National Strategy for Higher Education to 2030

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Report of the Strategy Group

January 2011

Foreword by the Tánaiste and Minister for Education and Skills.

Our higher education institutions serve and enrich society in many ways and their role in modern Ireland is multi-faceted. Our institutions act as gatekeepers, disseminators and creators of new knowledge and serve an ever growing and more diverse student body. They form a nexus of interaction and engagement between a complex range of interests on a local, regional, national and global basis. When we published our medium term economic framework in 2008, which aims to build Ireland's smart economy, the restructuring of the higher education system was identified as part of a key action area. The report recognised the central role that our higher education institutions will play in the creation of an innovation island.

It is clear that Ireland requires a network of outward facing institutions that are ready and empowered to respond to a varied set of challenges while building on their international reputation of strength and excellence. In that context, the high level group chaired by Dr Colin Hunt has considered all aspects of the mission of higher education and has presented me with a comprehensive policy and operational framework for the development of our higher education system.

There has been enormous interest in the development of this strategy and the group has consulted widely both within and outside the system itself, drawing on a range of national and international expertise. Throughout this process, my colleagues in Government and I have been very encouraged by the enthusiasm of so many to engage with and respond to ideas for improvement and change. This report reflects that strong engagement and makes a range of recommendations that will help to shape the system for the 21st Century.

The report provides a considered and informed basis for Government policy on the development of higher education in Ireland over the coming decades. I would like to express my sincere gratitude to Dr Hunt and the Strategy Group who have contributed a huge level of time, energy and expertise throughout an intensive process of engagement and deliberation.

Mary Coughlan

Mary Coughlan, T.D.
Tánaiste and Minister for Education and Skills

To Mary Coughlan, TD, Tánaiste and Minister for Education & Skills

Dear Tánaiste,

On behalf of the Higher Education Strategy Group, I am pleased to submit our report, *National Strategy Higher Education*.

In preparing this report, the Group engaged in a wide consultation process across education, enterprise, trade unions, and wider interest groups. We received written submissions from over 100 people and organisations, and the range and quality of these is testimony to the ability of higher education to engage the imagination, the passion and the commitment of a wide variety of people. It does so because of its critical importance, which is recognised as the source of so much that is good in Irish society, and because there is deep concern to ensure that higher education can continue to deliver the personal, social and economic capital that has enriched this country.

As a group, we believe very strongly that higher education is central to future economic development in Ireland, and that there are broad social and cultural advantages to widening participation in higher education. The capacity of higher education will almost double over the next twenty years, with most of the growth coming from non-traditional areas, such as 'mature' students and those from overseas, as well as increased postgraduate activity. The need for lifelong learning and upskilling among the workforce will also contribute to growth. Increased capacity will be very good for higher education, but it will also bring serious challenges in terms of human resource practices, funding and operational matters – we need to face these challenges openly, confidently and with a strong resolve to find practical solutions.

The report has been framed in the context of the objectives in the Government framework for the Smart Economy. The Group also recognises the critical role that research and development will play in transforming Ireland into an innovation society. I believe that this report will complement and support recommendations of the Innovation Task Force in achieving that goal.

I would like to thank all the members of the Strategy Group for their time, energy and expertise, and also for their patience and openness to a wide range of opinion. In the course of our meetings, we engaged in vigorous, open and respectful discussion and while all recommendations in the strategy are not necessarily supported by all members of the Strategy Group, we have arrived at a broad consensus on a range of issues covered in this report.

Many thanks also to the international colleagues who gave us valuable advice and encouragement. I would also like to pay tribute to the professionalism and dedication of the Secretariat – their knowledge, advice and guidance were invaluable throughout the process.

I look forward to seeing Irish higher education realise its rich potential and continuing to energise Irish society, the economy and the wider world.

Colin Hunt, Chairman

Preface

The current report presents a vision of an Irish higher education sector that can successfully meet the many social, economic and cultural challenges that face us over the coming decades, and meet its key roles of teaching and learning, research, scholarship, and engagement with wider society.

For a variety of reasons, Irish higher education is now at a point of transition: the number of people entering the system is growing and the profile of students is changing. Unemployment and changing patterns of work bring new urgency and a much greater emphasis on lifelong learning and upskilling. A high proportion of the skills that we need now in the workforce are high-order knowledge-based skills, many of which can be acquired only in higher education institutions. The importance of high-quality research to the teaching mission and to underpinning socio-economic development has grown significantly over the past decade and will continue to do so over the next decade. These changes also pose additional challenges to staff, and in some cases the physical infrastructure is under pressure.

In the face of these major challenges, doing nothing is not an option and leaving it too late is not an option either. We now have a generational opportunity to transform the Irish higher education landscape, to widen participation to include those previously excluded, to leverage the traditionally high value we place on education, to get ready for the job opportunities that will come with economic recovery, and to deliver knowledge and learning of lasting cultural and social significance.

■ We need new structures that better reflect the diverse learning requirements of our students, both those who enter after the Leaving Certificate, and those who enter later.

■ We need to develop critical mass in our research capacity, to ensure that we attract the best researchers and develop world-class capability in high-value niche areas.

■ We need to fund higher education in a sustainable and equitable manner that will guarantee wider participation and fairness of access.

■ We need structural changes in the higher education system to ensure greater effectiveness and efficiencies, and we need to ensure that institutions cooperate and collaborate to mutual benefit.

In this document

PART 1: The context for a new national strategy for higher education outlines the context within which the strategy was drawn up:

■ **Chapter 1, Higher education in a changing society,** looks at aspects of the relationships that bind higher education to wider society, and at how higher education needs to change over the coming decades to meet new economic, social and cultural challenges. It describes the environment within which the higher education system operates and the challenges to which it must respond. In building a strong, well-resourced and renewed higher education system, we need to leverage the strengths that have brought us this far, and build new strengths that can serve Irish society over the coming years.

■ **Chapter 2, Planning for future demand,** looks at how we need to plan the structures, capacity and relationships that the higher education system will need to meet the expanding demand. It also deals with the growing trend for Irish students to study abroad and foreign students to study in Ireland, and at ways in which students and staff will benefit from increased cooperation and interaction with institutions in other countries, on teaching, learning and research.

PART 2: The mission of higher education in Ireland, looks primarily at how we can pursue ambitious objectives in relation to the three core roles of higher education – teaching and learning, research, and engagement – and at how, collectively, these can frame a realisable vision for the future of higher education.

■ **Chapter 3, Teaching and learning,** deals with the first of the three interconnected core roles of higher education (teaching and learning) and explores how we can ensure that higher education students can continue to have an excellent teaching and learning experience, informed by up-to-date research and facilitated by a high-quality learning environment, with state-of-the-art learning resources.

■ **Chapter 4, Research,** deals with the second of the three core roles – research. It sets out the vision for research in Irish higher education for the years ahead, and details what we will need to realise that vision, in terms of investment and capacity-building. It also describes the intimate relationship between research and teaching, and the economic importance of linkages between research and enterprise.

■ **Chapter 5, Engagement with wider society,** examines the third of the three core roles – engagement – how the higher education system addresses the full range of its responsibilities towards society, including business, local communities, the wider education sector and the wider international world. It also deals with the education sector's role in providing intellectual leadership and acting as a source of authoritative opinion.

■ **Chapter 6, Internationalising higher education,** describes how higher education increasingly involves collaboration between institutions in different countries, students following all or parts of their studies abroad, and staff movements between institutions. It outlines the opportunities for Irish educational institutions in responding to this global trend.

PART 3: Governance, Structures and Funding, examines the structural reforms that are required within Irish higher education to ensure that the system can continue to deliver on its core missions in a coherent, sustainable, and well-managed way.

■ **Chapter 7, System governance,** deals with the overall structures that are needed to provide the leadership, governance and quality controls necessary for the successful implementation of the strategy set out elsewhere in this document.

■ **Chapter 8, Developing a coherent framework for higher education,** deals with the future structural and system requirements of higher education, with how universities and institutes of technology are evolving, and with inter-institutional cooperation.

■ **Chapter 9, Establishing a sustainable and equitable funding model,** examines how we can deploy our resources more effectively, widen the funding base – this includes student contributions, employer contributions, and other streams of income – and ensure that the way we fund higher education is aligned with wider national policy objectives for increased access, greater flexibility and enhanced performance outcomes.

Appendix A expands the acronyms and abbreviations used in this document.

Appendix B sets out the Terms of Reference for the Strategy Group.

Appendix C lists the membership of the Strategy Group.

Appendix D describes the consultation process engaged in by the Strategy Group.

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Executive summary

Context for change

Ireland's higher education system has played a major role in the development of Irish society and the economy, and has an even more critical role to play in the coming decades as we seek to rebuild an innovative knowledge-based economy that will provide sustainable employment opportunities and good standards of living for all our citizens. Its role in enabling every citizen to realise their full potential and in generating new ideas through research are and will be the foundation for wider developments in society.

The development of the higher education system in the years to 2030 will take place initially in an environment of severe constraints on public finances. Demand to invest in education to support job creation and innovation, and to help people back into employment is increasing. In the wider world, globalisation, technological advancement and innovation are defining economic development, people are much more mobile internationally as they seek out career opportunities, and competition for foreign direct investment remains intense.

Higher education is central to the economic renewal we need to support individual well-being and social development. But it also plays a fundamental role in fostering a spirit of inquiry and a strong sense of the value of learning among students; it is the positive engagement that students have with higher education that stimulates the imagination and makes innovation possible. The quality of their learning experiences and the environment in which students learn will shape the future development of our society. The people who enter higher education in the coming decades are the job creators, policy-makers, social innovators and business leaders of the future. They are also citizens who will add to the richness of society – as parents, community leaders and teachers – and in their chosen area of work they will be the productive engine of a vibrant and prosperous economy.

Irish higher education has seen exceptional development in the recent past – moving from a system that was confined to a social elite to one of widespread participation. Our graduates are highly regarded and are among the most employable in Europe. The scale of investment in research has expanded considerably and the quality and reputation of Irish research is now achieving

impact internationally. These developments have all had an enormously positive impact across all social groups, to the benefit of individuals, society and the wider economy.

This strategy is framed against a range of new challenges that are facing higher education. The capacity of higher education has doubled over the past twenty years and will have to double again over the next twenty. Those entering the system now and in the future will have very diverse learning needs, and many will be 'mature' students. Higher education itself will need to innovate and develop if it is to provide flexible opportunities for larger and more diverse student cohorts. It will need to do this while simultaneously enhancing quality and relevance, and connecting better with the wider needs of society and the economy, while operating in a more competitive globalised environment.

Vision

In the decades ahead, higher education will play a central role in making Ireland a country recognised for innovation, competitive enterprise and continuing academic excellence, and an attractive place to live and work with a high quality of life, cultural vibrancy and inclusive social structures. Higher education institutions will have a strong engagement with individual students, communities, society and enterprise, will give students a sense of Irish place and identity, and will equip them with the skills to play a strong part on the world stage. It will also be the engine for new ideas through research, and many of these ideas will translate into the sustaining innovative enterprises of the future.

Higher education will support these changes through innovative approaches to research-led teaching and learning, programme design, student assessment and a quality assurance system – all of which will reflect a new emphasis on nurturing creative and innovative minds. Irish higher education will have a strong international presence, will be attractive to overseas students and will engage in high-quality research that will have a vital impact on regional, national and global needs.

Participation

If Ireland is to achieve its ambitions for recovery and development within an innovation-driven economy, it is essential to create and enhance human capital by expanding participation in higher education. The scale of the

projected widening and growth in participation over the period of this strategy demands that Ireland's higher education system become much more flexible in provision in both time and place, and that it facilitates transfer and progression through all levels of the system. There remain significant challenges in this area: successive reports have recognised the relatively poor performance of our system in the area of lifelong learning, while the requirement for upgrading and changing of employee skills and competencies is becoming ever greater. Changes to system funding and operation will be needed in order to enable the institutions to respond to these needs by increasing the variety and diversity of their provision and improvements in the interface between higher education and further education and training will be necessary to support enhanced progression opportunities.

Quality of the student experience

A high-quality student experience should equip graduates with essential generic foundation skills as adaptive, creative, rounded thinkers and citizens – in addition to a comprehensive understanding of their relevant disciplines. This will require a commitment to specific improvements in the teaching and learning environment in respect of the breadth of curriculum and skills assessed as well as in the quality of teaching itself.

All students must have access to teaching that has been kept up to date and relevant through scholarship, research and professional development. Academic staff should make full use of the range of pedagogical methodologies available to them and be qualified as teachers as well as in their chosen discipline. All research and scholarship in higher education institutions should enhance the quality of undergraduate and postgraduate teaching. The structure and design of PhD programmes should incorporate generic skills and be formulated with direct engagement with employers and enterprise where appropriate. Critical mass in PhD programmes is of the highest importance if quality is to be maintained.

Quality of teaching, scholarship and external engagement

The quality of teaching, scholarship and external engagement of academic staff must be continuously reviewed in all institutions as part of a robust performance management framework. Reliable and consistent data on the outcomes of higher education from the perspective of both students and employers should be publicly available and feed into a process of continual development.

Research and innovation

Continued investment in research and innovation is essential to national development. Investment in research creates a range of benefits – improving the quality of education for all students, developing a cadre of highly trained PhD students, producing new knowledge to address national and international problems, enhancing international competitiveness, and informing public opinion.

To meet Ireland's social and economic objectives, Ireland's higher education institutions need to continue to break new ground in research of the highest standards across the spectrum of disciplines and activity. The recent transformation of Ireland's research landscape must now be built upon by further refining our concentration of resources and investment to build on developed strengths. We must continue to identify key selected domains in which Ireland can make a real impact on the international stage and on which investment priorities should be focused, while sustaining research excellence across a broad base of disciplines.

The choice of priorities will be informed by the potential for national, economic and social returns and will remain under review to ensure continuing responsiveness to global developments. Higher education research will need to connect to enterprise and society in new and imaginative ways to harness its potential for economic and social well–being, including a more effective approach to knowledge transfer and commercialisation. Higher education institutions will need to develop sophisticated review mechanisms, performance metrics and promotional criteria to ensure parity of esteem for differentiated research missions. A consistent quality framework for PhD education should be developed based on critical mass.

Future research funding should be allocated according to these principles, and a new focus on the impact of that funding is now necessary. Higher education institutions need to focus on transferring knowledge as quickly and effectively as possible which may involve exploitation by others with a better expertise to do so.

Engagement

Higher education institutions should have open engagement with their community and wider society and this should infuse every aspect of their mission. Outward–facing systems and structures should be embedded into

institutional activity, so that there are inward and outward flows of knowledge, staff, students and ideas between each institution and its external community.

Higher education has the capacity to engage more intensely than heretofore with wider society by providing intellectual leadership and authoritative opinion across a range of academic disciplines, the arts, business and areas of public discourse. Working in our higher education institutions, we have a great number of people who can make very valuable contributions to the community and to wider civic life in many different ways. These include scientists, engineers, artists, and expert practitioners in the humanities and social sciences. We need to ensure that the intellectual autonomy that makes such engagement possible remains in place.

Internationalisation

Our higher education system is part of a global endeavour. While higher education in Ireland is already characterised by flows of students and staff to and from other countries, it is essential that this be broadened and deepened. Internationalisation provides important new opportunities for Irish higher education, but equally, and as other countries also compete for talent and resources, Ireland cannot afford to be left behind.

System changes

The ambitious vision and objectives set out for the development of Irish higher education are necessary if the system is to address Ireland's broader national development needs and priorities over the period of this strategy. The scale of our ambitions for the quantum, breadth and quality of Irish higher education over the coming decades demands more coherence, greater complementarity and the most efficient operations throughout the organisation and financing of the system. The key parameters of quality, quantity, and the level and sustainability of funding will have to be creatively and expertly managed to ensure balanced development in pursuit of national objectives. A number of changes to the operational framework of the system have been identified to ensure that this happens. These are in the areas of governance and leadership, the overall structure of the system, and sustainable funding.

Governance and leadership

At the heart of this strategy is the recognition that a diverse range of strong, autonomous institutions is essential if the overall system is to respond effectively

to evolving and unpredictable societal needs. Funding and operational autonomy must be matched by a corresponding level of accountability for performance against clearly articulated expectations. This requires well-developed structures to enable national priorities to be identified and communicated, as well as strong mechanisms for ongoing review and evaluation of performance at system and institutional levels.

A new contractual relationship or service level agreement between the State and the higher education institutions should be established, as part of a wider strategic dialogue, and this should be used to ensure that the requirements for performance, autonomy and accountability are aligned. Through this process, institutional strategies will be defined and aligned with national priorities.

Appropriate cross-government structures should be used to develop the national priorities for higher education and to oversee their implementation. A reformed Higher Education Authority should have responsibility, on behalf of Government, for engaging with institutions to enable them collectively to meet the national priorities, without wasteful duplication. This will be supported by the collection of full, transparent and comparative data across the system which will form the basis for enlightened engagement with the institutions. The quality assurance system overseen and regulated by the new Qualifications and Quality Assurance Ireland agency will also inform this engagement. Funding decisions should be made in the context of the institutions' performance against identified and agreed targets as part of the service level agreement or contract.

The new roles and relationships will require enhanced institutional capacity for system oversight, leadership and institutional governance. This will involve changes in the size and composition of the HEA Board and of its executive structures, and in the size and composition of the governance structures of the individual higher education institutions.

Structure of the system

The structure of higher education is already evolving as institutions seek to respond more effectively to Ireland's innovation requirements. These developments have the potential to create new system strength through the pooling of expertise, knowledge and resources, and through the exploitation of synergies to realise the full potential of Irish talent and innovation. This energy now needs to be harnessed to address the goals of this strategy. The system needs to evolve within a clear framework that is aimed at developing a

coherent set of higher education institutions, each of significant strength, scale and capacity and with complementary and diverse missions that together meet individual, enterprise and societal needs.

The system should be strengthened by the development of regional clusters of collaborating institutions (universities, institutes of technology and other providers), and by institutional consolidation that will result in a smaller number of larger institutions. There should be a particular focus on encouraging the emergence of stronger amalgamated institutes of technology. Central to the envisaged regional cluster model will be universities and amalgamated institutes of technology operating as collaborative partners to deliver on jointly agreed strategic objectives. The diversity of mission that has served Ireland well to date should be maintained.

The development and evolution of institutes of technology into a smaller number of stronger amalgamated institutes should be promoted in order to advance system capacity and performance. Performance criteria for these amalgamated institutes should focus on their distinct mission, and, based on demonstrated strong performance against mission–relevant criteria, it is envisaged that some could apply for redesignation as technological universities. However, there is no case for approval of any new universities within the meaning of the Universities Act 1997. Any such move would reduce the diversity in the overall system and have a negative impact on its ability to respond to the country's innovation needs and development opportunities.

Funding

Developing the Irish higher education system to meet the identified need for increased capacity and improved performance raises the major issue of funding. The required growth in capacity cannot be achieved without compromising the equally necessary quality objectives, unless it is aligned with efficiency reforms, a broadening of the funding base, and reforms in funding approaches.

Consolidation, economies of scale, greater productivity and commercial activity can help to make the current levels of funding go further, but international experience suggests that their impact would be relatively minor. Nor, given the scale of our ambitions and current budgetary constraints, can we reasonably expect the required level of costs to be met solely by increased exchequer funding. The only realistic option to support growth in participation is to require students or graduates to directly share in the cost of their education, reflecting the considerable private returns that they can expect to enjoy. A

direct student contribution, based on a combination of upfront fees and an income-contingent loan scheme, is recommended as an essential element of future funding arrangements for the system.

Higher education institutions need to identify and engage with a broader base of funding sources, and reduce their strong relative reliance on exchequer funding while improving the relevance and quality of their education and research. This should be linked to a more responsive and open engagement with key stakeholders, particularly students and enterprise, and a drive to find new ways to link higher education research and innovation capacity to the needs of the public and private sectors.

To enable institutions to meet participation, quality and sustainability objectives, it will be necessary to reform the core grant funding model for higher education institutions. In future, all higher education institutions should be funded through an allocation formula that provides core funding for all students – full- or part-time, on- or off-campus. This should be complemented by more flexible working arrangements and an annualised delivery of contracted work loads by academics as a means of advancing both responsiveness and efficiency.

Continued expansion of student numbers should be contingent on the introduction of additional revenue streams and new ways of working. The faster the pace of delivery of the required reforms, the stronger will be the prospects of maintaining quality while growing enrolment. An increase in non-exchequer funding through student contributions will alleviate this pressure; but before the introduction of such a model, it is very important to ensure the overall sustainability of the system and to manage growth in such a way that the quality is maintained in the educational and research outcomes and in the student experience.

The importance of implementation

The higher education system is not separate from the rest of society – it is integral to it. The standard of living enjoyed by Irish citizens is intimately bound up with the development of the higher education system. The implementation of the recommendations set out in this document will ensure that the Irish higher education system is enabled to make its full contribution to the tasks of improving the quality of life for Irish citizens, and of tackling the world's major social, economic and environmental challenges.

Summary of recommendations

Teaching and learning

1   **Higher education students of the future should have an excellent teaching and learning experience, informed by up-to-date research and facilitated by a high-quality learning environment, with state-of-the-art learning resources, such as libraries, laboratories, and e-learning facilities.**

2   **Higher education institutions should put in place systems to capture feedback from students, and use this feedback to inform institutional and programme management, as well as national policy.**

- A national student survey system should be put in place and the results published.

- Every higher education institution should put in place a comprehensive anonymous student feedback system, coupled with structures to ensure that action is taken promptly in response to student concerns.

3   **Every student should learn in an environment that is informed by research, scholarship and up-to-date practice and knowledge.**

- The roles of teaching and research should be afforded parity of esteem. This should be reflected in resource allocation, in promotion criteria, and in the metrics used to assess performance at individual, institution and system level.

4   **The Irish higher education system must continue to develop clear routes of progression and transfer, as well as non-traditional entry routes.**

- In the coming decades, the delivery of higher education in Ireland must be characterised by flexibility and innovation.

- All students, whether full-time or part-time, on-campus or off-campus, should be equally supported by the funding model used to allocate resources to and within institutions.

- Undergraduate students should be encouraged to spend some time in a work or service situation, and formally acknowledge such work through accreditation or inclusion in the student's Diploma Supplement.

- Routes of progression should be flexible into, within and across higher education institutions.

- A national framework for the recognition of prior learning (RPL) must be developed and recognised by all higher education institutions.

Teaching and learning

5 | **Higher education institutions should prepare first-year students better for their learning experience, so that they can engage with it more successfully.**

- Higher education institutions should expand the provision of induction and preparation programmes for first-year students.
- Higher education institutions should offer broad-based courses and more interdisciplinary learning opportunities for students in the first year of their undergraduate studies.

6 | **Both undergraduate and taught postgraduate programmes should develop the generic skills needed for effective engagement in society and in the workplace.**

- Undergraduate and postgraduate education should explicitly address the generic skills required for effective engagement in society and in the workplace.
- In the design of courses and programmes, higher education institutions should ensure alignment and balance between learning outcomes, pedagogy and assessment.

7 | **In light of the scale of transformation in teaching and learning that is under way in Irish higher education, the quality assurance framework must be reviewed and further developed.**

- Subject guidelines should be developed to support the National Framework of Qualifications. This work should be progressed by subject experts from the academic community and coordinated by the new Qualifications and Quality Assurance Ireland agency.
- A full and comprehensive review should be undertaken of the external examiner system and the grading system more generally.

8 | **All higher education institutions must ensure that all teaching staff are both qualified and competent in teaching and learning, and should support ongoing development and improvement of their skills.**

Research

9 **Investment in R&D should be increased.**

■ Investment in R&D target should be increased to 3 per cent of GDP, in line with the renewed Programme for Government, and the Innovation Taskforce report, which recommends a timeframe for delivery of investment in an updated SSTI for the 2014–2020 period.

10 **The researcher's role should be afforded a wider focus, better mobility and increased career opportunities.**

■ A clear career path should be established for researchers that develops their talents and rewards them appropriately.

■ In addition to all research-active staff normally participating fully in undergraduate teaching, researchers should, where possible, be afforded opportunities to participate in teaching such as laboratory supervision and tutorials.

■ Greater mobility of staff should be facilitated between higher education on the one hand and enterprise and the public service on the other, to promote knowledge flows and to capitalise on the expertise within higher education for the benefit of society and the economy. This could be through full-time or part-time secondments for up to six months at a time or by consultancy by academics where this is of mutual benefit to the individual, the institution and society.

■ To ensure a more effective level of collaboration with enterprise, funding agencies and higher education institutions should develop review mechanisms, performance metrics and promotional criteria to ensure parity of esteem for differentiated research missions across disciplines and across types of research and innovation activities, including knowledge transfer and commercialisation.

11 **A consistent quality framework should be developed for Irish PhD education, based on critical mass.**

■ A demanding framework that meets or exceeds international standards for PhD education should be applied consistently across all higher education institutions, as an essential underpinning of the Irish PhD brand. This should lead to greater consolidation and collaboration among providers, with stronger offerings for students.

Research

12	**Public research funding should be prioritised and better coordinated and underpinned by effective foresight, review and performance measurement systems.**

■ Research across all disciplines should be supported both to inform teaching and to ensure a platform for strong research in strategic priority areas.

■ Focused research funding should be based on national priority-setting exercises. Such exercises identify a number of thematic areas in which Ireland can excel, make its mark internationally and maximise economic and social return. Priorities should be reviewed and modified to ensure Ireland's research system remains responsive to the changing national and international environments.

■ In selecting priorities, particular attention should be paid to the opportunities for research spanning AHSS and STEM.

■ Structures for delivering research funding should be reformed in order to:

  ■ Fully coordinate funding across all government agencies;

  ■ Ensure that funded research has an identified funding pathway and a single lead responsible agency, underpinned by commercialisation supports; and

  ■ Ensure a balance between different types of research from fundamental to strategic and applied, and from single investigator to large multi-disciplinary teams working in partnership with other relevant players .

13	**Knowledge transfer should be better embedded into institutional activity and rewarded accordingly. The commercialisation of intellectual property from publicly-funded research should primarily provide a gross return to the economy.**

■ A national IP protocol should be developed and structures agreed to facilitate speedy commercialisation of IP from all higher education institutions.

Engagement with the wider society

14 | **Engagement with the wider community must become more firmly embedded in the mission of higher education institutions. To achieve this, higher education institutions will need to take the following actions:**

- Encourage greater inward and outward mobility of staff and students between higher education institutions, business, industry, the professions and wider community.

- Respond positively to the continuing professional development needs of the wider community to develop and deliver appropriate modules and programmes in a flexible and responsive way.

- Recognise civic engagement of their students through programme accreditation, where appropriate.

- Put in place structures and procedures that welcome and encourage the involvement of the wider community in a range of activities, including programme design and revision.

In addition to these actions, a national survey of employers should be taken by the HEA on a regular basis and used as part of an assessment of quality outcomes for the system.

Internationalising higher education

15 | **Higher education institutions should set out their international vision in an institutional strategy that:**

- Is related to their institutional mission and to wider national policy goals; and
- Considers internationalisation and global engagement in the widest perspective.

16 | **Higher education institutions should put in place appropriate supports to promote the integration, safety, security and well-being of international students.**

System governance

17 **Ireland's autonomous institutions should be held accountable for their performance to the State on behalf of Irish citizens.**

- The Minister for Education & Skills will articulate the Government's national priorities for higher education.

- To ensure that the national priorities for higher education are informed by a whole of government approach, the Minister for Education & Skills should chair a cabinet committee on higher education. A network of all agencies that interact with higher education will be convened by the HEA.

- The HEA should continue to be accountable to the Minister for the funding and oversight of the sector, and a new process of strategic dialogue should be introduced to enhance accountability and performance, while respecting institutional autonomy.

- The accountability framework for the system should be underpinned by the availability of a fully comparable system database with data on student and staff profiles, efficiency and other indicators that will aid in research on and evaluation of public policy in higher education and inform the HEA during the strategic dialogue process.

18 **Governance structures should be reformed at both institutional and system levels.**

- The size of the governing authorities of higher education institutions in Ireland should be reduced to no more than 18; the majority of members should be lay members with expertise relevant to the governance of higher education; and

- The Board of the HEA should be reduced in size to 12 members; its composition should be reformed to ensure that it contains the appropriate blend of expertise and experience to undertake its mission.

Coherent framework

19 | **A framework should be developed to facilitate system-wide collaboration between diverse institutions.**

- Collaboration between autonomous institutions within a region will be promoted in order to:
  - Improve responsiveness to local economic and social needs;
  - Encourage progression pathways for students; and
  - Facilitate academic interchange and exchange of ideas.
- Rational collaboration beyond regional boundaries will also continue to be supported.
- There will be no new universities on the basis of Section 9 of the Universities Act.

20 | **The institute of technology sector should commence a process of evolution and consolidation; amalgamated institutions reaching the appropriate scale and capacity could potentially be re-designated.**

- A process should be put in place to allow institutes of technology that have emerged from a process of consolidation to apply for designation as a technological university.

21 | **Smaller institutions should be consolidated to promote coherence and critical mass.**

In the case of institutions in receipt of core grant (partial or full) and free fees funding, the overall framework of incentives should operate to achieve the incorporation or merger of such institutions into existing universities or institutes of technology or into technological universities.

- Funding for institutions in receipt of free fees only funding should not be extended beyond institutions currently in this category.
- In respect of private institutions (independent colleges in receipt of no direct funding), it should be open to the HEA to commission teaching and learning activity on an economic cost basis to meet priorities that may be identified within a cluster. Independent providers, including those in the 'for-profit' sector should be free to tender for provision on this identified needs basis.
- Such public funding to these institutions will be allocated through the HEA.

Sustainable and equitable funding model

22 The current employment contracts for academic staff must be reviewed with a view to recognising academics' professional standing and requiring comparable levels of accountability to those in place in the wider public and private sectors.

Such a review will require the following outcomes:

■ Contracts that are transparent and deliver accountability for appropriate workload allocation models to ensure that priorities around teaching and learning, research and administration can be managed and delivered;

■ In the case of institutes of technology, contracts should specify a minimum number of hours to be delivered on an annualised basis;

■ Contracts that reflect a much broader concept of the academic year and timetable; and

■ Greater flexibility, adaptability and mobility of staff to meet new demands from structural and other changes arising from the strategy.

23 Over the lifetime of the strategy and in the context of a reducing reliance on the exchequer, individual higher education institutions will progressively take on greater responsibility for key human resource functions.

Such responsibility will require institutions to:

■ Take on the powers to recruit and set terms and conditions for staff, within agreed parameters;

■ To maintain balanced budgets and to budget for the full costs of recruitment, including pension costs;

■ Work within an appropriate framework for HR management that ensures:

  ■ Adequate consultation with staff interests; and

  ■ Transparency as regards levels of staffing and rates of pay.

■ Accept clear accountability for overall delivery on agreed outcomes.

24 The funding base for higher education must be broadened through the reform of student financing, including a new form of direct student contribution based on an upfront fee with a deferred payment facility.

■ Implementation of this will require the Department of Education & Skills to establish an expert group (with international representation) to design the appropriate loan system for Ireland, taking into account the attendant implementation issues.

■ The setting of fee rates should occur within a national framework that will regulate the maximum level of fees, with periodic review.

Sustainable and equitable funding model

- Future growth and improved quality delivery in Irish higher education will not be possible without such a contribution.

- The reform of financing must also include a reform of the procedures for means testing for students' maintenance grants. This should be more streamlined and timely, and should be delivered through a single agency.

- In situations where there are identified skills shortages that need to be addressed or where there are specific upskilling priorities within the workforce, the State should consider alternative funding arrangements, such as:

    - Using the NTF to support students in meeting the required student contribution; or

    - Defined funds or bursaries for which public or private higher education institutions could compete for onward disbursement to students following particular programmes of study; or

    - Discounted fees.

25   **The growth of higher education must be sustainable and resourced with an appropriate funding base. Growth and quality improvement must be progressed together.**

- In particular, the HEA must be charged with keeping institutions under close review in relation to the sustainability of their ambitions for growth, as measured against the financial resources available to underpin that growth.

26   **Public investment in higher education must be aligned with national policy priorities, including widening of access, enhanced performance outcomes, and greater flexibility in provision.**

This will involve:

- Widening access to higher education by people from lower socio-economic backgrounds or other under-represented groups (by additional weighting);

- Recurrent grant allocation that achieves parity between all students, whether full- or part-time, on- or off-campus;

- An element of reward to match private donations sourced through philanthropy;

- Recurrent grant allocation for all institutions based on the current unit cost model (RGAM) operational in the university sector;

- Service level agreements, as part of a strategic dialogue, with higher education institutions establishing the key outputs, outcomes and levels of service to be delivered and the resources allocated to achieve them.

The vision for higher education in Ireland

In the decades ahead, higher education will play a central role in making Ireland a country recognised for innovation, competitive enterprise and continuing academic excellence, and an attractive place to live and work with a high quality of life, cultural vibrancy and inclusive social structures. At its heart, however, it will still be about people and ideas: higher education institutions will have a strong engagement with individual students, communities, society and enterprise, will give students a sense of Irish place and identity, and will equip them with the skills to play a strong part on the world stage; they will be the source of new ideas through excellent research.

The nature of the learning community and the modes of teaching and learning will also change significantly over the coming years. These changes will be supported through innovative approaches to research-led teaching and learning, programme design, student assessment and a quality assurance system – all of which will reflect a new emphasis on nurturing creative and innovative minds. Irish higher education will have a strong international presence, attracting overseas students and academics, and across all disciplines it will engage in high-quality research that will distinguish Ireland internationally.

High-level objectives

The following high-level system objectives will underpin the realisation of this vision:

Ireland will have an excellent higher education system that will attract and respond to a wide range of potential students from Ireland and abroad and will be fully accessible throughout their lives and changing circumstances.

Students will experience an education that is excellent, relevant and responsive to their personal development and growth as fully engaged citizens within society.

Research activity in Irish higher education will continue to increase. It will be characterised by its international level quality, by a strong and broad base across all disciplines, as well as significant focus in niche areas that are aligned with and are a significant support for Irish national economic social and cultural needs.

Institutions will be autonomous, collaborative and outward looking, effectively governed and fully accountable for both quality and efficiency outcomes. They will respond flexibly to the changing needs of the economy and of society. Higher education institutions will recruit, develop and retain high-quality staff, fully accountable for their performance to a strong and dynamic leadership.

Higher education will accommodate a diversity of institutional missions that will be clearly articulated and defined. Together, the institutions will form a coherent and inter-related system and collectively will have the requisite critical mass for optimal quality and efficiency.

The policy framework for higher education will make national expectations clear. The objectives and operations of the institutions and those of the funding and quality agencies will be mutually aligned, and will be underpinned by a sustainable funding model and clearly defined structures for system governance and accountability.

PART 1: The context for a new national strategy for higher education

The Irish higher education system has served Irish society well in recent decades, as it responded to changes in the social, economic and cultural environment. It has provided society with the knowledge and skills needed to negotiate the changing global landscape, where new understandings, new challenges and new technologies are daily changing the realities we face and our relationships with the world and it has opened new opportunities for personal development and advancement to a generation of citizens. The high-calibre graduates produced by the higher education system have been critical to the development of high-technology indigenous industry and to the attraction of very substantial foreign direct investment into the country, resulting in the creation of high-quality, well-paid employment, economic growth, and a higher standard of living.

However, what has served us well in the past will not serve us well in the future without significant change.

Higher education is the key to economic recovery in the short term and to longer-term prosperity. Our economy depends on – and will continue to depend on – knowledge and its application in products, processes and services that are exported. Our success in the recent past was based on the application of knowledge that was developed elsewhere. In the years ahead, we will increasingly have to be knowledge creators ourselves.

The implications are clear: the educational level of the Irish population has to be raised. We need more graduates at every level. People who are already employed need to raise their level of qualification and broaden their educational base. Unemployed people need new educational opportunities that are attuned to the demands of the new economy and significant research effort has to be expended on priority areas where we, as a country, have the talent, experience and resources that will enable us to succeed on a global scale.

In positioning the higher education system in Ireland to face these challenges, we now face important choices – around system structures, flexibility and resourcing. Chapter 1 sets out the scale of the challenges and the responses required of the higher education system; chapter 2 deals more specifically with the sources of demand for higher educational opportunities and how those demands must be met.

1. Higher education in a changing society

In this chapter

Higher education in Ireland has been a major agent of positive change and development – for individuals, for society and for the State; and it has supported the creation, development and transmission of social, cultural and economic values.

Irish society has changed very substantially over recent decades, within a global environment that has also changed radically. Higher education has made a huge contribution in leading, framing and delivering positive change. Over the coming decades, Ireland's engagement with higher education will change and the higher education system must change in response. New challenges, changed demographics, different employment patterns and new ways of understanding Ireland's role in the world – these will all change what we expect from higher education, in terms of both intellectual stimulation and more practical skills development.

This chapter looks at the challenges that must be faced by the Irish higher education system over the coming decades, and at how higher education must respond to those challenges:

■ The emerging economic and social challenges that demand new approaches in higher education;

■ Why we need more graduates and how they will play a key role in Ireland's national economic development; and

■ The skills that graduates will need; and the wider economic, social and civic benefits that come with increased participation in higher education.

1.1 Higher education and economic renewal

Education in general, and higher education in particular, is a force for individual growth, societal progress and cultural development. Through education, we find our place in the world, understand that world, and pass on our understanding and our values to others. Education contributes to economic development and to the quality of life that economic development makes possible.

The role of higher education in national economic development

The ultimate purpose of economic development is to support individual well-being, to promote social equity and to enable the State to deliver on the aspirations of its citizens. These are also system-level goals that the Irish higher education system pursues in partnership with Government, business, and the broader society. Higher education is most effective in delivering on its mission when there is public attachment and commitment to it and to the value of its endeavours.

Higher education has been a key component in broader national development strategies since the late 1950s. From a low base and a late start, the rate of expansion of higher education opportunities in Ireland has consistently been among the highest of all OECD countries in recent decades.[1] In 1960, 5 per cent of 18 year olds went on to higher education. By 1980, this had grown to 20 per cent and today the proportion is 65 per cent. In 1980 there were just under 15,000 new entrants to full-time undergraduate higher education; by 2009 this had almost tripled, to 42,500.

Ireland has moved rapidly up the ranks of OECD countries in terms of the higher educational attainment levels of its adult population and, with one third of adults qualified to higher education level, Ireland now ranks between 9th and 12th in OECD terms. Our rapid expansion and improvement over time is reflected in the fact that we were 5th highest of all OECD countries in terms of the higher educational attainment levels of young adults aged 25 to 34 in 2007.

This expansion of higher education opportunities has been critical in generating the supply of skilled graduates that underpinned the significant increases in productivity, employment and export-oriented growth achieved from the mid 1990s to the early years of the current century.

The economic climate within which higher education operates in 2010 is very different, however, highlighting more than ever the need to develop the necessary skills and

competencies in the workforce and stressing the value of education, and higher education in particular, for national development.[2] In an age of international rankings and league tables, higher education is increasingly seen as a shop window for national attainment and achievements in the sciences, the arts and business. International investors and multinational corporations pay serious attention to the quality of learning and, in particular, to the quality of graduates that higher education systems produce in different countries. For that reason, as the intimate connection between advances in knowledge, innovation and economic well-being becomes more appreciated, public expectations from higher education have grown enormously.

Global challenges

In the intensely competitive global environment, the economic fortunes of every country are increasingly determined by the quality of its national education and innovation systems. Each aspect of higher education's mission – teaching, research and engagement with the wider community – is central to economic development. Higher education's most direct contribution to enterprise development is through the provision of graduate labour from undergraduate and postgraduate programmes, which results in substantial knowledge transfer from higher education to enterprise.

In future, higher education will need to be more proactive in commercialisation and knowledge transfer, and will have to pursue this in collaboration with others in enterprise and the wider society. A renewal and transformation of the relationships between higher education and enterprise

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1   The OECD (Organisation for Economic Cooperation and Development) is an international organisation of 30 countries. A key output from the cooperation in the field of education is the annual publication Education at a Glance. Eurostat coordinates the statistics of EU countries. The most recent volume is available at www.oecd.org/document/24/0,3343, en_2649_39263238_43586328_1_1_1_1,00.html

2   European Commission (2010) New Skills for New Jobs: Action Now, a report by the Expert Group on New Skills for New Jobs prepared for the European Commission, p.4.

can position Ireland at the leading edge in the competitive global environment. This is the only way to ensure an effective return on sustained public investment in higher education and research over the next decade and for ensuring success in the application and commercialisation of new knowledge.

Irish higher education institutions now operate on a global stage on which the competition, the scope of collaboration and the benchmarks for success are all international.[3] Over recent decades, there has been increased competition for developing talent in Ireland and also for attracting the most talented students, academics, scientists and researchers into Ireland. In the words of Harvard President Drew Faust: 'In a digital age, ideas and aspirations respect few boundaries. The new knowledge economy is necessarily global and the reach of universities must be so as well'.[4] The Glion Colloquium on the Future of the Research University also calls on higher education to lead and respond to the global challenges it faces:

> *Navigating our collective way toward some new equilibrium will require new approaches, new thinking, new partnerships and new technology. And this, in turn, will require a change in outlook and a degree of innovation whose very boldness will be disruptive of much conventional thinking and many established practices.[5]*

Increasingly, all human endeavour is interconnected. Over the coming years, Ireland will face economic and social challenges, but most of these will have global causes and will require international, collaborative solutions. The global capacity

to confront such challenges will continue to expand in line with the growth of the technology to enable collaboration and innovation.

Changing employment patterns

Ireland has a young population compared with the EU and the US, and for those young people the nature of employment will change and their jobs will be less tied to place. To deliver a competitive economic advantage for Ireland, people at work will need more and better opportunities for skill and knowledge development. In addition, the capacity of the economy will be very dependent on the targeted expansion of research and development in support of innovation and enterprise – particularly within indigenous businesses that have the potential for global reach. The Government's 2008 Smart Economy report outlined the prerequisites for a research, innovation and commercialisation ecosystem:

> *The objective is to make Ireland an innovation and commercialisation hub in Europe – a country that combines the features of an attractive home for innovative R&D-intensive multinationals while also being a highly-attractive incubation environment for the best entrepreneurs in Europe and beyond. This will be the successful formula for the next phase of the development of the Irish economy and for delivering quality and well-paid jobs.[6]*

3   Schleicher, A. (2010). 'The New Global Landscape of Educational Achievement', Issues in Science and Technology, Spring 2010.
4   Remarks at the Royal Irish Academy, 30th June 2010.
5   Glion Declaration II (2009), available at: http://www.glion. org/glion_declaration_2010.html

6   Government of Ireland (2008), Building Ireland's Smart Economy: A Framework for Sustainable Economic Renewal, p.7–8. A key element of the Smart Economy strategy is '... to invest heavily in research and development, incentivise multinational companies to locate more R&D capacity in Ireland, and ensure the commercialisation and retaining of ideas that flow from that investment'.

1.2 Increasing participation – why we need more graduates

Across Europe, jobs are becoming increasingly skill-intensive and this trend is certain to continue. The most recent employment forecasts to 2015 highlight the fact that 'the recovery is not expected to be uniform across occupational groups and is likely to create greater employment opportunities for high skilled'.[7] Global competition, from Asia in particular, has intensified and this has undermined Europe's ability to compete on cost and price. The only way that European standards of living can be maintained into the future is through the development and production of higher quality and more innovative products and services. This has been recognised by the European Commission – 'The crisis, and the recovery from it, is also accelerating the pace of economic restructuring, with a lasting structural effect on the volume and types of skills needed.'[8]

The further expansion of higher education is inevitable and essential if we are to fulfil our aspirations as an innovative and knowledge-based economy, and we must ensure that this happens within a coherent policy environment that serves the advancement of knowledge, wider national development and the public good.

The economic returns that individuals derive from higher education are well known,[9] but there are also wider economic benefits – for example, where those with higher education benefit from increased wages, it is likely that the wages of people in the same region without higher education will also rise.[10] Other research has pointed to a range of less tangible social and civic benefits such as reduced crime, improved health, better social cohesion and higher voter participation.[11]

In recent years, Ireland has made great strides in increasing the number of people in the workforce with higher levels of education, from apprentice level (Level 6) to PhD level (Level 10). This is important, because as the knowledge economy develops, the quality of Ireland's workforce will increasingly depend on the quality, relevance and responsiveness of our education and research system, particularly at higher education levels. More higher education graduates are needed to:

- **Provide a workforce capable of dealing with the increasingly complex demands of the global economy, including the proliferation of technologies and the growth of internationally traded services and manufacturing services;**

- **Attract high value-added investment and create high-skilled jobs, which will bring significant benefits to the wider economy;**

- **Develop the research base which will provide opportunities for the development of new ideas, products, and services; and**

- **Increase the number of higher quality and better paid jobs, with consequent improvements in living standards.**

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7   Behan, J. and Shally, C., Occupational Employment Forecasts 2015, FÁS/ESRI Manpower Forecasting Studies, Report no. 13, February 2010, p. 36.

8   European Commission (2010) New Skills for New Jobs: Action Now, A report by the Expert Group on New Skills for New Jobs prepared for the European Commission (February 2010), p.4

9   See OECD (2009) Education at a Glance.

10   Enrico Moretti (2004) 'Estimating the social return to higher education: evidence from longitudinal and repeated cross-sectional data' Journal of Econometrics 121 (2004), 175 – 212.

11   Returns to investment in higher education a European Survey, George Psacharopoulos, 2009.

Ireland's long-term enterprise strategy

Investment in increasing levels of educational attainment has yielded clear returns to individuals, to enterprises and to the State.[12] IDA Ireland sees continual enhancement of our education and research system and training programmes as key to our capacity to attract foreign investment, and has highlighted the need 'to ensure we have a workforce with relevant skills and that supports advanced research, development and innovation activities.'[13] Ireland's long-term enterprise strategy is to achieve sustainability through commercialising and exporting goods, services and ideas. The current economic downturn must not deflect attention from the necessity of ensuring that the right infrastructure is in place to develop the increasingly high skills required by Ireland's enterprise base.

The 2007 *National Skills Strategy*[14] highlighted how virtually all jobs now require an increasing breadth of knowledge, greater technical qualifications and continual learning and even with the recent rise in unemployment, skills shortages persist in the economy. With globalisation, human capital has become highly mobile and world competition for skills in areas such as ICT and life sciences remains acute. New and emerging technologies require continuous responsiveness to realise their potential, and Ireland needs the ability to respond to these technologies in order to compete at the highest levels. Indeed, in Recovery Scenarios for Ireland (2009), the ESRI stressed that increased policy attention to enhancing productivity and innovation in the tradeable sector of the economy would accelerate recovery.[15]

Job creation and the quality of the workforce

Ireland's capacity to generate jobs – both in indigenous enterprise and via foreign direct investment – depends on the quality of our workforce. IDA Ireland announcements in 2008/2009 reveal that foreign direct investment is shifting towards research, development and innovation activities and towards global business services. In parallel, multinationals already in Ireland are moving their investments into higher value-added activities – these include IBM, Aon, Facebook, Alcon, Microsoft, PayPal and Hewlett Packard, who have all made significant announcements in this area.

1.3 Broadening participation in Irish higher education

Building towards socio-economic equality

Despite the expanded opportunities for higher education in recent decades, inequality persists in Irish higher education.[16] For the past 15 years, additional funding has been made available from both public and private sources to support initiatives aimed at improving the participation of students from lower socio-economic backgrounds in higher education, and much has been achieved in improving participation among under-represented groups. Nevertheless, significant inequalities persist in the extent to which young people from different socio-economic backgrounds access and derive benefit from higher education.

Table 2.1 presents data on the estimated proportions of 18 year olds from households in each socio-economic group who entered higher education in 2004. The entry rates

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12 Kavanagh, C., and Doyle, E. (2006). Human Capital and Productivity in the Irish Context: Report for the Expert Group on Future Skills Needs.
13 IDA Ireland (2010) Horizon 2020.
14 Expert Group on Future Skills Needs (2007). Tomorrow's Skills: Towards a National Skills Strategy.
15 ESRI (May 2009) *Recovery Scenarios for Ireland*.

16 See *National Plan for Equity of Access to Higher Education 2008-2013*.

ranged from 100 per cent in households headed by a higher professional to just over one quarter from lower middle-income households (the 'non-manual' socio-economic group).[17] This presents a fundamental challenge for Irish education policy.

Socio economic group	%
Higher professional	100
Farmers	89
Own account workers	65
Lower professional	65
Employers and managers	65
Skilled manual	50
Semi- and unskilled manual	33
Non-manual (lower middle income)	27
Total	55

Table 2.1: Entry rates to higher education by socio-economic group

The pursuit of equality has been a mainstream concern of Irish education policy since the 1966 *Investment in Education report*. New and innovative routes of access have been developed and a range of supports has been established to improve access and participation for students from low income backgrounds and for students with disabilities.[18]

1.4 Future skills: graduates for the 21st century

One of the most fundamental questions in planning for the future is: what are the right skills for the graduates of 2015 and of 2030 and what mix of skills should we pursue as learning outcomes of higher education?

To address the societal needs over the coming years, increased attention must be paid to core skills such as quantitative reasoning, critical thinking, communication skills, team-working skills and the effective use of information technology. The emphasis has switched from over-specialisation towards deeper and broader disciplinary foundations, with learning objectives that explicitly seek to nurture in students the creativity, enthusiasm and skills required for continual engagement with learning. In this context, the arts, humanities and social sciences have a key role to play. The Innovation Taskforce emphasised the importance of independent thinking and 'the development of creative, high-skilled graduates as well as lifelong learning, mentoring and continuous professional development'.[19]

Continual engagement and responsiveness

The importance of continual engagement with learning arises because of the necessity for adaptability and responsiveness at both individual and national levels, and the need to provide citizens with the capacity to embrace and navigate change. Higher education needs to be *externally* responsive to wider social, economic, environmental and civic challenges, in addition to being *internally* responsive to the needs of students and researchers.

The importance of flexibility in provision

There is an increasing need for the provision of educational opportunities that differ significantly from the traditional model, in which a student enters higher education directly after finishing secondary school, stays there for three or four years, enters employment and never again engages

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17 A detailed analysis of these data is presented in the current *National Plan for Equity of Access to Higher Education 2008-2013*. Available at http://www.hea.ie/files/files/file/New_pdf/National_Access_Plan_2008-2013_(English).pdf

18 Significant developments include the establishment of the National Access Office within the HEA, Funds for Students with disabilities, innovative entry routes HEAR and DARE, and improving the FE-HE interface.

19 *Innovation Ireland*, Report of the Innovation Taskforce, March 201*0*, p.24.

with the education system. In many professions and occupations there is already a requirement for continuous professional development, and this creates a demand for part-time and short courses at any time of the year, on any day of the week, at any time of the day. People want to study from home or from their workplace. People want to – and need to – move between employment and education several times during their lives. People want to pursue education in parallel with employment, so that their path to any particular educational goal could be considerably longer than that of a full-time student and people want to progressively build on their knowledge and experience, and want their achievements to be recognised.

The recent economic downturn has magnified the importance of lifelong learning and workforce development[20] and there is now a clear demand for higher education to engage more directly with the upskilling challenges and to help ensure the adaptability of the Irish workforce to technological and social change.

The National Framework of Qualifications has provided opportunities for improving the interface between further education and higher education. In the past decade, there have been significant improvements in transfer and progression arrangements for students into and within higher education.[21] The introduction of the European Credit Transfer System (ECTS)[22],

and of modularisation and semesterisation (under the Bologna process) will provide opportunities for greater flexibility and progression for students, but the Irish higher education does not currently fully support the kinds of flexible learning that the ECTS facilitates. There is considerable inflexibility in the system, which has been encouraged (inadvertently) by the public funding system.[23] There is very little public funding available for part-time or online students, either through the free fees initiative or through the funding system for institutions, and this has militated against the development of flexible learning programmes.

Building on the centrality of mathematics and science

The central importance of mathematics and science arises because of the technological orientation of our leading companies and the growing importance of these subjects in addressing future skills needs. While there has been some increase in the numbers of students accessing higher education courses in science, technology, engineering and mathematics in the past two years, there continues to be a relatively low level of take-up at a time when the importance of these disciplines for enterprise strategy is growing. Of particular concern is the persistently low number of upper second-level students taking higher-level mathematics, which undermines the preparedness of students for engagement with engineering and the physical sciences.

Historically, Irish higher education has been relatively good at meeting demand for science graduates, but not quite so good when it comes to engineering, as a result of

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20   See *Thematic Synthesis of Written Submissions to the Strategy Group* available at http://www.hea.ie/en/node/1303

21   Higher education institutions are increasingly recognising FETAC qualifications at levels 5 and 6 as meeting the entry requirements for higher education. The proportion of students entering higher education who were accepted on the basis of further education awards grew from less than 3 per cent in 2005 to 10 per cent in 2007. In 2008, forty higher education institutions, including universities, institutes of technology and private colleges, offered places on a variety of courses for applicants with a FETAC qualification.

22   European Credit Transfer System, a student-centred system based on the student workload required to achieve the

objectives of a programme.

23   The Strategy Group is aware that there are isolated examples of programmes and courses in Irish higher education that are available on a flexible and online basis, but these are the exception rather than the rule.

lower student demand for these courses. In 2006, for example, science, mathematics and computing graduates accounted for 13.8 per cent of all graduates, well ahead of the EU-27 average of 9.9 per cent, but engineering, manufacturing and construction graduates accounted for 12.1 per cent, just below the EU-27 average of 12.5 per cent.[24]

Just managing to achieve average performance in these vital domains is not good enough: it threatens our aspirations for economic renewal and will undermine our national enterprise strategy of targeting technologically-based domains such as information technology, nanotechnology, biotechnology and alternative energy. Mathematical concepts, models and techniques are central to working in all sectors of employment and the proficiency level of students in mathematics is a key factor influencing the domestic supply of graduates for sectors with growth potential.[25] It is one of the key demands of business that we produce graduates who are highly literate in mathematics and science and who have the ability to think, learn and apply their skills flexibly.

The need to foster entrepreneurial imagination

Some of the jobs that people will do in 2015 and 2030 do not exist now, and some cannot even be foreseen. For that reason, we now need to take a broader approach to knowledge and to foster the core enabling competencies that will empower future workers in whatever environment they find themselves. The need to embrace change as an opportunity explains the growing importance of entrepreneurial imagination

in recent years. The sustainability of the Irish economy relies on our success in nurturing indigenous enterprise as well as our ability to remain an attractive destination for leading multinational companies. Whether as employees of established leading companies, as entrepreneurs in new start-up enterprises, or as social innovators, Irish graduates need to be job shapers and not just job seekers.[26]

1.5 Research performance

Ireland has increased significantly its investment in research in higher education in the period since 1996. Higher Education R&D (HERD) spending from all sources has almost quadrupled in current terms in the past ten years and has now reached OECD and EU-25 average levels.[27] This has resulted in significant progress in the volume and quality of research being conducted in Irish higher education.[28] Ireland now ranks 8th out of 28 countries (EU, Japan and the US) in terms of research publications per 1,000 inhabitants.[29] The quality of research output (as measured by citation impact) has also increased, and in 2008 Ireland entered the top-20 list for citations in all fields for the first time.[30]

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24 Eurostat yearbook 2009, Table 4.6 (2006 data).

25 As identified by the Expert Group on Future Skills Needs (EGFSN). See EGFSN (2008) *Statement on Raising National Mathematical Achievement,* November 2008, available at http://www.egfsn.ie/media/egfsn081215_raising_mathematical_achievement.pdf

26 The term 'job shaper' is taken from European Commission (2010) *New Skills for New Jobs: Action Now,* A report by the Expert Group on New Skills for New Jobs prepared for the European Commission (February 2010), p.9.

27 The metric referred to here is the HERD intensity ratio. See Department of Enterprise, Trade & Employment (2009) *Science, Technology and Innovation: Delivering the Smart Economy,* p.3.

28 Publications per million by Irish researchers have grown from below EU average in 2005 to 34 per cent above EU average at the end of 2007. The quality of research output (as measured by citation impact) has also increased. In 2008, Ireland entered the top 20 list for citations in all fields for the first time. Data source: Department of Enterprise, Trade & Employment (2009), *Science, Technology and Innovation: Delivering the Smart Economy,* p.5.

29 St. Aubyn, M., Pina, A., Garcia, F. & Pais, J. (2009) *Study on the efficiency and effectiveness of public spending on tertiary education,* European Economy, Economics Papers 390, November 2009, ECOFIN, European Commission.

30 Department of Enterprise, Trade & Employment (2009), *Science, Technology and Innovation: Delivering the Smart Economy,*

The increase in research investment has transformed the national higher education research landscape and has raised Ireland's reputation as a country of science and technology. Public investment in R&D has impacted positively on the commitment to research and innovation in the business sector. This is reflected in the increasing number of firms engaging with research and in the increasing investments being made by IDA Ireland-supported companies in research, development and innovation.[31] It is also apparent in the expanding range of collaborations between higher education researchers and enterprise.[32]

Ireland also continues to perform well in European funding allocations. In the EU's current FP7[33] programme, Ireland's draw-down has exceeded that of the previous programme and is higher than the EU average. Furthermore, there are indications of increasing success in drawing down funding for larger multinational collaborative projects.

As the OECD noted in 2004, this record of investment in research and development represents a remarkable attempt to change the fundamentals of the Irish economy.[34] The overall conclusion is that the investment to date has resulted in a strong base of high-quality researchers and good facilities, an increase in publications, new PhD and undergraduate courses, and the beginning

of a new and more open engagement with enterprise. It is expected that over the next ten years, further investment in research will continue to impact on enterprise, on economic and social policy and on Ireland's competitive position with respect to the rest of the world.

While most discussion of research focuses on the hard sciences, it is the arts, humanities and social sciences that have consistently attracted the largest numbers of students, and these are the domains in which Ireland has made a real global impact. This can be seen in the achievements of Irish people in literature, music, and the arts, and in the extent to which Ireland benefits from its reputation in these areas. There are also very compelling social and economic reasons to develop our capabilities in these areas, including advancement of our understanding of the very rapid changes taking place in the Irish economy and society, better-informed public policy-making, and development of the creative and analytical skills that will be valuable in a global economy that is increasingly dominated by knowledge-based services.

Delivering on research investment

Research has strong potential to create the new knowledge that can be used to create new enterprise opportunities, and to improve quality of life throughout society. While to date much of the focus of research investment has been on establishing the research base, it is now essential that higher education improves the flow of knowledge from institutions to wider society. Higher education institutions must become more active agents in knowledge transfer than before and gain greater value from inherent intellectual property by engaging more effectively with enterprise, and by incubating new companies.

p.5.

31   The number of firms performing significant R&D (>€2 million per annum) rose to 164 in 2007 compared to 118 in 2005. Over 40% of investments by IDA Ireland in 2008 were in RD&I with approximately €420 million of investment- a 22% increase in the level of RD&I investments in IDA Ireland-supported companies over that of 2007. Data source: Department of Enterprise, Trade & Employment (2009), *Science, Technology and Innovation: Delivering the Smart Economy,* p.5-6.

32   Department of Enterprise, Trade & Employment (2009), *Science, Technology and Innovation: Delivering the Smart Economy.*

33   Seventh Framework Programme for Research and Technological Development. This is the EU's main instrument for funding research in Europe and it will run from 2007-2013.

34   *Review of National Policies for Education: Review of Higher Education in Ireland, Examiners' Report,* OECD, 2004:34.

1.6 New challenges: new approaches

Higher education, by virtue of teaching and learning, research and scholarship, and engagement, has enduring value as a source of expertise, knowledge and wisdom for society. As a country, we must celebrate, nurture and sustain that value, and we must ensure that higher education can continue to evolve and respond into the future and that it is equipped to face wider global challenges.

Individual and communal development

The contribution of higher education to national development has been substantial and multi-faceted – as well as serving as engines of regional and national economic development, our higher education institutions foster unencumbered experiment, enquiry and reflection and for students, the informal side of higher education – drama, sport, debating, meeting different people – is a vital dimension of college life that enriches their experience and the quality of their learning environment. Higher education serves communal development as well as individual development, and this is exemplified in the spirit of enquiry that higher education fosters as a source of independent insight into matters that impact on our society.

New policies, new programmes, new pedagogy

Ireland is entering a new era in terms of higher education and national development strategy. The level of participation in higher education that Ireland now requires is unprecedented and requires us to engage in a fundamental re-examination of our programmes, pedagogy, delivery channels,

supports for students, and the entire funding and governance framework. New approaches will be needed to bring increasing numbers of citizens up to the skill and competence levels associated with labour force competitiveness in the modern era. Learning and the advancement of knowledge must become the key focus of our research efforts, underpinning a system-level capacity for sustained expansion and for continual improvement in our learning outcomes and research achievements. Marshalling our higher education resources to address the challenges of upskilling and of research and innovation will require a transformation of the entire policy framework for higher education.

Institutional autonomy and academic freedom

Institutional autonomy is regarded internationally as the key principle that characterises high-performing higher education institutions. There is a positive relationship between the performance and innovation capacity of higher education institutions and the extent of their autonomy.[35]

In Ireland, the high level of legal autonomy enjoyed by higher education institutions is a major strength of the system. The principle is enshrined in the Universities Act of 1997, and the Institutes of Technology Act of 2006 grants limited autonomy to the institutes of technology. Academic freedom of individual staff is central to higher education and this principle is also enshrined in both the Universities Act of 1997 and the Institutes of Technology Act of 2006 .

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35   P. Santiago et al (2008) *Tertiary Education for the Knowledge Society, Vol. 1,* Paris: OECD.

Strategic planning at institution level

Higher education institutions are required by legislation to prepare strategic development plans setting out their aims for the operation and development of their institution and their strategy for achieving these aims.[36] The quality of institutional strategic planning has improved greatly in recent years and many institutions have undergone or are undergoing organisational reform to improve their effectiveness in responding to societal expectations of higher education. The National Strategy for Higher Education set out in this document provides a coherent national framework within which the individual higher education institutions' strategic plans can fit.

Ireland's responsiveness to European higher education framework

Ireland is regarded as a leader in the advancement and implementation of the Bologna Declaration[37] and its higher education structures and national guiding principles resonate well with the values of institutional autonomy, academic freedom and social equity highlighted in the Bologna Declaration and in subsequent communiqués.[38]

Ireland has built upon this alignment over the last decade. To facilitate student transfer, flexibility and mobility, the European Credit Transfer System (ECTS) has been put in place as well as a system of modularisation and semesterisation. In line with the

Bologna process, modules, courses and programmes in Irish higher education institutions have been or are being re-written with greater emphasis on learning outcomes. This is improving their capacity to innovate in the delivery of higher education. The learning outcomes approach is also guiding ongoing reform of doctoral education, which is being transformed to include training in the broader, more generic and transferable skills that will be core workplace competencies over the coming decades.

1.7 Efficiency and productivity

Relative to other countries, the Irish higher education system is comparatively efficient in its use of resources – it produces graduates for lower than average costs. A recent comprehensive survey of the efficiency and effectiveness of higher education spending conducted for ECOFIN[39] confirmed the quality and efficiency of Irish higher education.[40] Over the past decade and particularly in more recent years, Ireland has expanded higher education opportunities while seeing further reductions in investment per student[41] – investment in higher education has not kept pace with the expansion in student numbers. Despite this, Ireland's performance

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36   Universities Act of 1997, Institutes of Technology Act, 2006.
37   The Bologna Declaration was signed by the Ministers for Education of the 26 countries in the European Higher Education Area in 1999. The Declaration set out to modernise and to align the content and practices of higher education in the European Union member states and its neighbouring countries.
38   Communiqués relating to higher education were signed in Prague in 2001; Berlin in 2003; Bergen in 2005; London in 2007; and Leuven in 2009.

39   The EU Economic and Financial Affairs Council is commonly known as the Ecofin Council, or simply "Ecofin" and is composed of the Economics and Finance Ministers of the Member States , as well as Budget Ministers when budgetary issues are discussed.
40   St. Aubyn, M., Pina, A., Garcia, F. & Pais, J. *Study on the efficiency and effectiveness of public spending on tertiary education,* European Economy, Economics Papers 390, November 2009, ECOFIN, European Commission. This study employs a range of variables to measure the quality of output including PISA scores, academic perceptions of graduate quality, recruiter perceptions of graduate employability, research output and citation indices.
41   Data source: OECD (2009) *Education at a Glance,* Table B1.5. Change in expenditure on educational institutions for all services per student relative to different factors, by level of education (1995, 2000, 2006).

in the specific measures of quality has been impressive. For example, Ireland was ranked highest of all countries in the international recruiter reviews of graduate employability and second highest of 28 countries in the international peer review of graduate quality.[42] A challenge in responding to the scale of growing demand over the next twenty years will be to continue to create maximum learning opportunities from the available resources.

Improving work practices

There is considerable potential for changing work practices to improve flexibility, efficiency and responsiveness to new needs.

In the university sector, there is a lack of transparency regarding staff workloads, and no specific provision is made in relation to overall hours of work. In other countries, the contracts of academic staff can vary from inclusive contracts (where the contract specifies the total number of hours during which an academic is required to be on campus)[43] to contracts that specify the total number of hours an academic is required to teach.[44] In Ireland, the transparency and content of academic contracts needs to be addressed to ensure that productivity is optimized.

In the institutes of technology, the academic contract provides for an annual teaching commitment of 560 hours (equivalent to a weekly norm of 16 hours per week for 35 weeks) for an academic year that runs from

1 September to 20 June[45], during which all work including exam boards and appeals must be done. The contract is normally interpreted as requiring staff to be engaged in face-to-face on-campus teaching for all contracted hours, and that makes it difficult to provide more flexible engagement in open and distance education or in teaching outside the academic term. It can also constrain the redeployment of staff and resources, and the introduction of new and innovative forms of teaching, learning and assessment.

Building efficiencies: concentrating expertise

By international standards, Ireland has a relatively large number of third-level institutions, offering a very rich provision of learning, teaching and research. Approximately 40 higher education institutions are in receipt of some degree of public funding; of these, seven are universities, fourteen are institutes of technology, seven are colleges of education and the remainder are small independent institutions (many with fewer than 500 students). In some institutions, the range of programmes provided is extensive for the relatively small number of students enrolled, and there has been growing duplication of provision over recent years, with concomitant cost implications.

There are now opportunities to become more efficient in how we deploy resources – by realising greater economies of scale, and by rationalising programmes and offering them in fewer institutions. In the area of research, international experience shows that 'the concentration of investment in research and development is important in advancing

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42   These data were constructed from the Times Higher Education Supplement – THES – QS World University Rankings Database and standardised to account for the size of countries and their higher education systems.

43   In Finland, the total number of hours specified in an academic contract is 1,600 per annum.

44   The number of contracted teaching hours of an academic varies from 60 hours per annum in Italy to 192 hours in France. (However, in France, each one hour lecture is calculated at 1.5 hours, so that the actual number of hours taught in lecture mode is 122 per annum).

45   An additional difficulty is that the shorter academic year resulting from the introduction of semesterisation (25 weeks) precludes the full delivery of contracted hours if the weekly limit is also applied rigorously.

research innovation ... and the next phase of economic development will require an even greater concentration of resources and expertise'.[46] As well as achieving value for money, however, such concentration of expertise must also ensure continued quality standards and must be consistent with current regional and spatial strategies. This will need to be accompanied by enhanced trans-institutional collaboration and student/staff mobility, especially in highly specialised disciplines and those that attract low numbers of students.

Quality assurance processes

The quality assurance processes in higher education in Ireland are held in high regard internationally, and a recent report from the European Commission on progress in this area includes Ireland among countries that score highly on three indicators that measure progress in quality assurance in higher education.[47] These three indicators are:[48]

- **Stage of development of external quality assurance;**

- **Level of student participation; and**

- **Level of international participation.**

Within the general area of quality assurance, however, concern has been expressed regarding perceived grade inflation over time in some programmes and institutions. In many cases the improvement in results is probably a valid reflection of better and more motivated

student performance, more transparent course documentation, clarity of learning outcomes, improved assessment practices, better teaching, and access to a wider range of learning resources. In other cases, the misgivings of employers and others may be well founded, and we cannot afford to ignore concerns on this issue.

Output performance

In international comparisons, Ireland is in the top decile for output of Higher Certificates and Ordinary Degrees/ Diplomas (NFQ levels 6 and 7). While this is a clear strength, our relative performance is more modest in relation to higher qualifications (Levels 8 and above). At Level 8 Degrees and Level 9 Masters, the performance of young Irish adults is closer to the OECD average. Ireland has traditionally been below OECD averages in terms of the numbers of completed PhDs (Level 10). It is anticipated that this position will improve in the coming years as a result of sustained investment in research and post-graduate capacity.

1.8 Sustainable funding

Irish higher education has displayed strong levels of efficiency, productivity and quality within its funding constraints.[49] To continue our positive development, however, Ireland must now sustain an ongoing expansion of opportunities for higher education, and sourcing funding for this expansion will not be easy: the quantum of public funding that is available is unlikely to grow significantly pending the economic

46 Government of Ireland (2008) *Building Ireland's Smart Economy: A Framework for Sustainable Economic Renewal,* page 75.

47 *European Commission report of 21 Sep 2009 to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions on progress in quality assurance in higher education.* COM (2009) 487 final.

48 Bologna Process Stocktaking Report. http://www. ond.vlaanderen.be/hogeronderwijs/bologna/ conference/documents/Stocktaking_report_2009_ FINAL.pdf

49 St. Aubyn, M., Pina, A., Garcia, F. & Pais, J. (2009) *Study on the efficiency and effectiveness of public spending on tertiary education,* European Economy, Economics Papers 390, November 2009, ECOFIN, European Commission.

recovery; and (against international trends[50]) private investment in higher education in Ireland has declined in recent years.

This being the case, and in the absence of strategies to attract greater levels of private investment into higher education, the current funding model for Irish higher education is unsustainable, and this issue needs to be addressed with some urgency.

The vital importance of education is widely appreciated in the context of the knowledge society and all countries are actively working to improve the qualification and skills levels of their citizens. While almost all OECD countries provide education as a right up to upper second-level education, countries differ significantly in their approaches to funding higher education (see Table 2.2).

Modest levels of investment in higher education, combined with pay levels that are high by international standards, albeit with recent reductions, have resulted in inadequate investment in learning resources and system development infrastructure. Salaries account for three-quarters of total current expenditure on higher education in Ireland – compared with an international average of two-thirds. This means that Irish higher education operates with lower (non-pay) recurrent expenditure than is typical in other countries.

Country	%
Norway	97
Denmark	96
Finland	95
Sweden	89
Ireland	85
Germany	85
Austria	85
France	84
EU19 Average	81
Spain	78
Netherlands	73
Italy	73
OECD Average	73
Poland	70
Portugal	67
UK	65
New Zealand	63
Canada	53
Australia	48
US	34
Japan	32
South Korea	23

Table 2.2: Selected countries – percentage of funding of higher education from public sources

Public funding for higher education has fallen in recent years while the growth of enrolments has continued. The impact of this is mitigated somewhat by efficiency measures, but the trends cannot continue indefinitely without damaging quality. As the OECD has pointed out:

While choices between greater public investments and a larger share of private money are difficult to make, doing neither in the face of the rising demand for more and better tertiary education seems no longer an option.[51]

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50 Interestingly, in the international statistics on total expenditure on higher education as a percentage of GDP (for 2006), Ireland is equivalent to OECD averages in terms of the level of public investment in higher education (c.1% of GDP) but at 0.2% of GDP, the level of private investment in higher education is significantly below the OECD average levels of 0.5% of GDP. See OECD (2009) *Education at a Glance,* Table B2.4, p.221.

51 OECD (2008) *Education at a Glance,* Editorial.

2. Planning for future demand

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In this chapter

This chapter deals with the structures, capacity and relationships that higher education will need to have in place to meet the expanding demand. It aims to look at the following questions:

■ How big is the demand and what are its demographic sources?

■ How can we meet the demand to upskill the wider adult population?

■ How can we improve the interface and relationships between higher education and further education and training?

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2.1 Quantifying the demand for higher education

In 2009, the number of new entrants into Irish higher education stood at 42,500. The Department of Education & Skills' current projections for the next twenty years show that demand will rise steadily to approximately 65,000 in 2025, will peak at almost 68,000 in 2027, followed by a slight fall-off to 64,000 in 2030. The demand from students entering higher education directly from second-level, however, will increase only marginally, while the bulk of the increased demand will come from late entrants, mature[52] students and international students and greater demand for postgraduate study. Of these categories, the largest proportionate increase will be among mature students.

Expansion of second-level education

The key driver of growth in higher education over recent decades in Ireland and right across the OECD has been the expansion of second-level education. Qualifications obtained at the end of second-level education provide a vital platform for participation in higher education and for future engagement with learning, and this reinforces the importance of students completing upper second-level education.

	2009		2015		2025		2030	
	Number	*% of total*	Number	*% of total*	Number	*% of total*	Number	*% of total*
Direct	29,982	*70*	30,621	*61.8*	34,277	*52.8*	33,558	*52.3*
Late	3,855	*9*	4,459	*9*	5.843	*9*	5,775	*9*
Mature	5.568	*13*	8.919	*18*	16,229	*25*	16,041	*25*
International	3.426	*8*	5,500	*14.2*	8,569	*13.2*	8,790	*13.7*
Total	**42,831**	**100**	**49,549**	**100**	**64,918**	**100**	**64,164**	**100**

Table 3.1: Source of new entrants to higher education, current and projected demand

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52 The term 'late' refers to students who enter a year or two after completing their Leaving Certificate; mature students are those who are 23 or over when they enter higher education.

The link between initial levels of educational attainment and likely participation in further and continuing education is evident right across the OECD and is particularly marked in countries with low levels of overall public provision of adult and second-chance education. It is estimated that Irish adults with third-level qualifications are four times more likely to participate in continuing education than their peers with less than lower second-level qualifications (no Junior/ Inter Certificate). [53]

The introduction of free second-level education was adopted as a key element of post-World War II regeneration in most European and many OECD countries in the late 1940s. In Ireland free second-level education was introduced from 1967 as part of a fundamental shift in economic policy and broader national development policy. The immediate impact of this educational policy reform was to unlock a very significant appetite for learning across the Irish population, with the numbers of students completing second-level increasing from 12,000 in 1967 to a peak of over 60,000 in 1998, and falling back (in line with demographic changes) to 50,000 in 2008.

2.2 The upskilling challenge

Just 21 per cent of Irish adults have qualifications at NFQ level 8 and above, and a further 12 per cent have qualifications at levels 6 and 7. The percentages change depending on age, but younger people are more likely to have higher education attainments than older people – of people in the 55–64 age range, 56 per cent fall into the category of what would now be termed 'early school leavers'.

The more immediate source of growing demand for higher education is likely to come from the significant numbers within each age group whose current highest level of attainment is NFQ level 4, 5 or 6, achieved either via second-level or further education. The Skills Strategy noted the scale of the upskilling challenge in the mid-ranges of the NFQ, and this is borne out by the education attainment levels presented in

	Age Group				
	25–34	**35–44**	**45–54**	**55–64**	**25–64**
Higher Education *NFQ levels 8–10*	30%	23%	17%	12%	*21%*
Higher Education *NFQ levels 6–7*	15%	14%	10%	7%	12%
Post Leaving Cert, *NFQ levels 4–6*	12%	12%	9%	8%	11%
Upper Secondary, *NFQ levels 4–6*	28%	26%	25%	18%	24%
Lower Secondary, *NFQ level 3*	11%	18%	23%	20%	17%
Primary *NFQ level 1–2*	5%	8%	16%	36%	15%

Table 3.2: Educational attainment in the Irish adult population, 2008

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53 Department of Education & Science (2003) *Supporting Equity in Higher Education,* p.7.

Table 3.2 – the scale of potential demand for higher education from adults is very substantial.

Growing demand for upskilling

The already growing demand from adults for higher educational opportunities will become stronger with higher unemployment and the increasing vulnerability of employment. The knowledge economy needs people who can renew and refresh their skills and competencies over the course of their lives. Adults who become unemployed will require opportunities to re-engage with learning and to advance and update their knowledge and skills; while those in employment will also require upskilling and retraining opportunities. Whole companies will need to re-assess the adequacy and relevance of their skills base, and those in the public sector will require training to adopt new and more effective ways of working.

Notwithstanding the comparatively modest educational profile of the current adult population, Ireland has had only limited success in achieving participation in lifelong learning compared with other countries – see Table 3.3.

Ireland's current low level of part-time study opportunities limits the accessibility of higher education for working adults and adults with caring responsibilities. It also limits the study options available to traditional school leavers, who may prefer or need to combine work and part-time study.[54]

Country	%
Sweden	32
Denmark	30
Finland	24
United Kingdom	20
Norway	**19**
Netherlands	17
Austria	13
EU 15 Average	11
Spain	10
EU 27 Average	10
Germany	8
France	7
Ireland	7
Italy	7
Portugal	6

Table 3.3: Percentage of adults (aged 25—64) participating in education and training, 2008

Ireland's poor performance in lifelong learning and the inflexibility of higher education were among the strongest concerns to emerge through the consultations and the submissions received by the Strategy Group.[55] While there has been considerable expansion of higher education opportunities in recent years, this expansion has mainly been in the provision of full-time opportunities focused primarily on entrants from upper second-level education. Irish higher education students have the narrowest age range across all OECD countries,[56] reflecting the current unresponsiveness of Irish higher education to the skills needs of adults in the population. Only 12 per cent of current undergraduate provision was part-time in 2007-08.[57] This low level of part-time and flexible opportunities, particularly at undergraduate level, limits the accessibility, relevance and responsiveness of higher

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54   National Access Plan 2008-2013, p.33. See http://www.hea. ie/files/files/file/New_pdf/National_Access_Plan_2008-2013_%28English%29.pdf

55   See Appendix D.

56   See OECD (2009) *Education at a Glance.*

57   This figure refers to the proportion of new entrants to public higher education that were part-time students. Only 3 per cent of the 72,600 undergraduate degree students (Level 8) in Irish universities are categorised as part-time. The situation is somewhat better in the Institutes of Technology sector where 16 per cent of undergraduate students are categorised as part-time.

education to adults in the labour force. This is inappropriate in the context of the huge potential demand for higher education from adults in the 21st century.

Although Ireland is still at an early stage of exploiting the opportunities that the Bologna process provides, in principle, students can now accumulate credits at any level on a part-time or flexible basis and will be able to build up these credits over time and across institutions to achieve higher education qualifications.[58] This will provide a particular opportunity for students who have not previously benefited from higher education, as well as for those who wish to upskill from level 6 or 7 to level 8 or from level 8 to level 9.

Growing emphasis on flexible learning

Over the coming years, the demand for higher education opportunities from the adult population will increase. Their needs can be met only by an increase in flexible learning opportunities, part-time provision, work-based learning and short, intensive skills programmes. To ensure greater flexibility and responsiveness from the higher education system, flexible learning will need to have full parity within Irish higher education funding policy, and this would begin the broader transformation that is urgently needed in the responsiveness and accessibility of higher education to the needs of adults in the labour force.

A recent US report on the development of online learning as a strategic asset, emphasised the central importance of the 'institutional leadership imperative' in flexible learning initiatives:

For most institutions, launching online learning courses and programs represents a significant cultural and operational challenge. Online learning has the capacity

to alter an institution's administrative decision-making processes and structures, as well as its methods and modes of teaching and learning. As with any large-scale change – especially one that requires the enthusiastic engagement of faculty – a critical and ongoing task for campus leaders is to provide effective leadership and communication of institutional plans and decisions.[59]

Institutional leadership is a key component in the successful introduction of innovation. This leadership imperative should be accompanied by a range of practical steps to advance the flexible learning agenda at institutional level.

The development of open and flexible learning presents administrative and institutional challenges relating to creative timetabling, delivery mechanisms and increased off-campus and workplace provision. There is considerable enthusiasm among lecturers in higher education to innovate and excel in teaching and learning, and we now need to capitalise on that by providing system-wide investment to ensure the availability of appropriate technological infrastructure and pedagogical support.[60]

The flexible learning portal[61] developed collectively by the institutes of technology will promote flexible learning opportunities in Irish higher education. The flexible learning agenda dovetails with the deeper and more systematic supports that are necessary for continuing professional development and career progression within academic life. It also has a role to play in furthering how higher education can engage more thoroughly with the wider community.

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58   HEA *Position Paper on Open and Flexible Learning* Dec. 2009.

59   APLU/Sloan National Commission on Online Learning (August 2009) *Online Learning as a Strategic Asset: Volume 1,* p.41. Website: http://www.aplu.org/NetCommunity/Document.Doc?id=1877

60   See Higher Education Authority (2009), *Open and Flexible Learning,* paragraphs 18 and 30.

61   See www.bluebrick.ie

In parallel with greater flexibility in provision, higher education needs to ensure wider adoption of best practice – particularly in the quality of orientation, study support, and engagement with academic staff. There are also some inconsistencies between institutions relating to transfer and progression and the recognition of prior learning and experience; such inconsistencies can present difficulties for students trying to access or re-enter higher education.

Opportunities provided by new technology

Developments in information and communications technologies enable higher education to be delivered in ways never before possible, and allow students to access a wide range of resources, free from limitations of space and time. Access to learning has become very flexible, and students can choose from a blend of different approaches. The current trend in education and training identifies methods and tools for delivering just-in-time, on-demand learning opportunities tailored to individual students, taking into consideration their differences in skills level, perspectives, culture and other educational contexts. The opportunities which will open up in the years ahead as technology advances will be vast and some of them can only be imagined at this stage. The challenges and opportunities presented by technological advances are under active consideration in higher education systems across the developed and developing world. In the words of one commentator:

Technology is at the heart of this story of institutional change. Universities are now just one source among many for ideas, knowledge and innovation, that seems to threaten their core position and role, but in this new world of learning and research, there are also great opportunities.

The internet, social networks, collaborative online tools that allow people to work together more easily, and open access to content are both the cause of change for universities, and a tool with which they can respond. [62]

2.3 Improving the interface between higher education and further education & training

In the Leuven Communiqué of April 2009, and the Budapest-Vienna Declaration of March 2010, the Ministers responsible for higher education in the European Higher Education Area agreed that modernisation of higher education, including further implementation of the *Standards and Guidelines for Quality Assurance in the European Higher Education Area* should be continued. The Ministers also acknowledged that much remained to be done in the areas of quality assurance and qualifications frameworks, and quality assurance of lifelong learning. In view of the educational profile of the Irish population and of the increasing diversity of aptitudes, talents and interests within the student body, we now need to build a coherent system of higher education that can accommodate a range of institutions with distinct missions and diverse programmes.

The National Framework of Qualifications as a platform

The establishment of the National Framework of Qualifications (NFQ) in 2001 and the expansion of further education and training have transformed access,

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62   Peter Bradwell *The Edgeless University – Why Higher Education must Embrace Technology* London: Demos 2009, p.8. See http://www.jisc.ac.uk/media/documents/publications/edgelessuniversity.pdf

transfer and progression for students, and have provided new opportunities for higher education and further education to work much more closely together for the benefit of students. There are already a number of instances where colleges in both sectors are collaborating to offer joint access provision to students. By expanding this approach and clarifying the progression routes into higher education, many more students who wish to progress will be enabled to make the transition from NFQ Levels 4 and 5 to Levels 6, 7, 8 and beyond. The NFQ also provides a strong platform for delivering on our lifelong learning objectives.

In this context, the consolidation of quality and qualifications assurance agencies across the further and higher education sectors that is currently under way is very welcome. This will help to establish agreed learning outcomes, clearer routes of transfer and progression, and binding standards of quality assurance in the upper half of Ireland's National Framework of Qualifications. It will also improve access to further and higher education opportunities for people throughout their lives.

In the area of upskilling, there have been a number of improvements over recent years, particularly in the proportion of new entrants who are accessing higher education via further education. It is vital that these developments are expanded for apprentices and for the broader range of further education graduates.

Changing demand for apprenticeship training

The apprenticeship system is a specific training pathway designed for those who wish to work in one of the 26 recognised trades in Ireland. Training is undertaken in a series of phases which take place in FÁS centres, in institutes of technology and on-the-job with employers. The management of the process has historically been undertaken by FÁS in consultation with the Department of Education & Skills. As an employer-led scheme, the apprenticeship model is particularly sensitive to sudden changes in economic activity, particularly in the construction sector. The fall-off in recruitment to apprenticeship programmes in the past three years presents serious challenges because the apprentice model has a very strong track record in addressing skills needs in the economy and in creating educational mobility in social groups which have been under-represented in higher education.

Apprenticeship training is provided in nine of the institutes of technology and the nature of the programmes provides strong spin-off benefits to the institutes. Many staff members teach across apprentice and degree programmes, enriching all programmes with shared real industrial experience. Linkage with industry is facilitated and promoted, both through employee training and through staff expertise and advisory services. Exposure of industry employees to institute programmes supports and facilitates progression and the raising of NFQ levels of the workforce. Progression of craftspersons to Level 7 and Level 8 programmes brings mature students with industrial experience directly into contact with all students, improving and enriching the campus.

The apprenticeship system has been operating in its current form for over twenty years, but the environment in which it operates has changed radically. In this context, the Minister for Education & Skills has committed to a major review of the apprenticeship scheme.

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PART 2: The mission of higher education

Over the coming decades, the mission of Irish higher education will develop in response to the changing needs of society and the economy. It will play its part as a major agent of positive change and development for both individuals and the wider society, and it will be a sustaining force for social and economic regeneration.

Ireland will need to distinguish itself by the quality and quantity of its highly skilled graduates, by its achievements in scholarship and research, and by the vibrancy of its national innovation across the spectrum of economic, social, civic and cultural arenas. Irish higher education will also need to deepen the quality and intensity of its relationship with enterprise and adjust its strategy regularly in response to global change. Critical thinking, adaptability and creativity will be key characteristics required of graduates in the future labour market.

The people who enter higher education in the coming decades are the job creators, policy-makers, social innovators and business leaders of the future. They are also citizens who will add to the richness of society – as parents, community leaders and teachers – and in their chosen area of work they will be the productive engine of a vibrant and prosperous economy.

In the advancement of human knowledge and understanding, Ireland has its own distinctive contribution to make. As an island of scholarship, scientific discovery, creative arts and innovation, Ireland attracts independent thinkers and entrepreneurs from around the globe. The Irish language, culture and the creative arts are primary sources of our distinctiveness and we should deepen our understanding of these and capitalise on their inherent cultural value and on the cultural and literary qualities that make us distinctive and interesting internationally.

The mission of higher education institutions encompasses three inter-connected elements, which are dealt with in the following chapters:

- **Teaching and learning (chapter 3);**
- **Research (chapter 4); and**
- **Engagement with wider society (chapter 5) and internationally (chapter 6).**

To deliver the Vision for higher education in 2030, it is necessary to reaffirm the relationship between research, teaching and learning and engagement with the community; social, cultural professional, enterprise and international. To implement its mission, the higher education system will need to be ever more creative, imaginative and responsive. Innovation is at the centre of the mission of Irish higher education; innovation in the interactions and exchanges of ideas and in the fusion of its core elements.

3. Teaching and learning

In this chapter

This chapter deals with the first of the three interconnected core roles of higher education – that of **providing teaching and facilitating learning**. It describes how the system must respond over the coming years to changes in the composition of the student body, to new technologies and their potential for enhancing the learning experience, and to changes in the external environment.

Appropriate response to these changes will ensure that higher education students of the future will have an excellent learning experience, informed by up-to-date research and facilitated by a high-quality learning environment, with state-of-the-art learning resources, such as libraries, laboratories, and e-learning facilities.

3.1 Teaching and learning: changes and challenges

As we seek to engage and to support citizens in their pursuit of advanced levels of educational achievement, the key challenges relate to teaching and learning.

The past decade has seen significant advances in teaching and learning in Irish higher education, such as:

■ **The establishment of centres for educational development and academic practice;**

■ **The availability of professional programmes on teaching and learning;**

■ **Developments in technology-supported learning;**

■ **The adoption of new forms of pedagogy for greater student engagement; and**

■ **An increasing emphasis on teaching in the tenure and promotion processes.**

Such developments are evidence of the commitment and dedication of academic and support staff to the teaching mission.

However, they are not uniform or consistent across higher education, and the challenge now is to convert best practice into standard practice.

The increasing diversity of students, including those from overseas, will have to be matched by teaching and assessment methods that will enable students from a range of backgrounds to discover, exploit and build on their strengths. Teaching in higher education should reflect different learning styles and different disciplinary areas.[63]

While large group teaching, supplemented by tutorials and laboratory sessions, will continue to be the bedrock of instruction in higher education, it will increasingly be complemented by e-learning (including podcasting and online discussion groups), self-directed learning, problem-based learning, and collaborative projects.

Teachers in higher education 'need to stimulate active, not passive learning, and to encourage students to be critical, creative

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63 See Huber, M.T. & Morreale, S.P. (Eds) (2002) *Disciplinary Styles in the Scholarship of Teaching and Learning – Exploring Common Ground,* The Carnegie Foundation for the Advancement of Teaching and the American Association for Higher Education.

thinkers, with the capacity to go on learning after their college days are over.'[64] They need to 'create a process of active learning by posing problems, challenging student answers, and encouraging (students) to apply the information and concepts in assigned readings to a variety of new situations'.[65]

3.2 Involvement of students in course planning, feedback and evaluation

Students have a major contribution to make in influencing the design of curricula, and in reviewing and providing feedback on them. All higher education institutions should have formal structures to ensure that students are involved in curriculum design and revision.

The 2005 Review of Quality Assurance in Irish Universities conducted by the European University Association noted the lack of systematic mechanisms to ensure that departments had regular and clear information from students regarding the quality of teaching and of the learning environment.

While substantial progress has been achieved in the intervening years, students still lack confidence in the effectiveness of current mechanisms and there remains considerable room for improvement in developing student feedback mechanisms and in closing feedback loops.

Every higher education institution should put in place a comprehensive anonymous student feedback system, coupled with structures to ensure that action is taken promptly in response to student concerns.

Feedback forms (questionnaires) should be independently administered and returned to management in the institution, rather than to the individual teacher; student feedback should be anonymous and not identifiable by the staff involved in teaching the student. Structures should also be in place for obtaining feedback from students about the modules and programmes on which they are enrolled. Student representatives should be involved in the process for acting on student feedback, and this process should be transparent and accessible to all students.

In addition, a national student survey system should be put in place and the results published.

3.3 Integrating research with teaching and learning

Teaching in higher education is distinguished from teaching at other levels by its focus on the integration of research with teaching and learning. *'Education is a seamless web, and if we hope to have centres of excellence in research, we must have excellence in the classroom'*.[66] A commitment to integrating research, scholarship, teaching and learning is reflected in many of the submissions to the Strategy Group[67] and in the strategic plans of many of our higher education institutions.

The integration of research with teaching and learning can take many forms.[68] Teaching and learning can be:

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64 Ernest Boyer (1990) *Scholarship Reconsidered: Priorities of the Professoriate,* San Francisco: Jossey Bass.

65 Derek Bok (2005) *Our Underachieving Colleges,* Princeton University Press, p. 116-7.

66 Ernest Boyer (1995) 'Scholarship – a Personal Journey' in C. Glassick, M. Taylor Huber and G. Maeroff, *Scholarship Assessed: Evaluation of the Professoriate* (Carnegie Foundation for the Advancement of Teaching).

67 See the *Thematic Synthesis of Written Submissions to the Strategy Group* available at http://www.hea.ie/en/node/1303

68 Angela Brew (2006) *Research and Teaching: Beyond the Divide.* London: Palgrave MacMillan, and NAIRTL (2010) *Guidelines for Awards for Excellence in Teaching.*

- *Research-led:* the curriculum is informed by the research interests of the teachers;

- *Research-oriented:* the curriculum emphasises the processes by which knowledge is produced;

- *Research-based:* the curriculum includes activities in which students actually conduct research, through projects and other course work; or

- *Research-informed:* the curriculum is informed by systematic enquiry into the teaching and learning process itself.

In essence, the integration of research with teaching and learning occurs in an environment and in a context where a spirit of enquiry and questioning prevails and where staff and students are committed to an evidence-based approach to their work, and to creating new knowledge as well as to transmitting and critiquing existing knowledge.[69] While not all academics in higher education institutions will be engaged in research, a culture of enquiry and engaged scholarship should permeate the work of all higher education institutions, and all students in Irish higher education – both undergraduate and postgraduate – should learn in an environment where research and teaching are closely linked.

Teaching and research are both central to the role of academic staff; excellence in teaching and excellence in creative or engaged scholarship go hand in hand.

The roles of teaching and research should be afforded parity of esteem, and this should be reflected in resource allocation, in promotion criteria, and in the metrics used to assess performance at individual, institution and system level.

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69 See C.A. Zonta (2006) 'The History of European Universities: overview and background' in N. Sanz and S. Bergan *The Heritage of European Universities.* Strasbourg: Council of Europe.

3.4 Flexibility of provision

In the coming decades, the delivery of higher education in Ireland must be characterised by flexibility and innovation.

Learning modes

People can learn in a variety of different ways, and the higher education system needs to be flexible in supporting and accrediting them all. While campus-based learning will continue to play a major role in higher education, the institutions will have to accommodate and serve the needs of an increasingly diverse student body, many of whom will need to engage flexibly with higher education.

In the years ahead, students will choose to learn in a variety of ways – full-time or part-time; on campus or off campus; classroom-based, blended, online or accelerated learning. Some of this learning will take place through open and distance learning; some will take place in the workplace; and some will take place in outreach centres. Resources allocated to and within institutions should support all students equally, whether they are full-time or part-time, on-campus or off-campus.

Routes of access and progression

The admissions system to higher education will have to provide a greater variety of access routes for school leavers and those completing further education and training. At the same time it must continue to be – and to be seen to be – rigorous, fair and objective.

More flexible routes of progression will have to be developed into, within and across higher education institutions.

Recognition of Prior Learning (RPL) is particularly important as flexible and workplace learning opportunities expand. A national framework for RPL must be developed, based on the expertise and experience already built up in the higher education institutions.[70] Progress in this regard will help to shift the emphasis from educational inputs towards learning outcomes. This student-centred philosophy lies at the heart of the National Framework of Qualifications (NFQ).

Progress in implementing the NFQ is a distinct strength of Irish education, and one on which we can continue to build. In the near future, all higher education programmes will be modularised and semesterised, and will be described in terms of learning outcomes. Programme and module descriptions will articulate the learning outcomes that the students will be required to achieve in order to graduate. This will provide a greater degree of flexibility for students, and considerable potential for the creation of customised programmes, which could include modules from different institutions and different disciplines.

3.5 Transition into higher education – access and induction

Many people believe that second-level education does not prepare students adequately for the challenges of higher education.[71] Students entering higher education directly from school often lack the critical thinking, problem solving and independent learning skills required for successful engagement in higher education.[72]

Particular concern has been expressed about students entering higher education without the necessary skills and knowledge to engage effectively with learning in the disciplines of science, technology, engineering and mathematics (STEM). The proportion of Leaving Certificate candidates taking higher-level mathematics has remained low over a prolonged period,[73] and students from second-level science programmes are often inadequately prepared for the laboratory-based experimental approach to STEM subjects in higher education. In this context, the ongoing reforms to the senior cycle curriculum in maths and the proposed reforms in chemistry and physics are welcome.

Higher education cannot solve this problem alone; there needs to be complementarity and consistency in the approach to curriculum design and delivery through primary, secondary and higher education. Higher education will contribute to the solution by actively engaging with the process of second-level curriculum reform.

Pending such reform, higher education providers should address identified shortfalls in students' skills during their first year in higher education. This can be done by expanding the availability of induction and preparation courses for first-year students, covering skills such as self-directed learning, time management, information literacy and critical analysis, and by providing additional support for students in subject areas where they are experiencing difficulties.

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70 A project sponsored jointly by EGFSN and NQAI has been established to explore this issue.

71 See, for example, *Report of the Points Commission (*1999).

72 See the Report of Focus Group meeting of the Strategy Group with students, Nov 09.

73 The percentage of Leaving Certificate candidates taking higher-level mathematics in the Leaving Certificate was as follows: 1995 – 17%, 2000 – 18%, 2001 – 18%, 2002 – 18%, 2003 – 17%, 2004 – 18%, 2005 – 19%, 2006 – 18%, 2007 – 17%, 2008 – 17%, 2009 – 16%.

3.6 The first-year experience

A positive first-year student experience is crucial to achieving the goals of higher education; failure to address the challenges encountered by students in their first year contributes to high drop-out and failure rates, with personal and system-wide implications.

Cognisant of this, Irish higher education institutions should review and reform their first-year curricula. While the first-year curriculum should continue to provide foundational subject material to be built on in later years, it must do more than that. It should serve as 'a foundation of learning activities entailing more inquiry-based formats and engendering employability and lifelong learning outcomes'.[74]

At present, Irish higher education requires students to choose a specialised area of study too early; there is over-specialisation of subjects and little flexibility at undergraduate level. There has been a rise in very narrowly focused undergraduate programmes over recent years: the number of undergraduate programmes listed by the Central Applications Office doubled between 1998 and 2008.[75] Instead of this approach, higher education institutions should, where feasible, offer broad-based courses in the first year of undergraduate studies. These courses should be such as to enable students to make an informed choice in relation to specialisation at the end of first year.

Greater interdisciplinarity is also needed at undergraduate level. Some institutions

have already begun to address this issue, by enabling and encouraging students to choose modules outside the area of their chosen specialisation.[76] The implementation of modularisation and semesterisation, introduced under the Bologna process, provides the opportunity for greater interdisciplinarity in student learning – an opportunity that has not yet been fully exploited by Irish higher education institutions.

3.7 Learning outcomes – the inclusion of generic skills

Measuring learning outcomes is more difficult than measuring inputs or processes. It requires enhanced capacity for measurement and evaluation, and this needs resources. Changing the focus from inputs to learning outcomes also requires changes in the way academics conceive of and organise their teaching and assessment.

The undergraduate curriculum needs to place more emphasis on generic skills, especially those required for the workplace and for active citizenship. Creativity and entrepreneurship must be encouraged to a much greater extent; and institutions should facilitate reflective learning, applied knowledge, practical laboratory experience, and scientific skills. Various surveys, nationally and internationally, show that students, academics and employers believe that higher education has an important role to play in preparing students for the workplace and for their role as citizens, and that undergraduate education should explicitly address the generic skills required

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74 Bill Johnston (2010) *The First Year at University: Teaching Students in Transition* (Open University Press) p 31.

75 For example, one institution offers 14 separate specialised Business Programmes at Level 8, and requires applicants to indicate on their CAO form (six months in advance of entering higher education) which of these programmes they intend to pursue.

76 See, for example, the Horizons project in UCD and the Broad Curriculum in Trinity College Dublin.

for effective engagement in society and the workplace.[77]

An emerging OECD project on higher education learning outcomes provides an insight into current international thinking on the key generic skills that all students need to acquire as part of their undergraduate education.[78] These include analytic reasoning, critical thinking, the ability to generate fresh ideas, and the practical application of theory. The project organisers also suggest that ease in written communication, leadership ability, and the ability to work in a group should also be included in the list.[79] The key point being emphasised in this project is that 'the simple acquisition of knowledge is not enough to count as an education'.

Ireland is one of the most successful European countries in implementing the Bologna reforms[80] although there is some variation within and between institutions in the effectiveness of implementation.[81]

While semesterisation and modularisation have enabled greater flexibility and responsiveness to students needs, they have produced some new problems. Some undergraduate programmes have become fragmented and now consist of a large number of small modules. For example, a one-year 60-credit course might consist of 12 separate five-credit modules. Such programmes are regarded by students as over-taught and over-assessed; they impose an undue and unnecessary burden on both students and staff. In some cases, they are so heavily timetabled that students' opportunity for independent and self-directed learning is significantly curtailed. Other programmes, by contrast, have very low lecture requirements, and there is some concern that they offer insufficient formal teaching.

The recent Framework Implementation and Impact Study carried out by National Qualifications Authority of Ireland on the National Framework of Qualifications[82] noted international evidence that 'points to the need … to align learning outcomes with assessment practice. There is a risk that in the initial stages of Framework implementation, there could be 'over-assessment' to compensate for any perceived shift in reliance on traditional assessment stages or methods'.[83] The review stressed that all relevant stakeholders should continuously monitor the impact of Framework implementation on teaching, learning and the student experience.

In line with the recommendations of the recent European Commission document,[84] higher education institutions, in the design of courses and programmes, should ensure alignment and balance between learning outcomes, pedagogy and assessment, and institutions should have the capacity to deliver the outcomes-based approach, in terms of environmental conditions and staff preparedness and expertise.

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77   See, for example, the survey of almost 2,700 students, HEI staff and employers in Ireland, carried out by NAIRTL in April 2009 (Investigating Graduate Competencies, www.nairtl. ie June 2009), and the Europe-wide survey of almost 15,000 students carried out in the 27 Member States, Croatia, Iceland, Norway and Turkey in March 2009.

78   OECD AHELO project: see http://www.oecd. org/document/41/. See also Derek Bok (2006), *Our Underachieving Colleges* (Princeton University Press) and Frank Rhodes (2001) *The Creation of the Future* (Cornell University Press).

79   Environmental literacy might also be included: see H. Reynolds, E. Brondizio and J. Meta Robinson (2010) *Teaching Environmental Literacy: Across Campus and Across the Curriculum,* Indiana University Press.

80   See A. Rauhvargers, C. Deane and W. Pauwels *Bologna Process Stocktaking Report 2009.* Brussels: EU 2009.

81   See, for example, *University Awards and the NFQ: Issues around the Design of Programmes and the Use and Assessment of Learning Outcomes:* The University Sector Framework Implementation Network (FIN), (IUA December 2009) and *Framework Implementation and Impact Study* Sep. 2009.

82   http://www.nqai.ie/framework_study.html

83   *Framework Implementation and Impact Study,* Report of the Study Team, September 2009, p.38.

84   *New Skills for New Jobs: Action Now. A Report by the Expert Group on New Skills for New Jobs.* (2010) European Commission.

3.8 Learning outcomes and quality assurance

Over the past decade, there has been growing interest worldwide in quality assurance in higher education. In 2006, the European Parliament and Council acknowledged that the higher education institutions themselves must carry the main responsibility for quality in higher education. They must develop internal systems for monitoring and enhancing quality, and develop a real 'quality culture'. They must also communicate the results to stakeholders in a transparent and accountable way, but they often lack the independence and public accessibility needed to do this effectively. External independent quality assurance agencies can do this more effectively.[85]

The consolidation of external quality assurance agencies which is underway in Ireland will allow us to build quality assurance into the national framework of qualifications. In tandem with this key development, a comprehensive review of our internal quality assurance systems should be undertaken.

The Bologna Process Stocktaking Report 2009[86] confirms that Irish higher education institutions score highly in terms of quality assurance – they have established coherent quality assurance systems and are well aligned with external assessment procedures. Irish quality assurance systems work in accordance with European Standards and Guidelines for Quality Assurance; they have a high level of student participation in the governance of quality assurance

bodies, and external reviews of institutions and programmes involve international participation.

The emphasis to date has been on the process of quality assurance; in future this should be complemented by a focus on standards across the sector. A national approach to subject guidelines could draw on the experience of the EU Tuning project which served as a forum for developing reference points (expressed in terms of intended learning outcomes) at subject area level during the past decade.[87] In the Irish context, subject guidelines should be developed as a supporting academic infrastructure to the National Framework of Qualifications. This work should be progressed by subject experts from the academic community and coordinated by the new Qualifications and Quality Assurance Ireland agency. Care must be taken to demonstrate that this project does not create an excessively bureaucratic or costly system. In addition, a comprehensive and independent review should be undertaken of the external examiner system and the grading system more generally.

3.9 Transition to work – work placement and service learning

Many undergraduate programmes in Irish higher education institutions already include work placement or internship, but more such opportunities should be provided. In the University of Limerick, for example, all undergraduate students, regardless of discipline, are required to spend eight months on work placement or in cooperative learning.

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85 Commission of the European Communities *Report on progress in quality assurance in higher education*. Brussels 21 Sep 2009, COM (2009) 487.

86 http://www.ond.vlaanderen.be/hogeronderwijs/ bologna/conference/documents/Stocktaking_ report_2009_FINAL.pdf

87 *Reference Points for the Design and Delivery of Degree Programmes: EU Tuning Educational Structures in Europe* (Tuning Project) Feb. 2009.

While there is evidence that work placement is beneficial for students and welcomed by prospective employers, especially when the placements are well planned and the students are supervised and/or mentored, it can sometimes be difficult to find suitable placement opportunities for large numbers of students. The difficulty can be exacerbated when significant numbers of second-level students and students on various training courses are also seeking placements.

One solution to the challenge of finding suitable work placement for students is service learning. This has the advantage of also providing students with the opportunity to engage in civic endeavours. Service learning is a teaching and learning strategy that integrates meaningful community service with instruction and reflection, to enrich the learning experience, teach civic responsibility and strengthen communities.[88] It is used in the US in a wide variety of settings, including schools, universities, and community-based organisations. In Ireland, NUI Galway includes accredited service learning in a number of its undergraduate degree courses.[89]

There is significant merit in expanding work placement and service learning opportunities across a broad range of higher education programmes. This being the case, wherever appropriate, undergraduate students should be encouraged to spend some time in a work or service situation, and this should be formally acknowledged by their institution either through accreditation or by inclusion in the student's Diploma Supplement.

3.10 Development of teaching skills

It is not sufficient for academics to be experts in their disciplinary area; they also need to know how best to teach that discipline. They need to have an understanding of learning theories, and to know how to apply these theories to their practice. They need to appreciate what teaching and learning approaches work best for different students in different situations.

There are exciting and dynamic teaching and learning initiatives in many Irish higher education institutions which take the learning styles of individual students in various disciplines into account[90] and which recognise that there is no one best way to teach in higher education.[91] NAIRTL – the National Academy for the Integration of Research, Teaching and Learning – has done much valuable work in this area by promoting research-based teaching practices in academic professional development. This work needs to continue, and to be disseminated, supported and developed at institutional and national levels, so that Ireland's higher education system can provide an exemplary teaching and learning environment. The dissemination of good practice through national networks for teaching and learning, and the recognition of excellence in teaching should underpin

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88   *What is Service Learning?* ETR Associates on http://www.servicelearning.org

89   See Lorraine McIlrath and Iain MacLabhrainn (ed.) (2007) *Higher Education and Civic Engagement: International Perspectives* Ashgate Publishing Co.

90   See, for example, N. Lyons et al (2002) *Advancing the Scholarship of Teaching and Learning through a Reflective Portfolio Process: the UCC Experience;* A Hyland (2004) *University College Cork as a Learning Organisation;* G. O'Neill, S. Moore & B. McMullin (2005) *Emerging Issues in the Practice of University Learning and Teaching;* T. Barrett et al (2005) *Handbook of Enquiry and Problem-Based Learning: Irish Case Studies and International Perspectives;* Ciara O'Farrell (ed) (2007) *Teaching Portfolio Practice in Ireland: a Handbook;* B. Higgs and M. McCarthy (2008) *Emerging Issues II: The Changing Roles and Identities of Teachers and Learners in Higher Education;* Norma Ryan NAIRTL 1: J. Murphy and B. Higgs (2009) *Teaching and Learning in Higher Education: Challenging Assumptions.*

91   See, for example, Huber, M.T. & Morreale, S.P. (Eds) (2002) *Disciplinary Styles in the Scholarship of Teaching and Learning – Exploring Common Ground,* The Carnegie Foundation for the Advancement of Teaching and the American Association for Higher Education.

strategy for the ongoing development of higher education.

Teachers at other levels of the education system, from primary to further education, are required to have a professional qualification. Professions such as medicine, dentistry, law and engineering have rigorous entry standards and a requirement for continuing professional development. Internationally, there is increased recognition of the need for higher education to meet similar standards. The European Standards and Guidelines for Quality Assurance offer a very clear direction in this regard and should form the standard for Irish policy in this regard. They provide that all institutions 'satisfy themselves that staff involved with the teaching of students are qualified and competent to do so' and further that "Institutions should ensure that their staff recruitment and appointment procedures include a means of making certain that all new staff have at least the minimum necessary level of competence. Teaching staff should be given opportunities to develop and extend their teaching capacity and should be encouraged to value their skills. Institutions should provide poor teachers with opportunities to improve their skills to an acceptable level and should have the means to remove them from their teaching duties if they continue to be demonstrably ineffective.

3.11 Postgraduate curriculum and PhD training

The rise in postgraduate education over the last decade has been very significant. This has been along two paths. First is the development of taught postgraduate diploma and masters' courses to cater to those at work seeking further professional development and to those seeking new skills who already have an undergraduate or equivalent qualification. Such courses come under the umbrella of lifelong learning. The future development of these courses can take maximum advantage of the flexibility offered by technology and distance learning and should be characterised in the future by the highest degree of flexibility of all provision.

The second path is associated with education through research which can be at masters or at PhD level. The growth of this segment has been continuous and the demand is likely to grow further. Given the implicit and direct relationship between this form of education and research, it will be dealt with in the next chapter as part of the discussion on research.

3.12 Summary of recommendations

Teaching and learning
1   **Higher education students of the future should have an excellent teaching and learning experience, informed by up-to-date research and facilitated by a high-quality learning environment, with state-of-the-art learning resources, such as libraries, laboratories, and e-learning facilities.**
2   **Higher education institutions should put in place systems to capture feedback from students, and use this feedback to inform institutional and programme management, as well as national policy.** ■ A national student survey system should be put in place and the results published. ■ Every higher education institution should put in place a comprehensive anonymous student feedback system, coupled with structures to ensure that action is taken promptly in response to student concerns.
3   **Every student should learn in an environment that is informed by research, scholarship and up-to-date practice and knowledge.** ■ The roles of teaching and research should be afforded parity of esteem. This should be reflected in resource allocation, in promotion criteria, and in the metrics used to assess performance at individual, institution and system level.
4   **The Irish higher education system must continue to develop clear routes of progression and transfer, as well as non-traditional entry routes.** ■ In the coming decades, the delivery of higher education in Ireland must be characterised by flexibility and innovation. ■ All students, whether full-time or part-time, on-campus or off-campus, should be equally supported by the funding model used to allocate resources to and within institutions. ■ Undergraduate students should be encouraged to spend some time in a work or service situation, and formally acknowledge such work through accreditation or inclusion in the student's Diploma Supplement. ■ Routes of progression should be flexible into, within and across higher education institutions. ■ A national framework for the recognition of prior learning (RPL) must be developed and recognised by all higher education institutions.

5   **Higher education institutions should prepare first-year students better for their learning experience, so that they can engage with it more successfully.**

- Higher education institutions should expand the provision of induction and preparation programmes for first-year students.

- Higher education institutions should offer broad-based courses and more interdisciplinary learning opportunities for students in the first year of their undergraduate studies.

6   **Both undergraduate and taught postgraduate programmes should develop the generic skills needed for effective engagement in society and in the workplace.**

- Undergraduate and postgraduate education should explicitly address the generic skills required for effective engagement in society and in the workplace.

- In the design of courses and programmes, higher education institutions should ensure alignment and balance between learning outcomes, pedagogy and assessment.

7   **In light of the scale of transformation in teaching and learning that is under way in Irish higher education, the quality assurance framework must be reviewed and further developed.**

- Subject guidelines should be developed to support the National Framework of Qualifications. This work should be progressed by subject experts from the academic community and coordinated by the new Qualifications and Quality Assurance Ireland agency.

- A full and comprehensive review should be undertaken of the external examiner system and the grading system more generally.

8   **All higher education institutions must ensure that all teaching staff are both qualified and competent in teaching and learning, and should support ongoing development and improvement of their skills.**

4. Research

In this chapter

This chapter deals with the second of the three interconnected core roles of higher education – that of **research**.

Ten years ago, the Irish Government took a series of decisions that recognised the imperative to invest in research in order to sustain Ireland's economic and social progress. It also decided to concentrate a large part of that research in higher education institutions, and particularly in the universities. In recent years, the roadmap for research in terms of economic impact was set out in the *Strategy for Science, Technology and Innovation* (SSTI) and further elaborated in the *Innovation Task Force Report*. The strategy set out in this document fully endorses the thrust of the SSTI and the recommendations of the Innovation Task Force.

4.1 Context

The pathway between investment in research and discernible economic impact is complex and often indirect. This can give rise to an overestimate of the return in the short term and an underestimate in the long term. It can lead to arguments about the types of research to be supported, from fundamental/basic, or oriented/strategic, to applied/ development. For Ireland, a salient fact is that significant investment in research began only a decade ago, and while clear, identifiable outputs are already emerging in respect of both research and its commercialisation, it will take another decade to show the full impact of the investment. In the debate on the return on investment in research, a large emphasis is placed on the knowledge created and the intellectual property that can be quantified for deployment. While this is correct, the importance of qualified people to effect this deployment should not be ignored –

this is the special value of research within higher education, and it fully justifies the decision of Government to significantly concentrate its investment in higher education institutions.

Research carried out in higher education has direct bearing on the formation of our students. This is most obvious at the postgraduate level, as students learn the art of research and participate in the advancement of knowledge. These students will be the primary engine for transferring that knowledge to the wider society, either by job-shaping and entrepreneurship or as innovators within their chosen careers. Research also informs the curriculum for undergraduates – the exposure of all students to the passion and insights of research-active academic staff can be a special force for personal development and creativity.

Research in a higher education environment can draw on a wide variety of disciplines to address the

grand challenges facing Ireland and the world, and whose resolution within an Irish context could place Ireland at the forefront of international developments. The ready access to this wide array of disciplines is unique to higher education institutions, and one of their main strengths. Thus, simultaneous investment is needed across disciplines to create a broad base of knowledge, and in specific themes that build on this base. The themes will be multi-disciplinary, and will involve national and international partnership with other institutions, industry, other relevant agencies and Government.

Finally, research in higher education has an important role in informing public opinion. In this respect, the higher education institutions are a trusted source of wisdom and independent commentary.

4.2 The Strategy for Science, Technology and Innovation 2006-13

The Strategy for Science, Technology and Innovation (SSTI) was developed to address the future needs of the country based on a set of observations at the time. R&D in science, technology and engineering was seen as key to global economic growth. S&T-based industries, such as ICT and pharmaceuticals, aerospace and automotives, were among the main drivers of the world economy for decades.[92] In Ireland, the four sectors of Electrical & Optical Equipment (which includes ICT and Medical

Devices), Chemicals & Pharmaceuticals, Food & Drink, and Print & Recorded Media accounted for the largest part of manufacturing output.[93] However, for a country whose economy was dominated by high-technology industry, there was a disjunction between this impressive performance and the level of R&D conducted by firms and higher education institutions (HEIs) in Ireland.[94] The SSTI set out how high-quality innovative research in science, engineering and technology aligned with the principal manufacturing sectors in Ireland could result in economic and social benefits for the country as a whole. These benefits can be economic, such as creating employment in the production of ICT products and the creation of spin-off companies in the pharmaceuticals sector, or they can be more complex benefits related to a healthier population, an improvement in the environment, or further enhancement of Ireland's reputation in science, engineering and technology, leading to increased foreign investment.[95]

The performance of the Irish system in the last 10 years is impressive.

■ **Science Foundation Ireland (SFI) is focusing on investing in high-quality research relevant to the Irish economy. The economic return on this investment is seen particularly in the associated company collaborations, primarily with larger projects such as the Centres for Science, Engineering and Technology (CSETs) and the Strategic Research Clusters (SRCs).[96]**

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92 Peter Dicken, *Global Shift: Mapping the Changing Contours of the World Economy,* London : Sage Publications, 2007.

93 Report of the High Level Group on Manufacturing, Department of Enterprise, Trade & Employment, Forfás, 2008:4.

94 Enterprise Strategy Group: *Ahead of the Curve, Ireland's Place in the Global Economy,* Forfás, 2004:26.

95 Strategy for Science, Technology and Innovation 2006–2013, Department of Enterprise, Trade & Employment, 2006:8ff.

96 Examples of the companies engaged with SFI through the CSETs and SRCs include: Alimentary Health, Amic AB, Analog Devices, Becton Dickinson, Biosurfit, Celtrack,

■ The Programme for Research in Third Level Institutions (PRTLI) has engendered a culture of strategic collaboration in higher education institutions, so as to develop critical mass around research activity and education provision across all disciplines especially in the areas of science and technology but also including the Arts, Humanities and Social Science. There are many examples of this, such as Molecular Medicine Ireland, and the Integrated Nanoscience Platform for Ireland (INSPIRE), which brings together all the higher education institutions in Ireland with leading international research capability in nanoscience and nanotechnology, including the Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN) and the Tyndall National Institute. The Humanities Serving Irish Society (HSIS) is an example of how several institutions across the country have come together to enable the humanities play their role in national development including in particular the use of the power of digital technology. The recent announcement by University College Dublin and Trinity College Dublin on the formation of an Innovation Alliance is a direct consequence of this policy emphasis on institutional cooperation which is at the heart of PRTLI and the Strategic Innovation Fund.

■ In 2008, Ireland was placed for the first time in the top 20 most cited countries in the world (in 2003 Ireland was ranked only 36th).[97]

■ The way in which Ireland is transforming the PhD programme by a more structured approach and incorporating generic as well as discipline-specific courses is regarded by Europe as leading the way. The number of PhDs employed in industry has almost trebled, from 420 in 2001 to 1,179 in 2007.[98]

■ Ireland's commitment to scientific research and to producing world-class graduates is a major attraction for overseas investors and is resulting in a series of significant industrial and academic research collaborations. Forty per cent of the 114 new projects negotiated by IDA Ireland in 2007 were R&D investments, and 43 per cent in 2008. These investments are valued at €420 million. SFI groups were an important influence on at least a third of these investments in 2008.

■ Investment in research is also beginning to bear fruit through the commercialisation activities supported by Enterprise Ireland. Higher education researchers are contributing significantly to the increase in commercialisation activities (invention disclosures, patent applications and approvals, license agreements, spin out companies, etc.) undertaken by the Technology Transfer Offices supported by Enterprise Ireland in the higher education sector.

4.3 The Innovation Task Force Report (2010)

The Innovation Task Force report published in 2010 has taken the goals of the SSTI a step further by outlining the need for a step change in Ireland's ability to develop new enterprise and jobs based on the entrepreneur and better ways to translate

Cisco, Cyntelix, Enfer Technologies, Ericsson, Fidelity, GlaxoSmithKline, Hewlett-Packard, Hospira, IBM, Intel, Inverness Medical Innovations, Lucent Technologies (Bell Labs), Medtronic Vascular, NEC Communications Systems, Nortel, OpenLink, Proctor & Gamble, Robert Bosch, Smith & Nephew, Socowave, Storm Technologies, TDK, and Xilinx Research Lab.

97   Research strengths in Ireland: A bibliometric study of the public research base 2009 HEA Forfás.

98   Research And Development Statistics in Ireland, 2009 – at a glance (2009).

ideas into products and services. The Report stated that Ireland 'needs to find new sources of competitive advantage that will provide high-quality sustainable jobs and economic growth', and that it 'is not an option merely to sustain the current trajectory of job creation in, and start-up of, innovative export-focused companies. That will not create enough jobs, it will not earn sufficient tax revenues, and it will not ensure an adequate standard of living for our people in the longer term.' The recommendations in the Report are already being implemented through an Innovation Taskforce implementation group and include a renewed commitment to investment in R&D, a renewed focus by HE on creative and entrepreneurial graduates, and a more robust approach to creating and deploying Intellectual Property.

The Innovation Task Force Report should be seen in light of the Government's policy on Building Ireland's Smart Economy(2008) which highlighted the central importance of 'building the innovation or 'ideas' component of the economy through the utilisation of human capital – the knowledge, skills and creativity of people – and the ability and effectiveness of that human capital to translate ideas into valuable processes, products and services.'[99]

4.4 The next steps

Investment in high-quality research in higher education is vital for our future economic and social development. The trajectory on which Ireland has embarked is the right one. Over the past decade, starting from a very low base, we have begun the task of building serious research capacity. It is vital that we now renew our vision

for research in higher education to ensure that past and future investment contributes in a tangible way to Ireland's future social, economic and cultural development. For higher education to play its role in meeting the challenges of the years ahead, its research must:

■ Be of international standard, with a broad base of research and scholarship across a wide range of disciplines. This will ensure the vibrancy of Ireland's higher education system, promote creative teaching and learning, and enhance Ireland's ability to meet large and complex challenges.

■ Focus additional priority resources on a smaller number of challenges in strategically important domains that we can address effectively and in which we can make a difference. Priority should be given to research areas with the greatest potential for national economic and social returns and which will be characterised by partnership across disciplines, across the sciences and humanities, across institutions, and with industry and other relevant agencies nationally and internationally. Such research will usually encompass the whole spectrum from basic to applied and will generate highly skilled graduates and intellectual property both of which will be the basis for new enterprises, or innovation within existing enterprise.
Researchers in Ireland should be connected with leading researchers internationally in these priority areas. This is consistent with the recommendation in the Government's Infrastructure Investment Priorities framework that additional steps should be taken to ensure that investment in basic research is expended on projects which are demonstrably world class and can attract

99   *Innovation Ireland*, Report of the Innovation Taskforce, March 2010.

international researchers of the very highest quality.

■ Embrace the arts, humanities and social sciences as well as science, technology, engineering and mathematics. Research in the arts, humanities and social sciences (AHSS) addresses areas of fundamental importance to society – areas that impact on enterprise, job creation and public policy. In the Irish context, these disciplines study values and practices that are central to our national identity, our sense of self, and to how we progress as a society. They are important drivers of economic and social innovation, promote ways in which the economy is managed and developed, and suggest how individuals can engage and participate in civil society. Concrete examples of the social and economic impact of research in AHSS include the performing arts, creative industries, financial services, and tourism.

■ Connect with enterprise and with society in new and innovative ways to harness the potential of new knowledge for economic and social well-being. Higher education must position itself as a central player in developing Ireland's culture of innovation.

■ Be characterised by critical mass within institutions and further enhanced by collaboration.

■ Include research and innovation activities across the entire spectrum of innovation activities from basic through applied research to development and consulting activities, and institutions should reward all of these.

■ Be supported by policies and regulations which are fully conducive to the capture, protection and exploitation of Intellectual Property and enhanced enterprise competitiveness.

4.5 Priority for higher education research

Ireland's gross expenditure on R&D (GERD) as a percentage of GNP has risen from 1.41 per cent in 1998 to an estimated 1.68 per cent in 2008[100] and is approaching the EU-27 average. As part of the Lisbon agenda, Ireland committed to investing 2.5 per cent of GNP in R&D by 2013; the current Programme for Government has increased this commitment to 3 per cent of GDP.

Notwithstanding the pressure on public finances for the foreseeable future, delivering on this commitment to investment in R&D will be vital to the future well-being of the country. The recently published Infrastructure Investment Priorities 2010–2016 sets out the government's investment plans in this regard.

Continue to build research capacity

Institutions should maintain research capacity across the broad spectrum of disciplines, both to inform teaching and to ensure a platform for strong research in strategic priority areas. Multidisciplinary research should be encouraged and especially initiatives that connect the AHSS and STEM. All research-active academic staff should as a matter of course engage with undergraduate teaching and the most senior academic researchers with introductory teaching. This will ensure that undergraduate students in all disciplines will be introduced to the excitement of research from an early stage. Insofar as possible, all research staff

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100 *Research and Development Statistics in Ireland 2009 – At a Glance*, Forfás, 2009:11.

should be afforded opportunities to engage in teaching provided the student experience is enhanced.

In line with the recommendations of the Innovation Taskforce and the Advisory Science Council, a clear career path should be established for researchers that develops their talents and rewards them appropriately.

Role and significance of doctoral education and training

In 2004, the OECD review of Higher Education recommended that Ireland double its doctoral graduate output. The SSTI has taken this recommendation forward. At that time the number of doctoral graduates per million head of population was 125 in Ireland, far below that of competitors, such as Finland (363), UK (239) and Germany (280). The SSTI set targets to increase PhD graduations from 730 in 2005 to 1,312 in 2013 encompassing Science and Engineering and the Arts, Humanities and Social Sciences.

The effective doubling of doctoral graduate output is part of a strategy to build world class research teams, generate new knowledge and new innovations, and provide all economic sectors with a supply of skilled and educated graduates.

Demand for doctoral graduates is increasing and meeting this demand has a catalytic affect on the ability and willingness of diverse sectors of the economy to conduct research and development. Doctoral graduates working in a research and development capacity in the private sector has almost trebled between 2001 and 2007, from 420 to 1,191.[101]

Initiatives arising from the SSTI have supported the doctoral education strategy

and the move to structured PhDs. The Advisory Council for Science, Technology & Innovation has recommended that structured PhD programmes should both deepen the students' understanding of their discipline and develop in-depth knowledge of research approaches, techniques and methods that are critical to the value of the PhDs for enterprise.[102] Similar approaches are being adopted across Europe and the U.S. Irish higher education participation in, and contribution to, European initiatives through the Framework Programmes continue to inform our practice and provide financial support.

The move to structured PhDs has been accelerated by the establishment in recent years of a Network of University Deans of Graduate Studies. The network has produced a PhD Graduate Skills Statement which sets out the attributes which modern PhD graduates should possess. These include research expertise and a range of generic and transferable skills and competencies. This statement has been influential in respect of broader European developments in the field of Doctoral education.

In addition to the competence element, the following components of the structured PhD have been put in place: formal induction, progress monitoring through advisory and supervisory panels, regular professional development needs reviews, placements where appropriate and access, in accordance with individual needs, to disciplinary and generic skills development opportunities.

These developments are designed to ensure that doctoral graduates are broadly employable within the economy, both within their discipline but also in sectors and roles not directly linked to their academic

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101 CSO-Forfás, *Business and expenditure on research and development, 2007-2008*.

102 *The Role of PhDs in the Smart Economy,* Advisory Council for Science, Technology & Innovation, Forfás, 2009:52.

background. This is consistent with the emphasis on Human Capital in the SSTI and the Smart Economy plan. A recent US report by senior industrialists and academics, that is setting the agenda for the future of graduate education in the US, has affirmed that 'the ultimate product of graduate education is a knowledgeable, productive, and innovative worker.'[103]

Building on these developments, a framework for PhD education needs to be established and applied consistently across all higher education institutions that provide such education. It must meet or exceed all relevant international standards in order to uphold the reputation of the Irish PhD brand. Such a framework will also lead to greater consolidation and collaboration among providers, with stronger offerings for students.

Knowledge flows in and out of higher education

Irish higher education should be characterised by research-performing institutions that interact effectively with enterprise and society within an open innovation system.

There is a need to find new ways to link higher education research and innovation capacity to the needs of the public and private sectors. To promote such linkages, mechanisms should be devised to facilitate the movement of staff between higher education and the enterprise and public sectors. Such movement would benefit both sides: industry and the public sector would benefit from the new knowledge and theoretical understanding developed in the education and research system, education would benefit from the practical know-how and constraints experienced by the enterprise and the public sectors.

As recommended by the Innovation Taskforce, a programme should be put in place to facilitate academics who wish to provide their expertise to innovative companies or public sector organisations through full-time or part-time secondments for up to six months at a time.[104] The engagement of academics in consultancy should be facilitated as part of their normal duties where this is of mutual benefit to the individual, the institution and society.

To ensure a more effective level of collaboration with enterprise, funding agencies and higher education institutions will also need to develop sophisticated review mechanisms, performance metrics and promotional criteria to ensure parity of esteem for differentiated research missions across disciplines and across types of research and innovation activities, including knowledge transfer and commercialisation.

Commercial returns from publicly-funded research

A key feature of knowledge-based economies is their ability to convert knowledge from the research base into products for economic and social benefit. This is dependent on an effective technology transfer process from the higher education sector, and on collaborative research between industry and academia.[105]

The issues of intellectual property (IP) and the commercialisation of State-sponsored R&D have been considered by the Innovation Taskforce, who have made a number of recommendations as outlined below[106] and are the subject of a review recently published by Forfás.[107]

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104 *Innovation Ireland,* Report of the Innovation Taskforce, March 2010, p.37.

105 *Building Ireland's Knowledge Economy, Report to the Inter Departmental Committee on Science, Technology and Innovation,* Forfás, 2004: 16.

106 *Innovation Ireland,* Report of the Innovation Taskforce, March 2010, p39.

107 *Review of Supports for Exploitation of Intellectual Property from Higher Education Research,* April 2010, Forfás.

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103 US council of Graduate Schools, *The path forward,* p. 35.

This review shows that Ireland's national policies and guidelines for IP are in line with international good practice, and that the system for commercialising IP from the higher education institutions is making strong progress. It also found that national measures, such as Enterprise Ireland's Technology Transfer Support Initiative (TTSI), whilst relatively new and still evolving, were performing well and represented good value for money. However, further improvements are needed to ensure sustainability and quality of outcomes.

The key consideration in deciding how IP from publicly-funded research is commercialised should be the gross return to the economy, and not solely the return to the higher education institution or institutions involved. At the same time, it is important to ensure that the individual researchers involved have the incentive to continue their work.

The processes of commercialisation should be further enhanced by developing a national IP protocol and structures agreed to facilitate speedy commercialisation of IP from all higher education institutions.

Higher education institutions must recognise that knowledge transfer and commercialisation are important elements in their mission and part of their societal responsibilities. They should focus on releasing knowledge for exploitation by others with the expertise and capacity to do so, rather than seeking to exploit it themselves. Knowledge transfer should be embedded as a factor in performance appraisal, promotion and recruitment policies.

Diversity of institutional missions

In building a sustainable and responsive research system, Ireland needs a diverse set of higher education institutions with different research missions.

Some of our higher education institutions should be highly research-intensive; others should focus almost entirely on teaching. In the former, a large majority of academic staff should be research-active and productive; in the latter all academic staff should be fully abreast of the latest in scholarship as a means of ensuring that their teaching is relevant and up to date. The spectrum between these poles would include institutions with excellence in research in some disciplines only.

While both universities and institutes of technology may be active across the spectrum of research and innovation activities, they should have different emphases. While all institutions will be expected to maximise the impact of their activities on business, the public sector and the wider community, universities should specialise in basic and applied research, and institutes of technology should concentrate more on applied research and closer-to-market development and enterprise support, with a critical regional support dimension. This is broadly in line with the recommendation of the OECD *Review of Higher Education in Ireland* that the research missions of the universities and the institutes of technology should be distinct but complementary.

Universities and institutes of technology should collaborate on research where such collaboration will ensure the maximum societal return on public investment.

Funding for research

Funding for research will need to:

- **Enable research across a wide range of disciplines;**

- **Ensure that Ireland develops in specific niche areas of world-class standing;**

- **Support research across the full spectrum of innovation activities, from basic research outwards;**

- **Offer incentives for cross-disciplinary research;**

- **Encourage open knowledge flows, through undergraduate and postgraduate teaching, through open collaborative interactions with enterprise and society, through publications, and through commercialisation of research findings; and**

- **Have a clear set of metrics, and an associated system of data gathering, through which effectiveness, value for money and impact can be monitored and assessed.**

To enable this, the current structures for funding research should be reformed[108] in order to:

- **Consolidate funding streams and enhance coordination to deliver optimum value-for-money;**

- **Ensure that the government funding mechanisms for research are coherent with all of the other government funding streams for higher education;**

- **Ensure that research has an identified funding pathway and a single lead responsible agency, underpinned by commercialisation supports; and**

- **Ensure that research focused on identified priority opportunities for industry in Ireland is increased.**

Implementation of these recommendations has already been advanced through recent Government decisions for the consolidation of certain research funding streams and the transfer of funding responsibility for the PRTLI to the Minister for Enterprise, Trade & Innovation.

Cross-Government arrangements for setting priorities and making decisions are needed to coordinate research funding effectively. These can be built on mechanisms that already exist. They will ensure that the higher education institutions' research, development and innovation activities are well integrated with their undergraduate and postgraduate teaching activities.

As research is an integral element in the mission of higher education institutions, the research funding agencies have an important influence on the overall activities of the institutions. The coordination arrangements must be sufficiently robust to ensure that policies are consistent and coherent and that unintended impacts are avoided. In this regard, the Cabinet Committee for Science, Technology & Innovation should continue to exercise oversight in order to ensure the necessary coherence at a strategic level.

Joint arrangements for decision-making will also be required at an operational level through agreed protocols and processes involving the key agencies, in particular between Science Foundation Ireland and the HEA.

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108 The following builds on the recommendations on research funding structures in *Innovation Ireland,* Report of the Innovation Taskforce, March 2010

4.6 Summary of recommendations

Research

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Investment in R&D should be increased.

■ Investment in R&D target should be increased to 3 per cent of GDP, in line with the renewed Programme for Government, and the Innovation Taskforce report, which recommends a timeframe for delivery of investment in an updated SSTI for the 2014–2020 period.

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The researcher's role should be afforded a wider focus, better mobility and increased career opportunities.

■ A clear career path should be established for researchers that develops their talents and rewards them appropriately.

■ In addition to all research-active staff normally participating fully in undergraduate teaching, researchers should, where possible, be afforded opportunities to participate in teaching such as laboratory supervision and tutorials.

■ Greater mobility of staff should be facilitated between higher education on the one hand and enterprise and the public service on the other, to promote knowledge flows and to capitalise on the expertise within higher education for the benefit of society and the economy. This could be through full-time or part-time secondments for up to six months at a time or by consultancy by academics where this is of mutual benefit to the individual, the institution and society.

■ To ensure a more effective level of collaboration with enterprise, funding agencies and higher education institutions should develop review mechanisms, performance metrics and promotional criteria to ensure parity of esteem for differentiated research missions across disciplines and across types of research and innovation activities, including knowledge transfer and commercialisation.

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A consistent quality framework should be developed for Irish PhD education, based on critical mass.

■ A demanding framework that meets or exceeds international standards for PhD education should be applied consistently across all higher education institutions, as an essential underpinning of the Irish PhD brand. This should lead to greater consolidation and collaboration among providers, with stronger offerings for students.

12 **Public research funding should be prioritised and better coordinated and underpinned by effective foresight, review and performance measurement systems.**

- Research across all disciplines should be supported both to inform teaching and to ensure a platform for strong research in strategic priority areas.

- Focused research funding should be based on national priority-setting exercises. Such exercises identify a number of thematic areas in which Ireland can excel, make its mark internationally and maximise economic and social return. Priorities should be reviewed and modified to ensure Ireland's research system remains responsive to the changing national and international environments.

- In selecting priorities, particular attention should be paid to the opportunities for research spanning AHSS and STEM.

- Structures for delivering research funding should be reformed in order to:

  - Fully coordinate funding across all government agencies;

  - Ensure that funded research has an identified funding pathway and a single lead responsible agency, underpinned by commercialisation supports; and

  - Ensure a balance between different types of research from fundamental to strategic and applied, and from single investigator to large multi-disciplinary teams working in partnership with other relevant players .

13 **Knowledge transfer should be better embedded into institutional activity and rewarded accordingly. The commercialisation of intellectual property from publicly-funded research should primarily provide a gross return to the economy.**

- A national IP protocol should be developed and structures agreed to facilitate speedy commercialisation of IP from all higher education institutions.

5. Engagement with the wider society

In this chapter

This chapter deals with the third of the three interconnected core roles of higher education – engaging with the wider society.

At its simplest, engagement means taking on civic responsibilities and cooperating with the needs of the community that sustains higher education – including business, the wider education system, and the community and voluntary sector.

Engaging with society also means understanding the value of the autonomy that higher education has, and contributing to wider public discourse on areas of particular expertise.

5.1 What do we mean by 'engagement'?

Engagement by higher education with wider society takes many forms. It includes engagement with business and industry, with the civic life of the community, with public policy and practice, with artistic, cultural and sporting life and with other educational providers in the community and region, and it includes an increasing emphasis on international engagement.[109] The multidimensional nature of many of the social, economic and civic challenges means that they require multidisciplinary approaches, and higher education institutions are uniquely well placed to lead, develop and apply these, in partnership with others.

The interactive scholarships of discovery, teaching, engagement and integration proposed by Ernest Boyer in 1990[110] presented a very dynamic view of the nature of scholarship, one that has broadened the role and responsibilities of higher education in society. This corresponds well with the emphasis on collaborative knowledge relationships in the more recent literature on national innovation ecosystems. It also resonates with current thinking on the renewal of the higher education mission, in which the institution assumes major responsibility for the economic, social and cultural vitality and well-being of the community.[111]

Intellectual leadership and authoritative opinion

We also need to keep in mind the broader engagement that higher education can bring to the community. This includes giving intellectual leadership and authoritative opinion across a range of academic disciplines, the arts and areas of public discourse. Working in our higher education institutions, we have a great number of people who make very valuable

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109 Weber, L.E., Duderstadt, J.J. (Eds), 2010, *University Research for Innovation,* Economica, Glion Colloquium Series No. 6, p. 350.

110 Boyer, E.L. (1990). *Scholarship Reconsidered. Priorities of the Professoriate.* Princeton: The Carnegie Foundation for the Advancement of Teaching.

111 A good example of this is provided by Arizona State University in the US. See Crow, M. (2009), The Research University as Comprehensive Knowledge Enterprise: A Prototype for a New American University, in *University Research for Innovation,* Weber, L.E. & Duderstadt, J.J. (eds), Economica, Glion Colloquium Series No. 6.

contributions to the community and to wider civic life; they include:

- **Scientists who are world-renowned in their fields and who can present wise and persuasive arguments based on a wealth of knowledge;**

- **Writers, artists and musicians whose prolific creativity has contributed widely to our understanding of the world;**

- **Expert practitioners in the humanities and social sciences, who can by turns stimulate us with provocative comment and comfort us with well-founded argument.**

Central to the ability of academics to engage with the community in these ways is the intellectual autonomy that must underpin academic endeavour – the freedom to think, to invent and to communicate.

Working with community, regional and enterprise needs

In the coming decades, Irish higher education institutions will engage with the communities they serve in a more connected manner – identifying community, regional and enterprise needs and pro-actively responding to them. At institutional and regional level there is much to be done to articulate the most appropriate and most practical means by which meaningful engagement might take place. The engagement mission combines very well with the expansion of flexible learning, the promotion of work placement and upskilling, and the closer involvement of external stakeholders in curriculum design; and it is also complemented by key reforms in the teaching and research missions.

Research commitments to enhancing knowledge flows between higher education and enterprise and society and the growing emphasis on the application of knowledge

for social and economic impact both advance the engagement mission of higher education. In addition, the new approach to Intellectual Property (IP) that underpins the national IP protocol proposed by the Innovation Taskforce emphasises open innovation and the creation of longer-term value for the wider community and economy. This is consistent with the renewal of engagement proposed here and with the theme of innovation through interaction that runs through the report of the Innovation Taskforce.[112]

5.2 Engaging with enterprise

A strong engagement between higher education and enterprise has the potential to play a vital role in enhancing Ireland's economic competitiveness.[113] Innovation must be the driving force behind such engagement: innovation in teaching, learning and research from higher education; and innovation in taking advantage of learning opportunities from the business community. In many cases, higher education institutions have developed close relations with business and industry. This is not universally the case and submissions from representatives of business and enterprise to the Strategy Group suggest that higher education institutions could be more dynamic and coherent in their approach to collaboration.

The Education in Employment (EIE) and Roadmap for Employment–Academic Partnership (REAP) projects have uncovered a number of examples of good practice in Irish higher education. However, both projects have also highlighted the lack of coordinated leadership of external

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112 *Innovation Ireland,* Report of the Innovation Taskforce, March 2010.

113 This connection has been recognised by the Smart Economy Strategy and by the Innovation Taskforce, among others.

partnership and engagement across the range of activities in all academic partner institutions. The work initiated under EIE and REAP[114] highlights the potential of collaborative approaches to advance our understanding of business–academic partnership. Participants have quickly recognised the need for institutional change, as exemplified in a recent strategy document on engagement produced by Cork Institute of Technology (CIT) which identifies 'a clear need to create a single identity for CIT as an 'engaged institute' and to support and streamline an end-to-end service model which proactively identifies regional needs and delivers a coordinated Institute response to same'.[115]

The nature of the engagement

Activities that can be progressed in business–academic partnerships range from knowledge transfer and the creation of joint research projects, to the development and provision of education and training for employees, and problem-solving and consulting services. Employment–academic partnership can also facilitate high-quality internships and work-placements for students and can be particularly useful as a way of enabling employer feedback on graduate employability and in facilitating employer input into curriculum design and development as well as course supply.

Ireland has many advantages in terms of the good relations between higher education and enterprise at the highest levels and

114 Education in Employment project and Roadmap for Employment-Academic Partnerships are two Strategic Innovation Funded projects being led by Cork Institute at Technology. EIE, is a project whose focus is on offering relvant education and progression opportunities to those in employment and to provide access routes for the non traditional student. REAP is a collaborative project involving eight HEI partners for the research, development and validation of a model for partnership between employers and HEI's.

115 CIT (2010) *Campus Extension Centre & Framework - Proposals for a Centre for the development, support and marketing of CIT's external services,* p.3.

Ireland's small size accommodates frequent informal interaction. For example, industry and academic representatives have worked in partnership in developing the national policy framework around the innovation strategy and in developing this report. A key priority in the immediate future will be to complement this high-level engagement with more routine, proactive, two-way engagement at operational level and in particular in regional clusters. There is significant potential for higher education institutions to influence national and regional competitiveness and to play a key role in the development of industry clusters and networks.

5.3 Engagement with community

Links between higher education institutions and their local communities include educational, cultural, sports-related and civic activities, and support for Irish-language development activities. Over the coming decades, these links and activities will be strengthened, extended and formalised, and (where this is not already the case) they will be recognised as part of the strategic mission of the institution.

The relationship between the institution and the community is particularly important in the context of the promotion and achievement of greater equality in higher education. Greater engagement and partnership between higher education institutions and community and voluntary groups offers significant potential to progress equality and community development and to further social innovation. Community education strategies have proven very effective in reaching out to non-traditional students and are purposely designed to build up and maintain resources

within communities.[116] Partnerships with community groups 'can contribute to the creation of an academic community engagement model that builds academic community partnerships to create long-term cultural and social change'.[117] Examples of best practice in the Irish context include the active involvement of the Shannon Consortium institutions[118] in Limerick regeneration, Dublin City University's involvement in Ballymun regeneration and Dublin Institute of Technology's Community Links Programme.

5.4 Engagement with other education and training providers

Across the various levels of education and training, there is a clearly identified need for more community-based approaches and for greater coordination between institutions and sectors. Services need to be more appropriate and locally responsive. This is particularly the case in the relationships between higher education, schools, further education and training providers and the wider community, where there is now much greater emphasis on principles of partnership, empowerment, participation and capacity building.[119]

The graduate is the product of the entire education system, and skills and aptitudes that are nurtured and developed at the various levels of education must complement and build on each other. To

achieve this will require greater coordination across the entire education system; and this, in turn, will assist in the development and implementation of 'whole of education' strategies for active learning, continuous professional development and economic competitiveness. Better engagement between higher education and other areas of the education system also has a role to play in addressing regional skills needs.

5.5 Engagement as a core mission element

Over the years, higher education institutions have undertaken a wide range of engagement activities, but this has not been as coordinated as it might be, and in the future this needs to be developed more firmly as a core element of the mission of higher education in Ireland. Higher education institutions need to deepen the quality and intensity of their relationships with the communities and regions they serve, and ensure that the emergence of new ideas can better inform community and regional development. A renewal of engaged scholarship in the mission of higher education can help to unlock the transformative potential of education at community, regional and national level.

Professor John Goddard has argued that all publicly-funded higher education institutions have a civic duty to engage with the wider society at local, national and international levels. He stresses the importance of institution-wide approaches:

Engagement has to be an institution wide commitment, not confined to individual academics or projects. It has to embrace teaching as well as research, students as well as academics, and the full range of

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116 See Department of Education & Science, (2000), *Learning for Life – White Paper on Adult Education.*

117 Avila, M. (2010) Community Organizing Practices in Academia: A model, and Stories of Partnerships in *Journal of Higher Education Outreach and Engagement,* Volume 14, Number 2.

118 The Shannon Consortium is an alliance between UL, LIT, MIC and IT Tralee funded through the Strategic Innovation Fund.

119 HEA (2008) *National Plan for Equity of Access to Higher Education.*

support services. All universities need to develop strategies to guide their engagement with wider society, to manage themselves accordingly and to work with external partners to gauge their success. [120]

The move beyond piecemeal or disparate activity to a 'comprehensive set of mission-driven interventions to support civic engagement'[121] is a recurring theme in the most recent literature on engagement by higher education institutions. The level and nature of engagement will vary across institutions according to their historical missions, academic strengths, scholarly culture and knowledge resources and capabilities.

Internally adaptive; externally responsive

Institutions need to be internally adaptive in order to be externally responsive, and strong engagement with the wider community will require:

■ **Strong institutional leadership;**

■ **Change in the culture and internal business processes of institutions; and**

■ **Recognition of the importance of engagement activities in resource allocations, in promotion criteria and in the metrics used to assess progress at institutional, regional and national level.**

The institutional benefits of greater engagement with the wider community groups are significant, not least in the establishment of a platform for the advancement of social, civic and economic entrepreneurship. The wider social and economic benefits revolve around the

facilitation of societal adaptation to complex challenges.[122]

Higher education institutions need to become more firmly embedded in the social and economic contexts of the communities they live in and serve. Achieving this will help them become more relevant and responsive, and will also enhance their diversity and distinctiveness as institutions.[123] This is particularly important in the Irish context where mission differentiation is a key strength of higher education.

120 Goddard, J. (2009) *Reinventing the Civic University,* Provocation 12: September 2009, NESTA, p.4.

121 Bringle, R.G., Hatcher, J.A., and Holland, B. (2007). Conceptualizing civic engagement: Orchestrating change at a metropolitan university, *Metropolitan Universities,* 18(3), 57-74.

122 See Crow, M. (2009), The Research University as Comprehensive Knowledge Enterprise: A Prototype for a New American University, in *University Research for Innovation,* Weber, L.E. & Duderstadt, J.J. (eds), Economica, Glion Colloquium Series No. 6.

123 See Holland, B.A. (2005) *Scholarship and Mission in the 21st Century University: The Role of Engagement.*

5.6 Summary of recommendations

Engagement with the wider society

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Engagement with the wider community must become more firmly embedded in the mission of higher education institutions. To achieve this, higher education institutions will need to take the following actions:

- Encourage greater inward and outward mobility of staff and students between higher education institutions, business, industry, the professions and wider community.

- Respond positively to the continuing professional development needs of the wider community to develop and deliver appropriate modules and programmes in a flexible and responsive way.

- Recognise civic engagement of their students through programme accreditation, where appropriate.

- Put in place structures and procedures that welcome and encourage the involvement of the wider community in a range of activities, including programme design and revision.

In addition to these actions, a national survey of employers should be taken by the HEA on a regular basis and used as part of an assessment of quality outcomes for the system.

6. Internationalising higher education

In this chapter

This chapter deals with the international dimension of higher education. Throughout the world, educational institutions are collaborating across national boundaries, students are pursuing all or parts of their studies in different countries, and researchers and teaching staff are transferring permanently or temporarily between institutions.

Institutions need to engage with international students in creative and positive ways. They should also take advantage of the opportunities to enrich their students' experience, their staff development, and their research work by cooperating and working jointly with complementary institutions in other countries.

Irish institutions need to grasp the opportunities presented by this increasing trend towards internationalisation of higher education.

6.1 Context

Worldwide demand for higher education has grown at a phenomenal rate[124] and in an inter-connected world, knowledge and ideas have no respect for borders:

- **Talented staff, students and researchers are global in outlook, and migrate towards the best opportunities;**

- **Growing numbers of students are studying beyond their own national borders;[125]**

- **Cross-border partnerships and collaboration are changing the way that institutions work, and are redefining the nature of delivery; and**

- **International experience and inter-cultural expertise are regarded as core competencies for graduates in an export-driven and innovation-based economy.**

Notions of ambition and scale are being redefined as emerging global economies place greater emphasis on higher education: some institutions count enrolments in the hundreds of thousands, while others, including new institutions, have endowments which can reach billions of euro. Trans-national education is becoming ever more important, and is based on innovations such as branch campuses, e-learning/distance learning, and joint degree programmes – in some countries it has become more important than the teaching of international students on home campuses.[126]

This is the stage on which Irish higher education institutions operate and it clearly demands a strategic approach to internationalisation and global engagement. In this regard, it is crucial that internationalisation in higher education in Ireland is understood in its broadest context, and not just from a revenue-generating point of view.

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124 UNESCO recorded an increase from 101 million tertiary education students. students worldwide in 2000 to 152.5 million in 2007. Source: *Global Education Digest,* UNESCO (2009)

125 UNESCO estimated that there were 2.8 million international students in 2009; Source: *Global Education Digest,* UNESCO (2009).

126 *Transnational education in the European context – provision, approaches and policies* Academic Cooperation Association on behalf of the European Commission, July 2008.

6.2 What the internationalisation of higher education involves

Internationalisation in higher education is multi-faceted and encompasses a range of practices and activities that have implications for the institutions for Ireland generally. In its widest sense, internationalisation includes:

- Attracting more international students into Ireland;

- Making it easier for Irish staff and students to study and to engage in research work abroad;

- Making Ireland an attractive destination for talented overseas faculty;

- Establishing more collaborative institutional and research links;

- Internationalising curricula;

- Further developing Irish involvement in trans-national education (delivering Irish academic programmes overseas and establishing Irish-linked institutions outside of Ireland); and

- Contributing to overseas development and participating in EU programmes and multilateral initiatives such as the Bologna process.

6.3 The benefits of enhanced internationalisation

The OECD has identified many of the benefits that accrue to higher education institutions from increased internationalisation, including the attraction of new talent, broadening of staff experience,

facilitation of research cooperation, and the diversification of funding streams. [127]

The presence of overseas students gives an international flavour to a campus, and it creates a dynamic in which domestic and overseas students can learn from and stimulate one another and mutually enrich their learning experience. Irish students can benefit from exposure to other cultures, from the improved curricula resulting from greater interaction between Irish academics and their international peers, and from better opportunities to study abroad themselves.

Benefits at home and abroad

From the national perspective, international education can be seen as an investment in Ireland's global relationships. We are a small and open European economy whose prosperity fundamentally depends on innovation-driven industry and exports. The higher education system has a crucial role to play in promoting Ireland's international profile, forging strategic links with partners overseas, reinforcing ties with Ireland's diaspora and developing a new global network of influence among Irish-educated alumni who will act as advocates and agents for Irish interests in parts of the world where we have not traditionally had strong links. It can also be a crucial part of Ireland's 'soft power' in projecting Irish culture and values to a global audience.

At home, internationalisation can contribute to the development of an internationally experienced, inter-culturally adept and skilled population as well as to public and private institutions which are internationally oriented, equipped for such engagement and attractive to global talent. From a wider perspective, it has a role to play in contributing to the development

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127 OECD (2008) *Tertiary Education for the Knowledge Society* (Volume 2: *Special features: Equity, Innovation, Labour Market, Internationalisation*).

of knowledge and expertise in partner countries and in fostering international development, peace and prosperity.

Most importantly of all, perhaps, the international education experience can have a profound and transformational effect on the students involved. In many cases, the families of international students are making the most significant investment of their lives on the understanding and expectation that an overseas education will significantly enhance the personal and professional development, and crucially, the career outcomes of graduates.

Ireland's advantages

Ireland has unique strengths that potentially provide us with a competitive advantage in becoming a leading centre of international education. We are a small, safe and friendly country. Our people are renowned for strengths in innovation, creativity and collaboration. We are a member of the European Union, and have extensive global links through our diaspora. We are an English-speaking country with a unique cultural heritage. We have an education system that has had a long history of international engagement and which is globally respected.

6.4 A challenging and competitive global environment

Competition for the attraction of talented international students and the development of mutually beneficial partnerships with globally-ranked and respected institutions overseas is fierce. The optimistic projections of growth in global international student mobility, and consequent policies based primarily on mass recruitment of overseas

students, are being reconsidered in many countries.[128]

Added to this, more and more countries are seeking to recruit international students; and countries that have traditionally sent large numbers of students abroad are now seeking to develop their own indigenous capacity, in some cases through the establishment of cross-border partnerships with longer-established higher education institutions. Ireland's inherent advantage in having an English-speaking education is also being diminished by the global rise in English as a medium of education. As high-quality opportunities become available to students in their own countries and regions, they are increasingly deciding to study closer to home.

6.5 The opportunity for Ireland

For Ireland to make the most of our inherent advantages will require strong commitment from Government and the higher education institutions, the development of globally-oriented and internationally competitive higher education institutions, and new national policies and approaches.

The internationalisation of Irish higher education needs to happen as part of a long-term and sustainable process, based on high-quality, holistic and balanced engagement with international partners. There is ample evidence in other countries of the reputational damage that can accrue when commitment to internationalisation is not adequately supported by appropriate planning and implementation actions.

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128 See, for example: Bone, D: *Internationalisation of UK Higher Education: a Ten-Year View* (report for the UK Department of Innovation, Universities and Skills), November 2008; Bradley, D. (chair) & Expert Panel, *Review of Australian Higher Education System,* 2008.

The Government has established a High-Level Group on International Education to coordinate Ireland's national approach to internationalisation. The High-Level Group is responsible for a five-year strategy[129] setting out the measures that are necessary to enhance the internationalisation of Irish education providers and to consolidate Ireland's reputation as a high-quality centre of international education.

The importance of partnership between Government and the institutions

Internationalisation requires a strong partnership between Government and the higher education system, and this includes:

- A shared vision on the national objectives of internationalisation and agreement on the coordination and deployment of resources and joint actions needed to achieve those goals;

- Whole-of-Government policies that support internationalisation including strong and competitive visa, immigration and labour market access policies;

- A shared approach to developing relationships with a diverse range of countries and in sectors that are strategically important to Ireland;

- The development of a quality assurance regime (including a Quality Mark) to provide assurance about the pastoral care of international students – to complement the academic quality assurance processes; and

- The creation of a strong national educational brand to raise awareness of the quality of Ireland and its higher education institutions.

6.6 Globally oriented and internationally competitive institutions

Effective internationalisation within institutions requires the articulation of a vision, the definition of objectives and targets, leadership at senior level, engagement throughout the organisation and appropriate implementation structures. These should be set out in an institutional strategy that considers internationalisation and global engagement in the widest perspective. The nature and level of internationalisation will vary depending on the overall mission and strategic goals of each institution, but it will need to take place within a coherent strategic framework.

Competitiveness in the international area, and capacity for global engagement, may benefit from institutional adaptations and reform. These include more flexible deployment of staff, a more diverse and internationally experienced staff cohort, more intensive use of resources, increased use of innovative forms of delivery (such as e-learning), changes to programme structures (including full semesterisation and full calendar year programmes) and increased overseas delivery of programmes (for example, in Irish-linked, or Irish-administered institutions overseas).

Outward mobility of Irish staff and students

A balanced and sustainable process of internationalisation should also include outward mobility of Irish staff and students. This is increasingly regarded as an expected part of international partnerships and, as international experience and inter-cultural expertise are increasingly valued

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129 *Investing in Global Relationships: Ireland's International Education Strategy 2010-2015,* Department of Education & Skills.

by employers, the potential for mobility opportunities will likely become a more important factor in student choice.

One of the features of Ireland's participation in Erasmus has been a relative reluctance of Irish students to engage with opportunities of the programme. The HEA should examine the reasons behind this reluctance and bring forward some measures to alleviate it.

Internationalisation of curricula

The internationalisation of curricula is another crucial part of the internationalisation process. In addition to making programmes more relevant for international students, it provides a crucial means of increasing the global awareness of all students. Internationalised curricula may also include mobility components linked to specific learning outcomes and the attainment of qualifications, credits and/or professional experience. Academic staff may require institutional support and funding to internationalise curricula.

6.7 Integration and student supports

International students should be closely integrated with the wider student population in their living and learning environments. However, they may also require unique tailored support services to cater for their specific needs (culturally appropriate diet, counselling, health services, and so on). Institutions will need to invest some of their international income in such services.

The quality of pastoral care available to international students is an increasingly important factor in student decision–making, and this will be reflected in the introduction

of a Quality Mark[130] for international education which will take into account pastoral care/student support issues in addition to academic quality assurance. It is likely that the introduction of such resources will also lead to an overall increase in the quality of support services for all students.

6.8 Growth and sustainability

While it is desirable to set ambitious long-term targets for the attraction of international students, growth in international student numbers must be sustainable, and must have regard to the infrastructure required to ensure a quality learning and living experience for international students. The flow of students cannot be turned on and off depending on capacity in any given year – to do so would damage relationships in the sending countries and would jeopardise longer-term prospects.

6.9 Inter-institutional collaboration

There is considerable scope for Irish higher education institutions to collaborate more in the international area. Such collaboration would bring a number of advantages, including:

- **An increase in the capacity of the institutions to engage internationally;**

- **More comprehensive offerings through the different institutional strengths;**

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130 A Quality Mark for international education was recommended in the 2004 *Report of the Inter-Departmental Working Group on Internationalisation of Irish Education Services.* Statutory provision for the Quality Mark will be made in the forthcoming Qualifications (Education and Training) Bill 2010.

- Fewer interlocutors (and less complexity) in negotiations and transactions with international partners.

Areas where there is potential for more collaboration include:

- The joint delivery of specifically tailored programmes – for example, human capital development programmes such as leadership/executive training, 'training the trainers', and so on;

- Trans-national education – for example, delivery of programmes and management of institutions overseas;

- Strengthened cooperation between international offices, including branch offices overseas;

- More coordinated application procedures for overseas students; and

- The development of *educated in Ireland* networks of alumni.

6.10 Funding

The growth in international student numbers will involve self-financing expansion, and, in general, overseas students attending Irish higher education will continue to pay economic fees. These should be set at a competitive level, but with due consideration for the enhanced student support that will be provided. Aside from the financial benefits that accrue to the institutions, the fees and the expectations that they create among overseas students may act as a valuable stimulus for individual institutions and help to provoke improved performance, to the benefit of all students.

While the State must have regard to the contribution of international income to the funding of higher education, it will be important to ensure that an institution's international revenue should not lead to a reduction in State-provided funds.

6.11 Summary of recommendations

Internationalising higher education
15 **Higher education institutions should set out their international vision in an institutional strategy that:** ■ Is related to their institutional mission and to wider national policy goals; and ■ Considers internationalisation and global engagement in the widest perspective.
16 **Higher education institutions should put in place appropriate supports to promote the integration, safety, security and well-being of international students.**

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PART 3: Governance, structures and funding

The very scale of the challenges facing higher education and its ambitions to meet those challenges – to increase the quantum, breadth and quality of Irish higher education over future decades – demands more coherence, greater complementarity and stronger operational efficiency in the way that higher education is organised. It also demands that we address seriously how to resource higher education.

We need to acknowledge the considerable level of initiative already displayed by institutions, both individually and collectively (through sectoral collaborations by the IUA and IOTI), and the very credible performance improvements on the ground, all of which are evidence that institutions are responding energetically to the changing needs of students and the wider society.

Irish higher education achieves better than average educational outcomes (in OECD comparative terms) for less than average investment levels. However, because higher education is so central to Ireland's future there remains an urgent need to use all means at our disposal to improve our performance relative to other high-performing and better-resourced countries. If Irish higher education is to move into top quartile of OECD performance levels, it will require a set of measures to improve the funding base and to extract greater value in educational outcome from each unit of spending.

How we do this will involve very careful analysis of the trade-offs between:

- **Quantity: as levels of demand are increasing rapidly;**
- **Quality: improvements in quality are essential; and**
- **Funding: there are limitations in the capacity of the exchequer to expand investment in higher education over the short to medium term.**

The combination of increased demand and contracting resources gives urgency to the requirement to resolve the structural issues in Irish higher education. This, however, will be essential to enable higher education institutions to undertake the necessary internal change programmes and innovations, and to make it easier for them to work together to achieve better collective results.

The three major elements where change is necessary are:

- **Change in the governance and leadership structures within higher education – see chapter 7.**
- **Change in the structural framework within which higher education operates – see chapter 8; and**
- **Change in the ways in which higher education is funded – see chapter 9.**

7. System governance

In this chapter

This chapter describes the overall structures that need to be put in place to provide the leadership, governance and quality controls that will be necessary for the successful implementation of the strategy set out in this document.

In particular, it sets out the case for retaining a reformed Higher Education Authority (HEA) as an intermediary between the Minister and the institutions, but stresses that the roles and responsibilities of the HEA will have to change to reflect the needs of higher education and its response to national priorities.

7.1 Introduction

Over the past ten or twenty years, higher education institutions have grown very significantly and the job of managing them has become much more complex. Undergraduate numbers have increased, course provision has been modernised through modularisation and new methods of delivery, and there has been substantial internal rationalisation – particularly through the move to the school/college-based system. The scale of research has also grown enormously, as has doctoral education. Institutions are increasingly connected and engaged with the social and economic challenges of their localities and regions. In addition, Irish higher education now operates in a global context and its international linkages will continue to grow over the coming decades.

All of these developments have placed greater emphasis on management and leadership skills, and the proposals for structural change outlined in this strategy will present new management challenges to the institutions. This chapter sets out the roles and responsibilities of those entrusted with key leadership and management functions, including:

- Setting out clear national policy and goals;

- Clearly defining roles and responsibilities of the various stakeholders and ensuring transparency in the execution of those roles and responsibilities;

- Establishing an appropriate balance of autonomy and performance responsibility at institutional level; and

- Redefining the relationship between the State and the higher education system, based on contracts for delivery (service level agreements) negotiated between the institutions and the HEA as part of a wider strategic dialogue.

7.2 Role of Government and of the Minister

Overall responsibility for higher education lies with the Government and the Minister for Education & Skills. The key functions of the Government in this regard are:

- Defining the broad strategy and the level of public funding for the sector;

- Developing the legislative framework to ensure that the broad strategy can be implemented; and

- Overseeing implementation.

In addition to these functions, two new developments proposed under this strategy are designed to ensure greater clarity on the national objectives for the higher education system; these are:

■ **A new mechanism for the Minister and the Department of Education & Skills in promoting a broader 'whole of government' coordination of higher education; and**

■ **A clearer and strengthened role for a higher education intermediary agency in the functions delegated to it by the Department of Education & Skills.**

National priorities

The national priorities to be identified by the Minister should be few in number and should evolve over time in response to national needs and government policy responses. They should be set over the medium term; and should be associated with key performance indicators (KPIs) against which the performance of higher education can be monitored.

These priorities set a framework in which institutions plan how they can make their particular contribution to meeting these priorities. Different types of institutions would be expected to have different types of plan based on their different missions and strengths.

7.3 The whole of government agenda

The strategic objectives of higher education must be informed by the national priorities articulated by government. A 'whole of government' approach is necessary, and in framing such an approach, the Minister for Education & Skills will need to draw together a range of strategic Government interests, and it will be necessary to establish formal central coordinating arrangements.

The best way to achieve this is through a Cabinet Committee chaired by the Minister for Education & Skills and supported by an inter-departmental committee of senior officials. In developing strategic priorities for consideration by the Cabinet Committee, the senior officials will be informed by the strategies and priorities of relevant Government departments and agencies.

7.4 The Higher Education Authority

The multiplicity of roles for and expectations of the higher education system will require a strong central driving mechanism. Since the Higher Education Authority Act of 1971, funding and policy advisory responsibility have been vested in the HEA. This responsibility was widened to include the Institute of Technology sector in 2006. The *Report of the Special Group on Public Service Numbers and Expenditure Programmes* (2009) recommended that the HEA be abolished and its staff and functions be merged back into the Department of Education & Skills. However, there are alternative views on this issue.

The analysis of the Strategy Group, informed by international experience, is that successful delivery of the strategic agenda will require a strong central oversight role. An earlier review that examined the role of the Department strongly recommended that the Department should remove itself from an operational role and focus more strongly on strategy and policy development.[131] This finding was reiterated by the OECD in its *Review of Higher Education in Ireland* in 2004.

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131 Cromien, S, Review of the Department of Education and Science, 2001

The Strategy Group, taking account of the more specialised role involved in future system governance, took the view that the best approach to take is to retain a Higher Education Authority.

In prescribing the revised remit of the HEA, the Group makes a number of recommendations for revising the role and responsibilities of the HEA, particularly in the following areas:

■ A revised governance and board structure;

■ Clear definition of key operations and implementation functions; and

■ Clear definition of its relationships with the higher education institutions, and how it works with them to achieve a balance between institutional autonomy and accountability.

Each of these areas is discussed in turn below.

Governance structures of the new HEA

The governance of the new HEA will be strengthened through a board structure with an appropriate composition and size for the tasks allocated to it. The board should have no more than twelve members with the following key characteristics:

■ Expertise in strategic planning and management of higher education systems drawn from both Irish and international sources (at least two members should be from outside Ireland with relevant experience of higher education);

■ An outward perspective on the needs of other major stakeholders, including other areas of Government, enterprise, and the community and voluntary sectors as well as the academic community; and

■ The necessary skills and expertise required to fulfil the demands of best practice in corporate governance.

Implementation functions of the HEA

The HEA will be responsible for implementing the policies and strategies set down by the Minister and the Department of Education and Skills and will be accountable to the Minister in respect of agreed key performance indicators. It will also have an inter-agency coordinating function in support of the Department's leadership of the interdepartmental committee. In satisfying its brief, it will have the following key operational functions:

■ Establishing high level Key Performance Indicators and engaging in strategic dialogue with the sector and individual institutions;

■ Leading and driving the process of structural change (see chapter 8); and balancing institutional consolidation with system diversity;

■ Collecting and analysing data on higher education so that it can better inform and advise the Department;

■ Leading and driving the implementation of the new funding model (on the basis proposed in chapter 9) and allocating funding to institutions on foot of that;

■ Leading the process of analysing and forecasting demand for higher education, taking particular account of the labour market and evolving skills needs;

■ Ensuring an appropriate balance between demand and supply with due regard to the maintenance and enhancement of quality;

■ Analysing and funding of infrastructural requirements;

- **Cooperating and engaging with international counterparts and in particular deepening cooperation with higher education in Northern Ireland;**

The composition and skill sets of the HEA executive will need to be reviewed in the context of this revised brief, and any additional specialist skill requirements will need to be addressed. In particular, the premium now placed on accountability in respect of national goals, system leadership and assessment of performance would suggest the need for a stronger infusion of specialist skills in those areas.

Balancing institutional autonomy with accountability

A shared sense of autonomy needs to be developed between the higher education institutions and other stakeholders, including students, private sector interests and the wider community. In return for this autonomy, institutions must become accountable in ways that are sufficiently transparent and robust to ensure the confidence of the wider society.

There is a balance between autonomy and accountability. At the heart of this strategy is the recognition that a diverse range of strong, autonomous institutions is essential if the overall system is to respond effectively to evolving and unpredictable societal needs. Funding and operational autonomy must, however, be matched by a corresponding level of accountability for performance against clearly articulated expectations. This requires well-developed structures to enable national priorities to be identified and communicated, as well as strong mechanisms for ongoing review and evaluation of performance at system and institutional levels. The latter requires the introduction of a strategic dialogue between institutions and the State.

Strategic dialogue

The HEA should engage in strategic dialogue with higher education institutions and at a sector-wide level with a view to aligning the strategies of individual institutions with national priorities and agreeing KPIs against which institutional performance will be measured and funding decided. The dialogue will cover both policy and implementation matters, including:

- **How national priorities for higher education are to be implemented by the institution and the coherence of the institution's strategic plan with those priorities;**

- **The development and agreement of KPIs and assessment of the performance of institutions against them;**

- **Sharing and mainstreaming good practice;**

- **Development of collaboration and regional clusters;**

- **Review of overall system coherence and balance of diversity;**

The dialogue will normally be bilateral (between the HEA and individual institutions) but there will also be occasions where multilateral dialogue will be appropriate – for example to facilitate discussion relating to regional clusters.

A key outcome of the strategic dialogue will be that institutional core funding will include a performance element which will incentivise good performance and penalise institutions which fail to deliver. This system is discussed in more detail in chapter 9.

Another outcome will be the availability of collective and individual reports on the success of institutions in meeting national goals and associated KPIs.

Besides dealing with the allocation of State funding and performance against State

funding, the strategic dialogue should ensure that:

■ **Institutions are accountable in respect of all activities, regardless of source of funding;**

■ **The impact of any individual institutional plan on the wider higher education system, or wider public policy can be considered; and**

■ **Consideration is given to the longer term quality and sustainability impact of institutional plans.**

At a system level, the strategic dialogue will also enable consideration of the sum of the institutional plans to test for overall system coherence and completeness, to ensure national needs are being met, and to identify and address unnecessary duplication.

The HEA should report to the Minister for Education and Skills on the outcome of the strategic dialogue. This should inform the estimates process in the determination of the overall allocation for higher education. In the interests of transparency, this report should be published.

7.5 Governance structures of higher education institutions

In the decades ahead, higher education institutions will require effective leadership inspired by a strong vision and backed by robust strategic planning, and they will have to respond flexibly to regional and national needs. They will need to build institutional capacity to perform new management functions and to strike a balance between the demands of the market and their

academic mission.[132] They will need to be innovative and enterprising in their research and teaching, and to collaborate with industry, their local community, and other educational institutions.

Governance of higher education institutions in Ireland is shared across the following:

■ **A Governing Authority: the decision-making body;**

■ **A Chief Officer (President/Provost/Director): the executive management; and**

■ **An Academic Council: representing the academic community.**

These three elements are mutually dependent and each plays an important role.

A Governing Authority cannot, on its own, fulfil the requirement of a company board because it needs the involvement of senior representatives of the academic community in the governance of the institution for it to be effective. A strong academic board working jointly with the Governing Authority in areas such as strategy and resource allocation brings together the vital constituents of good governance in a university context.[133]

It is widely recognised internationally that the most appropriate governance system for higher education is one that supports institutional autonomy within a clear accountability framework. This is recognised in the main statutory frameworks for Irish higher education: the Universities Act of 1997 and the Institutes of Technology Acts 1992 to 2006. A key development under those Acts was the introduction and progressive strengthening of formal Codes of Governance.

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132 J. Salmi "Autonomy from the State versus Responsiveness to Markets" in Higher Education Policy 2007, 20.

133 Michael Shattock (2006) *Managing Good Governance in Higher Education* (OUP).

Within institutions, significant governance developments have taken place with an emphasis on leadership development, both at presidential and senior management level, including the key leadership and management role of the Head of School / College.

Internationally, the size and composition of governing authorities of higher education institutions have been changing. The model generally favoured is a more managerial one, with a smaller number of members and a majority of non-academic (lay) people.[134] The OECD report on Irish higher education in 2004 was critical of the size of Irish university governing authorities and recommended that they be reduced in size and that their membership reflect the skill set required to govern a university.[135] This recommendation should be implemented: the size of governing authorities of higher education institutions in Ireland should be reduced to no more than 18, and the majority of members should be lay people with expertise relevant to the governance of higher education.

7.6 The role and responsibilities of Qualifications and Quality Assurance Ireland

It is essential for Ireland's future development that its quality assurance structures and processes are trusted both nationally and internationally, and that the confidence of students and prospective employers in the higher education system is maintained. While the current

quality assurance arrangements for Irish higher education are highly regarded internationally,[136] the emphasis on processes should be complemented with greater transparency and more rigorous attention to standards.

Ensuring the quality of higher education is one of the key roles of the State, and increasing attention is being given internationally to creating, expanding, reforming and building the capacity of the agencies and mechanisms by which quality is assured.[137] The Government announced in Budget 2009 that agencies with responsibility for qualifications and quality assurance in further and higher education in Ireland would be amalgamated.[138] The amalgamated body, due to be statutorily established in early 2011, will be responsible for:

- **Maintaining and implementing the National Framework of Qualifications;**

- **Setting procedures for access to programmes of education and training, and for transfer and progression between programmes, including those relating to credit accumulation and recognition of prior learning;**

- **Recognition of Irish awards internationally and the recognition of international awards in Ireland;**

- **Review of the effectiveness of the quality assurance systems of educational providers;**

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134 J. Fielden, *op. cit.,* p. 37.

135 Reviews of National Policies for Education, Higher Education in Ireland, OECD, Part 1, Ch3

136 See *Report from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions on Progress in Quality Assurance in Higher Education.* Brussels 21.9.09 (COM (2009) 487 final)

137 J. Fielden, *op.cit.,* p. 23.

138 These are the National Qualifications Authority of Ireland (NQAI); the Higher Education and Training Awards Council (HETAC); and the Further Education and Training Awards Council (FETAC). The new organisation will also take responsibility for the external quality assurance review of the universities, a function which is currently performed by the Irish Universities Quality Board (IUQB).

- Making of awards;

- Validation of programmes of education and training that lead to awards of the body; and

- Regulation of providers of education services to international students.

There will be a close and symbiotic relationship between the HEA and Qualifications and Quality Assurance Ireland in relation to monitoring and evaluation of higher education and in ensuring consistency of standards nationally. Qualifications and Quality Assurance Ireland will ensure that the national framework of qualifications and its associated changes will be implemented throughout the higher education system. It will work with the HEA in developing and implementing policies on access, transfer and progression into and within higher education, and it will have significant powers to ensure that all institutions implement the recommendations of quality reviews.

The HEA will support and reinforce the work of Qualifications and Quality Assurance Ireland through its funding role. The HEA will draw on the work of the Qualifications and Quality Assurance Ireland to monitor the quality of individual institutions. It will take account of relevant findings from Qualifications and Quality Assurance Ireland when engaging in strategic dialogue and drawing up funding contracts with institutions, and, if there is evidence of unacceptably low levels of quality, it will engage with the institution to agree a path to restore quality. The HEA will draw on other reviews which may be undertaken by Qualifications and Quality Assurance Ireland. This might include reviews of specific disciplines, which might inform proposals for rationalisation of provision to improve quality, and reviews of the needs of and expectations of external stakeholders which might inform both national objectives and considerations related to strategic dialogue.

7.7 Summary of recommendations

System governance

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Ireland's autonomous institutions should be held accountable for their performance to the State on behalf of Irish citizens.

- The Minister for Education & Skills will articulate the Government's national priorities for higher education.

- To ensure that the national priorities for higher education are informed by a whole of government approach, the Minister for Education & Skills should chair a cabinet committee on higher education. A network of all agencies that interact with higher education will be convened by the HEA.

- The HEA should continue to be accountable to the Minister for the funding and oversight of the sector, and a new process of strategic dialogue should be introduced to enhance accountability and performance, while respecting institutional autonomy.

- The accountability framework for the system should be underpinned by the availability of a fully comparable system database with data on student and staff profiles, efficiency and other indicators that will aid in research on and evaluation of public policy in higher education and inform the HEA during the strategic dialogue process.

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Governance structures should be reformed at both institutional and system levels.

- The size of the governing authorities of higher education institutions in Ireland should be reduced to no more than 18; the majority of members should be lay members with expertise relevant to the governance of higher education; and

- The Board of the HEA should be reduced in size to 12 members; its composition should be reformed to ensure that it contains the appropriate blend of expertise and experience to undertake its mission.

8. Developing a coherent framework for higher education in Ireland

In this chapter

This chapter looks at the overall system requirements for higher education in Ireland. It notes how the needs of diverse individuals, the economy and society are met by a variety of institutions of different kinds, each with a distinct mission and range of activities. It stresses the need to maintain this strength while at the same time evolving to deal with new and changing requirements.

The benefits of building regional clusters of educational institutions to serve local needs are outlined. Clusters allow programmes of teaching and learning to be better planned and organised; they use resources efficiently; they allow greater flexibility in student pathways and opportunities for progression; and they provide more coordinated services to enterprise in their region.

The chapter deals with the future evolution of universities and institutes of technology. It recommends that smaller institutions should be encouraged to merge with others in order to create the scale needed to provide quality services. In relation to the universities, it recommends inter-institutional cooperation and collaboration in order to establish critical mass in specific niche areas. In relation to the institutes of technology, it recommends a process of consolidation that could potentially result in the redesignation of some institutes as technological universities.

The chapter also spells out the role that the HEA must play in ensuring that the different institutions continue to perform their stated missions, and that the diversity of the overall system is maintained.

8.1 Context: developing policy

If the higher education system as a whole is to succeed in meeting the needs of Irish society, a coherent framework must be established, in which the different institutions and types of institution have distinct and well-defined roles, responsibilities and interrelationships.

Only a coherent system, made up of diverse, responsive and sustainable institutions, will be able to deliver on the ambitious goals set out in this strategy. The clarity that such a framework will bring will help to ensure that society's expectations of the system are realistic, that they are met, and that funding allocations are more closely aligned with policy goals.

Institutions are already seeking to define their roles more precisely, and to reposition

themselves in response to Ireland's innovation requirements. New strategic alliances between institutions are being developed, aimed at pooling expertise, knowledge and resources, and increasing the capacity for innovation.

The task for policy makers is to harness and steer this energy towards the goals outlined in previous chapters. They must articulate policy clearly, so that changes in Irish higher education support the objectives of advancing the country's innovation capacity and broader development goals. Policy needs to protect and enhance diversity, accommodate the ambitions of institutions, and support the national imperative for advanced levels of performance.

Policy for higher education should aim to develop:

- **A coherent system of strong higher education institutions, each of appropriate scale and capacity;**

- **Complementary and diverse missions for different institutions, so that they collectively meet the needs of individuals, enterprise and society; and**

- **Regional collaboration between clusters of geographically proximate institutions, to ensure that individual, enterprise and societal needs are addressed in a planned, coherent and efficient way.**

8.2 Framework for change

The changes proposed to the current configuration of institutions are designed to enhance current capability, responding first to national needs and second to the natural inclination of strong institutions to develop their own capacities and reputations.

The recommendations also seek to add momentum to constructive development already in motion and to indicate clear pathways for future development that are consistent with national needs.

In particular, the proposals aim to:

- **Retain and improve the diversity of institutional missions while ensuring their relevance to individual, labour market and societal needs;**

- **Enhance the quality of the student undergraduate and postgraduate experience;**

- **Enhance the role of the sector in actively supporting economic development, particularly through improved knowledge transfer to the enterprise sector;**

- **Improve resource efficiency, by taking advantage of economies of scale and opportunities for sharing services; and**

- **Develop system capacity according to national and regional needs.**

Change of this type is best achieved in the first instance through organic bottom-up development within and between institutions; the proposals presented here are intended to elicit the appropriate response from the institutions, building on the very positive initiatives that have already emerged.

Change can also be promoted and accelerated by incorporating appropriate incentives into the funding model for the institutions, aimed at eliminating overlap and pooling strength. Such incentives should be used to encourage the development of regional clusters and institutional consolidation. This would result in a smaller number of institutions and a greater level of collaboration across the system.

8.3 Retaining institutional diversity

Diversity is one of the major factors associated with the positive performance of higher education systems.[139] A diversified system offers a number of benefits:

- **It is better able to offer a spectrum of opportunities to meet different student needs and interests;**

- **It fosters improved mobility, by offering pathways and ladders of progression for students;**

- **It is better able to meet the dynamic needs of modern labour markets;**

- **It can improve the effectiveness of institutions as they each concentrate on particular fields and accumulate quality and expertise in those fields; and**

- **It can enhance innovation by allowing individual institutions to experiment; unsuccessful experiments have only localised costs, while successful innovations can be rolled out across the system.[140]**

The system in Ireland is relatively diverse – institutes of technology and universities each play different and complementary roles to meet the diverse need of students, society and the economy.

8.4 Regional cluster approach

One of the strengths of higher education in Ireland is the extent to which collaborative

behaviour has already developed. This is reflected in the recently formed university alliances, regionally based collaborations between universities and institutes of technology, and national level collaborations on particular research programmes.

The regional cluster model should be more generally applied, as it brings particular benefits, such as:

- **Better planning and organisation of programmes, allowing for differentiated offerings;**

- **Greater impact through pooling of effort and development of shared services;**

- **More explicit attention to student pathways and progression; and**

- **A coordinated approach to enterprise and other stakeholders at regional level.**

Clusters will be characterised by close coordination and cooperation between various types of independent higher education institutions. Together they will determine and meet the needs of a wide range of students, communities and enterprises in their region. This will require joint programme planning, collaborative research and outreach initiatives, agreements on mutual recognition and progression, and joint strategies for advancing regional economic and social development. The institutions will also engage with other statutory providers of education and training, such as FÁS and the VECs, to develop integrated regional learning strategies.

The HEA should promote such regional clusters by providing incentives and by requiring institutions to build regional collaboration into their strategic plans.

The cluster model complements the National Spatial Strategy, and will benefit from the ongoing improvements in regional

139 van Vught, F.A., Kaiser, F., File, J.M., Gaethgens, C., Peter, R. Westerheijden, D.F. *The European Classification of Higher Education Institutions 2010.*
140 Birnbaum, R. (1983). *Maintaining Diversity in Higher Education;* Huisman, J. (1995) *Differentiation, Diversity and Dependency in Higher Education.*

governance structures. These offer the potential to enhance engagement between higher education institutions and local authorities, local State agencies and other stakeholders, and to assist in developing shared solutions to local and regional needs.

Collaboration across the system nationally will also continue to be encouraged, focusing on areas where there is potential to build national scale and strength. There is also significant potential for institutional collaboration on a North-South basis to advance cross-border regional development and strategically advance Irish higher education on an all-island basis.

Benefits of clustering

The benefits of clustering would extend to both staff and students of all participating institutions. Those in institutes of technology could obtain some of the benefits that come from being at a research-oriented university – they could be encouraged to join seminars in the associated university, and possibly carry on joint research projects, which would strengthen their own teaching, and graduate students might also be able to attend courses in both institutions. It would be more attractive to do doctoral work under the primary supervision of a staff member of an institute of technology if the resulting degree was awarded jointly with the associated university.

Universities could also derive benefits in that their applied research, opportunities for consultancy and even course teaching would be strengthened by the closer contacts that institutes of technology have with the needs of industry and labour market.

8.5 Consolidation across the higher education system

Ireland has a large number of higher education institutions, some of which are relatively small. This has facilitated widespread access to higher education. However, over the next twenty years, smaller stand-alone institutions will lack the scale required to deliver the necessary advances in quality and efficiency. A framework should also be put in place to encourage and facilitate institutional mergers.

Alliances or mergers within the institute of technology sector on the one hand and within the university sector on the other will be supported where they can deliver greater institutional quality. However, formal mergers between institutes of technology and universities should not in general be considered: this would be more likely to dilute the diversity of the system. Instead, universities and institutes of technology should work together as distinct and complementary parts of the regional clusters described above. An exception would be the formation of alliances on a cross-border basis. These would be potentially very exciting and creative ways to align the higher education resources of those regions with the needs of students, enterprise and other stakeholders and should be encouraged where possible.

Smaller publicly funded institutions, that are not institutes of technology or universities, should be encouraged to align with or be incorporated into institutions of sufficient scale to enable overall quality and efficiency objectives to be met.

8.6 The evolution of the university sector

Universities have to face very significant challenges in the years ahead, including:

- **Improving the student experience so as to support students in reaching their potential and to align programmes and courses with the needs of stakeholders, particularly employers of graduates;**

- **Continuing to develop their research programmes, both to deliver research outcomes to international standards and to align those research programmes and outcomes with national needs, in the enterprise and public sectors and for wider public benefit;**

- **Becoming active agents for knowledge transfer, and incorporating processes and structures to facilitate knowledge transfer into all aspects of their operation and activity;**

- **Continuing the prioritisation of institutional goals and activities;**

- **Competing in a European and international higher education environment in which resources, students and staff will become ever more mobile; and**

- **Continually engaging with the external community and stakeholders to better understand and respond to their needs.**

Meeting these challenges is not simply a question of creating greater scale: many of the leading higher education institutions worldwide are relatively small institutions. The aim should be to create critical mass rather than scale alone. Critical mass is a function of institutional coherence, based on:

- **Effective leadership, governance and management;**

- **Prioritisation of activities;**

- **Alignment of staff and other resources to those activities; and**

- **A focus on attracting students and staff to these prioritised areas.**

The test for critical mass is whether the activity is at the level where it can deliver a global – rather than Irish or even European impact.

Achieving critical mass through institutional cooperation and collaboration

Critical mass can be created or enhanced through institutional cooperation and collaboration. For example, the TCD–UCD alliance focuses on the benefits for PhD preparation that arise from the two institutions working together. The new fourth-level TCD–UCD Innovation Academy will begin the process of defining and mainstreaming innovation as a central element in the universities' mission. It is intended to focus particularly on PhD training, positioning innovation at the heart of their courses, facilitating student mobility between campuses, and ensuring that the breadth and depth of expertise and resources at UCD and TCD are available to Ireland's future entrepreneurs.

Similarly, the recent agreement between NUIG and UL proposes to leverage the competencies of both universities working together to develop structured PhD programmes, create a new joint medical academy, and make joint academic appointments to maximise student choice.

These recent developments demonstrate the potential for Irish universities to improve performance for students, business, and other stakeholders by creating new or deepening existing alliances. Much of this activity to

date has focused on postgraduates; in future it should be extended to undergraduate activity.

The benefits of increased cooperation, in terms of efficiency and quality demand that it be continued and extended. Strategic alliances that are formed around a particular research area or project may broaden to include other disciplines, or deepen to include more far-reaching cooperation. Ultimately, full mergers of institutions may be considered.

Into the future, the strategic dialogue between the HEA and the universities should examine the extent to which the institutions are exploring and exploiting the potential for inter-institutional collaboration.

8.7 The evolution of the institutes of technology

In addition to the challenges outlined above for the university sector, the challenges of scale and the rationale for change in the institutes of technology are more immediate. The envisaged changes to the funding model for higher education will create a stronger link between student numbers and funding allocations, and this will have implications for all institutes and particularly for the smaller ones.

Significant reforms are needed in the sector in order to position it to meet national strategic objectives relating to participation, access, quality, and research and development. In particular, consolidation should be promoted to create amalgamated institutes of technology that:

- **Participate in regional clusters with partner universities of a similar scale in**

order to deliver on a range of national policy outcomes;

- **Are capable of engaging responsively with indigenous and multinational enterprises regionally, nationally and internationally;**

- **Provide sufficient scale and expertise to deliver excellence in teaching and learning with a strong focus on innovative and flexible modes of delivery;**

- **Take advantage of shared services opportunities;**

- **Deliver efficiency benefits from programme rationalisation and staff redeployment; and**

- **Are able to develop strong international profiles.**

Proposals for change of status

In the recent past, a number of proposals have been made to change the status of some or all of the institutes of technology. Any such change would have major implications for the system and would have to be considered in the context of the overall development objectives for higher education.

There is no case for the establishment of any new universities in Ireland on the basis set out in Section 9 of the Universities Act, 1997; and in the interest of retaining a broad diversity of activity within the system and the efficient use of resources, no application to convert any institute of technology into a university should be considered.

Similarly, the proposal recently put forward by a number of institutes of technology for the creation of a single federal national technological university runs counter to the regional cluster approach outlined above.

However, there may be a case for facilitating the evolution of some existing institutes

following a process of consolidation, into a form of university that is different in mission from the existing Irish universities.

There are strong arguments against simply making changes to the names of institutions. Any such changes could, if allowed, lead to confusion internationally as to the roles and mission of Irish institutions. From an international perspective, the designation of an institution as a 'university' or as an 'institute of technology' does not confer any obvious distinction of status – two of the ten internationally highest-ranked institutions are institutes of technology. More generally, title changes are often seen as inevitable precursors to changes of mission, and this carries the risk that important parts of the particular mission of the institutes of technology will be lost. For example, institutes of technology currently provide the overwhelming majority of Level 6 and 7 courses; they have an important role in key disciplines such as science and technology; and they enrol a very diverse student base. Any loss of this mission would be detrimental to the breadth of Irish higher education provision and would not serve our longer-term societal needs.

For this reason, the Group has carefully considered the performance demands that should be associated with any process for the evolution of institutes of technology into a form of university that is different in mission to the existing Irish universities, as described below.

Meeting new performance challenges

In the context of the very ambitious goals set out in this strategy, and the key role of the institutes of technology in achieving many of these goals, new performance challenges should be set for the sector. These must combine a clearer sense of mission and direction for the sector that will allow and encourage the institutions to improve their performance against national objectives.

While a number of institutes of technology have made significant advances in recent years in delivering on their academic, social and economic responsibilities, stronger, consolidated institutes of technology, created through mergers, will perform better to their traditional missions and values, and also be better able to respond to changed economic and social circumstances.

The new amalgamated institutes of technology will be expected to meet the following objectives:

Teaching	Continued strong orientation on labour market outcomes and programmes at levels 6 to 8. Higher quality through improved linkages with workplaces and research-informed curriculum. Greater specialisation around particular niches to improve quality of offerings.
Research	Particular focus on meeting the national research agenda of supporting local and regional small and medium-sized enterprises.

Student body	While retaining diversity of current school leaver population, significant increases in the numbers of part-time students to facilitate upskilling. Provision of evening, weekend and summertime campus learning, open distance e-learning and work-based learning.
Engagement with enterprise	Very strong links with enterprise to create programmes informed by enterprise needs, co-taught by practitioners and academics, with constant renewal and change to ensure relevance. R&D activity to be integrated into undergraduate learning to prepare students better for the labour market.
Internationalisation	Increase in internationalisation of student intake based on strategic targeting of particular countries and disciplines; increased linkages and networks with other institutions of similar focus.
Funding sources	Significant increase in the proportion of non-core grants funding. Other sources of funding to include fee income and national training fund income in respect of upskilling provision, local enterprise contribution in respect of focused R&D, in-company training, international student tuition and sale of services.
Governance and management	Demonstrated capacity to prioritise institutional goals, and to put in place strategic, management and financial allocation systems to achieve those goals.

The potential for redesignation as technological universities[141]

Internationally, a technological university is a higher education institution that operates at the highest academic level in an environment that is specifically focused on technology and its application.

When, over time, the amalgamated institutes of technology demonstrate significant progress against stated performance criteria, some could potentially be re-designated as technological universities.

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141 There was not complete unanimity within the group on this issue. The counter-view expressed was that it would not solve the issue of further mission drift and could result in a third tier of institutions.

Amalgamated institutes seeking such redesignation should pursue a developmental pathway based on delivering against these performance criteria, which are aimed at promoting institutional mergers and ensuring advanced institutional performance within their existing mission. The Technological Universities that emerge from this process should have a distinct mission and character: this will be essential to preserve the diversity that is one of the strengths of Irish higher education.

A two-stage process is envisaged for any application for redesignation:

- **The application would be considered by an expert panel appointed by the Minister for Education and Skills on the advice of the HEA. This panel would assess the application in terms of institutional performance and in terms of the wider system implications if the application were approved. The panel should be both independent and expert, and be clearly seen to be so.**

- **The second review would be made up of international experts who would assess the quality of the institution's performance, to assess whether it meets the standards expected of a technological university.**

The criteria for assessing whether any application is accepted should focus on advanced performance within mission. Early publication of these criteria will give the institutes advance notice of the rigorous demands of the designation process and will also enable them to plan in advance for any change of status.

The intention in setting out the criteria is to fundamentally protect the core mission and orientation of the institutes and to simultaneously challenge the institutes that

wish to be redesignated to demonstrate that they have reached new levels of performance on these fronts.

First stage criteria

Criteria applied in the first stage of the review process would include:

- **The impact of redesignation on the region and on the main stakeholders connected with the institution, so as to ensure that important current contributions of the institution would not be jeopardised by redesignation;**

- **The relationship and collaborations with other higher education providers, the success of the institution in participating in regional clusters, and any initiatives to support consolidation within the sector;**

- **The amalgamated institution's record in improving efficiency and effectiveness in the management of resources;**

- **The expected financial and other operational impacts that might arise from redesignation and the business plan underpinning any such changes; and**

- **The capacity of institutional leadership, governance and management processes.**

Second stage criteria

Criteria applied in the second stage of the review process would include:

- **The institute's strategic vision for the development of its technological university role and how it can bring substantial and unique added value to the innovation capacity of the region and nationally;**

- **Its record of engagement with local and national business and public sectors in providing problem-solving support at a high technical level;**

- Its record of staff exchange in and out of relevant industry and public sector organisations;

- Evidence of significant business engagement in curriculum development;

- Proportion of students who are engaged in upskilling and non-traditional study arrangements (part-time, e-learning etc.);

- Proportion of funding received from training or research contracts with the business sector; and

- Its record of international collaborations with institutions with similar missions – collaborative projects, staff/student exchanges, etc.

More generic requirements

In addition to these criteria, the institutes would be required to fulfil certain other more generic requirements, including:

- A culture of sustained scholarship which informs teaching and learning in all fields in which courses are offered;

- Scale and critical mass sufficient to sustain institutional activity;

- Institutional capacity in terms of the range of skills needed to ensure professional management and internal and external accountability;

- Governance procedures, organisational structures, admission, access and progression policies, financial arrangements, and quality assurance processes, all underpinned by the values and goals of the technological university and which ensure the integrity of its academic programmes.

Distinguishing features of the technological university

A technological university will be distinguished from existing universities by a mission and ethos that are faithful to and safeguard the current ethos and mission focus of the institutes of technology. These are based on career-focused higher education with an emphasis on provision at levels 6 to 8 and on industry-focused research and innovation – this will have to be taken to a higher level in a technological university.

A technological university will also be expected to play a pivotal role in facilitating access and progression (particularly from the workforce) by developing structured relationships with providers of further education and training.

In a technological university, the fields of learning will be closely related to labour market skill needs with a particular focus on programmes at levels 6 to 8 in science, engineering and technology and including an emphasis on workplace learning. The concentration of provision at these levels is an important distinction between the existing universities and new technological universities.

A number of institutes of technology have already been granted the power to award PhDs, and it is envisaged that technological universities will have involvement at levels 9 and 10 appropriate to their mission. However, the major proportion of activity at these levels will be concentrated within the existing university sector, and given the demanding nature of PhD education, programmes at this level should be delivered on a structured collaborative basis that leverages the strengths of partnering institutions. Existing universities should

continue to lead the development of new structured PhD programmes at level 10.

8.8 System safeguards and review mechanisms

These proposals for change will have major implications for the system as a whole. Of particular importance is the potential of these changes to strengthen system coherence, mission diversity and overall performance. Some additional arrangements are proposed to safeguard these objectives.

PhD provision

National guidelines should be established for the management of PhD provision, and institutions should be permitted to provide PhD programmes only if they can demonstrate compliance with those guidelines. These guidelines should facilitate institutions who, though not full providers of PhD training themselves, will act as partners in PhD provision with a full PhD provider.

Management of funding

In order to maintain institutional diversity and avoid mission drift, funding instruments must be managed with the specific object of protecting diversity.[142] Funding instruments that set targets and goals that are generic tend to encourage institutions to become more and more alike as they chase these goals. In contrast, funding systems that specify different desired outcomes for different institutions are more effective in supporting and enhancing diversity.

In the future, funding should be allocated to an institution in the context of agreement with the HEA of the institution's mission

and strategy, and the related objectives and targets over the medium term. It will be a key responsibility of the HEA to agree that strategy with the institution, and to be vigilant for any evidence of mission drift. The role of the HEA should not be to restrict evolution, but to ensure that evolution is well grounded in mission, and clearly aimed at responding to external needs. In this regard, HEA should critically test the evidence base for proposals for development and change. If an institution is seen to be departing from its mission, the HEA should have the responsibility and power to restrict the institution's use of State funding until institutional focus has been restored.

Legislation for technological universities

The legislative framework for the establishment of technological universities must clearly define their distinct mission and characteristic features. Clarity in these respects will eliminate any basis for redefining staffing profiles, roles or pay structures in line with those in existing universities.

8.9 Engagement between the HEA and the individual institutions

The HEA's role in safeguarding mission diversity will depend on much closer engagement with the individual institutions. Each institution will be required to demonstrate to the HEA how its strategy recognises and contributes to national objectives and provides for continuous improvement in performance, consistency with mission and institutional sustainability.

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142 See F Van Vught *Mission Diversity and Reputation in Higher Education,* 2008.

The institution will also be required to demonstrate the extent of its cooperation with other higher education institutions in the region so as to enhance quality and efficiency.

The HEA will be required to critically review the institution's strategy, with particular regard to the following:

- **Compatibility between the institution's strategy and the strategy for higher education overall;**

- **Contribution envisaged by the institution's strategy to national goals and objectives; and**

- **Extent to which the strategy sets ambitious and challenging goals for improvement, both internally in the way in which the institution governs and manages itself, and in its external engagement with local, regional and national communities.**

The review should assess whether the institution, in preparing its strategy, has been robust in its analysis, comprehensive in its engagement with key stakeholders, and sufficiently ambitious in its goals.

The HEA should also have regard to the collective impact of the individual strategies on system coherence. This is particularly important in ensuring that overall system diversity is maintained.

8.10 Rationalisation of provision

The ongoing engagement between the HEA and the institutions will also focus on the potential for rationalisation of provision between institutions. At issue here is the elimination of the costs of duplication across different institutions and the potential for improving quality by creating critical mass.

However, higher education institutions, and in particular universities, are expected by international norms to have a range of programmes and disciplines, spanning the liberal arts and the hard sciences, and this should not be impacted.

On the other hand, rationalisation of provision would not necessarily mean that students in a location that has ceased to provide a programme could no longer pursue it there, given the scope provided by joint student registrations for modules and distance education.

8.11 Independent and private providers

The status and roles of a number of other smaller providers of higher education needs to be considered. These include both HEA designated and non-HEA designated institutions funded in a variety of ways:

- **Those in receipt of core grant (partial or full) and free fees funding;**

- **Those in receipt of free fees funding only (including those in receipt of free fees funding limited to particular programmes or on a capped numbers basis); and**

- **Independent (private) colleges in receipt of no direct funding.**

Any future public funding to institutions under each of these categories should be allocated through the HEA. The particular roles of the institutions concerned will need to be addressed as part of the overall framework for higher education, taking account of these institutions' varying status, size, mission, function and funding arrangements.

Institutions that currently receive core grant funding

In the case of institutions that currently receive core grant (partial or full) and free fees funding, the overall framework of incentives should promote the incorporation or merger of these institutions into existing universities or institutes of technology or into technological universities when they are established.

Proposals for incorporation should be pursued on the basis of demonstrated strategic fit, including:

- **Complementarity of mission and provision;**
- **Potential for synergies;**
- **Potential for joint activity;**
- **Shared activities with potential for rationalisation;**
- **Financial sustainability; and**
- **Common governance and management structures.**

While there may be exceptional cases where highly specialised provision, allied to proven reputational strength, can justify stand-alone status, the more likely alternative over time for institutions that are not incorporated into a larger entity will be to be funded privately.

Institutions that currently receive free fees funding only

With regard to institutions that currently receive only free fees funding, continuing funding support should be a matter for the HEA and subject to ongoing review in the context of quality outcomes, overall demand and available provision within relevant regional clusters. Such funding arrangements should be discontinued over time, unless a distinct case can be made

for their continuance, based on value for money and responsiveness to public policy needs, and these arrangements should not be extended beyond institutions currently in this category.

Institutions that currently receive no direct funding

In respect of private institutions, it will be open to the HEA to commission teaching and learning activity on an economic cost basis to meet identified priorities within any regional cluster. Independent providers, including those in the 'for-profit' sector will be free to tender for provision on this identified needs basis. Any such providers should be subject to the new national quality assurance processes.

It is likely that, over the period of this strategy, this sector will grow, particularly with the possible entry of large international higher education providers into the Irish market. This growth has the potential to add significantly to the overall capacity of the system to meet growing demand for higher education.

This sector also offers an opportunity to periodically reassess the value for money and effectiveness of public providers; where private providers can offer better value for money, the State should consider using them to deliver on its objectives. It would be necessary, however, to safeguard against any negative impact on quality.

While there are legal restrictions on the use of the 'university' title by education providers in Ireland, the regulatory framework governing entry to the Irish market by higher education providers will need development in order to ensure that overall quality is maintained.

8.12 Summary of recommendations

Coherent framework

19 | **A framework should be developed to facilitate system-wide collaboration between diverse institutions.**

- Collaboration between autonomous institutions within a region will be promoted in order to:
  - Improve responsiveness to local economic and social needs;
  - Encourage progression pathways for students; and
  - Facilitate academic interchange and exchange of ideas.
- Rational collaboration beyond regional boundaries will also continue to be supported.
- There will be no new universities on the basis of Section 9 of the Universities Act.

20 | **The institute of technology sector should commence a process of evolution and consolidation; amalgamated institutions reaching the appropriate scale and capacity could potentially be re-designated.**

- A process should be put in place to allow institutes of technology that have emerged from a process of consolidation to apply for designation as a technological university.

21 | **Smaller institutions should be consolidated to promote coherence and critical mass.**

In the case of institutions in receipt of core grant (partial or full) and free fees funding, the overall framework of incentives should operate to achieve the incorporation or merger of such institutions into existing universities or institutes of technology or into technological universities.

- Funding for institutions in receipt of free fees only funding should not be extended beyond institutions currently in this category.
- In respect of private institutions (independent colleges in receipt of no direct funding), it should be open to the HEA to commission teaching and learning activity on an economic cost basis to meet priorities that may be identified within a cluster. Independent providers, including those in the 'for-profit' sector should be free to tender for provision on this identified needs basis.
- Such public funding to these institutions will be allocated through the HEA.

9. Establishing a sustainable and equitable funding model

In this chapter

This document sets out an ambitious agenda that aims to significantly improve the performance of Ireland's higher education system in relation to quality, breadth of participation and levels of attainment. This is against a background where student numbers are increasing and resources are tightening.

In the coming years, Ireland will face some hard strategic choices as we try to maintain growth in numbers, while at the same time improving quality and delivering a sustainable future for higher education. This chapter looks at:

■ The scale of the funding challenge we face in the light of growing demand;

■ How we can deploy our resources more effectively;

■ How we can widen the funding base – this includes student contributions, employer contributions, and other streams of income; and

■ How we can ensure that the way we fund higher education is aligned with wider national policy objectives for increased access, greater flexibility and enhanced performance outcomes.

9.1 The funding implications of the scale of future demand

As pointed out in chapter 2, the Department of Education & Skills currently projects that the demand for places in higher education will rise to 68,000 in 2027, from a 2009 base of 42,500. If the higher education system enters into a period of more intensive engagement with enterprise and wider society, it is likely that a proportion of projected full-time demand can be met through more diverse and flexible provision rather than by traditional full-time provision. This will require resolution of a number of features of a funding system that, to date,

has undermined Ireland's performance in lifelong learning.

It is also likely that the private education sector in Ireland, currently small relative to the public sector, may grow to meet some demand, particularly in the context of increased requirements for non-traditional modes of provision and learning. Nonetheless, the scale of the projected growth suggests that a significant supply challenge will need to be faced within the publicly-funded system.

The current system, when benchmarked against the OECD, is delivering above average outcomes at funding levels that are slightly below average. Even taking account of the potential to extract even more efficiency from the system it is clear that if the anticipated levels and changing patterns

of demand are to be met, a radically different approach to the funding of the system will have to be taken.

Estimating the future funding needs of higher education

Estimating the future funding needs of the higher education system is challenging. Even without prejudice to its adequacy or otherwise, a simple linear calculation based on current per-student costs matched against projected demand leads to growth becoming rapidly unsustainable. Recurrent annual funding is currently at €1.3 billion, and in today's values this would need to rise to €1.8 billion by 2020, and to €2.25 billion[143] by 2030 just to maintain current levels of resource per-student.

Increased enrolment will also put pressure on student support budgets – at present, more than a third of all higher education full-time students are eligible for some form of student support grant, and if this ratio were maintained into the future, there would be a proportionate funding requirement.

The most recent available data[144] for international expenditure on higher education shows that Ireland's expenditure per student (public and private combined) is 15.5 per cent below top quartile expenditure in the OECD if research funding is not included and 28 per cent below top quartile expenditure if research funding is included.

The growth in the numbers of entrants to higher education is not the only source of financial pressure. This strategy commits to ongoing improvements in quality as a key part of its vision, and has already identified a range of recommendations to enhance quality of delivery. This further intensifies the pressure on the current funding base

as does the financial cost involved in the ongoing maintenance of the capital stock of the sector, the costs of which are explored fully in a recent HEA report.[145]

If Ireland is to meet the scale of this challenge, it must ensure that higher education effectively deploys all of the resources available to it; that the funding base is widened and increased and that there is an alignment between institutional performance and national strategic priorities. The proportion of the total costs met through non-exchequer investment will need to increase to international norms.

To match our national ambitions, there will need to be greater investment in higher education into the future as well as greater effectiveness in the manner in which resources are deployed. Assuming a stronger contribution from private sources, the share of total investment accounted for by public sources is likely to initially converge to EU-19 average as the overall funding base is widened.

9.2 Widening the funding base for higher education

Higher education in Ireland is currently heavily reliant on exchequer funding – the most recent OECD data shows that in Ireland 85.1 per cent of funding for higher education comes from public sources, compared with the EU-19 average of 81.1 per cent and the OECD average of 72.6 per cent. In Ireland, household expenditure (by students and their parents) currently stands at 13.2 per cent, and expenditure by other private entities forms only 1.7 per cent.

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143 This figure is not inflation adjusted but reflects current prices.
144 OECD (2009) *Education at a Glance,* Table B1 1a (2006 data).

145 *HE Space Survey, Preliminary Results and Indicative Capital Investment Demands,* March 2010.

If Ireland wishes to build on existing strengths, to meet forthcoming demand and to retain quality, it needs to broaden its funding base. It is notable, for example, that Ireland and the US have exactly the same public expenditure on higher education as a proportion of GDP[146] – 1 per cent. In overall spending, however, the US trebles this proportion of GDP, with further spending to the value of 1.9 per cent of GDP coming from private sources, while in Ireland only 0.2 per cent of GDP is added.

Admittedly, this pattern is not unique to Ireland. Eurostat data from 2004 shows that average public investment in higher education by the EU-27 is only just below that of US and far higher than Japan. In these two countries, private expenditure is much higher. As a result, total investment in Europe for all activities, including education and research, is much lower than in the US.[147] In our case, the combination of low levels of private investment, high levels of anticipated demand and constraints on the public finances require a new approach based on the following key components:

- **A new system of individual contributions to complement exchequer funding; and**

- **A new model for the allocation of funding.**

These two key strategic changes will be supplemented by:

- **Policies to support a continued expansion of the funding base from other private sources; and**

- **Structural reforms to enhance efficiency and effectiveness, leading to better deployment of the total resources available.**

146 OECD (2009) *Education at a Glance,* Table B2.4 (2006 data).

147 Commission Staff working paper, Report from the Commission to the Council on Resolution, 23 Nov 2007 on modernising universities for Europe's competitiveness in a global knowledge economy, COM 2008 (680 final).

Individual contributions to the cost of higher education

The State makes a very significant investment in higher education, and this is justified because of the indirect, yet substantial, societal benefits from higher education.

In addition to the societal benefits, there is unambiguous evidence that higher education confers lifetime advantages on those who complete it, most tangibly in terms of success in the labour market and career earnings potential; in Ireland, those in the labour force with tertiary education (25–64-year-olds in employment) could, over their working lives, expect to earn 69 per cent more than those with upper and post secondary (non-tertiary) levels of educational attainment.[148] When allied with continuing evidence of persistent socio-economic disparities in participation rates, the individual benefits that higher education tends to confer supports a case for increased individual contributions towards the cost of provision.

In making the case for an increased contribution from students towards the costs of higher education, it is necessary to highlight the importance of the public funding base and to reiterate the vital importance of a continuation of the State's commitment to investment in Irish higher education into the future. The international evidence is that outside of private education systems, student contributions only ever represent a modest percentage of the underlying costs of delivering higher education. In Ireland, when tuition fees previously applied, this percentage ranged from approximately a quarter to a half of the underlying costs. Therefore, any system of individual contributions must be

148 OECD (2008) *Education at a Glance,* Table A91a (2004 data for Ireland).

supplemental to the State's investment and not a substitute for it.

As well as pure budgetary logic, there are strong arguments in favour of individual contributions, including the expectation that the introduction of increased tuition fees will lead to a more responsive student-oriented approach among educational institutions, greater variety and flexibility of provision, and improved quality of teaching and learning – all of which enrich the student experience.

A model for private contributions

The Department of Education & Skills' report on Policy Options for New Student Contribution scopes and costs various options for how a student contributions system might be implemented.[149] Of the options considered in that report, the best model is a combination of means-tested grants and student fees, allied to a system of deferred-repayment, income-contingent student loans. This model ensures that at any given time, the amount that a borrower has to repay is proportionate to his or her disposable income. This is achieved by varying the term of the loan – but without excessive penalty to borrowers who take longer to repay. It is proposed that as part of the system, individual students should have the option to pay all or part of the contribution up front.

The question of affordability must also be seriously considered in the context of the setting of fee rates, so that individuals are not left with unmanageable debts. The setting of fee rates should occur within a national framework that will regulate the maximum level of fees, with periodic review.

149 *Policy Options for New Student Contribution,* Report to Minister for Education and Science, July 2009 http://www. education.ie/servlet/blobservlet/des_publication_ listing.htm

The Strategy Group did not consider the technical details of how any such scheme might work. Implementation of this will require the Department of Education & Skills to establish an expert group (with international representation) to design the appropriate loan system for Ireland, taking into account the attendant implementation issues.

Maintaining equality of access

The introduction of a student contribution should not inhibit participation in higher education from people in low and lower middle-income households. One of the principal barriers for entry to higher education affecting students from lower income groups is their relatively lower levels of school completion and lower levels of attainment in the Leaving Certificate. This highlights the importance of actions to raise levels of attainment at earlier stages of the education cycle and of pursuing accelerated routes to entry for such students. For those students from lower income groups who do achieve the necessary prior levels of attainment, financial constraints (relating to maintenance in addition to existing student charges) can and do affect participation. These financial barriers, which can be significant, are amenable to direct intervention through the student support framework for higher education.

It is therefore proposed that the individual contributions system should be complemented by a reformed grant support system for disadvantaged students.

The State invests considerable public funding in means-tested student grants for approximately 40 per cent of all full-time students. However, the absence of any consideration of assets and wealth in the means test model has limited the scope of the State to target these scarce resources

towards those students most in need of support. This has impacted negatively on potential growth of participation in higher education from the large numbers of households at lower middle-income levels for which affordability considerations play a significant role in the choice of entering higher education.

The very considerable inefficiencies in the current arrangements for administering student grants reflect the incremental and sector-based growth of higher education in Ireland, and the current means assessment model does not command public confidence. For these reasons, the means assessment model must be reformed, and the processes relating to higher education grants must become more streamlined and timely, and must be delivered by a single agency. Such reform is essential to supporting equity of access to higher education and to wider social inclusion goals.

9.3 Aligning public investment with strategic objectives

Higher education faces substantial challenges to increase and widen participation and to maintain a high-quality student experience over the coming decades. Even with an increased private contribution to higher education, the role of State investment will continue to be crucial; and from the State's point of view, it is important that investment is aligned with national policy priorities, that it enhances the attainment of identified objectives, and that institutions can account for the funding they receive in terms of the performance and education outcomes they achieve.

Public investment reform

State investment must be used as effectively as possible to promote higher performance and support positive change. For that reason, public funding for higher education in Ireland must in future be based on institutional performance in achieving agreed outcomes. State investment in higher education must be allocated in a way that promotes the following elements:

- **Sustainable growth and a secure funding base;**
- **Flexibility and diversity of provision;**
- **Equity of access;**
- **Efficiency; and**
- **Institutional performance.**

New approach to funding distribution

Currently exchequer resource for higher education is distributed on the basis of a core grant to institutions and a grant in lieu of fees. There are important differences between the manner in which the core grant is allocated to the universities relative to the other institutions.

In the case of the universities and some other smaller institutions,[150] the grant is distributed on the basis of the number of students and the subject-weighted price groups occupied by the students – the Recurrent Grant Allocation Model (RGAM). In the case of the other institutions, the grant reflects historical costs, although the HEA has begun to phase in a model similar to the RGAM used in the university sector.

The introduction of the RGAM has brought important benefits of transparency

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150 The other institutions are St Patrick's College Drumcondra, Mary Immaculate College Limerick, National College of Art & Design, and the Mater Dei Institute.

and equity in the way that funding is allocated to the different universities. It is therefore proposed to extend this model progressively to all institutions. It is also proposed to further develop the model to make it more representative of disadvantaged and part-time students.

Within current funding policies, the take-up of full-time on-campus programmes is given priority over more flexible modes of delivery.[151] With the introduction of individual contributions, part-time students will achieve parity of treatment with full-time students in relation to fees and eligibility for loans.

The funding model for institutions should be neutral in respect of mode of delivery (full-time, part-time, on-campus, off-campus) and should focus on the 'quantum of learning' delivered by each institution.

Such a reform would also help to shift away from an input-centred mindset to one focused more on learning outcomes, and it would also signal a high-level strategic endorsement of innovation in the design and delivery of higher learning.[152]

Maintaining quality through sustainable growth

At present, the budget for higher education as a whole is determined by Government each year as part of the overall estimates process. There is no explicit relationship between the numbers of students enrolled and the resources made available. The risk inherent in this approach is that growing student numbers can result in a fixed or (as has been the case recently) declining overall budget being distributed across a larger student population, with significant implications for the costs faced by the

institutions and the quality of services to the students themselves. The development of additional income streams and efficiencies can help mitigate this, but it will still be necessary to ensure that there is a sustainable balance between the total number of students and the unit of resource available per student.

An increase in non-exchequer funding through student contributions will alleviate this pressure; but before the introduction of such a model, it is very important to ensure the overall sustainability of the system and to manage growth in such a way that the quality is maintained in the educational and research outcomes and in the student experience.

The Higher Education Authority will play a central role in ensuring that there is an appropriate balance, from year to year, between the intake to the system and the funding available. It will work closely with institutions in achieving this balance.

Longer-term strategic direction

We see the approach to funding evolving from its current position with three key components that together form an integrated package of change that will drive its development over the lifetime of this strategy as follows:

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151 HEA (2009) *Position paper on Open and Flexible Learning,* paragraph 21.
152 HEA (2009) *op.cit.*, paragraph 33, p.12.

I	The extension of the recurrent grant allocation model (RGAM) to all institutions, with consequent support for disadvantaged and part-time students.
II	The expansion of funding sources through the design and implementation of a system of private contributions and the consequent restructuring of the overall funding system, including the student grants system.
III	The move to a system of service level agreements as part of a broader strategic dialogue that will be developed alongside changing structural and economic conditions. This system is outlined below.

Progress on each of these fronts needs to be advanced on a planned phased basis.

Service level agreements

The institutional reforms discussed in the previous chapters are expected to result in greater coherence in the system – both through inter- and intra-institutional consolidation and through more concerted planning both on a regional and national basis. In addition, work that is currently under way on full economic costing to define the precise costs of provision across institutions will have become embedded. This will help to inform future funding allocation decisions and will provide a much clearer idea of the nature of demand and the costs of supply.

Future funding will be agreed as part of a process of strategic dialogue between the State and the institutions as described in Section 7.4. A system of service level agreements will be put in place as part of this strategic dialogue. These agreements will cover the key outputs and levels of service to be delivered by the institution and the resources allocated by the State to achieve them.

We propose that two important performance enhancing mechanisms be included in this system:

I	In the context of overall strategic dialogue and agreed institutional strategy, a performance incentive system whereby institutions who deliver the agreed level of service at a lower cost be allowed to retain the savings generated for reinvestment.
	As a corollary to the performance incentive system, institutions that fail to deliver on their commitments can expect to suffer financial penalties.
II	Dedicated performance funding will be used to promote performance on key national priorities. Such funding can be sourced through top-slicing of the recurrent grant, as the overall level of funding allows; or through targeted competitive funds to be bid for and allocated on a competitive, externally-reviewed basis, following the example of the Strategic Innovation Fund.

9.4 Additional income streams

Employer contributions

In an environment where higher education will expand its role in upskilling the labour force through more flexible provision,[153] it is reasonable to expect that employers contribute to the costs of higher education for their employees, where appropriate. This is currently achieved through the National Training Fund (NTF), which was established on a statutory basis in 2000 with contributions to it being collected through the Employer PRSI contribution.[154] The fund has been used to finance programmes and initiatives aimed at:

- **Raising the skills of those in employment;**

- **Providing training to those who wish to acquire skills for the purposes of taking up employment; and**

- **Research into future skills requirements in the economy.**

In situations where there are identified skills shortages that need to be addressed or where there are specific upskilling priorities within the workforce, the State should consider using the NTF to support higher education students directly by meeting the required student contribution, or to make funds available on a competitive basis to both public and private institutions, where appropriate.

Philanthropic donations

Philanthropic donations are a significant source of higher education funding in a number of countries – most notably the US, where there is a long-established philanthropic tradition. Irish higher education institutions have worked hard to secure philanthropic funds, and have had some success, particularly in relation to capital expenditure. Between 2005 and 2008, private investment in infrastructure accounted for almost 50 per cent of total capital expenditure.[155] There may be potential to attract more funding from philanthropic and other donor sources, notwithstanding the difficulties of the current climate. In general, donors are more likely to be convinced where there is a clear sense of mission and purpose and where there is confidence that the system is operating at a high level of efficiency. Any credible effort to expand the role of philanthropic funding is critically dependent on the continuation of sustained public investment – this reassures potential benefactors that they are funding additionality rather than replacing an exchequer contribution. Such reassurances should be guaranteed through a national mechanism whereby philanthropic donations for purposes consistent with agreed strategic directions would leverage additional exchequer support.

9.5 Effective deployment of resources in higher education

Irish higher education displays comparatively high levels of efficiency, productivity, effectiveness and quality when compared to other developed countries.[156] Nevertheless,

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153 *National Skills Strategy,* 2006 and *National Competitiveness Report,* 2009.

154 The Fund is resourced by a levy on employers of 0.7% of reckonable earning in respect of employees in Class A and Class H employments. This represents approximately 75% of all insured employees.

155 HE Space Survey, Preliminary Results and Indicative Capital Investment demands, March 2010.

156 St. Aubyn, M., Pina, A., Garcia, F. & Pais, J. (2009) *Study on the efficiency and effectiveness of public spending on tertiary education,* European Economy, Economics Papers 390, November 2009, ECOFIN, European Commission.

there are some areas within higher education where resources could be more effectively deployed. The key message emerging from the recent ECOFIN study emphasises the importance of efficiency in higher education spending not just as a matter of public finance 'but also [as] a way of promoting innovation and growth'.[157] Small incremental changes in productivity will not be enough: Ireland now needs to develop and support a culture of continuous improvement both in terms of quality and in terms of productivity.

Human resources

A system that is more flexible and responsive to a much wider group of participants will require more flexible work practices, and the introduction of such practices should be negotiated in that context. It is envisaged that a move to funding for outcomes within a quality-assured and performance-based framework will generate a need to increase productivity and to incorporate greater flexibility in employment contracts. These changes need to be anticipated and provided for now and are likely to involve:

- **Greater individual accountability for delivery of outcomes to prescribed standards within cost norms, and recognition of such performance in reward and promotion processes;**

- **Greater managerial discretion with regard to dealing with under-performance;**

- **Greater sophistication in the terms of the employment contracts (which provide for an annual expectation of workload); and greater sophistication within institutions (through work load management systems which allocate those hours to meet institutional priorities);**

- **The benchmarking of workload data to provide greater transparency as to the contribution being made by academic and other staff to institutional performance; and**

- **Greater freedom to innovate with more customised employment relationships for those higher education institutions which progress towards a more entrepreneurial and autonomous model of operation.**

Comprehensive review of contracts

A comprehensive review of existing employment contracts should be undertaken as a matter of priority with a view to achieving a more modern employment contract for academic staff, one that recognises their professional standing and dedication, provides appropriate levels of accountability, and enables the talent of staff to be supported and used to best effect. This will require the following outcomes:

- **Contracts that are transparent and deliver accountability for appropriate workload allocation models to ensure that priorities around teaching and learning, research and administration can be managed and delivered;**

- **In the case of institutes of technology, contracts should specify a minimum number of hours to be delivered on an annualised basis;**

- **Contracts that reflect a much broader concept of the academic year and timetable; and**

- **Greater flexibility, adaptability and mobility of staff to meet new demands from structural and other changes arising from the strategy.**

New contractual arrangements that can cope with the scale of change expected in coming years should include:

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157 St. Aubyn, M. et al., *op. cit*. p.66.

- Strong internal accountability, with some scope for performance-linked pay, within defined bands;

- More open-ended teaching term and teaching day arrangements – to enable the flexible deployment (evenings and full-year availability) that will be necessary to meet students' needs and for outreach activities; and

- The use, where appropriate, of 'teaching only' academic contracts.

Human resources: longer-term objectives

As part of the process of performance management, human resources development in the sector needs more robust measures to deal with both underperformance and talent management. The revised contract together with work under way to define roles, responsibilities and performance expectations more clearly across the grade structure will significantly assist in enhancing performance and dealing with underperformance. Other issues that must be addressed through the lifetime of the strategy include:

- The implementation of a research careers framework;

- In the context of a progressively reducing reliance on exchequer support, the development of a more comprehensive remuneration framework, taking account of the structural changes in functions, with greater flexibility for institutions in setting remuneration terms, while retaining appropriate safeguards in relation to the overall use of public funds.

Institutions taking on these powers must do so within an appropriate framework that can ensure:

- Adequate consultation with staff interests;

- Transparency with regard to levels of staffing and rates of pay;

- Acceptance of responsibility for the full costs of recruitment, including pension costs; and

- Clear accountability for overall delivery on agreed outcomes.

Sharing resources

While almost all of the international literature on higher education tends to focus on the performance of academics, the performance of administrative and support staff will also be vital in securing and sustaining the performance of Irish higher education. Just as system performance is enhanced through greater collaboration among academics, there are also significant benefits to be derived from greater collaboration, sharing and pooling of resources among higher education administrators.

Shared services

There is considerable scope for shared services across higher education and a more systematic use of shared services could help to improve efficiency and reduce costs. For example, efficiencies could be gained by institutions working more together for the procurement of goods and services. There have already been some very welcome initiatives in this regard.[158] At a sectoral level the concept is quite advanced, with well-established shared services platforms such as the Central Applications Office (CAO), HEAnet and an Chéim.[159] These could be developed further into areas such as shared payroll, pensions and some HR functions.

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158 This agenda is already being pursued by institutions (for example, within the Shannon Consortium) and is also being progressed at national level in the context of the Transforming Public service initiative. The National Procurement Service (NPS) has been established in the Office of Public Works. It will manage the purchase of goods and services common to all areas of the Public Service.

159 An Chéim, from the Irish for "degree" or "step", stands for "Collaborative Higher Education Information Management" and encompasses the management of Student, Library, Finance, Timetabling and HR/Payroll information across the Institutes of Technology and Tipperary Institute.

Physical resources

The more effective deployment of physical infrastructure in the higher education system would also have an impact beyond saving money or increasing efficiency. The space usage rate in Irish higher education is estimated by HEA to be roughly 63 per cent,[160] which is high by international standards. The length of Ireland's academic year in international terms is not unusual, and it is recognised that the universities' research activity is year-round. In the same report, however, the HEA recommends that consideration be given to an increase in the academic operational year or day/week/semester with a view to increasing the efficiency of space usage in the sector.

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160 HE Space Survey, Preliminary Results and Indicative Capital Investment demands, March 2010.

This is one way that institutions could make themselves more attractive to international students.

Extension of the academic year in order to deliver new services such as accelerated degrees is one way to provide better use of these resources; and in a context where demand is growing faster than any likely capacity to meet associated increased capital demands, institutions should begin to think more creatively about how they might channel some of the demand into the summer and out of traditional academic hours. This may also increase our competitiveness in the international arena. Such activities will be aided by the introduction of a more flexible contract for academic staff, as outlined earlier in this chapter.

9.6 Summary of recommendations

Sustainable and equitable funding model

22 | **The current employment contracts for academic staff must be reviewed with a view to recognising academics' professional standing and requiring comparable levels of accountability to those in place in the wider public and private sectors.**

Such a review will require the following outcomes:

■ Contracts that are transparent and deliver accountability for appropriate workload allocation models to ensure that priorities around teaching and learning, research and administration can be managed and delivered;

■ In the case of institutes of technology, contracts should specify a minimum number of hours to be delivered on an annualised basis;

■ Contracts that reflect a much broader concept of the academic year and timetable; and

■ Greater flexibility, adaptability and mobility of staff to meet new demands from structural and other changes arising from the strategy.

23

Over the lifetime of the strategy and in the context of a reducing reliance on the exchequer, individual higher education institutions will progressively take on greater responsibility for key human resource functions.

Such responsibility will require institutions to:

■ Take on the powers to recruit and set terms and conditions for staff, within agreed parameters;

■ To maintain balanced budgets and to budget for the full costs of recruitment, including pension costs;

■ Work within an appropriate framework for HR management that ensures:

 ■ Adequate consultation with staff interests; and

 ■ Transparency as regards levels of staffing and rates of pay.

■ Accept clear accountability for overall delivery on agreed outcomes.

24

The funding base for higher education must be broadened through the reform of student financing, including a new form of direct student contribution based on an upfront fee with a deferred payment facility.

■ Implementation of this will require the Department of Education & Skills to establish an expert group (with international representation) to design the appropriate loan system for Ireland, taking into account the attendant implementation issues.

■ The setting of fee rates should occur within a national framework that will regulate the maximum level of fees, with periodic review.

■ Future growth and improved quality delivery in Irish higher education will not be possible without such a contribution.

■ The reform of financing must also include a reform of the procedures for means testing for students' maintenance grants. This should be more streamlined and timely, and should be delivered through a single agency.

■ In situations where there are identified skills shortages that need to be addressed or where there are specific upskilling priorities within the workforce, the State should consider alternative funding arrangements, such as:

 ■ Using the NTF to support students in meeting the required student contribution; or

 ■ Defined funds or bursaries for which public or private higher education institutions could compete for onward disbursement to students following particular programmes of study; or

 ■ Discounted fees.

25 **The growth of higher education must be sustainable and resourced with an appropriate funding base. Growth and quality improvement must be progressed together.**

■ In particular, the HEA must be charged with keeping institutions under close review in relation to the sustainability of their ambitions for growth, as measured against the financial resources available to underpin that growth.

26 **Public investment in higher education must be aligned with national policy priorities, including widening of access, enhanced performance outcomes, and greater flexibility in provision.**

This will involve:

■ Widening access to higher education by people from lower socio–economic backgrounds or other under-represented groups (by additional weighting);

■ Recurrent grant allocation that achieves parity between all students, whether full– or part–time, on– or off–campus;

■ An element of reward to match private donations sourced through philanthropy;

■ Recurrent grant allocation for all institutions based on the current unit cost model (RGAM) operational in the university sector;

■ Service level agreements, as part of a strategic dialogue, with higher education institutions establishing the key outputs, outcomes and levels of service to be delivered and the resources allocated to achieve them.

Implementation

The higher education system is not separate from the rest of society – it is integral to it. The standard of living enjoyed by Irish citizens is intimately bound up with the development of the higher education system. The implementation of the recommendations set out in this document will ensure that the Irish higher education system is enabled to make its full contribution to the tasks of improving the quality of life for Irish citizens, and of tackling the world's major social, economic and environmental challenges.

This strategy sets out the directions for development and change in higher education over the next twenty years. The next challenge is to deliver on this change. This can only be achieved through a spirit of partnership and engagement at all levels of the system and through appropriate implementation arrangements to successfully harness this. It is recommended that this be addressed by Government as part of its overall consideration of this report.

Appendices

Appendix A: Acronyms and abbreviations

AHELO	OECD feasibility study for the international Assessment of Higher Education Learning Outcomes
AHSS	Arts, Humanities and Social Sciences
CAO	Central Applications Office
CIT	Cork Institute of Technology
CRANN	Centre for Research on Adaptive Nanostructures and Nanodevices
CSET	Centre for Science, Engineering and Technology
CSO	Central Statistics Office
ECOFIN	European Union, Economic and Financial Affairs Council
ECTS	European Credit Transfer System
EIE	Education in Employment
ESRI	Economic and Social Research Institute
EU	European Union
Eurostat	European Statistical Agency
FÁS	Training and Employment Authority
Forfás	The national policy advisory body for enterprise and science.
FP7	Seventh Framework Programme for Research and Technological Development
GERD	Gross Expenditure on Research and Development
GDP	Gross Domestic Product
GNP	Gross National Product
HEA	Higher Education Authority
HEAnet	Organisation that provides internet services to educational and research institutions and organisations throughout Ireland.
HEI	Higher Education Institutes
HERD	Higher Education Research and Development
HSIS	Humanities Serving Irish Society
ICT	Information and Communication Technology
IDA Ireland	Industrial Development Agency – Ireland's inward investment promotion agency
INSPIRE	Integrated Nanoscience Platform for Ireland
IOTI	Institutes of Technology Ireland
IP	Intellectual Property
IT	Institute of Technology
IUA	Irish Universities Association
IUQB	Irish Universities Quality Board

KPI	Key Performance Indicator
LIT	Limerick Institute of Technology
MIC	Mary Immaculate College
NAIRTL	National Academy for Integration of Research, Teaching and Learning
NFQ	National Framework of Qualifications
NTF	National Training Fund
NUIG	National University of Ireland, Galway
OECD	Organisation for Economic Cooperation and Development
PRSI	Pay Related Social Insurance
PRTLI	Programme for Research in Third Level Institutions
R&D	Research and Development
RD&I	Research, Development and Innovation
REAP	Roadmap for Employment-Academic Partnership
RGAM	Recurrent Grant Allocation Model
RPL	Recognition of Prior Learning
SFI	Science Foundation Ireland
SRC	Strategic Research Cluster
SSTI	Strategy for Science, Technology and Innovation
STEM	Science, Technology, Engineering and Mathematics
TCD	Trinity College Dublin
TTSI	Technology Transfer Support Initiative
UCD	University College Dublin
UL	University of Limerick
VEC	Vocational Education Committee

Appendix B: Terms of reference

The Strategy Group was established with the following terms of reference.

1	To consider the role of Irish higher education in the context of higher education's role in modern societies and, in particular, in the modern knowledge society.
2	Describe and analyse the current environment of Irish higher education including: ■ the current system in terms of its student numbers, funding, funding models, organisational arrangements and the roles of the different public and private entities involved in the higher education and research domain; ■ the existing policy objectives; ■ identification and assessment of external factors likely to influence change in the sector (e.g. demographics, student mobility) and; ■ the international environment in which the Irish higher education system operates including the benchmarking of the system against relevant international comparators and higher education systems, processes and outcomes in other countries.
3	Having regard to the issues arising from 1 and 2 above, and from the process of consultation on those issues, to develop a vision and related set of national policy objectives for Irish higher education for the next 20 years with more focused targets for the sector for the next five years.
4	Having regard to the outcomes of 3 above, and taking into account best international practice, identify the operational framework of the higher education system including the number and roles of institutions within it which will enable it to deliver on these policy objectives; recommend any changes required in the system of oversight and accountability that will support achievement of objectives; determine the level of resources required to achieve the stated objectives, look at the effectiveness of use of current resources, identify any potential for rationalisation or change to maximise the use of those resources and identify how any additional resource requirements can be met having particular regard to the difficult budgetary and economic climate that is in prospect in the medium term.

Appendix C: Membership of the Strategy Group

Chairman: **Dr Colin Hunt,** Macquarie Capital Advisers

Dr Mary Canning, Former World Bank Lead Education Specialist and authority member, HEA

Peter Cassells, Chair, National Centre for Partnership and Performance

John Casteen★, President, University of Virginia, USA

Marion Coy, President, Galway-Mayo Institute of Technology

Mary Doyle, Assistant Secretary, Department of the Taoiseach

Dr John Hegarty, Provost, Trinity College Dublin

Michael Kelly, Chairman of Higher Education Authority

Shane Kelly, President, Union of Students in Ireland

Dick Lehane, former Senior Vice-President of Worldwide Manufacturing, EMC Corporation

Brigid McManus, Secretary General, Department of Education & Skills

Paul Rellis, Managing Director, Microsoft Ireland

Martin Shanagher, Assistant Secretary, Department of Enterprise Trade & Innovation

Professor Jussi Välimaa Professor, Finnish Institute for Educational Research, University of Jyväskylä, Finland

Robert Watt, Assistant Secretary, Department of Finance

★ Due to unforeseen commitments, President Casteen was unable to attend the majority of the meetings of the Group.

The Strategy Group were assisted in their work by an international panel of higher education experts, who are listed in full in Appendix D.

Appendix D: Consultation process

The Strategy Group is very grateful to all the organisations and individuals who made written submissions. A thematic summary of the submissions is available at: www.hea.ie/en/ node/1303

In addition the Group is very grateful to those who took part in the focus groups which helped inform the Group in their considerations. Further details of the groups can also be found at www.hea.ie/en/node/1303

The Strategy Group were assisted in their work by an international panel of higher education experts and wish to acknowledge their valuable advice and perspective.

International Panel of Experts

Prof Peter Coaldrake, Vice Chancellor Queensland University of Technology, Australia

Professor Sir Graeme Davis, Chair of Northern Ireland HE Strategy Group

Prof Malcolm Grant, Provost, University College London

Dr. Simon Marginson, Centre for the Study of Higher Education, University of Melbourne, Australia

Aims McGuinness, Snr Associate National Centre for Higher Education Management Systems (NCHEMS) USA

Paul Ramsden, Former Chief Executive of Higher Education Academy, UK

Jamil Salmi, Tertiary Education Co-ordinator, World Bank

Dirk Van Damme, Head of Centre for Educational Research and Innovation, OECD

Prof. Frans van Vught, President of the European Centre for Strategic Management o f Universities and Member of the EC Group of Societal Policy Advisors