30	36	40	46	53%	152
Licences	115	122	138	148	29%	523
Invention Disclosures	372	401	434	459	23%	1,666
Patents	129	142	151	161	25%	583
Research Agreements	274	310	346	379	38%	1,309

4.5 Masters, PhDs and the Doctoral Education Framework

The number of Level 9 masters by research is projected to increase from 1,521 in 2011/12 to 2,155 in 2016 – an increase of 42%. This reflects an acknowledgement by the institutions of the requirements of the private sector, and this focus was welcomed and encouraged during the dialogue. The majority of the projected growth is within the IoTs.

While PhD numbers are projected to increase by 6% over the period, the move towards structured PhD programmes – which may be of four-year duration rather than the traditional three years – requires a shift in academic resources and supervisory capacity, which will impact on projections for PhD output.

The universities are projecting a small increase in PhD enrolments (106 or 1.3%), but the institutes of technology are projecting a more significant increase (503 or 91%), albeit from a low base, and based on reported recent successes in competitive processes. The projections of the technological sector are ambitious however, and will need to be carefully monitored.

While the institutions are aware of the increasingly competitive nature of research funding, they fully intend to continue supporting enterprise, and the technological sector aims to continue addressing regional needs that are aligned with its mission and focus.

The HEA has been working with QQI to develop the Doctoral Education Framework. As doctoral education moves to a more structured model, the provision of discipline-specific elements of the programmes will have to be carefully monitored, as these will almost inevitably involve additional cost. QQI will be responsible for implementing the quality assurance part of the Framework.

To meet the requirements of the Doctoral Education Framework, it is likely that greater inter-institutional collaboration will be required in graduate clusters or schools, particularly in areas with smaller learning communities at PhD level. There are already commitments to develop regional graduate schools in the initial plans of a number of the regional clusters.

Many institutions have set out targets for implementing the national guidelines for doctoral education. The proportion of PhDs on structured programmes is projected to increase – 65% of institutions have included a target for this in their compacts. Data on the number of students involved in structured doctoral education will be collected in the Student Record System in 2014. The HEA will also consider further how it can best use its funding instruments to support the development of structured doctoral programmes over the coming years.

4.6 Align research with priority and underpinning areas

Research effort is strategically focused in each individual institution. At inter-institutional level, thematic research clusters have been stimulated by funding from the Programme for Research in Third Level Institutions, and more recently large national centres/hubs have been created with funding from Science Foundation Ireland (SFI), focusing on areas of national priority. The dialogue reflected a focus on centres and areas where institutions have been awarded funding for national priority and underpinning areas. This is reflected in the focus on the SFI-funded centres and programmes in particular.

As the system is now entering a period of concentration and consolidation, the focus is on the following:

- Increasing the impact from investments through enhanced focus on knowledge exchange
- Concentrating national capacity – in particular around centres aligned with prioritised national areas
- Diversifying the sources of funding for research, specifically enhancing non-Exchequer sources.

The last of these is driven by a national target to double funding from EU competitive research funds through the Horizon 2020 programme, but also by changes in the funding environment where a number of programmes (such as PRTLII) will in effect be wound down by 2016. While the institutions are targeting resources on applications to Horizon 2020, it must be acknowledged that the international environment for research funding is challenging.

In supporting the institutions in achieving their targets, the need for researchers to have an established track record is acknowledged. This in turn demonstrates the need for a research system that supports excellence in all disciplines, and that enables researchers to engage with all potential opportunities. For clusters and emerging alliances, integrated research strategies are to be developed in the next phase of strategic dialogue. Differentiation is emerging but needs to be embedded in institutions' strategies. A review of the UCD-TCD Innovation Alliance will be undertaken in 2014 with a view to harnessing the potential for national gain from greater collaboration between these two significant players.

Table 4.5 shows the profile of projected PhD provision over the period of the compact. It shows a broad alignment with priority and underpinning areas – an increase in Science, Mathematics, Computing and Engineering, Manufacturing and Construction PhDs, with a decrease in the Health and Welfare categories.



Table 4.5: Projected PhD provision by discipline 2011-2016

PhDs (All modes) – all HEA-funded institutions	2011/12		2016	
	No.	%	No.	%
General Programmes	0	0%	7	0%
Education Science	473	5%	434	5%
Humanities & Arts	1,464	17%	1,523	17%
Social Science, Business & Law	1,429	16%	1,477	16%
Science, Mathematics and Computing	2,643	30%	2,961	32%
Engineering, Manufacturing & Construction	1,181	14%	1,413	15%
Agriculture & Veterinary	134	2%	174	2%
Health & Welfare	1,282	15%	1,132	12%
Services	76	1%	93	1%
Combined	1	0%	0	0%
Total	8,683	100%	9,214	100%
STEM disciplines included in above	3,824	43%	4,374	48%

A method is being developed to record student numbers at more detailed field of study level – this will help to track their alignment with the priority and underpinning areas.

System Objective 5:

Globally competitive and internationally oriented institutions

To ensure that Ireland's higher education institutions will be globally competitive and internationally oriented, and Ireland will be a world-class centre of international education.

- International student recruitment is rapidly growing and will meet national targets.
- Some institutions demonstrated too narrow a focus on increasing the numbers of international students without taking sufficient account of the wider benefits of internationalisation – such as internationalisation of curricula and of research relationships and internationalisation of staff and student bodies through ERASMUS and other programmes
- In some institutions projected growth may be driven by financial need to an extent that risks undermining the broader internationalisation strategy. The scale and pace of growth also exposes institutions to risks. Through the process of strategic dialogue the HEA will work with HEIs to improve the framework for planning and risk management.
- The institutional diversity that is an objective of strategic dialogue provides an opportunity to institutions to become more internationally competitive.
- Maintaining quality is essential. QQI will establish a code of practice for the provision of programmes of education and training to international learners, and will authorise the use of the international education mark (IEM) by providers that comply with the code. It is expected that the quality mark will be used to help intensively market Irish higher education internationally. *Internationalisation of the Irish higher education system is desirable across many different fronts. For individual students, an international dimension to their studies can help to deliver a richer student experience. It also provides the opportunity for wider networking and international linkages that can lead to wider economic and career opportunities, and help build competitive advantage for Irish companies. From a system point of view, internationalisation brings wider opportunities for research collaboration and the potential to attract new talent and broaden the horizons of academic staff.*

The higher education system is broadly on target to have international students accounting for 15% of total full-time student numbers by 2020. In terms of where incoming students come from, we can report that there is good evidence of alignment with Enterprise Ireland's target markets, with 45%⁴⁵ of international students currently coming from the tier one priority markets of USA, China, India and the Middle East. However, the HEA emphasised in strategic dialogue that this growth needs to be carefully balanced with an appropriate emphasis on quality assurance and student support. An important enabler in this area will be the QQI International Education Mark for the provision of education to international learners.

Internationalisation has substantial income generation potential, but institutions need to look beyond the income stream and take a longer and more strategic view of how they plan for international growth. We also need to ensure that Ireland's higher education system retains a strong reputation for quality and student experience.

The development of overseas campuses by some institutions presents a more high-risk, high-benefit strategy, and some of the potential here is being hampered by system constraints, particularly in the area of payments to academic staff who are required to be involved in leading these overseas projects.

Progress has been slower in moving towards the EU mobility target of 20% of graduates having an EU mobility experience, but the numbers have been growing and the Irish performance is at the European average.

⁴⁵ HEA analysis of SRS returns 2012-13



5.1 Meeting EU mobility targets

A total of 2,775 students have participated in outgoing placements and mobility programmes in 2011/12, the most recent year for which we have data. With a total of approximately 27,000 level 8 graduates each year, this indicates that about 10% of students have a mobility experience compared to the target of 20%. While Irish mobility rates are in line with the European average, it is particularly important that as a small country we continue to build on our current performance. This could be helped by a stronger emphasis on measures to inform students of the benefits of an EU mobility experience to their employability.

Factors influencing participation positively include the development of European measures and agreements such as the European Credit Transfer and Accumulation System (ECTS), the Lisbon Convention on Recognition of Diplomas, European Quality Assurance Standards, and the European Diploma Supplement – it is essential that Ireland maximises compliance with these. Factors which influence participation negatively include student finance (including reluctance to forego part-time employment), language ability and in some cases, issues related to programme structure alignment and credit for mobility – although the opportunity to include work placement has improved the situation. Not all institutions have referenced EU student mobility targets in the first set of compacts. Table 5.1 gives details of students taking part in Erasmus programmes for the years 2007/08 to 2011/12.

In 2011/12, 5,751 EU students came to Ireland under mobility programmes compared to 2,775⁴⁶ who went out – a ratio of 2 incoming to 1 outgoing. This imbalance is a function of Ireland's relative high performance in incoming students. While institutions are attempting to rebalance towards a more equal (and thus cost neutral) balance in the ratio of incoming to outgoing students, there are academic and wider economic benefits from a high number of incoming students.

Table 5.1: EU Mobility - Erasmus Lifelong Learning Programme – outgoing students by year

	2007/08	2008/09	2009/10	2010/11	2011/12
Student Mobility	1,514	1,421	1,600	1,858	1,989
Placement Mobility	303	415	528	653	786
All Mobility	1,817	1,836	2,128	2,511	2,775
⁴⁷ All Level 6, 7 and 8 graduates ⁴⁷	40,948	40,279	38,399	40,101	42,375
All mobility as % of all undergraduates	4.44%	4.56%	5.54%	6.26%	6.55%
All Level 8 graduates	25,623	25,512	25,742	26,798	27,368
All mobility as % of all Level 8 graduates	7.09%	7.20%	8.27%	9.37%	10.14%

5.2 Alignment of internationalisation activity

The higher education system is broadly on target to have international students accounting for 15% of total full-time student numbers by 2020. In terms of where incoming students come from, we can report that there is good evidence of alignment with Enterprise Ireland's target markets, with 45% of international students currently from the tier one priority markets of USA, China, India and the Middle East.⁴⁸

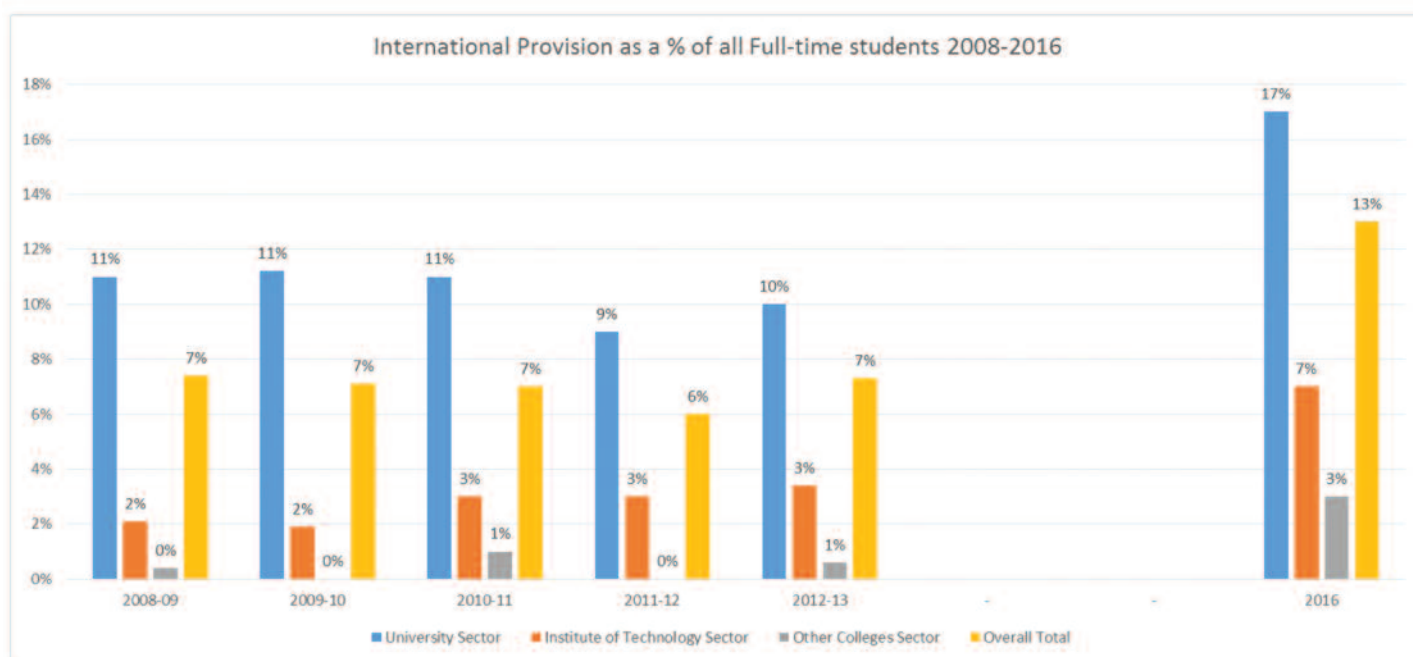
⁴⁶ This includes student study and placement mobility whereas figure quoted in 2011-12 profile refers to student study mobility only.

⁴⁷ Includes double count of Level 6/7 students who progressed to Level 8.

⁴⁸ HEA analysis of SRS returns 2012-13

The compacts indicate that the combined system projected target is to have international enrolments reach 13% of full-time enrolments by 2016, from a level of 7% in 2012/13. This represents very rapid progress and is well ahead of the trajectory required to meet the national objective for 2020. Figure 5.1 presents international provision by sector for the years 2008/09 to 2012/13 and projected provision for 2016.

Figure 5.1: International provision as a percentage of full-time students 2008–16



Source HEA SRS data

The focus of internationalisation indicated in strategy statements was narrow in many cases, but not universally so, as there were also some very strong submissions. The main issues the HEA wishes to draw attention to include:

- An absence of overt links between internationalisation strategies and QA
- Very ambitious targets from near standing start amongst smaller institutions
- Insufficient demonstration of an emphasis on risk management
- Lack of demonstration of international student support
- Lack of balance between inward and outward student flows
- Too strong a focus on student mobility, and not enough on wider dimensions such as staff mobility, internationalisation of curricula, benchmarking, and links between international student mobility and recruitment and international research strategy, where appropriate.



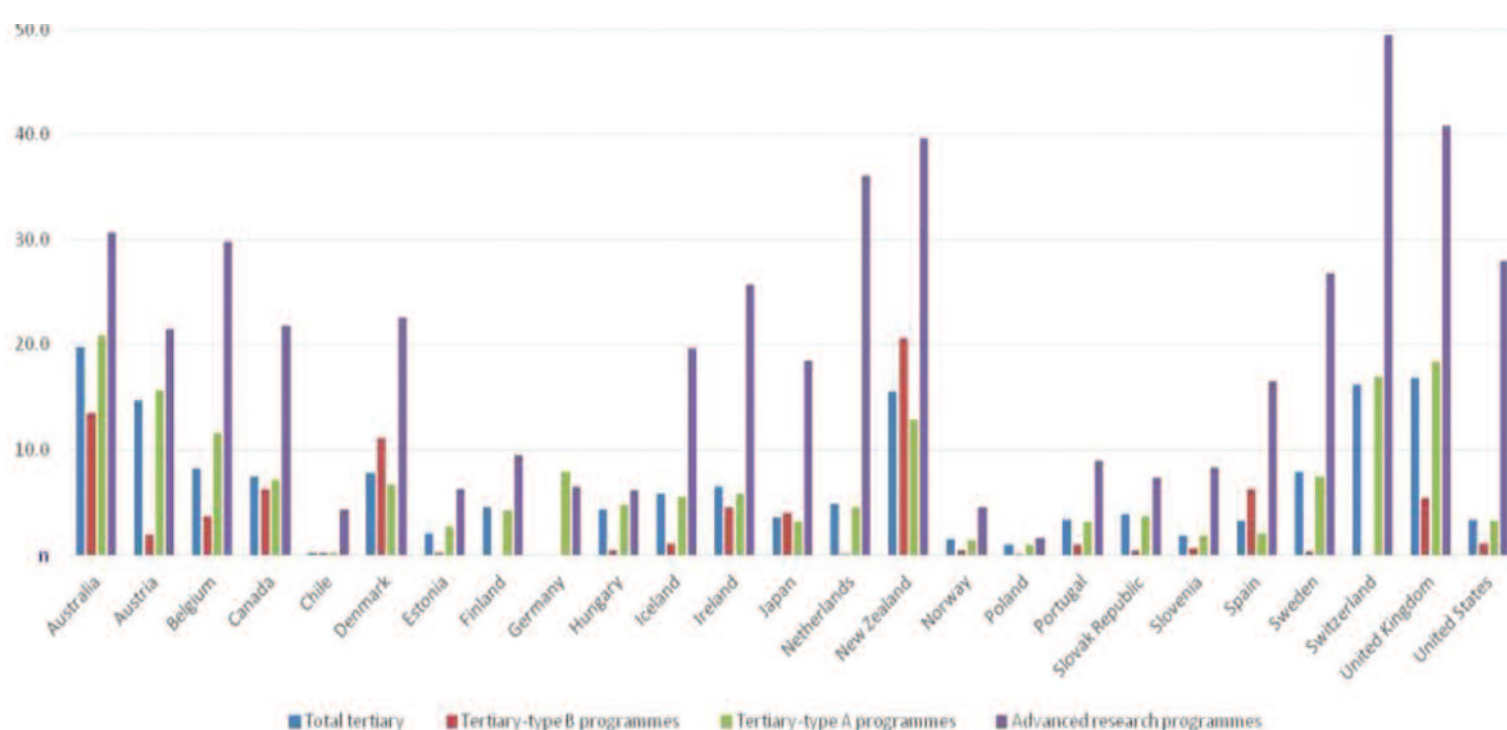
The HEA will expect to see these weaknesses addressed in future iterations of strategic dialogue and the rate of growth projected by some institutions may be slowed to some extent as a more balanced, quality driven and risk based approach is developed. In addition QQI is to establish a code of practice for the provision of programmes of education and training to international learners, and to authorise the use of the international education mark (IEM) by providers who comply with the code. Maintaining authorisation will be conditional on the outcomes of on-going monitoring and review by QQI.

There was one very strong shared service approach example – this focused on Brazil’s student mobility programme, *Science without Borders*, which has involved the Irish higher education sector in a significant partnership opportunity with a key emerging economy, and there are currently over 1,100 Brazilian students in Ireland.

The OECD average for international and foreign students as a percentage of all enrolled students (international plus domestic) in total tertiary programmes stands at 6.9%⁴⁹. Ireland is broadly in line with this at 6.5%, but is still significantly lower than other English-speaking host countries, such as Australia (19.8%), UK (16.8%), New Zealand (15.6%), and Canada (7.4%),

In terms of enrolments on advanced research programmes, Ireland is above average with international and foreign student enrolments accounting for 25.7% of all enrolments, compared to the OECD average of 19.6%. As above, other English speaking host countries have much higher numbers of enrolments in this area – for example, Canada (21.8%), USA (28%), Australia (30.7%), New Zealand (39.7%) and UK (40.9%). Figure 5.2 gives international enrolments as a percentage of all enrolments across the OECD.

Figure 5.2: International enrolments in the OECD⁵⁰



⁴⁹ OECD (2013). Education at a Glance. Table C4.1. International student mobility and foreign students in tertiary education (2005, 2011).

⁵⁰ Note that data was not supplied by France for the purposes of this exercise

5.3 Mobility of researchers and staff

The number of Marie Skłodowska-Curie researchers is used as one measure of the level of mobility and international experience of researchers and staff. Based on the most recent European Commission data, it is estimated that approximately 450 researchers have been funded in Ireland across all the Marie Curie actions in the Seventh Framework Programme (FP7), since 2007. In November 2011, the figure was approximately 340. This represents about 6% of the total number of researchers recorded in the HERD survey.

Data on the number of international and internationally experienced staff in the higher education system data is not currently available, but it is expected that this data will be available from 2015/16.

5.4 Transnational activity

Table 5.2 presents the number of foreign students on overseas campuses of publicly-funded Irish higher education institutions.

Table 5.2: Students on overseas campuses 2012/13

	Numbers	As % of total student cohort
Distance education	118	
Full-time	2,085	1%
Part-time	4,396	2%
Grand Total	6,599	3%

Data on joint awards and the number of outward and inward student exchanges will be published for the first time in the 2012/13 institutional profiles. Data is not currently available on the number of branch campuses, articulation agreements and international online programmes provided by Irish HEIs. As there are significant quality assurance issues involved in this aspect of internationalisation, the HEA, working with QQI, will examine the future reporting requirements for this kind of transnational activity.

As the system performance framework continues to develop, it will be important to monitor the international reputation of the system, particularly in terms of its wider connectedness – for example, strategic partnerships in education and research with other global HEIs and with international business. In this regard while there are many valid reservations about international league tables of higher education institutions, the fact is that in many other countries, that are important for Ireland either as a source of inward investment or for recruitment of students, such league tables have a high level of visibility and credibility, and contribute to the reputation of the system. The Irish system has performed relatively well to date, particularly if the rankings are scaled by GDP or population. Recently, Ireland has fallen from 7th to 9th place on such measures and this declining performance is a cause for concern.



System Objective 6:

Restructuring for quality and diversity – a higher education system engaged in and committed to reform

To reform practices and restructure the system for quality and diversity.

- The purpose of restructuring is to enhance quality, to release capacity and to improve diversity – it is not an end in itself. Irish HEIs need to seek out their distinctive role within the system, to articulate it more explicitly, to improve the quality of outcomes nationally, and to enhance their reputation internationally.
- The system is demonstrating commitment to major structural reforms. Five new regional clusters have been established. Initial teacher education is being restructured into six centres and will be completed by 2017. Technological university consortia are planning to submit Stage 2 applications in 2014. The total number of institutions will be reduced from 39 to 25 – this will ensure that individual institutions have greater critical mass and will bring wider diversity across the system.
- Some further enablers are essential to success, including:
 - Leadership capacity of the higher education institutions needs to be empowered by an appropriate toolkit and flexibility for managing human resources
 - The capacity in the HEA in setting performance metrics and in performance evaluation needs to develop further as the process evolves
 - The implementation of a comprehensive funding policy is essential to underpin the quality of education and research.
- Strong technological universities, institutes of technology and universities in close collaborative alliances and regional clusters, will provide the framework for a more effective system capable of delivering high quality outcomes for students, increasing impact from research and offering better support to regions and enterprise.
- Given the complexity and workload challenge inherent in the restructuring of the landscape, risk management must be kept under review by HEIs and this will be monitored by HEA in strategic dialogue.

The ambition to continually improve quality is at the heart of the National Strategy for Higher Education. It transcends all the outcomes in this framework – improved student experience, development of human capital, enhancing access to higher education, improved research and increased internationalisation.

In this section the HEA sets out the progress being made on structural reforms. These reforms have as their primary objective the creation of a system of higher education institutions of sufficient scale and with the diverse missions appropriate to meet economic and social needs and to enhance the quality of the student experience and outcomes. There are two dimensions to this reform.

In the first instance, the landscape of higher education is being transformed through consolidation and collaboration to better enable institutions to deliver higher quality in their respective missions. This is evident in the commitment to:



- *Reform teacher education through the consolidation of many disparate providers into six main centres for teacher education*
- *Provide for consolidation within the institutions of technology sector, which may further enable the designation of new merged institutions as Technological Universities*
- *Provide for establishment of regional clusters of higher education institutions, which will collaborate to deliver improved services to students and regional stakeholders.*

The HEA reports very good progress being made in a short space of time in all these areas. Details are set out in the chapter.

In the second instance, the HEA is seeking, through the strategic dialogue, to strengthen diversity within the higher education system – requiring institutions to articulate their particular strategic role within the overall higher education system more explicitly and to focus their efforts on achieving national and international excellence in this domain. As previously reported by the HEA there is already good evidence of diversity between the university and IoT sectors in respect of student profiles, part time provision, and undergraduate and postgraduate enrolments. There is less evidence of diversity in programme portfolios and the HEA will seek to further develop diversity in future cycles of strategic dialogue. As universities engage more with industry in application-focused research and commercialisation and in work-based study programmes, traditional differentiators between universities and institutes of technology are likely to be somewhat overtaken by field specialisation and different approaches to learning and research. The HEA also considers that regional clusters and the initial focus on academic mapping could support diversity, allowing individual institutions to focus further on the particular disciplines in which they have strength, in the knowledge that partner institutions within the cluster are addressing other disciplines.

Given the significant public funding of higher education in Ireland, the systems of public allocation of funding (core, targeted and research) need to be aligned to promote diversity, rather than drive all institutions to pursue common goals.

While addressing the funding issue is a key priority that underpins the overall reform programme, there are other key enablers of success. At institutional level, the capacity to plan and act strategically –including the capacity to identify clear mission and strengths, to integrate the various activities across an institution and to identify appropriate performance benchmarks – is variable across the system, with the longer-established institutions having, in general, a more developed capacity. In addition institutions must develop the capacity to act as partners in a cluster and deliver improved regional outcomes. This is something that will be given attention by the HEA, working with the institutions.

Apart from the funding issues already referred to, another constraint to reform is the fact that the higher education institutions do not currently have the full management and governance toolkits typical of institutions in high performing international higher education systems. Some of these issues will be addressed in the Minister's programme of legislative reform, particularly as it relates to the governance of higher education institutions. But there remains an urgent need to examine, at a systemic level, the arrangements in place for the management of human resources to enhance the effectiveness of system performance.

6.1 System reform for a new landscape

The *National Strategy* developed a vision for a higher education system in which different institutions would deliver, in different but complementary ways, on a broad suite of national objectives, with each institution delivering according to its own distinctive mission and profile. This vision recognised that no single institution could be expected to deliver comprehensively on the full range of objectives.

One of the key objectives in the restructuring of the higher education system is to achieve critical mass through consolidation and collaboration and through the development of regional clusters. Consolidation and collaboration bring opportunities to pool expertise, to concentrate resources, to improve choice and to enhance the quality of the student experience. Institutional consolidation, together with much stronger levels of inter-institutional collaboration, will bring benefits to students, staff and the wider system. It will also address unnecessary duplication of course provision, both in the universities and in the institutes of technology and indeed between the two sectors. There are also areas of high-cost disciplinary provision that can be strategically rationalised to improve both quality and sustainability.

Over the last fifteen years the Irish system had been effective in developing structured collaboration between institutions. The aim in restructuring the landscape was to build on this progress, to develop existing collaborations into more systemic, stable and permanent arrangements in five regional clusters of collaborating institutions and to implement institutional mergers that have been proposed.

Ireland currently has 39 publicly-funded higher education institutions, many of which are small by international standards, serving 200,000 students. Sixteen of these institutions are now involved in mergers to form six new entities; the formation of five regional clusters of institutions, while still at an early stage, is making steady progress; consolidation for quality is well advanced in initial teacher education and specific attention is being given to consolidation and collaboration to achieve maximum impact from provision in the performing arts.

Priorities for reform

In a landmark speech on the reform of higher education in November 2012, the Minister for Education and Skills outlined four priorities for the reform of the higher education system:

- Strengthening the university system
- Consolidation, strengthening and evolution of the technological sector
- Achieving critical mass through consolidation, collaboration and the development of regional clusters
- Releasing capacity and increasing the sustainability of the system.

The Minister emphasised the importance of preserving and enhancing the diversity that already exists in the system and in particular, of preserving and enhancing the current strengths of the technological sector⁵¹. The 2013 report on system reconfiguration⁵² set out the planned restructuring of the system based on the submissions of the institutions to achieve these priorities. The profile of the system now emerging from this process is of one committed to implementing the agreed system reconfiguration and committed to reconciling the tensions between increasing capacity, maintaining quality and operating within a sustainable and stable funding base, while at the same time enhancing diversity and the particular strengths of the technological sector.

⁵¹ Speech by Minister for Education and Skills, Ruairí Quinn, TD, on Higher Education Reform (2012).

⁵² HEA (2013) Report to the Minister for Education and Skills on System Reconfiguration, Inter-Institutional Collaboration and System Governance in Irish Higher Education.



Challenge of restructuring

The scale of the challenge involved in the restructuring of the landscape of higher education institutions should not be underestimated. As stated above sixteen publicly funded institutions are now merging as part of the restructure of the landscape. These institutions will need to restructure their governance and management systems, review and merge their academic structures, programme offerings, research strategies and outputs, and review their innovation and enterprise engagement strategies. While doing this, they need to:

- Deliver on their commitments to students and to research funders,
- Maintain their focus on enhancing the quality of the student experience
- Ensure continuity of standards
- Expand provision across the spectrum.

Furthermore all of the institutions are involved in the establishment of collaborative regional clusters and working out governance arrangements. And adding yet further to the challenge is the underpinning principle inherent in the national objectives that institutions should be capable of being globally competitive.

The HEA requires all institutions to ensure that risk management is ongoing, constant and transparent. Greater devolution will be required in the authority and responsibility for managing human resources – from central government departments to the HEIs. This will be necessary to enable the HEIs to arrive at the best and most effective solutions to the difficult challenges posed by the merger process.

6.2 Maintaining and advancing system diversity

The most notable features of the current diversity within the system are illustrated in the different profiles of the institutes of technology and the universities in relation to:

- Levels 6 and 7 – where the institutes dominate with 84% of system provision
- Part-time and flexible undergraduate provision – where the institutes are stronger, with 61% of provision)
- Research provision – where the universities dominate, with 87% of system provision
- Mature students – where institutes of technology have 65% of the total)
- Disadvantaged entrants – where institutes and a slightly larger proportion (57%).

Institutes of technology are significantly involved in industry support and regional engagement. Universities provide 64% of Level 8 provision, cater for 75% of Level 9 taught postgraduate level and 84% of international students. There continue to be a small number of publicly-funded specialist providers and (somewhat outside the remit of this report) there is a small private sector for which an increased role is envisaged. This diversity has broadly been maintained although the institutes have increased their share of international and research students (from a low base in both cases), with a particular focus on research linked to the regional enterprise base of institutions.

As consolidation and collaboration progress, it is particularly important that we maintain and advance the diversity that currently exists. We need to keep in mind:

- The distinct attributes of different institutions and programmes
- The retention of the distinctive aspects of small specialist institutions especially as some of them, such as the NCAD and the RIAM, become closely allied with comprehensive universities
- The potential for developing the role of private providers, both through the allocation of public funding to private and public institutions alike and through their increasing competitiveness as student contributions in public institutions increase
- The potential for developing a distinctive research focus in the technological sector with a particular connection to the regional enterprise base in its hinterland, while also aiming to grow the regional capacity for international exploitation of its offer.

6.3 Regional clusters

The primary purpose of regional clusters is to draw together the strengths of individual partner institutions so that they can maximise their collective capacity and be globally competitive. In doing so they will engage actively with enterprise, the community and regional authorities and build a strong regional identity. The establishment of the clusters will:

- Improve the coherence of programme provision
- Make it easier for students to make the transition into higher education
- Offer enhanced opportunities for research – by offering critical mass
- Resource regional enterprise and overall development needs of their region.

The strategic dialogue demonstrated that there is now evidence of real engagement with, and commitment to, the principle of regional clusters from the member institutions – including agreed plans for region-based undertakings and regional provision of academic and research programmes. In each case, the objectives and ambitions of clusters will be developed within the context of each region's unique qualities and culture.

Cluster summary

Table 6.1 Cluster summary

Dublin/Leinster pillar II cluster	<p>This cluster is developing initially in two strands: the Dublin/Midlands institutions (DCU, NUIM, Athlone IT and IT Dundalk) and the Dublin Technological University Alliance (DIT, IT Tallaght, and IT Blanchardstown). Both of these are both moving ahead and have agreed clear objectives and deliverables which will provide a basis for them to come together in the Dublin/Leinster pillar II; these includes:</p> <ul style="list-style-type: none"> • Developing a sustainable and shared academic planning process to ensure coherent, coordinated and rational HE provision across the institutions • Developing a coordinated approach to access, transfer and progression.
--	--



Dublin/Leinster pillar I cluster The Dublin/Leinster pillar I group of UCD, TCD, NCAD and IADT is focused on carrying out a shared planning exercise on opportunities for postgraduate collaboration initially.

The cluster will also work to achieve a regional approach to admission and progression of under-represented students. Other key goals include:

- Establishing the Institute of Education in association with Marino Institute of Education.
- Progressing the merger of NCAD within UCD.

This cluster will also focus on collaboration with the creative industries and with further education.

Mid-West Cluster The Mid-West regional cluster has agreed a memorandum of understanding covering its governance structure and objectives.

The cluster members are also involved in programme mapping across their region in association with further education providers. In relation to initial teacher education, UL and MIC are working to establish a centre of excellence in teaching and teacher education – the National Institute for Studies in Education.

West/ North West Cluster In the West there has been agreement on governance arrangements and a common set of principles is under discussion between the institutions. The cluster will undertake coordinated academic planning, initially mapping programmes and access, transfer and progression routes. The cluster will also look to develop regional learning pathways with partner institutes and further education providers.

South Cluster Members of the South regional cluster have agreed governance arrangements and a programme of work.

As above, institutions have included in their compacts details of the milestones to be reached in 2014. These relate to the mapping of existing academic provision and the development of plans to address the findings of this mapping. The shared planning exercise is also expected to assist in advancing reforms to reduce the number of Level 8 entry programmes – it will do this by broadening Level 8 programmes at the point of entry, and so helping students in the transition from second-level to higher education. Given the sensitivity of this issue, timing will be an important factor, and ideally each sector should move simultaneously to reform entry to undergraduate Level 8 programmes. Conducting the academic planning exercise at regional cluster level should help to coordinate approaches to timing. The indicator of coverage of programmes by region will be further developed and monitored through strategic dialogue. The current baseline level of coverage is set out below.

Table 6.2 Number of programmes by NFQ and by cluster in 2014

Regional cluster	Level 8	Level 6/7
South/South East	212	130
West	142	117
Mid-West	109	39
Dublin/Leinster 1	316	7
Dublin/Leinster 2	289	129
Total	1,068	422

6.4 Initial teacher education

The restructuring of initial teacher education will lead to a modernised university-based, research-led, integrated approach to teacher education, covering early childhood, primary and post-primary education and up to adult education. Ultimately this change is aimed at improving the quality of education delivered by graduate teachers to pupils across the education system. There is good progress being made in all the consolidation proposals, although it is acknowledged that progress in some cases is more advanced than in others.

- Froebel College has now been successfully incorporated into NUIM in a timely manner – this new configuration has already proved popular with students, as reflected in a strong increase in demand for places on its courses.
- The merger of St Angela’s College into NUIG is planned for completion by end 2015
- The merger of the GMIT teacher education programme with NUIG is well advanced

The incorporation of St. Patrick’s College Drumcondra and Mater Dei Institute into DCU is also well advanced, with students registering in the ‘new DCU’ in September 2015. Sound progress is also being made with respect to the Church of Ireland College of Education.

A collaborative centre is being established in Dublin between UCD, TCD, Marino Institute and NCAD. Plans are well advanced to provide joint postgraduate programmes and a shared approach to services such as teacher placement and continuing professional development.

The National Institute for Studies in Education is being established as a collaborative project involving Mary Immaculate College, Limerick Institute of Technology and the University of Limerick. The institutions have developed a governance structure and plan to avail of the opportunities from a shared approach to the provision of subjects that span both primary and post primary education. They have also identified an initial range of joint activities and projects for the new institute:

- Continuing professional development
- PhD development
- Schools placement interface
- Opportunities for research clusters.



Art teacher education provision in LIT and CIT is being aligned respectively with broader initial teacher education provision in UL /MIC through the new institute in Limerick and with UCC in Cork.

6.5 Creative and performing arts

Dublin contains a significant concentration of programmes in the creative and performing arts. An important objective of reform, as it applies to these disciplines in particular, is to increase capacity and quality through consolidation and/or closer collaboration. It is also an important objective to bring a closer alignment between the provision made by the institutions and the requirements of the creative industries. In addition, it will be important to ensure that the provision for creative and performing arts programmes in further education in the Dublin region is well connected to the higher education provision. A number of developments are on-going.

- The National College of Art and Design will become part of UCD where a relationship with the School of Architecture in particular will enhance the quality of programmes generally
- The range and quality of provision will be further strengthened as the Dún Laoghaire Institute of Art, Design and Technology develops a separate collaboration with the joint entity
- The Royal Irish Academy of Music is developing a close collaboration (with a particular focus on drama) with the TCD Lir Centre.

Overarching all these developments, and including the Dublin Institute of Technology, a thematic cluster has been formed among institutions involved in the creative and performing arts in the Dublin region. This thematic cluster is focused on becoming more connected both to the creative industries and to further education; it is led by the Institute of Art Design and Technology, Dún Laoghaire.

Good progress is evident generally in the plans and timelines for delivery.

6.6 Technological universities

Expressions of interest in applying for designation as technological universities were accepted from three consortia of institutes of technology as part of the System Reconfiguration report. The early publication in 2014 of Heads of a Bill which will allow for the future establishment of technological universities and for the mergers of institutes has provided a clarity that will support the institutions in meeting the challenges involved in this process.

Table 6.3 Technological university consortia

Dublin Technological University Alliance	Dublin Institute of Technology, the Institute of Technology, Blanchardstown and the Institute of Technology, Tallaght
Munster Technological University	Cork Institute of Technology and the Institute of Technology, Tralee
Technological University of the South East	Waterford Institute of Technology with the Institute of Technology, Carlow

All three of these consortia have appointed independent chairs to their alliances and have signalled that they will submit a Stage 2 application for technological university status in 2014. This represents a challenging timeline for the institutions, as Stage 2 requires significant detail including how the consortia intend to reach the criteria for designation over a reasonable period of time, including plans for the merger of institutions; details of their distinctive technological university mission and profile in academic and research offerings; and a demonstration of the extent to which workplace practices that are in line with those of a modern university have been developed.

6.7 Thematic reviews

Thematic reviews of provision are a way of focusing on aspects of system delivery across a number of institutions – particularly in cases where quality or sustainability could be improved by taking a more systemic, less fragmented approach to provision. The initial teacher education review and the review of creative and performing arts in the Dublin region were two such recent thematic reviews and demonstrate the potential of such reviews to bring coherence and enhanced quality. Reviews of engineering, dentistry and nursing provision are planned for later in 2014/15.

6.8. Indicators

Data is not currently available on the number of collaborative programmes between HEIs and common modules (indicator 6.2) between programmes. There are, however, particular examples of joint provision being targeted as part of the restructuring of the system – these are set out in Table 6.4.

Table 6.4 Examples of collaborative programmes between HEIs and common modules between programmes

HEIs	Collaboration
UL MIC LIT	Establishment of Limerick Graduate School to facilitate closer integration, resource-sharing, and jointly-delivered services for students of each institution's individual graduate schools. This will have the effect of increasing the shared critical mass required to attract high calibre graduate students to the region, to encourage research innovation and to attract funding. Includes plans for accreditation by UL of LIT PhDs. Operational by 2016
UL MIC	Joint MIC-UL Liberal Arts undergraduate degree programme (with common entry), developed, approved and CAO-listed. Launched by 2016
UCD TCD MIE NCAD	Design and delivery of joint Professional Masters in Education (PME) programme, building on institutional strengths. To include shared teaching across HEIs, with modules available to all students. Delivered by 2016
DCU DKIT	Establishment of DCU-DKIT Graduate School; Offer two new joint masters programmes by 2016
DCU SPD MDI CICE	The Humanities departments of SPD, DCU, MDI and CICE will come together to develop a new BEd and will also contribute to the joint honours BA programme following the completion of a full merger.



As regards the level of HEI research collaborations (indicator 6.3), figure 4.1 (on page 59) showed that the proportion of research papers authored with international collaborators has risen steadily over the period 1981-2011 and now stands at almost 50%. Data relating to co-authors nationally will be included in future iterations of the system performance report.

In terms of the proportion of the student population in private HEIs, this indicator will be reported on more extensively in future system performance reports. In the interim, it can be reported that there are now a total of 11 fully-accredited Irish private colleges of higher education offering degrees and postgraduate qualifications. Full-time and part-time enrolment is estimated at 22,000 (roughly 60% full-time and 40% part-time) and students – in headcount terms, this is equivalent to 10% of total higher education provision.

Nearly 40% of Springboard provision and 25% of ICT conversion places are in private colleges, and the sector has played a very important role in the provision of teacher education graduates. Private colleges account for 13% of total international student enrolment.


As demand for higher education grows to meet both demographic and labour market requirements, the importance of maintaining a vibrant private higher education sector as a key part of a diverse landscape of provision will continue to grow.

System Objective 7:

Accountability for public funding and public service reform

To increase accountability of autonomous institutions for public funding against national priorities.

- The introduction of the strategic dialogue process is a significant development in enhancing the governance and accountability of the higher education system
- The system has adapted to significant reductions in public funding in recent years. Some of the impact of these reductions has been ameliorated through efficiency measures such as increased shared services and shared procurement where the sector has a strong track record. Existing shared services include CAO, HEANet, An Chéim, LIRE (shared access to large items of research equipment), the Education Procurement Service, ALCID (academic libraries co-operation in Ireland), ICHEC (shared high-end computing service), shared international student recruitment, shared academic planning, and the establishment of regional graduate schools in regional clusters. Inter-institutional collaboration is incentivised by the HEA through strategic funding schemes.
- The HEA will continue to work with the sector to identify further opportunities for improved efficiency, and will identify any necessary enablers such as targeted voluntary redundancy mechanisms. These efficiencies should form part of a wider strategy for longer-term financial sustainability of the system.
- The system has achieved significantly more with less as expenditure per student falls by more than one fifth – this is due to reduced funding coupled with growth in student numbers. The pace of reduction is exceeding the capacity of many institutions to respond and one third of HEIs are presenting deficit budgets for 2014.
- Public service reform has the potential to release further efficiencies as the higher education system engages in the shared services and procurement reform programmes and continues to improve staff performance management and development systems.
- Approaching public service reform initiatives on a whole of sector basis will enable the achievement of greater efficiencies and ensure scale is achieved where required. We expect to see the whole of sector approach to public service reform initiatives further strengthened over the period of this framework and the governance structures now in place will support this. We will work with the sector to achieve greater transparency and accountability for the use of public funds over the period of this framework.
- There is evidence that work practices are already being reformed through implementation of public service agreements and development of workload management models in the university sector. These are being reviewed by the HEA.
- By 2016, private student contributions (excluding higher education grants) will amount to 19% of total institution income.
- This diversification of funding sources into the system means that public funding as a share of total institutional income will be 64% in 2016 compared to the latest OECD average of 68.4% and the EU21 average of 77.3% (2010).



The introduction of the new strategic dialogue process has been a significant step forward in higher education accountability. For the first time the Minister has set out the range of priority national objectives against which Government will hold the system of higher education accountable. The HEA can report in this first system report that the institutions individually and the system collectively are already performing well against these objectives and are projecting to continue to strengthen this performance.

However, the publicly funded system is now under severe strain: the 25% deterioration in the staff– student ratio between 2008 and 2013 is expected to worsen further in the coming years, there are projected continued decreases in funding and continued increases in student numbers – all of which represent major challenges to the quality of our graduate and research outputs.

The higher education system is working to transform how it does its business, and major improvements in collaborations of all kinds are expected to release capacity to meet some of the increase in demand and to help maintain and improve quality. For example, the need to increase efficiency is driving collaboration in shared services and shared procurement. But unless inflexibilities in the management of human resources are addressed, they will limit the gain from this and other collaborations.

Taken together then, the HEA can report on significantly improved accountability in respect of the higher education system. That accountability carries two clear messages; the higher education system is delivering far more with reduced resources than ever before, but that performance is resting on an increasingly fragile basis, carrying with it the risks that further expansion may in the future lead to a decline in quality.

It is important that the principles of academic freedom and institutional autonomy which underpin the success of the higher education system are supported even as accountability is improved.

7.1 System funding

Overall level of funding and trend in proportion of public/private funding

The overall level of funding of HEA-funded higher education institutions has been declining since 2007/08. Between 2008 and 2014 total income per student decreased by 22%. Exchequer funding as a proportion of total funding dropped from 76% to 56% over the five years from 2008 to 2014. It is set to decline further to 51% to 2016 –this is in line with measures announced by the Government in relation to increases in the student charge and reductions in overall funding including income from the charge. The OECD average moved from 71% to 68% between 2005 and 2010 but this was largely caused by changes in non-European countries.

When account is taken of the fact that approximately half of the student charge income is indirectly paid by the Exchequer through student higher education grants, the decline in funding is from 78% of the total in 2008 to 68% in 2013 and to 64% in 2016. This compares with the OECD average of 68% and the EU21 average of 76.4% for 2010, the latest year for which figures are available.

By 2016, privately paid student contributions (that is, excluding higher education grants and as distinct from the total of income from non-State sources), will amount to 19% of total institution income. Research grants and contracts as a proportion of the total income of universities and institutes of technology has increased from €373m or 13% of income in 2002 to €453m or 19% of total income in 2011.

Table 7.1: Actual and projected income/expenditure by Higher Education Institution by source of funding

Year	State grant and free fees	Income from student contribution	Other fees and Other income	Total recurrent income (excluding Research)	State grant and free fees as a % of total
	€m	€m	€m	€m	%
2007/08	1,397	91	362	1,850	76%
2008/09	1,318	104	407	1,829	72%
2009/10	1,249	187	402	1,838	68%
2010/11	1,179	195	397	1,771	67%
2011/12	1,119	264	400	1,783	63%
2012/13	1,012	302	403	1,717	59%
2013/14	939	338	406	1,683	56%
2014/15	895	382	409	1,686	53%
2015/16	860	427	413	1,700	51%

Excluding RCSI and international students. Takes account of increased income from student contribution and a further 1% overall net reduction in grant. State grant funding excludes funding provided from subhead C10 in respect of pension costs.

When comparing the proportion of public expenditure on tertiary education in Ireland with that of OECD and EU countries, it should be noted that the international comparator for public expenditure is more comprehensive, taking account of research and student fees paid by higher education grants and includes expenditure on institutions funded directly by the Department of Education and Skills. So, although the percentage share relating to Ireland in table 7.2 differs from the core expenditure set out in table 7.1, the trends are the same.

Table 7.2 shows Ireland's public expenditure rising rapidly as a proportion of total expenditure from 1995 to 2005 (owing to the introduction of free fees), and then beginning to decrease. The OECD and EU average public share had begun to decline from 1995 onwards. Between 1995 and 2010, the OECD average share of public funding for tertiary institutions decreased from 77% in 1995, to 76% in 2000, to 71% in 2005 and then to 68% in 2010. This trend is mainly influenced by non-European countries, where tuition fees are generally higher and enterprises participate more actively in providing grants to finance tertiary institutions.

Table 7.2 Percentage share of public expenditure on tertiary education institutions

	1995	2000	2005	2008	2009	2010
Ireland	69.7	79.2	84.0	82.6	83.8	81.2
OECD average	76.7	75.6	70.9	68.8	69.8	68.0
EU21 average	86.3	85.5	81.5	77.7	78.3	76.4

Source: Table B3.3 Education at a Glance 2013 OECD

Between 2000 and 2010, the share of private funding for tertiary education increased in 20 of the 24 countries for which comparable data is available. However, decreases in the public share of total expenditure on educational institutions have not generally gone hand-in-hand with cuts (in real terms) in public expenditure on educational institutions. In fact, many of the OECD countries with the greatest growth in private spending have also had the largest increases in public funding, which indicates a trend for private spending to complement rather than replace public investment. However, the share of private expenditure on educational institutions varies significantly from country to country.

As Table 7.3 shows, total public expenditure on tertiary institutions in Ireland increased by 45% between 2000 and 2010. This compares to average increases in public expenditure of 35% and 38% for the OECD or EU21 respectively between 2000 and 2010. However, as table 7.4 shows, expenditure per student in Ireland has declined significantly since 2008. Together with the quality of teaching and the quality of student engagement, this is what will have the greatest potential impact on overall quality and standards.

Table 7.3 Index of change 1995–2010 in public expenditure on tertiary institutions (2000=100 constant prices)

	1995	2000	2005	2008	2009	2010
Ireland	48	100	106	143	156	145
OECD average	84	100	114	126	133	135
EU21 average	84	100	116	129	135	138

Source: Table B3.3 Education at a Glance 2013 OECD

Core spending per student

Core expenditure per student by higher education institutions (excluding research expenditure) has declined by 15% in the five years to 2013, and the bulk of this decline is accounted for by the growth in student numbers. Expenditure per student will have declined by 20% over the eight years from 2008 to the end of this strategic dialogue period in 2016. Table 7.2 presents the actual and projected expenditure per student.

Table 7.4: Actual and projected expenditure by higher education Institutions per student

Year	Recurrent Income/ Expenditure (€m) (From table 7.1)	FTE Students	Expenditure per Student (€)
2007/08	1,850	157,012	11,783
2008/09	1,829	163,149	11,211
2009/10	1,838	172,917	10,629
2010/11	1,771	176,780	10,018
2011/12	1,783	178,522	9,988
2012/13	1,717	180,461	9,515
2013/14	1,683	181,694	9,263
2014/15	1,686	185,226	9,102
2015/16	1,700	188,943	8,997


The current report shows continuing increased labour market and demographic demand for higher education to 2020 and beyond, side by side with expectations of continuing decline in net funding for higher education, notwithstanding increases in student contributions that are already planned to 2015/16. The HEA considers that the rapid decline in funding per student shown in table 7.2 constitutes a strong warning that it may not be possible to achieve all of the projected future increases in enrolment or that future increases may be delivered at the expense of quality.

HEA funding model

The HEA funding allocation model compares well to best practice models internationally. It consists of a formula-based core funding element, a (now small) strategic funding component and a new element of performance funding. The core formula allocation model is being reviewed to improve the alignment of funding incentives with national objectives – including support for collaboration, for access, engagement and research, and for an appropriate mix of disciplines and levels. The treatment of the ‘fee grant’ is being reviewed to secure a better alignment of funding for STEM provision with STEM costs. The most difficult task however, will be to balance the incentive towards responding to growth in student and labour market demand with the requirements of maintaining quality.

The introduction of performance funding and of incentive funding based on the performance of clusters of collaborating institutions represents a major new departure. The movement towards greater certainty with regard to multi-annual funding is also being considered.

Budget meetings, which were held separately this year, will in the future be integrated with the Strategic Dialogue process. There is an increasing pattern of institutions budgeting for deficits, and this is a matter of concern. This year approximately one third of HEA-funded institutions are indicating that they will end the year with a current deficit. This suggests that the pace and scale of funding reductions outstrip the capacity of the institutions to respond. Some institutions will cope in the short term by running down reserves built up for more developmental purposes – they will do this while they work through their plans for return to full financial sustainability, typically over the three years of this first round of Strategic Dialogue. Of particular concern, however, is the small number of HEIs running current deficits who have also exhausted their accumulated reserves. The HEA is working closely with these institutions while they develop their full recovery plans, taking into account their income base, their cost base, the range and scale of their activities compared to that needed for viability, and identifying those factors that are within the control of the institutions and those which could require further



intervention at system level. Decisions in relation to the future overall funding plans for the sector together with an appropriate HR framework will be important in this context.

7.2 Increased efficiency: shared services and procurement

Building on existing shared services in the system, the higher education sector is participating in public service reform, including the development of more formal and structured shared services to further improve efficiencies from this measure. Those currently in use include the regional clusters and initiatives such as CAO, HEAnet, An Chéim, Tech Transfer, Education Procurement Service, and Bluebrick.

To support the implementation of relevant elements of the Public Service Reform Plan in the higher education sector, a Higher Education Reform Programme Board has been established, chaired by the Department of Education & Skills and including representatives from the HEA, IUA, IOTI and higher education institutions.

Shared Services and External Service Delivery

There is an extensive range of shared services and sharing of resources across the higher education sector, and this provides a strong base for the further development of shared services in the sector. The Higher Education Reform Programme Board recently agreed the higher education section of the *Shared Services Plan for Education and Training Sector 2014–2016* and implementation of the plan is under way. Payroll operations across the higher education sector have been identified as the first area to be looked at in detail and initial work has commenced on the baselining of such operations in order to identify the potential for a shared service in this area.

Outsourcing of non-core functions and services is already a strong feature of the higher education sector and further work in this area will be progressed in the context of the *External Service Delivery Plan for the Education and Training Sector 2014–2016* and in the implementation of the Procurement Reform Programme being led by the Office of Government Procurement (OGP).

Procurement Reform Programme

The higher education sector has provided significant input to the development and implementation of the OGP Procurement Reform Programme throughout 2013 and this work is continuing. The Education Procurement Service, based in the University of Limerick, is being reconfigured as the sectoral sourcing hub for the Education and Training sector. The Education Procurement Service is leading on the operation of two OGP Category Councils, Laboratory Equipment and Diagnostics and Agriculture and Veterinary. Both of these category councils have been mobilised, appropriate governance is in place and work is progressing on identifying priority projects.

Implementation of the Haddington Road Agreement (HRA)

Revised arrangements for the use of additional working hours under the Haddington Road Agreement for the Education and Training Sector have been put in place. In the higher education sector, the following changes have been implemented since July 2013:

- Institute of technology lecturers (4,500) are required to work an additional 78 hours and this will be accounted for by the elimination of time off for church holidays and by reducing extra weighting for evening lecturing. Previously, if a lecturer worked in

the evening the time was counted using a multiplier of 1.5. This has been reduced to 1.25. These arrangements have been operational since September 2013.

- University and other college lecturers (4,500), are required to work an additional 78 hours per annum. The additional hours are to be deployed using Workload Allocation Models to maximise savings and productivity in individual institutions.
- In addition to this, examination marking payments at third level have been reduced across the board by 25%. This results in additional savings of €1.5m per annum.
- The HRA includes further savings of €2.5m in 2014 and €5m in both 2015 and 2016 from the implementation of additional time at third level. The method of harvesting these savings is by a reduction in the number of personnel required in third level institutions to reflect the additional time now being delivered by all staff in the third level sector. This may necessitate a voluntary redundancy (VR) package or similar measure to facilitate this additional reduction in staffing numbers as the additional savings can only be realised only through a direct reduction in staffing numbers.

Other staff (administrative, management, support, research and others) are required to work additional time. Because the overwhelming majority of posts in question are subject to a strict moratorium on replacement, the scope for making savings on recruitments and appointments is negligible. For the most part, employers in the sector will use this additional time to manage workloads and backlogs and maintain service delivery in a context in which they have had increasing volumes of business and falling staff numbers for more than five years. No directly quantifiable savings can be attributed specifically to this additional time as the benefits will find expression in increased service enhancements and productivity rather than in direct cost savings.

HRA also contains other provisions relating to higher education and these will be progressed in line with the timescales set out in the Agreement:

- Workforce restructuring
- Redeployment protocols
- Performance management
- Review of fixed-term/part-time employment in lecturing.

7.3 Utilisation of facilities

The HEA can report that the higher education sector is performing strongly in its utilisation of facilities. The higher education sector has stretched itself significantly to physically accommodate the increasing student population at both undergraduate and postgraduate levels and also to accommodate the increasing numbers of part-time students at all levels. This has been achieved largely on the strength of efficiencies in the utilisation of space.

The HEA space survey data for 2010 indicated that provision is now seriously inadequate⁵³. About 41% of the existing space has been assessed as not being of an appropriate standard – as this is an average the proportion is higher in a number of HEIs. A substantial proportion of the sector's space is either rented or prefabricated, and expected future demand will make this situation worse. The space utilisation rate is 63%, which by international standards is very high, particularly in the light of the relatively high proportion of property that is classified as in need of replacement or major repair.

⁵³ HEA Space Survey 2010 (internal HEA document)

Over 41% of space within the higher education sector in Ireland is more than 25 years old, of which 18% is more than 50 years old. Major repair or replacement is required on 41% of the total space in the sector. Temporary buildings (prefabs) account for 45,000 m² (2%) of total space and rented space accounts for 89,000 m² (4%).

The 2010 position for net usable space per day student FTE for the sector was 7.95m² (11.28m² gross area per day student FTE), which compares with a range of 10–11m² net area per day student FTE internationally. For example, a gross area of 12.8m² / student FTE (equivalent to a net space of 9.8m² / student FTE) applies in Scotland, while Australian studies suggest that a gross area of 15m² / student FTE (equivalent to a net space of 11.5m² / student FTE) is an appropriate standard for higher education campuses (not including student residences). It needs to be remembered, however, that since 2010 a further increase of 9,000 students has had to be accommodated within this space.

The HEA would warn that the current condition and extent of facilities and the absence of provision for new space, constitute a risk to the capacity of the system to deliver the very significant increase in new places that is required to meet growing demand.

7.4 Relative unit costs

Relative unit costs within the sector have been monitored for the last three years using the full economic costing model in the university sector. For fifteen years before that and for the last five years in the institutes of technology sector, the unit cost model has been used.

A principle of formula funding for teaching and learning is that broadly similar disciplines are funded at broadly similar level, reflecting the fact that there are substantial differences in cost between different kinds of teaching and learning. Such differences also apply in other countries, including the UK. At present the different relative university cost levels can be expressed as a multiple of classroom-based activities – as presented in table 7.5.

Table 7.5: Relative costs of different kinds of teaching/learning

Year	2010/11
Classroom based	1
Subjects with an element of Laboratory or Fieldwork	1.3
Laboratory based	1.7
Clinical subjects (Medicine/Dentistry/Veterinary Medicine)	4

The cost base for a research student is approximately three times that for an undergraduate. The cost base for part-time students is pro-rata to that for full-time students. Funding allocations are made through block grants to HEIs who are responsible for distributing this funding internally, in line with their own priorities and for managing whatever cross-subsidisations, pricing or costing structures they deem appropriate from time to time – subject to the overriding requirement that no deficits can be incurred. Graduate unit costs are determined by progression rates, duration of programme and field of study.

Expenditure per student per sector is shown in Table 7.6. It shows that average funding per student in the university sector is higher, reflecting the provision of more expensive disciplines such as Medicine, Dentistry, Veterinary Medicine and more intensive research activity.

Table 7.6: Expenditure per student per sector

Year	2010/11	2011/12
Universities	€10,903	€10,285
Institutes	€9,415	€8,711
Colleges	€9,570	€9,145
Sector	€10,243	€9,586

Source: HEA data based on HEI accounts and SRS student numbers. Expenditure has been adjusted to remove the impact of different methods of funding pensions in the different parts of the sector.

Expenditure per student per institution is shown in the individual HEI profiles which are published in parallel with this report. In the context of a funding model which aims to provide broadly similar levels of public funding to all institutions for broadly similar activity, and in the context of operation on a break-even basis, unit cost differences are in the main explained by the profile of an institution's activity (for example, a higher proportion of more high-cost disciplines or of high-cost activities such as research, or a higher concentration of provision in lower cost non-laboratory subjects etc.) and by the profile of its non-State income generation.

7.5 Implementation of Strategic Dialogue and Next Steps

As a key part of the current round of strategic dialogue, the HEA consulted with external stakeholders on the development of the process, on emerging findings and on next steps. A summary of these consultations and the issues for development follows.

Quality and Qualifications Ireland

The HEA and QQI have committed to working closely together to support each other's distinctive roles. The two organisations have agreed a common approach to statistical data – this has been done to reduce the administrative burden on HEIs, and to improve reliability and comparability. The two organisations will coordinate their processes and timelines to the maximum extent possible. Both organisations are committed to working together and recognise that the areas that will be of particular importance to both institutions in the immediate future include the development and implementation of:

- The framework for doctoral education
- The national forum for the enhancement of teaching and learning
- The International Education Mark
- Surveys of students and employers
- Guidelines for institutional reviews – including how findings of reviews conducted in accordance with guidelines are addressed.



Union of Students in Ireland

The USI was robust in their view that the voice of the learner needs to be brought to the fore in the reform of the higher education, particularly in the process of strategic dialogue and in the governance of new structures. The inclusion of student unions both locally and nationally in the reforms under way is recognised as an important success factor in the overall programme of reform and restructure of the system.

Department of Jobs, Enterprise and Innovation (DJEI) and its agencies

Enterprise Ireland, Science Foundation Ireland and Central Technology Transfer Office (EI with IUA)

The HEA and DJEI will work closely together to move away from using monitoring indicators and towards setting system level targets in certain areas, particularly in the area of commercialisation and innovation outputs. The HEA will work with DJEI to co-ordinate the system response to findings of the Expert Group on Future Skills Needs. The two will also work closely together on developing the foundation required to support the system in maximising competitive success in winning increased competitive research funding from the European Commission's Horizon 2020 programme.

DJEI raised the issue that HEIs need to recognise the value of excellence in commercialisation and enterprise engagement, as they currently do in the fields of research and teaching.

Teaching Council of Ireland

The Teaching Council of Ireland is strongly supportive of the work of the higher education system in implementing the findings of the Initial Teacher Education review. A series of regular meetings have been agreed between the Council and the HEA.

Skills and Labour Market Research Unit of SOLAS

The HEA has received briefing from the SLMRU on their ongoing work on employment projections and on labour market demand for skills, including graduate skills.

Institutes of Technology Ireland (IOTI) and Irish Universities Association (IUA)

- The HEA is in ongoing consultation with the IUA and IOTI on the development of strategic dialogue. Issues of particular concern to the institutions include the following:
- The primacy of the funding sustainability issue
- The need for the enablers of reform to be provided to the institutions and in particular for the necessary flexibility to be provided to manage staffing in accordance with strategic priorities
- The need for multi-annual funding to underpin meaningful strategic planning
- The need to support a cautious, engaged, learning approach to the reform of the system and to the strategic dialogue process

- The need for involvement in the development of an assessment system linked to the allocation of performance funding and the avoidance of unintended consequences
- The need to co-ordinate the timing of the dialogue process with the peaks and troughs of the academic year
- The need to minimise bureaucratic burden and minimise duplication of processes – with agreement that the basic input to strategic dialogue should be the HEI strategic plan.

The outcome of consultations to date and of the ongoing consultation with stakeholders which will be an integral aspect of the process, will inform its future development.

Next Steps

The HEA sets out below an outline of the expected future roll-out of the strategic dialogue process. The key focus will be on the quality of the performance being delivered by institutions, together with the increasing alignment of funding towards that performance.

The compacts, as now agreed, provide for the first performance targets at the end of 2014. Accordingly the process of reviewing the next compacts will commence in early 2015.

In this next review of compacts the HEA will again report on overall system performance against the national framework. The HEA will work to develop data sets to enable reporting against a small number of indicators in the framework for which good data does not currently exist and which could not be included in this first report. But in addition, the HEA will pay particular attention to those issues identified in this report as carrying particular risks, (including access performance, non-progression and general quality of teaching and learning), capturing wider measures of research performance, and internationalisation.

In addition, throughout 2014 the HEA intends to work with the institutions on systemic issues in relation to the development and presentation of compact proposals. These issues are set out in Appendix 1.

Cycle 1: 2014

In 2014 the first set of compacts will be agreed and published (in Quarter 2). Feedback will have been provided on objectives and indicators that need to be further refined and strengthened. Performance Funding will have been allocated based on quality of engagement with process.

The HEA will engage with HEIs in a variety of developmental and supportive ways to enhance capacity to engage in the process throughout 2014 including:

- Dissemination of good performance exemplars
- Engagement on issues of systemic concern such as benchmarking, prioritisation, integration of activities into strategy
- Development of more output-oriented planning focus, together with ongoing bilateral engagement with particular institutions to set out concerns in respect of specific issues.

The purpose of this engagement is to assist institutions in their 2015 process.



The HEA will separately engage with stakeholders in its further development of the dialogue process, and the relation of performance to funding.

Cycle 2: 2015

In 2015, the HEA intends to seek a second set of submissions from institutions (to be returned by June 2015) which will present data on performance against 2014 targets. If necessary, institutions may seek to amend existing performance targets – This might arise on the basis of the substitution of an improved target or indicators, or following some major unforeseen events. The HEA will expect compelling evidence to justify such change. The HEA will, for its part, also continue to interrogate the plans and proposals submitted and would expect to see a continued improvement in the quality of the submissions made. This is especially true in relation to issues of concern highlighted in feedback to the institutions, and set out in Appendix 1. These submissions would include:

- Strategy – extended to 2018 with appropriate indicators and any new objectives
- First self-evaluation report from HEIs on their performance against compact with particular emphasis on performance against first interim targets (including feedback on these) that were to be achieved by the end of 2014
- Revised objectives and indicators in the light of the developmental work undertaken.

The HEA will carry out its process of review of proposals and its engagement with institutions with a view to having this second set of compacts agreed before the end of 2015.

Longer term steady state

In the longer term the intention is to move the process to a more regular three-year cycle. This would involve a major review every third year, and a less intensive process between those major reviews. However, the HEA will use a risk based approach to focus its attention on areas or institutions requiring particular focus between the major reviews.

PART 3

APPENDICES

Appendix 1

The Strategic Dialogue Process

In May 2013 the Minister for Education and Skills formally approved a whole-of-system approach to the governance of the Irish higher education system. As part of this approach a new relationship between the State and the higher education institutions was to be implemented to allow the system to deliver on a set of outcomes identified as essential for Ireland's social and economic well-being. A performance framework was set out in which, through a process of Strategic Dialogue between the HEA and the Institutions, a well-coordinated system of mission-diverse institutions would be held accountable for its performance against a set of clearly defined national priorities and key system objectives, with public funding aligned to facilitate delivery of agreed outcomes.

The national priorities of government were summarised by the Minister as follows:

1. Economic renewal and development at national and regional levels
2. Social cohesion, cultural development and equity at national and regional levels
3. Public sector reform towards greater effectiveness and efficiency and the restoration of trust in Ireland's civic and public institutions
4. Restoration of Ireland's international reputation

Seven key system objectives were set by which the higher education system was to make its contribution to the government's national priorities. The agenda reflected in the seven objectives was acknowledged by the Minister to be both complex and demanding, encompassing as it did both improved outcome measures across the key pillars of higher education activity together with reformed enabling measures in terms of a re-structured Landscape of higher education institutions and their key inter-relationships. The seven objectives are:

1. To meet Ireland's human capital needs across the spectrum of skills by engaged institutions through a diverse mix of provision across the system and through both core funding and specifically targeted initiatives
2. To promote access for disadvantaged groups and to put in place coherent pathways from second level education, from further education and other non-traditional entry routes
3. To promote excellence in teaching and learning and assessment to underpin a high quality student experience
4. To maintain an open and excellent public research system focused on the Government's priority areas and the achievement of other societal objectives and to maximise research collaborations and knowledge exchange between and among public and private sector research actors
5. To ensure that Ireland's higher education institutions will be globally competitive and internationally oriented, and Ireland will be a world-class centre of international education
6. To reform practices and restructure the system for quality and diversity
7. To increase accountability of autonomous institutions for public funding and against national priorities

The first steps in implementing the system performance framework were for the HEA to enter into a set of individual institutional performance compacts, to introduce an element of performance funding to its funding model and to make a first limited allocation of performance funding based primarily on the quality of engagement with the reformed performance governance system.

The Landscape of higher education institutions was to be restructured to form a more coherent system of mission-diverse, complementary, and highly collaborative institutions in which the diversity and areas of high quality performance that were already evident would be maintained and strengthened. The major components of the restructured landscape were:

1. The establishment of a set of Regional Clusters, the governance of which was to be kept light and flexible and would not dilute the accountability or autonomy of the higher education institutions; the strategic objectives of which would be clear, simple and well prioritized, focusing in the first instance on shared academic planning, and improved student pathways
2. The implementation of the recommendations of the Initial Teacher Education Review on the formation of providers of initial teacher education into six centres, through mergers and collaborations, integrating teacher education provision across the continuum from early childhood to adult education, which would be research-led and university based
3. The Implementation of the Review of Creative and Performing Arts and Media in the Dublin Region which recommended greater collaboration in a thematic cluster, greater connectedness to the creative industries and to Further Education and protection for heterogeneity in the context of institutional consolidation

4. The establishment of a path – a process and criteria - by which institutions of technology that met certain standards could apply for designation as technological universities. In the Minister's speech of November 2012 he stated "More than ever, we need a technological sector that is agile and responsive to not only the skills needs-but also the research and development needs - of a rapidly changing enterprise sector, and an increasingly diverse workforce.
5. A core objective will, therefore, be to protect and enhance the role of the IOT sector in supporting enterprise, underpinning diversity and promoting access and participation.
6. The strengthening of a key set of existing Strategic Alliances – that included both mission complementary and mission similar alliances, in a way that protected and enhanced the distinctiveness of the missions of the allied institutions

A set of high level system indicators for 2014-16 was agreed related to the key system objectives, agreed in consultation with other government departments and agencies. The set of structures, mechanisms, policy and legal instruments that needed to be developed in order to enable successful performance were also set out by the Minister as part of the framework.

Progress on implementation of system performance framework

The higher education system has engaged seriously with the new system performance framework. All twenty-six institutions returned completed draft compacts setting out their mission, strategies, objectives and performance targets to 2016 under all the required headings, within the required timescale, which was challenging.

This first round of strategic dialogue concentrated on agreeing the mission, profile and strategy of each higher education institution taking account of its place in the landscape, agreeing the set of strategic objectives needed to implement the strategy, agreeing a set of realistic but challenging interim and final targets associated with the achievement of these objectives, together with the indicators of success by which the institution itself proposed that it should be measured and the clear means of verification of these indicators.

As a signalling measure a limited amount of performance funding of €5m was reserved from the allocation of the 2014 recurrent grant to higher education institutions to be released subject to satisfactory engagement with the strategic dialogue process. In the allocation of this funding the HEA was cognisant that this was the first year of strategic dialogue and was a developmental and a learning stage for all involved in the introduction of a very significant new process.

The annual system performance report is itself an important part of the feedback in a system designed to improve overall system and institution performance. In the allocation of performance funding in year 2 of this process, the HEA will have regard to the agreed outcomes of this year's dialogue process with each institution including not only specific objectives and indicators proposed within the compacts but also to the general and specific feedback to institutions regarding the overall composition and quality of compacts. Institutions will be expected to be able to demonstrate that they have incorporated this feedback into their processes for next year's process.

The HEA was assisted by an external expert panel in its assessment of the draft submissions. Written feedback was provided to each institution which informed an agenda for a strategic dialogue meeting with each institution and with each regional cluster. These meetings were held during December and January and were attended by the President and senior management teams of the institutions and by the CEO and senior management team of the HEA and by members of the external panel.

The HEA acknowledges the work done by HEIs in the preparation of their draft compacts. There are many examples of very good practice in many of the submissions, in areas such as regional clusters, research, teaching, enterprise engagement, internationalization, institutional consolidation and other areas of the compact. The HEA is committed to build upon, and disseminate such good practice in the future development of this process.

We also acknowledge that, in the first year of the strategic dialogue process, all actors in the process are on a learning curve. Notwithstanding the many positive elements emerging from the process to-date there is considerable room for further development before the strategic dialogue process can deliver its objective – a coherent, well-coordinated system of mission specific higher education institutions delivering, in its totality, on national objectives. Set out below are some conclusions as to the key areas where further development should take place.

Diversity

The set of compacts presented by the institutions continues to provide good evidence of the diversity that exists at a high level and of two distinct sectors particularly as indicated by the current and future profile of the institutions' activity and of their provision. The distinctiveness that exists between Institutions within the sectors became more apparent during the process of dialogue.

Quality of strategic planning

The HEA recognises that this is the first year of strategic dialogue and this is a developmental and a learning stage for all in introducing a very significant new process. The annual system performance report is an important part of the feedback in a system, designed to improve overall system and institution performance. In year 2 of this process, the HEA will have regard to the agreed outcomes of the dialogue process with each institution including not only specific objectives and indicators contained within the compacts, but also to the general and specific feedback to institutions regarding the overall composition and quality of compacts. Institutions are expected to have regard to this feedback and to demonstrate that they have incorporated it into their processes for next year's process. The following comments are made in this context

Prioritisation

There was limited evidence of effective strategic prioritisation in draft compacts and some evidence of institutions moving ahead rapidly on a number of fronts. The message that good prioritisation and focus will strongly advantage an institution in the allocation of performance funding needs to be communicated to institutions in future rounds of the process. The overall number of strategic objectives which in many cases was initially excessive became more focused as the dialogue process advanced. In general, the sense of institutional prioritisation of those areas requiring strategic steering or development focus over the next three years needs to come through more strongly in future iterations of the compacts. It is acknowledged that the structure of the compact template may have contributed to a sense that each national objective area was given equal priority by each institution. However, the view of the external Panel, was that on balance, a common template was beneficial in the early years of this process.

Similarly only a small number of institutions confidently reflected on their weaknesses as well as on their strengths in setting their objectives and targets and again the message needs to be more strongly conveyed that a good assessment of both strengths and weaknesses in informing the setting of performance targets will not disadvantage any institution.

Portfolio of programmes

Institutions could better bring out how their portfolio of programmes relates to their distinctiveness of mission and strengths in teaching, learning, quality of the student experience, or research and innovation.

Internal coherence

The coherence between the different elements of institutions' strategies needs to be improved. For example, how the access strategy informs the teaching, learning and assessment strategy; how the research strategy informs the international strategy or vice versa needs to be more clearly demonstrated and developed by most higher education institutions.

Objectives, indicators, targets

It is apparent that in some institutions there is a general need for capacity building to improve the quality of strategic planning. Some objectives in the initial draft compacts were aspirational when compared to trajectory from current baselines. A number were revised following the dialogue meetings. An analysis of competitive and other funding challenges, of demands on the time of institutional leadership, of management and academic capacity to deliver, or by risk identification and mitigation would strengthen target setting in the future.

Individual institutions will likely want to refine mid-term ambitions with the benefit of year one hindsight and of themes crystallising such as the funding backdrop, H2020 bids, opportunities and challenges arising from clustering.

Outcomes-focused objectives

It is expected that a greater focus on outcomes-oriented objectives will become evident as the process develops, leading to fully verifiable interim and final targets, particularly with regard to increased student participation, improved quality of the student experience related to transition and progression, enhanced research and enterprise engagement outputs.

A mix of quantitative, qualitative and milestone indicators are to be expected as appropriate to the objective.

It was noted that the activities being planned were poorly related or unrelated to these outcomes. Further, it was not evident how the activity was driven by the desired outcomes. While the use of some qualitative indicators was to be expected in areas where these were the most appropriate measures, particularly where plans or processes needed to be developed, there has been an over-reliance on qualitative indicators that do not have any clear means of verification

Institution benchmarking

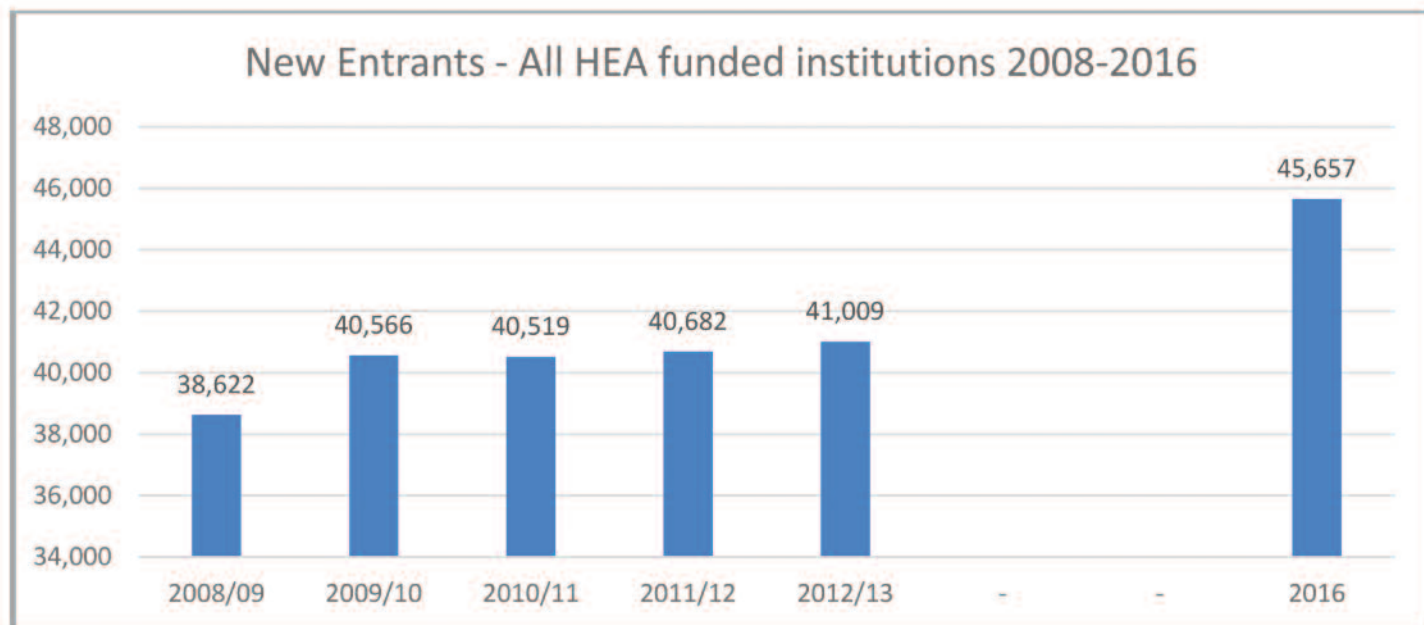
The dialogue meetings with institutions revealed far more external benchmarking being undertaken, particularly international benchmarking of research performance but also some international benchmarking of enterprise engagement. In future compacts, Institutions might draw out implicit benchmarking involved in ongoing operations, e.g. where extern examiners are drawn from in particular schools, which institutions look to your institution for extern examiners in particular schools or disciplines, which institutions accept your graduates onto their postgraduate programmes and from which institutions do your graduate entrants come. In future, benchmarking should more clearly inform target setting by the institutions.

Appendix 2 System Profile and Trajectory to 2016

The following tables and charts give details of the current system profile and the projected profile for 2016.

New Entrants (annual inflow of new students)

The system is predicting an overall increase in full-time undergraduate new entrants of 12%.



The proportion of new entrants entering STEM programmes (excluding health, agriculture and veterinary sciences) is set to remain stable, at 29% in 2011/12 and 30% in 2016.

Full-time Undergraduate New Entrants by Discipline 2011/12 vs 2016

	2011/12		2016	
	No.	%	No.	%
General Programmes	170	0%	342	1%
Education Science	1,434	4%	1,689	4%
Humanities & Arts	8,344	21%	8,311	18%
Social Science, Business & Law	9,312	23%	11,026	24%
Science	7,135	18%	7,848	17%
Engineering, Manufacturing & Construction	4,542	11%	5,908	13%
Agriculture & Veterinary	835	2%	1,027	2%
Health & Welfare	5,691	14%	5,586	12%
Services	2,765	7%	2,334	5%
Combined	454	1%	1,585	3%
Total	40,682	100%	45,656	100%

Graduates (annual outflow of graduates)

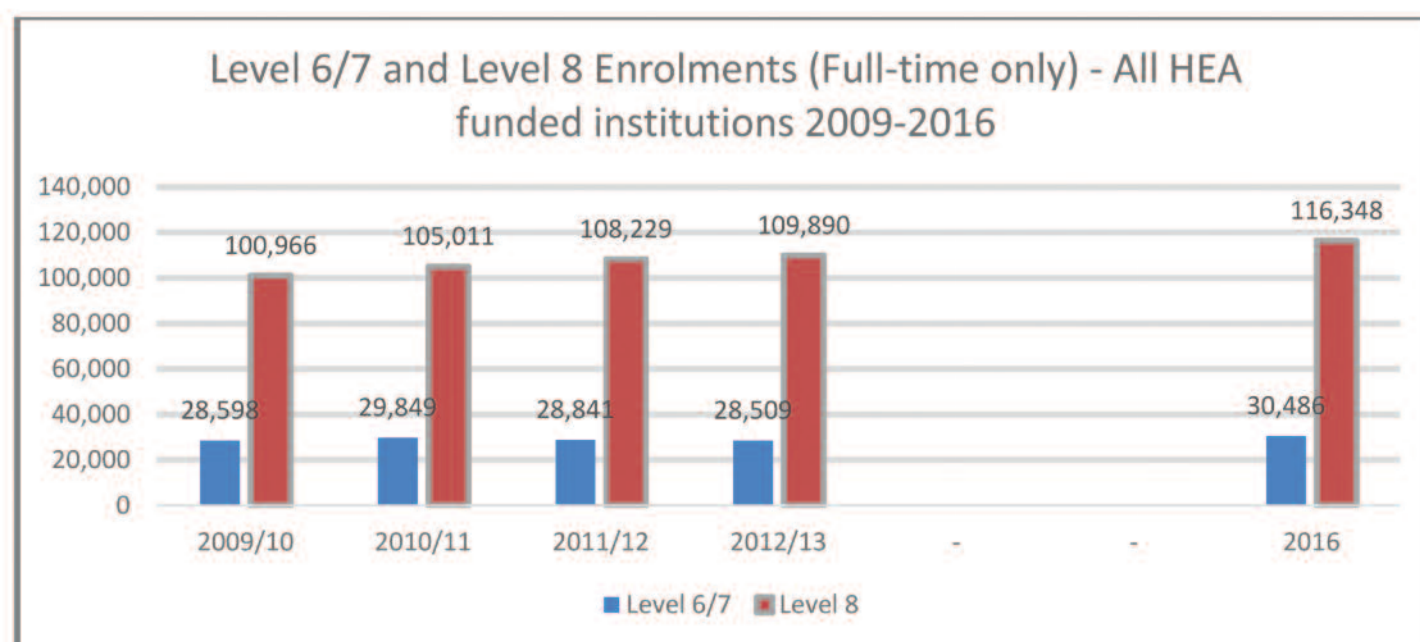
The system is predicting an increase of 6% in the number of undergraduate graduate awards, and an increase of 10% in postgraduate graduate awards.

Enrolments (total stock of students)

Overall, enrolments are projected to increase by 10%, from 196,397 in 2011/12 to 216,732 in 2016. Enrolments on sub-level 6 programmes will continue to decline, however due to the ongoing drop in apprenticeship numbers.

Full-time undergraduate enrolments

Full-time undergraduate enrolments are projected to increase by 6% overall, with an increase of 7% in Level 6/7 and 6% for Level 8.



Postgraduate enrolments

Postgraduate enrolments are projected to increase by 20%, with increases of 21% for certificates/diplomas, 23% for masters taught, 42% for masters research and 6% for PhDs. The percentage of PhD students engaged in STEM programmes is projected to increase from 43% to 48%.

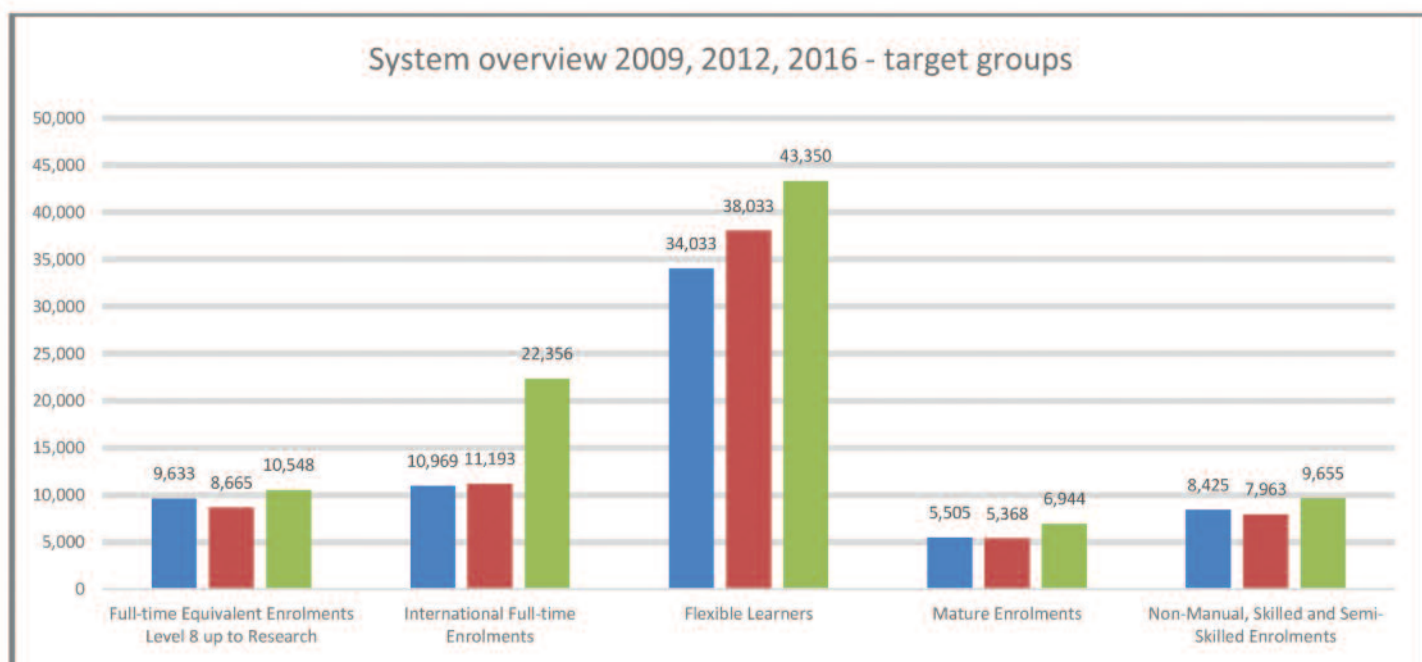
Mature, international, research, flexible and disadvantaged enrolments

Over 72% of new entrants come directly from the secondary system, with 14% classified as late entrants and 14% as mature.

Full-time new entrants 2012-13, direct, late and mature entrants	2009
Direct New Entrants (17-19 Year olds)	72%
Late Entrants (20-22 Year olds)	14%
Mature New Entrants (23+ Year Olds)	14%

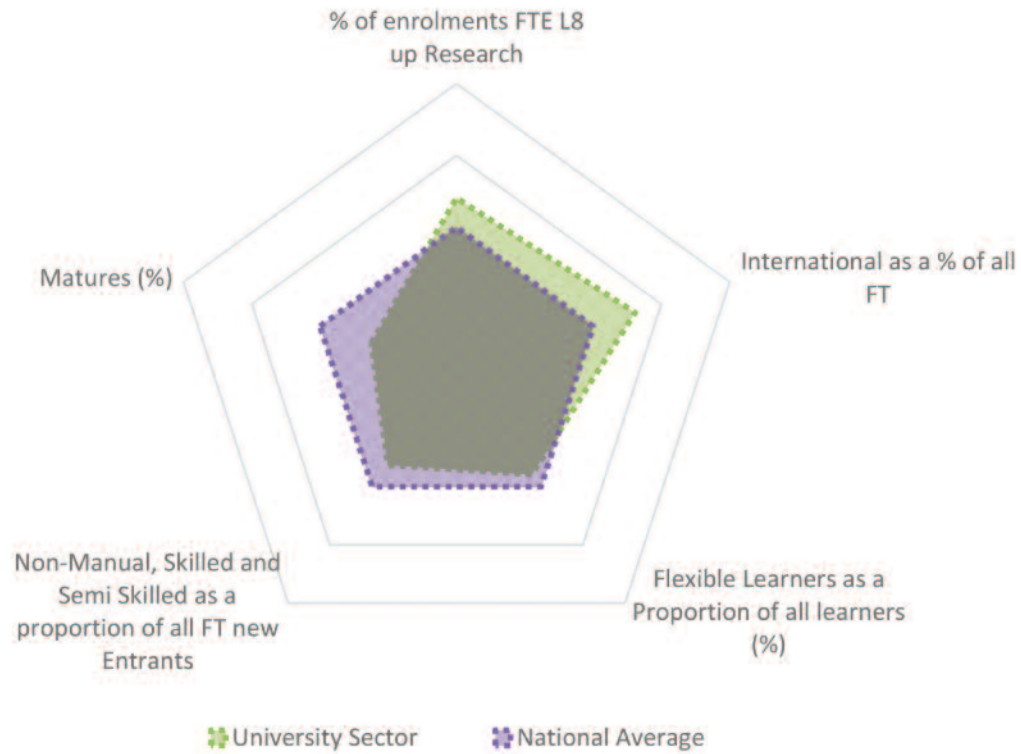
The following table and chart give the projected numbers enrolled under the headings of research, international, flexible, mature and disadvantaged.

National Average	2009	2012	2016
Full-time Equivalent Research Enrolments	9,633	8,665	10,548
International Full-time Enrolments	10,969	11,193	22,356
Flexible Learners	34,033	38,033	43,350
Mature Enrolments	5,505	5,368	6,944
Non-Manual, Skilled and Semi-Skilled Enrolments	8,425	7,963	9,655

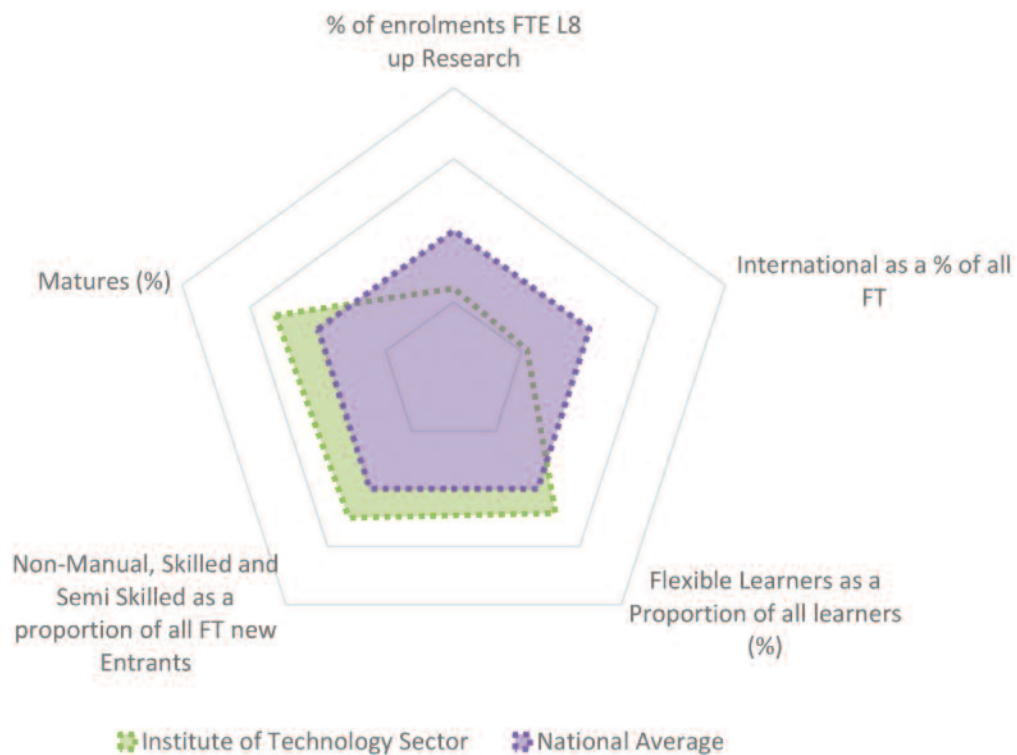


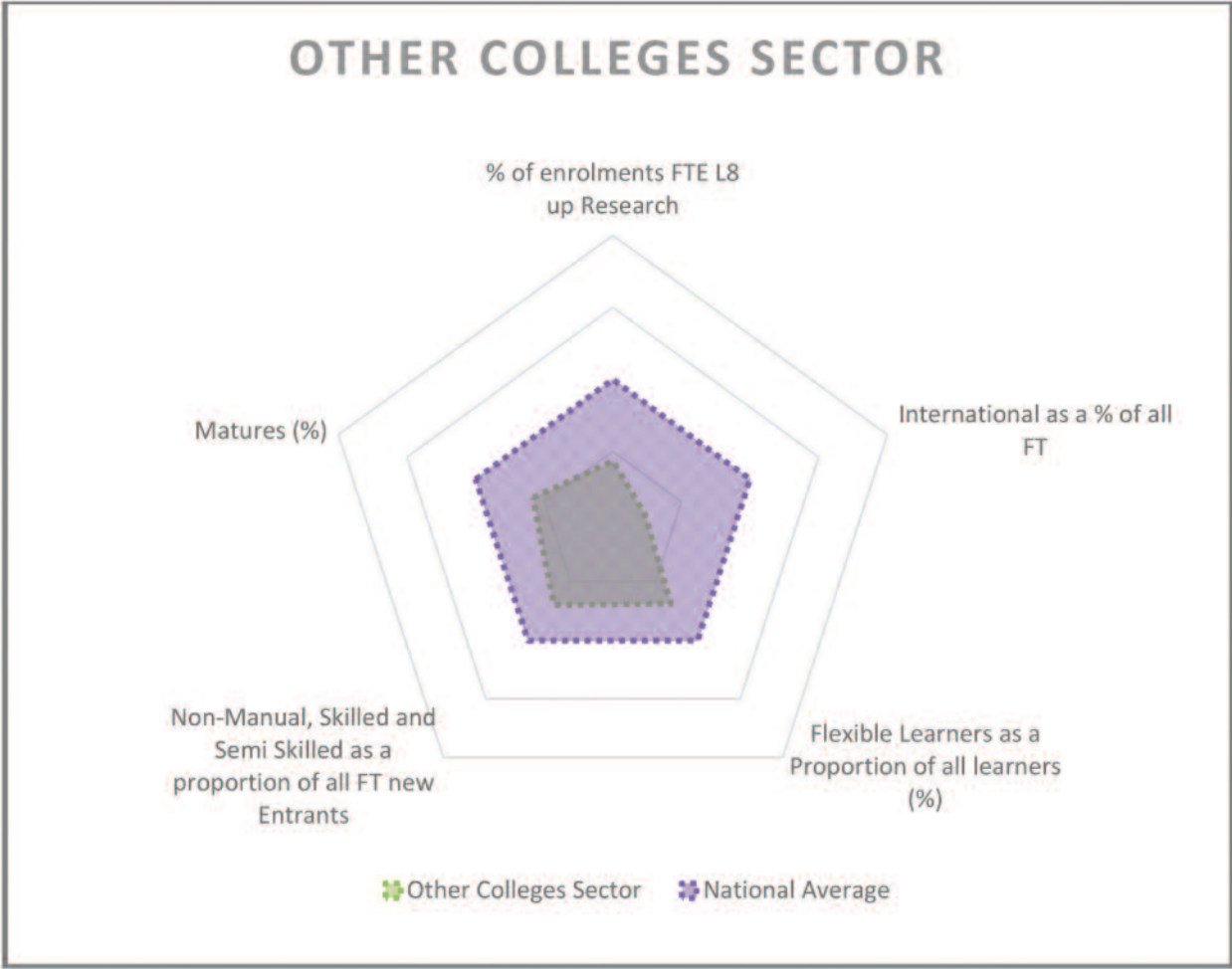
Sector	FTE Research as % of Level 8,9,10	International as a % of all FT	Flexible Learners % (2012)	Non-Manual, Skilled and Semi-Skilled %	Mature (%)
University Sector	8%	17%	17%	18%	10%
Institute of Technology Sector	4%	7%	23%	25%	20%
Other Colleges Sector	3%	3%	14%	15%	9%
National Average	7%	13%	19%	21.6%	16%

UNIVERSITY SECTOR



INSTITUTES OF TECHNOLOGY SECTOR





The following table gives the system profile for 2011/12 and 2016 for all HEA-funded institutions

All Institutions Profile 2011/12					All Institutions Profile 2016						
Student Numbers					Student Numbers						
Entrants											
		No.				No.					
New Entrants (Full-time Undergraduate)		40,682			New Entrants (Full-time Undergraduate)		45,657				
Graduates											
		No.		%		No.		%			
Undergraduate Graduates		41,799		71%	Undergraduate Graduates		44,487		70%		
Postgraduate Graduates		17,152		29%	Postgraduate Graduates		18,874		30%		
Enrolments											
		Full-time	Part-time	Remote	Total		Full-time	Part-time	Remote	Total	
Other Enrolments (IoTs only)	No.	707	7,186	0	7,893	Other Enrolments (IoTs only)	%	616	2,018	0	2,634
Foundation	No.	447	30	0	477	Foundation	%	295	41	0	336
FETAC Cert	No.	17	344	0	361	FETAC Cert	%	14	86	0	100
FETAC Advanced Cert	No.	243	6,812	0	7,055	FETAC Advanced Cert	%	307	1,891	0	2,198
of which the no. of apprenticeships is	No.	164	6,551	0	6,715	of which the no. of apprenticeships is	%	160	1,456	0	1,616
Undergraduate	No.	139,357	20,087	2,750	162,194	Undergraduate	%	149,565	22,211	3,747	175,523
Diploma/Cert	No.	5,836	6,896	862	13,594	Diploma/Cert	%	6,480	7,405	800	14,685
Ordinary Degree (L7)	No.	23,005	3,199	552	26,756	Ordinary Degree (L7)	%	24,006	4,287	580	28,873
Honours Degree (L8)	No.	108,229	4,589	1,162	113,980	Honours Degree (L8)	%	116,348	5,727	2,317	124,392
Occasional	No.	2,287	5,403	174	7,864	Occasional	%	2,731	4,792	50	7,573
Postgraduate	No.	21,290	12,010	903	34,203	Postgraduate	%	24,816	14,797	1,595	41,208
Postgrad Diploma/Cert	No.	3,390	3,678	65	7,133	Postgrad Diploma/Cert	%	3,348	4,625	624	8,597
Masters Taught (L9)	No.	9,104	6,372	577	16,053	Masters Taught (L9)	%	11,341	7,454	971	19,766
Masters Research (L9)	No.	1,178	343	0	1,521	Masters Research (L9)	%	1,728	428	0	2,155
PhD (L10)	No.	7,538	1,142	3	8,683	PhD (L10)	%	7,941	1,279	0	9,219
Occasional	No.	80	475	258	813	Occasional	%	459	1,011	0	1,470
Total UG and PG Enrolments	No.	160,647	32,097	3,653	196,397	Total UG and PG Enrolments	%	174,381	37,009	5,342	216,732
Research & Taught (L9/10)	FTE				15.9%	Research & Taught (L9/10)	% FTE L8 and All PG				17.0%
Research (L9/10)	FTE				6.8%	Research (L9/10)	% FTE L8 and All PG				6.9%
Research (L10)	FTE				5.8%	Research (L10)	% FTE L8 and All PG				5.6%

DISCIPLINARY MIX

Full-time Undergraduate New Entrants							
		No.	%				
General Programmes		170	0%	General Programmes		342	1%
Education Science		1,434	4%	Education Science		1,689	4%
Humanities & Arts		8,344	21%	Humanities & Arts		8,311	18%
Social Science, Business & Law		9,312	23%	Social Science, Business & Law		11,026	24%
Science		7,135	18%	Science		7,848	17%
Engineering, Manufacturing & Construction		4,542	11%	Engineering, Manufacturing & Construction		5,908	13%
Agriculture & Veterinary		835	2%	Agriculture & Veterinary		1,027	2%
Health & Welfare		5,691	14%	Health & Welfare		5,586	12%
Services		2,765	7%	Services		2,334	5%
Combined		454	1%	Combined		1,585	3%
Total		40,682	100%	Total		45,656	100%

PhDs (All modes)

		No.	%			No.	%
General Programmes		0	0%	General Programmes		7	0%
Education Science		473	5%	Education Science		434	5%
Humanities & Arts		1,464	17%	Humanities & Arts		1,523	17%
Social Science, Business & Law		1,429	16%	Social Science, Business & Law		1,477	16%
Science		2,643	30%	Science		2,961	32%
Engineering, Manufacturing & Construction		1,181	14%	Engineering, Manufacturing & Construction		1,413	15%
Agriculture & Veterinary		134	2%	Agriculture & Veterinary		174	2%
Health & Welfare		1,282	15%	Health & Welfare		1,132	12%
Services		76	1%	Services		93	1%
Combined		1	0%	Combined		0	0%
Total		8,683	100%	Total		9,214	100%

PARTICIPATION

<i>(% of Total Enrolments incl. Flexible Learning)</i>	No.	%	<i>(% of Total Enrolments incl. Flexible Learning)</i>	No.	%
Flexible Learners (PT, Distance, E-Learning, In-Service)	35,750	18%	Flexible Learners (PT, Distance, E-Learning, In-Service)	42,330	20%
Participants in Labour Market Activation (Springboard) <i>(% of National Participation)</i>	2,593		Participants in Labour Market Activation (Springboard) <i>(% of National Participation)</i>	3,254	
<i>(% of New Entrants)</i>	No.	%	<i>(% of New Entrants)</i>	No.	%
Mature Entrants (Full-time Undergraduate)	5,615	14%	Mature Entrants (Full-time Undergraduate)	6,608	14%
Estimate: Entrants with Disability (EAS)	2,166	5%	Estimate: Entrants with Disability (EAS)	3,014	7%
Estimate: Entrants from Non-Manual, Semi- and Unskilled Socio-economic Backgrounds (EAS)	8,241	20%	Estimate: Entrants from Non-Manual, Semi- and Unskilled Socio-economic Backgrounds (EAS)	9,620	21%

INTERNATIONALISATION

<i>(% of Full-time Enrolments)</i>	No.	%	<i>(% of Full-time Enrolments)</i>	No.	%
International Students (Full-time)	10,317	6%	International Students (Full-time)	22,276	13%
EU	3,111	2%	EU	7,424	4%
Non-EU	7,206	4%	Non-EU	14,852	9%
Erasmus Students Outgoing (excl. work placements)	1,952		Erasmus Students Outgoing (excl. work placements)	2,069	

STAFF

	No.	%		No.	%
Core Staff	17,699	100%	Core Staff	17,627	100%
Academic Staff	9,272	52%	Academic Staff	9,249	52%
Support staff	8,427	48%	Support staff	8,376	48%
Contract Research & Specialist Staff	4,988	100%	Contract Research & Specialist Staff	5,440	100%
Academic Staff	3,065	61%	Academic Staff	3,597	66%
Support staff	1,923	39%	Support staff	1,843	34%
Total Staff	22,686	100%	Total Staff	23,066	100%
Total Academic	12,336	54%	Total Academic	12,846	56%
Total Support	10,350	46%	Total Support	10,219	44%
Non-Academic/Academic Staff Ratio (Core)	0.9		Non-Academic/Academic Staff Ratio (Core)	0.9	
Student/Academic Staff Ratio (FTE/Core)	19.1		Student/Academic Staff Ratio (FTE/Core)	20.9	

Universities Profile 2011/12					Universities (incorporating SPD, Mater Dei and CICE in DCU's figures) Profile 2016						
Student Numbers					Student Numbers						
Entrants											
		No.					No.				
New Entrants (Full-time Undergraduate)		19,743			New Entrants (Full-time Undergraduate)		22,483				
Graduates											
		No.		%			No.		%		
Undergraduate Graduates		19,639		59%	Undergraduate Graduates		17,853		55%		
Postgraduate Graduates		13,920		41%	Postgraduate Graduates		14,570		45%		
Enrolments											
		Full-time	Part-time	Remote	Total			Full-time	Part-time	Remote	Total
Other Enrolments (IoTs only)	No.	0	0	0	0	Other Enrolments (IoTs only)	%	0	0	0	0
Foundation	No.	0	0	0	0	Foundation	%	0	0	0	0
FETAC Cert	No.	0	0	0	0	FETAC Cert	%	0	0	0	0
FETAC Advanced Cert	No.	0	0	0	0	FETAC Advanced Cert	%	0	0	0	0
of which the no. of apprenticeships is	No.	0	0	0	0	of which the no. of apprenticeships is	%	0	0	0	0
Undergraduate	No.	72,214	7,242	1,457	80,913	Undergraduate	%	78,562	6,491	1,822	86,875
Diploma/Cert	No.	453	4,269	537	5,259	Diploma/Cert	%	514	3,407	407	4,328
Ordinary Degree (L7)	No.	0	0	0	0	Ordinary Degree (L7)	%	0	0	0	0
Honours Degree (L8)	No.	69,902	1,833	896	72,631	Honours Degree (L8)	%	75,686	1,906	1,415	79,007
Occasional	No.	1,859	1,140	24	3,023	Occasional	%	2,362	1,178	0	3,540
Postgraduate	No.	17,896	8,343	577	26,816	Postgraduate	%	20,024	10,692	1,021	31,737
Postgrad Diploma/Cert	No.	2,673	2,769	24	5,466	Postgrad Diploma/Cert	%	2,844	3,754	529	7,127
Masters Taught (L9)	No.	7,533	4,126	314	11,973	Masters Taught (L9)	%	8,845	4,789	492	14,126
Masters Research (L9)	No.	649	224	0	873	Masters Research (L9)	%	943	221	0	1,164
PhD (L10)	No.	7,014	933	0	7,947	PhD (L10)	%	7,042	1,011	0	8,053
Occasional	No.	27	291	239	557	Occasional	%	350	917	0	1,267
Total UG and PG Enrolments	No.	90,110	15,585	2,034	107,729	Total UG and PG Enrolments	%	98,586	17,183	2,843	118,612
Research & Taught (L9/10)	FTE				19.2%	Research & Taught (L9/10)	% FTE L8 and All PG				19.4%
Research (L9/10)	FTE				8.8%	Research (L9/10)	% FTE L8 and All PG				8.3%
Research (L10)	FTE				8.0%	Research (L10)	% FTE L8 and All PG				7.3%

DISCIPLINARY MIX

Full-time Undergraduate New Entrants

	No.	%		No.	%
General Programmes	123	1%	General Programmes	287	1%
Education Science	368	2%	Education Science	1,003	4%
Humanities & Arts	5,516	28%	Humanities & Arts	5,133	23%
Social Science, Business & Law	4,792	24%	Social Science, Business & Law	5,297	24%
Science	3,692	19%	Science	3,869	17%
Engineering, Manufacturing & Construction	1,470	7%	Engineering, Manufacturing & Construction	1,717	8%
Agriculture & Veterinary	424	2%	Agriculture & Veterinary	454	2%
Health & Welfare	2,889	15%	Health & Welfare	3,126	14%
Services	15	0%	Services	12	0%
Combined	454	2%	Combined	1,585	7%
Total	19,743	100%	Total	22,483	100%

PhDs (All modes)

	No.	%		No.	%
General Programmes	0	0%	General Programmes	2	0%
Education Science	374	5%	Education Science	418	5%
Humanities & Arts	1,293	16%	Humanities & Arts	1,292	16%
Social Science, Business & Law	1,334	17%	Social Science, Business & Law	1,303	16%
Science	2,450	31%	Science	2,562	32%
Engineering, Manufacturing & Construction	1,028	13%	Engineering, Manufacturing & Construction	1,141	14%
Agriculture & Veterinary	132	2%	Agriculture & Veterinary	168	2%
Health & Welfare	1,271	16%	Health & Welfare	1,091	14%
Services	64	1%	Services	73	1%
Combined	1	0%	Combined	0	0%
Total	7,947	100%	Total	8,051	100%

PARTICIPATION

<i>(% of Total Enrolments incl. Flexible Learning)</i>	No.	%	<i>(% of Total Enrolments incl. Flexible Learning)</i>	No.	%
Flexible Learners (PT, Distance, E-Learning, In-Service)	17,619	16%	Flexible Learners (PT, Distance, E-Learning, In-Service)	20,004	17%
Participants in Labour Market Activation (Springboard) <i>(% of National Participation)</i>	623		Participants in Labour Market Activation (Springboard) <i>(% of National Participation)</i>	1,021	
<i>(% of New Entrants)</i>	No.	%	<i>(% of New Entrants)</i>	No.	%
Mature Entrants (Full-time Undergraduate)	1,930	10%	Mature Entrants (Full-time Undergraduate)	2,176	10%
Estimate: Entrants with Disability (EAS)	1,073	5%	Estimate: Entrants with Disability (EAS)	1,200	5%
Estimate: Entrants from Non-Manual, Semi- and Unskilled Socio-economic Backgrounds (EAS)	3,352	17%	Estimate: Entrants from Non-Manual, Semi- and Unskilled Socio-economic Backgrounds (EAS)	3,959	18%

INTERNATIONALISATION

<i>(% of Full-time Enrolments)</i>	No.	%	<i>(% of Full-time Enrolments)</i>	No.	%
International Students (Full-time)	8,580	10%	International Students (Full-time)	17,071	17%
EU	2,678	3%	EU	5,602	6%
Non-EU	5,902	7%	Non-EU	11,469	12%
Erasmus Students Outgoing (excl. work placements)	1,491		Erasmus Students Outgoing (excl. work placements)	1,485	

STAFF

	No.	%		No.	%
Core Staff	9,542	100%	Core Staff	9,750	100%
Academic Staff	4,287	45%	Academic Staff	4,471	46%
Support staff	5,255	55%	Support staff	5,279	54%
Contract Research & Specialist Staff	4,159	100%	Contract Research & Specialist Staff	4,519	100%
Academic Staff	2,881	69%	Academic Staff	3,199	71%
Support staff	1,277	31%	Support staff	1,320	29%
Total Staff	13,701	100%	Total Staff	14,269	100%
Total Academic	7,168	52%	Total Academic	7,670	54%
Total Support	6,532	48%	Total Support	6,599	46%
Non-Academic/Academic Staff Ratio (Core)	1.2		Non-Academic/Academic Staff Ratio (Core)	1.2	
Student/Academic Staff Ratio (FTE/Core)	22.8		Student/Academic Staff Ratio (FTE/Core)	24.0	

Colleges (Mary Immaculate, St. Angela's, NCAD)
Profile 2011/12

Colleges (Mary Immaculate, St. Angela's, NCAD)
Profile 2016

Student Numbers

Student Numbers

Entrants

	No.
New Entrants (Full-time Undergraduate)	1,044

	No.
New Entrants (Full-time Undergraduate)	1,360

Graduates

	No.	%
Undergraduate Graduates	1,102	70%
Postgraduate Graduates	480	30%

	No.	%
Undergraduate Graduates	1,318	69%
Postgraduate Graduates	600	31%

Enrolments

	No.	Full-time	Part-time	Remote	Total
Other Enrolments (IoTs only)	No.	0	0	0	0
Foundation	No.	0	0	0	0
FETAC Cert	No.	0	0	0	0
FETAC Advanced Cert	No.	0	0	0	0
of which the no. of apprenticeships is	No.	0	0	0	0
Undergraduate	No.	3,726	327	0	4,053
Diploma/Cert	No.	0	327	0	327
Ordinary Degree (L7)	No.	0	0	0	0
Honours Degree (L8)	No.	3,726	0	0	3,726
Occasional	No.	0	0	0	0
Postgraduate	No.	505	377	0	882
Postgrad Diploma/Cert	No.	216	135	0	351
Masters Taught (L9)	No.	102	209	0	311
Masters Research (L9)	No.	104	2	0	106
PhD (L10)	No.	83	8	0	91
Occasional	No.	0	23	0	23
Total UG and PG Enrolments	No.	4,231	704	0	4,935
Research & Taught (L9/10)	FTE				9.0%
Research (L9/10)	FTE				4.3%
Research (L10)	FTE				2.0%

	%	Full-time	Part-time	Remote	Total
Other Enrolments (IoTs only)	%	0	0	0	0
Foundation	%	0	0	0	0
FETAC Cert	%	0	0	0	0
FETAC Advanced Cert	%	0	0	0	0
of which the no. of apprenticeships is	%	0	0	0	0
Undergraduate	%	4,836	426	0	5,262
Diploma/Cert	%	32	326	0	358
Ordinary Degree (L7)	%	0	0	0	0
Honours Degree (L8)	%	4,804	100	0	4,904
Occasional	%	0	0	0	0
Postgraduate	%	677	471	0	1,148
Postgrad Diploma/Cert	%	50	307	0	357
Masters Taught (L9)	%	487	140	0	627
Masters Research (L9)	%	40	13	0	53
PhD (L10)	%	100	11	0	111
Occasional	%	0	0	0	0
Total UG and PG Enrolments	%	5,513	897	0	6,410
Research & Taught (L9/10)	% FTE L8 and All PG				12.3%
Research (L9/10)	% FTE L8 and All PG				2.6%
Research (L10)	% FTE L8 and All PG				1.8%

DISCIPLINARY MIX

Full-time Undergraduate New Entrants

	No.	%
General Programmes	0	0%
Education Science	519	50%
Humanities & Arts	416	40%
Social Science, Business & Law	0	0%
Science	33	3%
Engineering, Manufacturing & Construction	13	1%
Agriculture & Veterinary	0	0%
Health & Welfare	63	6%
Services	0	0%
Combined	0	0%
Total	1,044	100%

	No.	%
General Programmes	0	0%
Education Science	568	42%
Humanities & Arts	627	46%
Social Science, Business & Law	0	0%
Science	80	6%
Engineering, Manufacturing & Construction	0	0%
Agriculture & Veterinary	0	0%
Health & Welfare	85	6%
Services	0	0%
Combined	0	0%
Total	1,360	100%

PhDs (All modes)

	No.	%
General Programmes	0	0%
Education Science	10	11%
Humanities & Arts	81	89%
Social Science, Business & Law	0	0%
Science	0	0%
Engineering, Manufacturing & Construction	0	0%
Agriculture & Veterinary	0	0%
Health & Welfare	0	0%
Services	0	0%
Combined	0	0%
Total	91	100%

	No.	%
General Programmes	0	0%
Education Science	15	14%
Humanities & Arts	95	86%
Social Science, Business & Law	0	0%
Science	0	0%
Engineering, Manufacturing & Construction	0	0%
Agriculture & Veterinary	0	0%
Health & Welfare	1	1%
Services	0	0%
Combined	0	0%
Total	111	100%

PARTICIPATION

<i>(% of Total Enrolments incl. Flexible Learning)</i>	No.	%	<i>(% of Total Enrolments incl. Flexible Learning)</i>	No.	%
Flexible Learners (PT, Distance, E-Learning, In-Service)	704	14%	Flexible Learners (PT, Distance, E-Learning, In-Service)	898	14%
Participants in Labour Market Activation (Springboard) <i>(% of National Participation)</i>	0		Participants in Labour Market Activation (Springboard) <i>(% of National Participation)</i>	53	
<i>(% of New Entrants)</i>	No.	%	<i>(% of New Entrants)</i>	No.	%
Mature Entrants (Full-time Undergraduate)	112	11%	Mature Entrants (Full-time Undergraduate)	127	9%
Estimate: Entrants with Disability (EAS)	48	5%	Estimate: Entrants with Disability (EAS)	103	8%
Estimate: Entrants from Non-Manual, Semi- and Unskilled Socio-economic Backgrounds (EAS)	162	16%	Estimate: Entrants from Non-Manual, Semi- and Unskilled Socio-economic Backgrounds (EAS)	210	15%

INTERNATIONALISATION

<i>(% of Full-time Enrolments)</i>	No.	%	<i>(% of Full-time Enrolments)</i>	No.	%
International Students (Full-time)	30	1%	International Students (Full-time)	169	3%
EU	20	0%	EU	90	2%
Non-EU	10	0%	Non-EU	79	1%
Erasmus Students Outgoing (excl. work placements)	64		Erasmus Students Outgoing (excl. work placements)	106	

STAFF

	No.	%		No.	%
Core Staff	504	100%	Core Staff	493	100%
Academic Staff	251	50%	Academic Staff	252	51%
Support staff	253	50%	Support staff	241	49%
Contract Research & Specialist Staff	10	100%	Contract Research & Specialist Staff	14	100%
Academic Staff	0	0%	Academic Staff	6	43%
Support staff	10	100%	Support staff	8	57%
Total Staff	514	100%	Total Staff	507	100%
Total Academic	251	49%	Total Academic	258	51%
Total Support	263	51%	Total Support	249	49%
Non-Academic/Academic Staff Ratio (Core)	1.0		Non-Academic/Academic Staff Ratio (Core)	1.0	
Student/Academic Staff Ratio (FTE/Core)	18.3		Student/Academic Staff Ratio (FTE/Core)	23.7	

Institutes of Technology Profile 2011/12					Institutes of Technology Profile 2016						
Student Numbers					Student Numbers						
Entrants											
		No.					No.				
New Entrants (Full-time Undergraduate)		19,162			New Entrants (Full-time Undergraduate)		21,814				
Graduates											
		No.		%			No.		%		
Undergraduate Graduates		20,299		90%	Undergraduate Graduates		25,316		87%		
Postgraduate Graduates		2,318		10%	Postgraduate Graduates		3,704		13%		
Enrolments											
		Full-time	Part-time	Remote	Total			Full-time	Part-time	Remote	Total
Other Enrolments (IoTs only)	No.	707	7,186	0	7,893	Other Enrolments (IoTs only)	%	616	2,018	0	2,634
Foundation	No.	447	30	0	477	Foundation	%	295	41	0	336
FETAC Cert	No.	17	344	0	361	FETAC Cert	%	14	86	0	100
FETAC Advanced Cert	No.	243	6,812	0	7,055	FETAC Advanced Cert	%	307	1,891	0	2,198
of which the no. of apprenticeships is	No.	164	6,551	0	6,715	of which the no. of apprenticeships is	%	160	1,456	0	1,616
Undergraduate	No.	61,183	12,414	1,293	74,890	Undergraduate	%	66,167	15,294	1,925	83,386
Diploma/Cert	No.	5,383	2,281	325	7,989	Diploma/Cert	%	5,934	3,672	393	9,999
Ordinary Degree (L7)	No.	23,005	3,199	552	26,756	Ordinary Degree (L7)	%	24,006	4,287	580	28,873
Honours Degree (L8)	No.	32,367	2,671	266	35,304	Honours Degree (L8)	%	35,858	3,721	902	40,481
Occasional	No.	428	4,263	150	4,841	Occasional	%	369	3,614	50	4,033
Postgraduate	No.	2,691	2,636	326	5,653	Postgraduate	%	4,115	3,635	574	8,324
Postgrad Diploma/Cert	No.	359	440	41	840	Postgrad Diploma/Cert	%	454	565	95	1,114
Masters Taught (L9)	No.	1,425	1,809	263	3,497	Masters Taught (L9)	%	2,009	2,525	479	5,013
Masters Research (L9)	No.	423	111	0	534	Masters Research (L9)	%	745	194	0	938
PhD (L10)	No.	431	118	3	552	PhD (L10)	%	799	257	0	1,055
Occasional	No.	53	158	19	230	Occasional	%	109	94	0	203
Total UG and PG Enrolments	No.	63,874	15,050	1,619	80,543	Total UG and PG Enrolments	%	70,282	18,929	2,499	91,710
Research & Taught (L9/10)	FTE				9.0%	Research & Taught (L9/10)	% FTE L8 and All PG				11.9%
Research (L9/10)	FTE				2.6%	Research (L9/10)	% FTE L8 and All PG				4.0%
Research (L10)	FTE				1.3%	Research (L10)	% FTE L8 and All PG				2.1%

DISCIPLINARY MIX

Full-time Undergraduate New Entrants											
		No.		%				No.		%	
General Programmes		47		0%		General Programmes		55		0%	
Education Science		47		0%		Education Science		118		1%	
Humanities & Arts		2,179		11%		Humanities & Arts		2,551		12%	
Social Science, Business & Law		4,520		24%		Social Science, Business & Law		5,729		26%	
Science		3,410		18%		Science		3,899		18%	
Engineering, Manufacturing & Construction		3,059		16%		Engineering, Manufacturing & Construction		4,191		19%	
Agriculture & Veterinary		411		2%		Agriculture & Veterinary		573		3%	
Health & Welfare		2,739		14%		Health & Welfare		2,375		11%	
Services		2,750		14%		Services		2,322		11%	
Combined		0		0%		Combined		0		0%	
Total		19,162		100%		Total		21,814		100%	

PhDs (All modes)											
		No.		%				No.		%	
General Programmes		0		0%		General Programmes		5		0%	
Education Science		4		1%		Education Science		1		0%	
Humanities & Arts		82		15%		Humanities & Arts		135		13%	
Social Science, Business & Law		95		17%		Social Science, Business & Law		174		16%	
Science		193		35%		Science		399		38%	
Engineering, Manufacturing & Construction		153		28%		Engineering, Manufacturing & Construction		272		26%	
Agriculture & Veterinary		2		0%		Agriculture & Veterinary		6		1%	
Health & Welfare		11		2%		Health & Welfare		40		4%	
Services		12		2%		Services		20		2%	
Combined		0		0%		Combined		0		0%	
Total		552		100%		Total		1,052		100%	

PARTICIPATION

<i>(% of Total Enrolments incl. Flexible Learning)</i>	No.	%	<i>(% of Total Enrolments incl. Flexible Learning)</i>	No.	%
Flexible Learners (PT, Distance, E-Learning, In-Service)	16,669	21%	Flexible Learners (PT, Distance, E-Learning, In-Service)	21,428	23%
Participants in Labour Market Activation (Springboard) <i>(% of National Participation)</i>	1,970		Participants in Labour Market Activation (Springboard) <i>(% of National Participation)</i>	2,181	
<i>(% of New Entrants)</i>	No.	%	<i>(% of New Entrants)</i>	No.	%
Mature Entrants (Full-time Undergraduate)	3,487	18%	Mature Entrants (Full-time Undergraduate)	4,305	20%
Estimate: Entrants with Disability (EAS)	1,017	5%	Estimate: Entrants with Disability (EAS)	1,711	8%
Estimate: Entrants from Non-Manual, Semi- and Unskilled Socio-economic Backgrounds (EAS)	4,647	24%	Estimate: Entrants from Non-Manual, Semi- and Unskilled Socio-economic Backgrounds (EAS)	5,451	25%

INTERNATIONALISATION

<i>(% of Full-time Enrolments)</i>	No.	%	<i>(% of Full-time Enrolments)</i>	No.	%
International Students (Full-time)	1,706	3%	International Students (Full-time)	5,036	7%
EU	413	1%	EU	1,732	2%
Non-EU	1,293	2%	Non-EU	3,304	5%
Erasmus Students Outgoing (excl. work placements)	374		Erasmus Students Outgoing (excl. work placements)	478	

STAFF

	No.	%		No.	%
Core Staff	7,398	100%	Core Staff	7,384	100%
Academic Staff	4,571	62%	Academic Staff	4,527	61%
Support staff	2,827	38%	Support staff	2,856	39%
Contract Research & Specialist Staff	816	100%	Contract Research & Specialist Staff	907	100%
Academic Staff	181	22%	Academic Staff	392	43%
Support staff	635	78%	Support staff	515	57%
Total Staff	8,214	100%	Total Staff	8,291	100%
Total Academic	4,752	58%	Total Academic	4,919	59%
Total Support	3,462	42%	Total Support	3,371	41%
Non-Academic/Academic Staff Ratio (Core)	0.6		Non-Academic/Academic Staff Ratio (Core)	0.6	
Student/Academic Staff Ratio (FTE/Core)	15.6		Student/Academic Staff Ratio (FTE/Core)	17.6	

Higher Education System Performance Framework 2014 – 16 System Level Objectives

1. Context – National Strategy for Higher Education to 2030

The National Strategy for Higher Education to 2030 recommends that a steering and performance based framework for the system governance of higher education in Ireland¹ is put in place. This framework, which is summarised in fig. 1.1 sets out the areas of responsibility for setting national priorities of Government and related short to medium term objectives for the higher education system.

The HEA will use this framework as the context for conducting a process of strategic dialogue with individual institutions where institutions will agree performance compacts with the HEA with institutional KPIs reflecting their contribution to overall system objectives.

The system performance framework is multi-purpose. The purposes of the framework can be summarised as follows:

- To hold the system accountable for performance for the delivery of national priorities and monitor performance of the system as a whole;
- To articulate all the expectations on the system of different areas of government/agencies across the various dimensions of higher education activity;
- To increase the visibility of performance of the system to Government and the wider public;
- To contribute to system and policy development by highlighting structural and other deficits including data capacity;
- To allow HEIs to identify their strategic niche and mission and agree a performance compact aligned with funding with the Higher Education Authority

1.1 Development of high level system indicators

A set of high level system indicators and monitoring sub-indicators have now been developed and agreed across relevant Government departments and agencies. They have been informed by international best practice². The indicators have been chosen to reflect the purposes of the framework and to form the basis for the HEA to assess how well the system is performing in relation to each system objective. It is recognised that they will need to be analysed within the context of the overall strategy, so as not to create perverse impacts. The indicators range from targets set and agreed by Government in both national and international policy contexts, to more descriptive indicators included to reflect the level of different kinds of activity in the system while being agnostic to their extent. International benchmarks have been included where appropriate to reflect Irish system performance in both the EU and wider OECD context.

Also included in the tables are "*essential deliverables*", these being various structures, processes, mechanisms, policy and legal instruments which must be put in place or further developed if the desired outcomes are to be achieved. These will form an essential component of the contextual analysis of the HEA, who will report back to the Minister for Education and Skills on an annual basis in a system performance report. The indicators will be kept under review by the Department and the Higher Education Authority as the system performance framework is rolled out over the coming period.

¹ Recommendation 17, National Strategy for Higher Education to 2030, January 2011

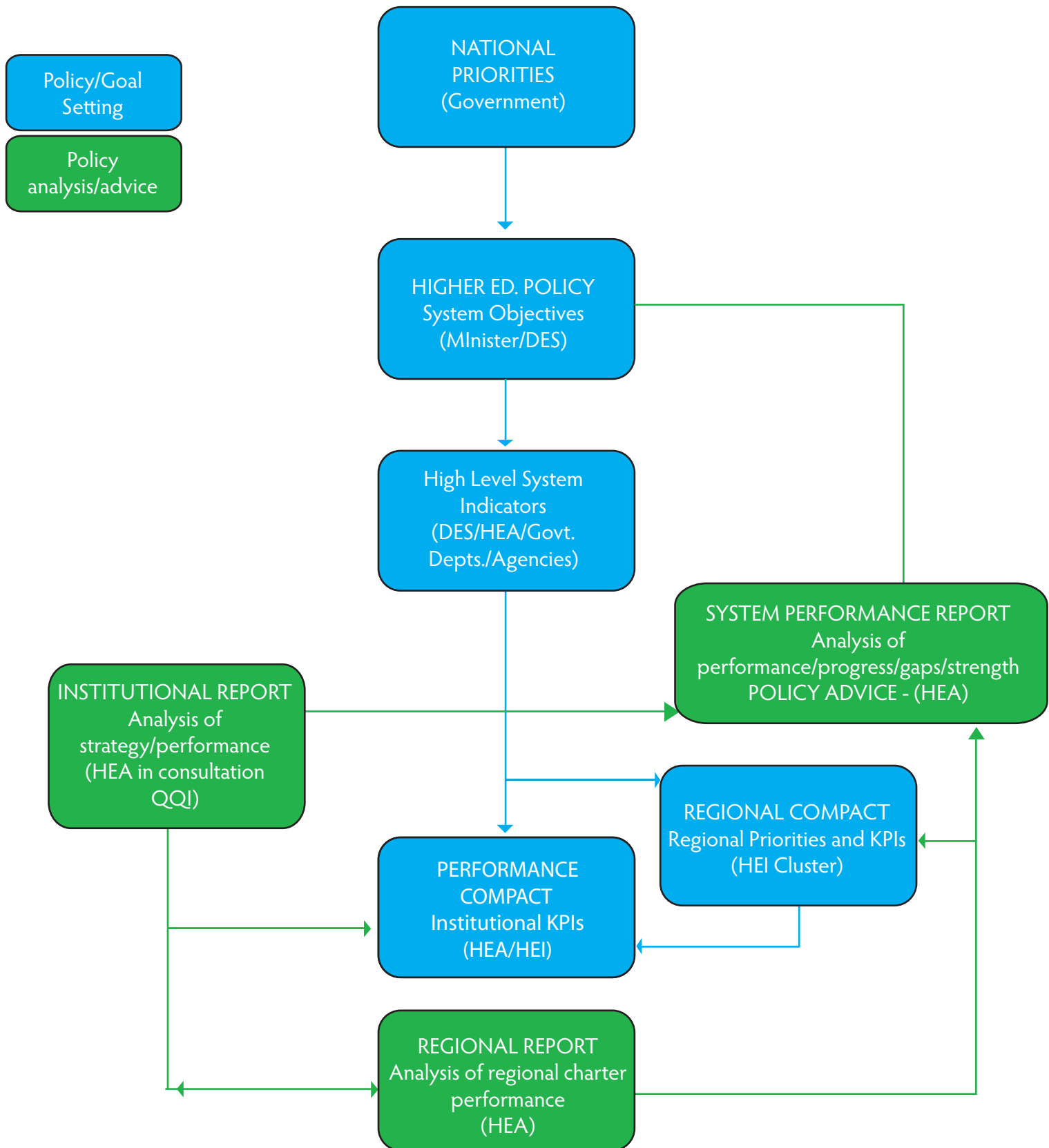
² Constructing an indicator system or scorecard for higher education, a practical guide, UNESCO

2. National Priorities

1. As noted by Government, national priorities and key system objectives for the period 2014-2016 are as follows:
2. Economic renewal and development at national and regional levels
3. Social cohesion, cultural development and equity at national and regional levels
4. Public sector reform towards greater effectiveness and efficiency
5. Restoration of Ireland's international reputation

2.1 Key system objectives for 2014-16:

1. To meet Ireland's human capital needs across the spectrum of skills by engaged institutions through a diverse mix of provision across the system and through both core funding and specifically targeted initiatives;
2. To promote access for disadvantaged groups and to put in place coherent pathways from second level education, from further education and other non-traditional entry routes;
3. To promote excellence in teaching and learning to underpin a high quality student experience;
4. To maintain an open and excellent public research system focused on the Government's priority areas and the achievement of other societal objectives and to maximise research collaborations and knowledge exchange between and among public and private sector research actors;
5. To ensure that Ireland's higher education institutions will be globally competitive and internationally oriented, and Ireland will be a world-class centre of international education;
6. To reform practices and restructure the system for quality and diversity;
7. To increase accountability of autonomous institutions for public funding and against national priorities.



HIGHER EDUCATION SYSTEM PERFORMANCE FRAMEWORK FIG 1.1

Key System Objective 1:

To meet Ireland's human capital needs across the spectrum of skills by engaged institutions through a diverse mix of provision across the system and through both core funding and specifically targeted initiatives

No.	High level indicator	Monitoring/Sub Indicators	Source
1.1	Progress towards National Reform Plan EU2020 target of 60% tertiary attainment rate for 30-34 year olds by 2020	Annual direct/late entry participation rate/completion rates at Levels 6/7/8	HEA data Eurostat Annual report on EU2020
1.2	Progress towards national objective that Ireland produces the highest % of graduates from MST in EU.	All targets from ICT Action Plan CAO acceptances and applications % of Graduates from MST/STEM	HEA/Forfás CAO data Eurostat
1.3	Employer satisfaction rates with graduates	National level rates	IBEC National Employers Survey
1.4	Employer satisfaction rates with HEI collaboration with enterprise	National level rates	IBEC National Employers Survey
1.5	Trends in graduate employment rates	Employment rates for undergraduates and postgraduates	QNHS First Destination Survey DES Tracking study of 2009 cohort QQI FETAC Tracking study
1.6	Profile of graduate outflow by discipline	No and % of grad by level and discipline	HEA data
1.7	International benchmarks 1.1 and 1.5 Tertiary attainment rates 25-34 year olds Employment rates of graduates	Position in EU Position in EU/OECD Relative to EU/OECD averages	Eurostat OECD Education at a Glance [A1.1a and A7.1a]

Essential Deliverables:

1. Structures put in place in all higher education institutions to improve liaison with enterprise and links with public sector employers
2. The use of learning outcomes and the National Framework of Qualifications as a tool for dialogue between labour market and the higher education system.
3. The active engagement and participation of the labour market in the development and review of higher education programmes in HEIs based on learning outcomes in NFQ.
4. Expert Group on Future Skills needs/Forfás skills reports
5. Structures in DES to facilitate enterprise engagement (Enterprise Engagement Forum)

Key System Objective 2:

To promote access for disadvantaged groups and to put in place coherent pathways from second level education, from further education and other non-traditional entry routes

No.	High level indicator	Monitoring/Sub Indicators	Source
2.1	Progress towards Bologna objective to ensure that the student body entering in/participating in/ and completing higher education at all levels reflects the diversity of Ireland's population	Progress against target entry rates in 2013 National Access Plan for socio-economic groups And for other under-represented groups	Data indicator sources being developed by DES to include CSO, HEA and SUSI data for 2014 National Access Plan
2.2	Increase in numbers and proportions of entrants from non-traditional routes	Numbers and proportions entering from FE Sector and through RPL	DES school leavers tracking survey of 2009 cohort FETAC tracking study HEA data
2.3	Increased numbers and proportions of entrants into flexible learning opportunities in higher education into part-time or flexible/springboard programmes	Number of students entering part-time/distance or flexible programmes including Springboard	HEA data
2.4	Higher education persistence and completion rates for under-represented groups	Progression from 1 st year and completion rates for socio-economic and under-represented groups	HEA data
2.5	International Benchmarks % of students in tertiary education by mode of enrolment	Position in EU/OECD Relative to EU/OECD averages	OECD Education at a Glance [C1]

Essential Deliverables:

1. Development and implementation of a new National Access Plan from 2014 aligned with national priorities and system indicators
2. Review of institutional access plans to ensure measurable outcomes against objectives of new plan
3. Development of LINKS scheme between FE and HE institutions
4. Development of alternative entry routes into higher education
5. Springboard initiative and evaluation
6. Monitoring and measuring the implementation of National Policies and Procedures relating to the Access, Transfer and Progression Plan (ATP) particularly in relation to the articulation to higher education and within higher education in the proposed regional clusters

Key System Objective 3:

To promote excellence in teaching and learning to underpin a high quality student experience

No.	High level indicator	Monitoring/Sub Indicators	Source
3.1	Meeting Bologna objective to ensure that QA procedures in line with international best practice	Internal QA External QA	Eurydice bi-annual report
3.2	Student Engagement and satisfaction scores	Student engagement and satisfaction scores national and regional levels	National Student Survey
3.3	Trend in progression rates from 1 st year into 2 nd year	Progression rates national, sectors, HEI, discipline and level of programme	HEA data
3.4	Progress against agreed commitments to reduce/review number of level 8 programmes and broaden entry routes	Number of CAO programmes national, sectors, HEI	CAO data Institutional profiles QQI database from 2014/15
3.5	International Benchmark Ratio of students to teaching staff in educational institutions	Position in EU/OECD Relative to EU/OECD averages	OECD Education at a Glance [D2.2]

Essential Deliverables:

1. Monitoring of how all HEIS are embedding focus on excellence in teaching and learning within institutional strategies, evaluation and change programmes
2. Full engagement of all HEIs with the National Forum for the Enhancement of Teaching and Learning
3. Systems put in place to appropriately monitor staff contact hours with students on an institutional and sector basis as workload allocation models become transparent
4. Institutional follow up on statutory institutional reviews to be reflected in institutional strategic submissions for strategic dialogue process to HEA
5. Internal quality assurance review/improvement activities and other quality assurance mechanisms
6. Use of Irish Higher Education Quality Network (IHEQN) Common Principles for Follow-through on Quality Improvements identified through Quality Reviews (2010)
7. Assessment of integration of institutional strategic planning and quality assurance planning by HEA as part of strategic dialogue process
8. Implementation of subject benchmarks across all disciplines
9. Implementation of Transition reform agenda

Key System Objective 4:

To maintain an open and excellent public research system focused on the Government's priority areas and the achievement of other societal objectives and to maximise research collaborations and knowledge exchange between and among public and private sector research actors

No.	High level indicator	Monitoring/Sub Indicators	Source
4.1	Growth in HERD	HERD private: public ratio	Eurostat/Forfás
4.2	Increase in proportion of HE research income from non-exchequer investment	Enterprise EU Philanthropic	HEI accounts
4.3	Maintain National Citation Ranking	Number of publications and % share of world output	Thompson Reuters
4.4	Increased collaborations with enterprise	Number of active collaborations between HEIs and enterprises % of PhD awards involving employer partners Public-private scientific co-publications (no. and per million of population)	Forfás Agency data Innovation Union Scoreboard
4.5	Increase in commercialisation activity	Number of HEI spinouts Number of licensing agreements	EI
	Proportion of PhDs on structured PhD programmes	Enrolments Graduates	HEA
4.6	Activity aligned with priority areas and underpinning areas	Proportion of GBOARD	Forfás
4.7	International Benchmark HERD as a % of GNP	Position in OECD	Eurostat/Forfás

Essential Deliverables:

1. Ongoing implementation of the recommendations of the National Research Prioritisation Exercise by all research funding agencies and Departments. The monitoring of HEI performance in the areas of research and innovation will take account of developments under the Framework for monitoring public investment in STI
2. Implementation of the National Framework of Doctoral Education to be launched shortly by HEA and QQI
3. Deeper engagement between HEIs and enterprise, and enhanced collaborations between HEIs

Key System Objective 5:

To ensure that Ireland's higher education institutions will be globally competitive and internationally oriented, and Ireland will be a world-class centre of international education

No.	High level indicator	Monitoring/Sub Indicators	Source
5.1	Progress towards Bologna and EU target to ensure that at least 20% of all graduates by 2020 will have had a study or training period abroad	No. of outgoing Erasmus students No. of Irish students studying abroad	HEA data/Eurostat
5.2	Level of alignment of higher education international activity with the national Trade, Tourism and Investment strategy	No. of graduates with languages in priority markets HEI support to companies exporting to new markets Evidence of alumni/diaspora links in priority markets No. of students from priority markets	HEIs/HEA/EI
5.3	Proportion of overall student body of international students – progress towards 15% national target (subject to international education strategy review) in system overall	No. of enrolments of international students	HEA
5.4	Increased level of mobility and international experience of researchers and staff	No. of Marie Curie researchers No. of international and internationally experienced staff in HE System	HEA data
5.5	Extent and trend of transnational activity	No. of branch campuses/articulation agreements/joint awards/international online programmes No. of student exchange – outward and inward	Institutional reporting HEA data
5.6	International benchmarks Relative performance on Bologna target 5.1 International students as a percentage of all tertiary enrolment	Position in OECD/EU/averages	Eurostat OECD Education at a Glance [C4.1]

Essential Deliverables:

1. Implementation of international education strategy
2. Introduction of the International Education Mark (IEM) and implementation of the code of practice by HEIs
3. Implementation of the IHEQN Guidelines for Collaborative and Transnational provision 2013
4. Institutional risk planning in the context of the internationalisation strategy
5. Comprehensive internationalisation strategies in place in each higher education institution

Key System Objective 6:

To reform practices and restructure the system for quality and diversity

No.	High level indicator	Monitoring/Sub Indicators	Source
6.1	Coverage of higher education programmes by level in regional clusters	Coverage of level 6/7 /8 programmes within regional clusters by HEI/Sector	Institutional profiles Regional plans QQI database of programmes and awards from 2014/15
6.2	Number of collaborative programmes between HEIs and common modules between programmes	Numbers of postgraduate collaborative programmes and students Numbers of undergraduate collaborative programmes and students Number of common modules between programmes	HEIs/QQI
6.3	Level of HEI research collaboration	Number of co-publications Number of research funding awards	Thompson Reuters Agency data
6.4	Proportion of student population in private HEIs	Enrolments in private colleges Irish/EU/International	HEA/DES

Essential Deliverables:

1. Implementation of the landscape reform agreed and published on May 30th 2013
2. Progress against agreed milestones and timeframe of implementation of landscape process including TU designation/ITE recommendations and Regional Cluster development process
3. Undertaking of discipline reviews by HEA
4. Academic plans to be agreed by participant HEIs in regional clusters and reviewed by HEA as part of their analysis in relation to the development of a well-co-ordinated and rational distribution of programmes based on institutional strengths and student demand.
5. Establishment of the Irish programmes and awards database by QQI

Key System Objective 7:

To increase accountability of autonomous institutions for public funding and against national priorities.

No.	High level indicator	Monitoring/Sub Indicators	Source
7.1	Level of funding overall into higher education system	Exchequer/non exchequer Research Core grant DES exp. Per student	HEA/DES Other agencies HEI accounts
7.2	Trends in relative proportions of public expenditure on educational institutions and index of change for tertiary education		OECD Education at a Glance (B3.3)
7.3	Level of efficiency gained and savings achieved through implementation of reform initiatives in line with Government policy	Savings achieved through: Shared services External service delivery models Property management Centralised procurement	HEIs/HEA
7.4	Level of utilisation of HEI facilities	HEI/Sector/Graduate	HEA Space Survey
7.5	Relative unit costs	Position in EU/OECD/against averages	HEI data Institutional profiles
7.6	International benchmark Relative performance of Ireland 7.2		OECD Education at a Glance [B3.3.]

Essential Deliverables:

1. Establishment of appropriate structures chaired by DES to liaise with higher education sector in relation to public service reform agenda
2. Identification of baselines and development of data collection model to monitor and evaluate the rollout of the implementation of the public service reform agenda including shared services, external delivery, property management and centralised procurement
3. HEA space survey to be updated

Appendix 4

Strategic Dialogue External Panel Members

Dr Madeleine Green

Madeleine F. Green is an independent consultant and a Senior Fellow at the Association of International Universities and NAFSA: The Association of International Educators. She also serves as senior program consultant at the Teagle Foundation in New York, whose mission is to improve teaching and learning in higher education. Until 2010, she served as Vice President for International Initiatives at the American Council on Education, a membership association of colleges and universities. She served as interim president of Mount Vernon College in Washington DC, and on the board of directors of Wilson College, Sweetbriar College, and Juniata College. Green is the author of numerous publications on higher education policy issues; leadership and management; and internationalization.

Dr Green holds a B.A. from Harvard University and a Ph.D. from Columbia University, both in French literature.

Dr John Hegarty

John Hegarty was the 43rd Provost of Trinity College Dublin from 2001 to 2011. He was appointed Professor of Laser Physics in Trinity in 1986 and served until 2001. He was Dean of Research from 1995 to 2000 and also headed the Department of Physics in TCD. Dr Hegarty was elected as a Fellow of the College. He was Adjunct Professor, University of Georgia USA (1990-95) and Visiting Professor, University of Tokyo and Sony Corporation Japan (1995). He has been a long time member of the Royal Irish Academy, the American Physical Society, the Optical Society of America, the Institute of Electronic and Electrical Engineers and Fellow of the Institute of Physics.

Dr Hegarty was born in Co. Mayo in 1948. He completed his PhD in Physics at University College Galway. Following a postdoctoral stay at the University of Wisconsin-Madison, he was a Research Scientist at Bell Labs, New Jersey, for six years. He returned to Ireland in 1986 as Professor of Laser Physics in Trinity College.

The focus of Dr Hegarty's research was the study of light: how it interacts with matter, how it can be used to unveil the secrets of nature, and how it can be harnessed for applications. Producing over 140 publications, and developing a number of patents, he was a co-founder of Optronics Ireland and of campus company, Eblana Photonics.

John Randall

Since September 2001 John Randall has worked as an independent, international consultant on higher education and professional training. In addition to working for educational and professional bodies in the United Kingdom, John has undertaken consultancy work for government bodies, universities and colleges in the Philippines, Hong Kong, Oman, Trinidad & Tobago, South Africa, and Jersey; and for UNESCO. He acted as Technical Secretary to the Performance and Role Related Funding Scheme of the University Grants Committee of Hong Kong in which 10% of institutional core grant funding was set aside to be eared back subject to adherence to the institution's distinctive mission as set out in their strategy and plans for teaching and learning, advanced scholarship and business and community relationships which were evaluated against their institutional profile.

From 1997 to 2001, John was Chief Executive of the Quality Assurance Agency for Higher Education in the United Kingdom the mission of which is to promote public confidence that quality of provision and standards of awards in higher education are being safeguarded and enhanced.

Prior to joining the Agency as its first Chief Executive in 1997, John was Director, Professional Standards and Development at the Law Society, with responsibility for the professional regulation, education and training of solicitors. John served for five years on the National Council for Vocational Qualifications and is currently a Trustee Board member of City & Guilds one of the largest organisations operating in UK vocational education. He served as a member of the Board of the International Network of Quality Assurance Agencies in Higher Education. John is currently the lay member of the Senior Fellows Assessment Panel of the Association of Personal Injury Lawyers.

John's early career was as a trade union official, with particular interests in industrial training. After graduation, he served as President of the National Union of Students. John is a graduate of the University of York, and holds an honorary Doctorate in Law from the Nottingham Trent University.

Dr Andrée Sursock

Andrée Sursock is Senior Adviser at the European University Association (EUA). She is the author of the 2010 'Trends' report, which analyses a decade of policy change in European higher education, and she is involved in several EUA projects related to quality assurance and lifelong learning. She serves on the international advisory committee of Université Paris 6, the Scientific Board of the Swiss accreditation agency, the Appeals Board of the Portuguese accreditation agency and the Steering Committee of the evaluation agency of the French Community, Belgium. Between 2001 and 2009, she was Deputy Secretary General at EUA, with responsibilities for developing EUA's quality assurance policy position and activities and representing EUA in European and international discussions.

Before joining EUA, she was Director of Development at the Centre for Higher Education Research and Information (Open University, UK), and worked on several European projects related to quality assurance. She taught at a variety of US institutions and held an administrative post at Stanford University. She earned a first degree in philosophy from the University of Paris I – Panthéon Sorbonne and a PhD in social-cultural anthropology from the University of California, Berkeley.

Dr Richard Thorn

Dr Richard Thorn is an independent higher education consultant. He is a science graduate of Trinity College Dublin, holds a Masters in Public Administration from The Institute of Public Administration in Dublin and a Doctorate in Environmental Science, also from Trinity College (Ireland). He is Emeritus President of the Institute of Technology Sligo, a doctoral awarding higher education institution in NW Ireland where he was President from 2001 to 2008. He has recently retired from the public sector in Ireland where, in recent years he managed the implementation of the first stage of Ireland's National Strategy for Higher Education. Dr Thorn directed a number of national higher education projects to build targeted research capacity and capacity to deliver flexible learning in Ireland's institutes of technology. He has chaired a number of Institutional Reviews (on behalf of HETAC) was an Expert Advisor (EURASHE nominee) on the EU Feasibility Study of Multidimensional Global University Ranking (2009-2011). He has been a Member of the EURASHE Lifelong Learning Working Group (2009-2011) and a Member of the Expert Group for HEA Policy Study on Open and Distance Learning in Ireland (2008).

Dr Thorn co-authored with Professor Vin Massaro a 2012 study for the Higher Education Authority of the strategies of Irish higher education institutions "Institutional Responses to the Landscape Document and Achieving the Objectives of the National Strategy for Higher Education: A Gap Analysis". This report underpinned a major restructuring of the Landscape of higher education in Ireland which is now ongoing. He is the author of over 160 publications on higher education management and policy and environmental science. He is also a published travel and adventure writer and photographer specializing in scuba diving. He is currently President of the Irish Underwater Council – the National Governing Body for sport diving in Ireland – and is a past National Diving Officer.

Appendix 5

Attendance at Strategic Dialogue Meetings

Dublin I (IADT, Marino Institute of Education, NCAD, TCD, UCD)

Cluster meeting

Dr Annie Doona, President, IADT
Dr Marian O' Sullivan, Registrar, IADT
Dr Anne O'Gara, President, Marino Institute of Education
Dr Patricia Slevin, Director of School Placement, Marino Institute of Education
Professor Declan McGonagle, President, NCAD
Professor Gary Granville, Head of Faculty of Education, NCAD
Professor Patrick Prendergast, Provost, TCD
Prof. Linda Hogan, Vice-Provost/CAO, TCD
Professor Andrew J. Deeks, President, UCD
Professor Mark Rogers, Registrar, UCD

IADT meeting

Dr Annie Doona, President
Dr Andrew Power, Head of Faculty of Film, Art and Creative Technologies
Dr Josephine Browne, Head of Faculty of Enterprise and Humanities
Professor Peter Robertson, Head of Creative Engagement

NCAD meeting

Prof. Declan McGonagle, President
Prof. Des Bell, Head of Academic Affairs and Research
Mr Damian Downes, Registrar
Prof. Gary Granville, Head of Faculty of Education
Ms Cathy McCartney, Admissions and Recruitment
Ms Gemma Duke, Development Manager

TCD meeting

Dr Patrick Prendergast, Provost
Prof. Linda Hogan, Vice-Provost/CAO
Prof. Vinny Cahill, Dean of Research
Mr Ian Mathews, Chief Financial Officer
Ms Trish Callaghan, Academic Secretary
Mr Bernard Mallee, Director of Communications & Marketing
Ms Orla Sheehan, Manager, Academic Services

UCD meeting

Prof. Andrew Deeks, President
Prof. Mark Rogers, Registrar
Mr Gerry O'Brien, Bursar
Prof. Des Fitzgerald, Vice-President for Research
Mr Tony Carey, Director of Strategic Planning
Ms Maura McGinn, Director of Institutional Research

Dublin/ Leinster II (Athlone IT, DCU, Dundalk IT, MDI, NUIM, St. Patrick's Drumcondra)

Cluster meeting

Professor Ciarán Ó Catháin, President, Athlone Institute of Technology
Dr Joseph Ryan, Registrar, Athlone Institute of Technology
Mr Paul Killeen, Director of Research, Innovation and Enterprise, Athlone Institute of Technology
Professor Brian MacCraith, President, DCU
Mr Jim Dowling, Deputy President, DCU
Prof. Eithne Guilfoyle, Vice-President Academic Affairs / Registrar, DCU
Mr Denis Cummins, President, Dundalk Institute of Technology
Ms Ann Campbell, Registrar, Dundalk Institute of Technology
Ms Irene Mc Causland, External Services Manager, Dundalk Institute of Technology
Dr Andrew McGrady, Director, Mater Dei Institute
Dr Daire Keogh, President, St. Patrick's College, Drumcondra
Professor Philip Nolan, President, NUIM
Professor Aidan Mulkeen, Vice-President Academic, Registrar and Deputy President, NUIM
Professor Jim Walsh, Vice-President for Strategy & Quality, NUIM

AIT meeting

Professor Ciarán Ó Catháin, President
Mr John McKenna, Secretary/Financial Controller
Mr Eoin Langan, Head of Business School
Mr Pat Timpson, Adjunct Head, School of Science

DCU meeting

Prof. Brian MacCraith, President
Mr Jim Dowling, Deputy President
Ms Aisling McKenna, Institutional Research and Analysis Officer
Prof. Eithne Guilfoyle, Vice-President Academic Affairs / Registrar
Mr Ciaran McGivern, Director of Finance
Dr Declan Raftery, Chief Operations Officer
Ms Marian Burns, Director of HR

DKIT meeting

Mr Denis Cummins, President
Ms Fiona Oster, Strategic Projects Manager
Ms Ann Campbell, Registrar
Ms Irene McCausland, External Services Manager and Research Group Director
Dr Tim McCormac, Head of Research
Dr John Dallat, Head of Learning and Teaching

Mater Dei Institute meeting

Dr Andrew McGrady, Director
Dr Eddie Sullivan, Chair, Governing Board
Ms Annabella Stover, Administrative Registrar

NUIM meeting

Professor Philip Nolan, President
Professor Aidan Mulkeen, Vice-President Academic, Registrar and Deputy President
Mr Mike O'Malley, Bursar
Professor Bernard Mahon, Vice-President for Research
Professor Jim Walsh, Vice-President for Strategy & Quality

St. Patrick's Drumcondra meeting

Dr Daire Keogh, President
Dr Pádraig Ó Duibhir, Registrar
Dr Fionnuala Waldron, Dean of Education
Ms Eileen McDevitt, Assistant Secretary/Bursar

Dublin/ Leinster II (Athlone IT, DCU, Dundalk IT, MDI, NUIM, St. Patrick's Drumcondra) *continued*

Cluster meeting

Professor Brian Norton, President, DIT

Ms Margaret Whelan, Head of Strategic Planning, Development & Corporate Relations, DIT

Dr Mike Murphy, Director and Dean of the College of Engineering and Built Environment, DIT

Ms Mary Meaney, President, IT Blanchardstown

Ms Eileen Quinn, TU Dublin Project Team, IT Blanchardstown

Mr Pat McLaughlin, President, IT Tallaght

Mr John Vickery, Registrar, IT Tallaght

DIT meeting

Professor Brian Norton, President

Dr Michael Mulvey, Director of Academic Affairs & Registrar

Dr Noel O'Connor, Director of Student Services

Mr Paul Flynn, Director of Finance & Resources

Ms Margaret Whelan, Head of Strategic Planning, Development & Corporate Relations

IT Blanchardstown meeting

Ms Mary Meaney, President

Mr Diarmuid O'Callaghan, Registrar

Mr Denis Murphy, Secretary/ Financial Controller

IT Tallaght meeting

Mr Pat McLaughlin, President

Mr Tom Stone, Secretary/ Financial Controller

Mr John Vickery, Registrar

Mid-West Cluster

(LIT, MIC, UL)

Cluster meeting

Dr Maria Hinfelaar, President, LIT

Mr Terry Twomey, Vice-President Academic Affairs and Registrar, LIT

Mr Jimmy Browne, Vice-President Corporate Services and Capital Development, LIT

Dr Fergal Barry, Vice-President Research, Development and Enterprise, LIT

Prof. Michael Hayes, President, MIC

Prof. Eugene Wall, VP Academic Affairs, MIC

Prof. Gary O'Brien, Associate Vice President Administration, MIC

Mr John Coady, Vice President Administration & Finance, MIC

Professor Don Barry, President, UL

Professor Paul McCutcheon, Vice President Academic & Registrar, UL

Dr Mary Shire, Vice President Research, UL

Professor Mary O'Sullivan, Dean of Education & Health Sciences, UL

Mr Eamonn Moran, UL – NUI Galway Alliance Co-ordinator, UL

Limerick Institute of Technology meeting

Dr Maria Hinfelaar, President

Mr Terry Twomey, Vice-President Academic Affairs and Registrar

Mr Jimmy Browne, Vice-President Corporate Services and Capital Development

Dr Fergal Barry, Vice-President Research, Development and Enterprise

Mr Michael O'Connell, Vice-President Strategy and External Affairs

Mr Paschal Meehan, Head of Faculty, Applied Science, Engineering and Technology

Mr Colin McLean, Head of LIT Tipperary School

Mary Immaculate College meeting

Prof. Michael Hayes, President

Prof. Eugene Wall, VP Academic Affairs

Prof. Gary O'Brien, Associate Vice President Administration

Mr John Coady, Vice President Administration & Finance

UL meeting

Prof. Don Barry, President

Prof. Paul McCutcheon, Vice President Academic & Registrar

Dr Mary Shire, Vice President Research

Mr John Field, Director of Finance

South Cluster (CIT, IT Carlow, IT Tralee, UCC, WIT)

Cluster meeting

Dr Brendan J. Murphy, President, CIT
Dr Barry O'Connor, Registrar & Vice President for Academic Affairs, CIT
Dr Patricia Mulcahy, President, IT Carlow
Mr David Denieffe, Registrar, IT Carlow
Dr Oliver Murphy, President, IT Tralee
Ms Bríd McElligott, Head of Development, IT Tralee
Dr Michael Murphy, President, UCC
Dr Rónán Ó Dubhghaill, Director of Planning & Institutional Research, UCC
Dr Ruaidhrí Neavyn, President, WIT
Dr Tom O'Toole, Head of Business School, WIT

CIT meeting

Dr Brendan J. Murphy, President
Mr Paul Gallagher, Vice President for Finance & Administration
Dr Barry O'Connor, Registrar & Vice President for Academic Affairs
Mr Michael Delaney, Vice President for Development
Mr Michael Loftus, Head of Faculty of Engineering & Science
Mr Tadhg Leane, Head of Strategic Development
Dr Irene Sheridan, Head of CIT Extended Campus
Dr Stephen Cassidy, Dean of Academic Quality Enhancement
Ms Ellen Crowley, Finance

IT Carlow meeting

Dr Patricia Mulcahy, President
Mr David Denieffe, Registrar
Mr Cormac O'Toole, Secretary/Financial Controller
Mr Declan Doyle, Head of Development
Ms Maeabh Maher, Head of School of Business & Humanities

IT Tralee meeting

Dr Oliver Murphy, President
Mr Donal Fitzgibbon, Secretary, Financial Controller
Dr Michael Hall, Registrar
Ms Bríd McElligott, Head of Development
Dr Joseph Walsh, Head of School of STEM
Mr Tim Daly, Manager - Strategic Developments
Mr Seamus O'Shea, Head of the School of Health and Social Sciences
Mr John Fox, Finance Manager

UCC meeting

Dr Michael Murphy, President
Mr Diarmuid Collins, Bursar/Chief Financial Officer
Dr Rónán Ó Dubhghaill, Director of Planning & Institutional Research

Waterford IT meeting

Dr Ruaidhrí Neavyn, President
Dr Derek O'Byrne, Registrar
Dr Willie Donnelly, Head of Research & Innovation
Mr John Casey, Lecturer/ Project coordinator
Dr Richard Hayes, Head of School of Humanities

West/ North West Cluster (GMIT, IT Sligo, LYIT, NUIG, St. Angela's College, Sligo)

Cluster meeting

Mr Michael Carmody, President, GMIT
Mr Michael Hannon, Registrar, GMIT
Prof. Terri Scott, President, IT Sligo
Dr Brendan McCormack, Registrar, IT Sligo
Mr Paul Hannigan, President, LYIT
Mr Billy Bennett, Registrar, LYIT
Dr Jim Browne, President, NUIG
Professor Nollaig Mac Congáil, Registrar and Deputy-President, NUIG
Mr Gearóid Ó Conluain, University Secretary, NUIG
Mr Michael Kavanagh, Academic Secretary, NUIG
Dr Anne Taheny, President, St. Angela's College
Mr Declan Courell, Registrar, St. Angela's College

GMIT meeting

Mr Michael Carmody, President
Mr Michael Hannon, Registrar
Dr Des Foley, Head of Science and RDI
Dr Larry Elwood, Head of International Relations, Marketing & Communications
Mr Gerard Mac Michael, Head of Engineering

IT Sligo meeting

Prof. Terri Scott, President
Dr Brendan McCormack, Registrar
Mr John Cosgrove, Secretary/ Financial Controller
Mr Tom Reilly, HR Manager

LYIT meeting

Mr Paul Hannigan, President
Mr Billy Bennett, Registrar
Mr John Andy Bonar, Head of Development
Dr Seán Duffy, Head of School of Tourism
Mr Denis McFadden, Head of School of Engineering
Dr Gertie Taggart, Head of School of Science
Mr Justin Walsh, Secretary/Financial Controller
Mr Michael Margey, Head of School of Business

NUI Galway meeting

Prof. James Browne, President
An tOllamh Nollaig Mac Congáil, Registrar and Deputy President
An tUasal Gearóid Ó Conluain, An Rúnaí
Mr Michael Kavanagh, Academic Secretary

St. Angela's College, Sligo meeting

Dr Anne Taheny, President
Mr Declan Courell, Registrar
Dr Maria Gallo, Development Manager
Dr Michele Glacken, Head of Department of Nursing, Health Sciences and Disability Studies
Ms Amanda Mc Cloat, Head of Home Economics

