



UNIVERSITY *of* LIMERICK
OILLSCOIL LUIMNIGH

EXCELLENCE & IMPACT 2020

Research &
Innovation Strategy
for the University
of Limerick



CONTENTS

02 Introduction

This plan establishes our priorities and the milestones by which we will measure our development

04 Excellence & Impact

A central aspect of the institutional mission is to continue to grow research, in terms of both scope and quality

06 Cornerstones of Research & Innovation

People, critical mass and multidisciplinary research, research strengths, collaboration & engagement and impact

12 The Strategy

By specifying strategic goals to be achieved over the next five years, Excellence and Impact 2020 sets out a roadmap for realising the University's vision

16 Goal 1 Research Excellence

Deliver excellent research to firmly establish our reputation as a research-led university

20 Goal 2 Impact

Leverage our position as the leader in translational research and innovation to make an impact on the economy and society

26 Goal 3 People & Ecosystem

Invest in and empower our people through a culture of excellence and impact

32 Goal 4 International Reach

Extend our global reach by engaging in collaborative partnerships and disseminating research

36 Implementation

A key element of the strategy's implementation will be the development of faculty and research institute plans

Front Cover: 'Crystal Bouquet' flower-shaped crystal cluster of fenofibrate captured by Scanning Electron Microscopy. Fenofibrate is a drug used to reduce cholesterol levels in patients at risk of cardiovascular disease.

Image: Teresa Tierney, Synthesis and Solid State Pharmaceutical Centre at UL



The University of Limerick's Research and Innovation Strategy - Excellence and Impact 2020 marks the next stage of our development as we plot a course for the future, embrace new ideas and challenges while setting our sights firmly on our vision of success.

ESTABLISHING OUR PRIORITIES & MILESTONES

That vision is to be internationally recognised as a research-led institution that delivers excellent research with impact. We will foster a research ethos that provides an outstanding student learning experience and is globally connected in addressing societal and economic challenges.

A strategic plan is important as it establishes our priorities and the milestones by which we will measure our development. This strategy articulates our commitment to building and supporting, across all disciplines, a culture of research excellence and impact while enhancing our international reputation. We have outlined four core goals to achieve this focusing on the areas of research excellence, translational research and innovation for impact, investing in people and our research ecosystem and extending our global reach.

By 2020, the University of Limerick will be reaching its 50th birthday. The challenge we have set within this strategy seeks to celebrate that milestone through the

attainment of greater international pre-eminence. To achieve this, we need to plan, and to build on the unique mix of innovation, partnership and excellence which has formed the bedrock of our successes to date.

Since its inception, the University of Limerick has had a firm commitment to adding value, supporting growth and ultimately making a real impact both locally and globally. The University of Limerick is at the heart of Ireland's mission to nurture and attract talent and generate new knowledge. We collaborate with the world's largest pharmaceutical and biotechnology companies, eight of Ireland's leading dairy companies, and eight of the top 20 exporting companies in Ireland. We have over 200 research collaborations with industry and two of our campus companies have been sold for in excess of €100 million. UL spin-outs and campus companies have generated in excess of 260 jobs with an additional 150 jobs in Nexus Innovation Centre client companies.

The University of Limerick is uniquely placed through the responsiveness of our people, the strengths of our collaborations and our innate ability to innovate. This strategy was written after extensive consultation with our dedicated and dynamic research community together with input from management and external stakeholders. It is with the full support of the University community that we will now progress with speed in realising our ambitions.

***Excellence and Impact
2020 is our commitment
to raise the bar in setting
new standards of how
we see ourselves and the
impact we can make in
the world.***



Dr Mary Shire
Vice President Research
University of Limerick

Excellence & Impact

The University of Limerick (UL) is a young, ambitious and responsive organisation with a reputation for being a pioneer and innovator.

As one of Ireland's five-star universities¹, we are recognised for our commitment to graduate employability, our industry relevant award winning research, our dedication to the student experience, and extensive community engagement. Our campus has expanded rapidly over the past 40 years and is now regarded as one of the most impressive in Europe.

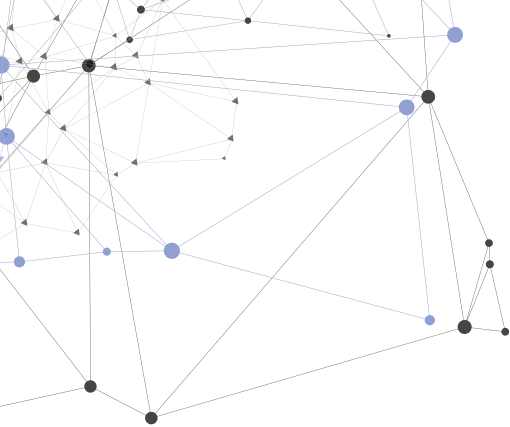
The research portfolio of the University has expanded steadily for many years, and our state-of-the-art research infrastructure has been enhanced through sustained investment and expansion. As articulated in UL's strategic plan, *Broadening Horizons 2015-2019*, a central aspect of the institutional mission is to continue to grow research, in terms of both scope and quality.

200+

Research Collaborations
with Industry

€150+

Venture Capital Investment €50m+
Campus Companies Sold €100m+



We value and encourage research excellence across all disciplines and pride ourselves on a reputation for delivering research that makes a difference to our wider communities, economy, culture and the world at large. Through our ecosystem of multidisciplinary research teams and research leaders, our contributions to knowledge creation are evident across a range of areas, from award-winning inventions to policy interventions, improved patient care, cultural life and the generation of high-value jobs.

At the University of Limerick we are committed to equality of opportunity. We have the highest percentage of women at professorial level in the Higher Education Sector in Ireland. Our commitment in recruiting, retaining and promoting women in Science, Technology, Engineering, Mathematics and Medicine (STEMM) was evident when we obtained the prestigious Athena SWAN Institution Bronze award, one of the first Irish

institutions to do so. The European Commission has also acknowledged our adherence to its equity principles with its HR Excellence in Research accreditation. This is awarded by the European Commission to universities, research and funding organisations abiding by the principles provided for in the European Charter for Researchers and the Code of Conduct of Recruitment of Researchers.

Building on these firm foundations, *Excellence and Impact 2020* marks the next phase of our growth as we seek to capitalise on our strengths and distinctiveness to create a world-class, research-led institution. In this new era, we will encourage the pursuit of research excellence across all disciplines, build critical mass in selected areas, translate our outcomes to maximise impact and extend our international reach to create a diverse, sustainable ecosystem of research and innovation.

This strategic plan has been formulated at a turning point in our history and that of the higher education sector in Ireland. The Irish landscape now features the constants of performance-based measurement, research prioritisation, clustering and convergence and expectations to support economic development.² This strategy is fully aligned with the government's ambition as outlined in *Innovation 2020* - the new strategy for Research and Development, Science and Technology. On a global scale, universities are measured by the quality and impact of their research. In this next phase of our development, we seek to accelerate our research trajectory and enhance our contribution to knowledge through a focused, determined and ambitious research strategy.

Our outlook will be international; our ethos, excellence with impact; our approach, innovative.

¹ QS Stars

² *Innovation 2020 – Ireland's Strategy for Research and Development, Science and Technology. National Strategy for Higher Education to 2030 (Hunt Report) Higher Education, Systems Performance Report 2014-2016, Higher Education Authority. Expert Group on Future Funding for Higher Education (Cassells Report) – Pending*

CORNERSTONES OF RESEARCH & INNOVATION



PEOPLE

We recognise that achieving excellence in research and innovation is dependent on our staff and students. This strategy seeks to create an environment in which research excellence and leadership is valued. To achieve this, we need to develop the capabilities of our people to meet our objectives and respond flexibly to changing needs. We are committed to

equality of opportunity. Recruiting and retaining the best people and supporting them to realise their full potential will help us to deliver research excellence. Investing in our leadership and management capacity will help us to support colleagues to respond flexibly to the changing needs of research stakeholders. We aim to be a university where staff excel

and achieve their potential, work together and feel valued and supported in a safe and healthy environment. We want our staff to take pride in the manner in which they are contributing to the success of an institution whose impact is felt across the world.

CRITICAL MASS AND MULTIDISCIPLINARY RESEARCH

Success in research-led universities is synonymous with an international reputation for excellence in specialist fields of research and innovation.

An international reputation is usually underpinned by a strong postgraduate research base and prioritised centres that carry out impact-focused research activities. We recognise that critical mass does not necessarily mean a large number of researchers; it can also refer to the quality and impact of the research. To ensure long-term sustainability, we look to build critical mass in our areas of strength and to support our specialisms. We have a track record

of building critical mass by bringing together researchers from different disciplines. We have long recognised that major societal challenges can rarely be addressed using the findings of a single research advance or discipline. From its inception, UL has encouraged multidisciplinary research, and this strategy aims to focus resources on our areas of strength, while also looking to the future by supporting our emerging and niche areas.

RESEARCH STRENGTHS

Our research addresses areas of importance to our society, such as education, languages, healthcare and social inclusion, and has a significant impact on sectors that are vital to the Irish economy, such as pharmaceuticals, med-tech, software, food, communications and energy. To ensure sustainability, we will support our areas of recognised research strength, namely materials, advanced manufacturing, software, health, and applied mathematical sciences. These areas are characterised by a number of shared features:

- Critical mass (embodied within large scale research institutes and/or research centres/inter-disciplinary clusters)
- Address common research questions
- Are associated with a significant and sustained body of research inputs and outputs
- Attract international scholars
- A national and international reputation

To intensify critical mass in our areas of research strength, we will reconfigure our structures by amalgamating the Materials and Surface Science Institute (MSSI) and the Stokes Institute into a consolidated Bernal Institute. This development, which reflects our global ambition for our science and engineering research, will enable creative synergies. Through the Bernal programme, we have increased our critical mass and enhanced our international reputation in crystallisation, crystal engineering, modelling and fluid dynamics.

In addition, *Lero* the Irish Software Research Centre and the *Health Research Institute* (HRI) provide a stable and sustainable platform for the further development of our distinctive research strengths and will be central to delivering our strategic research targets. The HRI will focus on research on health service delivery, lifestyle and health and technology-supporting health and wellbeing. The HRI

will support collaborations with external stakeholders, nationally and internationally, to translate research outputs to maximise the impact on health and wellbeing. *Lero* will build on its international reputation in software engineering and expand its scope to additional areas to address global software challenges. Software is becoming more pervasive, and the interchange between the physical and virtual world is ever increasing. In collaboration with its industry partners, *Lero* is well placed to have an impact on software development globally.

As our research activities continue to evolve, new and emerging research areas will begin to develop the characteristics inherent in our identified areas of research strength. We will continue to encourage these new and emerging areas.



Advanced
Manufacturing

Software

RESEARCH STRENGTHS

Applied
Mathematical
Sciences

Health

Materials



HEALTH RESEARCH INSTITUTE

The Health Research Institute (HRI) fosters **multidisciplinary research collaborations with health practitioners to support discovery and innovation in health and wellbeing**. The work of the HRI focuses on the themes of lifestyle and health, health service delivery and technology-supporting health and well being.



BERNAL INSTITUTE

The Bernal Institute represents a €52 million investment that builds on significant strengths in applied sciences and engineering. Examples of these strengths include internationally leading research in crystallisation and crystal engineering. The Institute has **utilised its research expertise to lead large, inter-institutional research centres in pharmaceutical materials, pharmaceutical processing, composite materials and dairy processing**.



LERO

As more and more critical aspects of human activity become dependent on it, software has become more and more pervasive. Lero the Irish Software Research Centre is **leading internationally in software engineering and is working with industry to address grand challenges, including architecture to support the 'internet of things'**.

COLLABORATION AND ENGAGEMENT

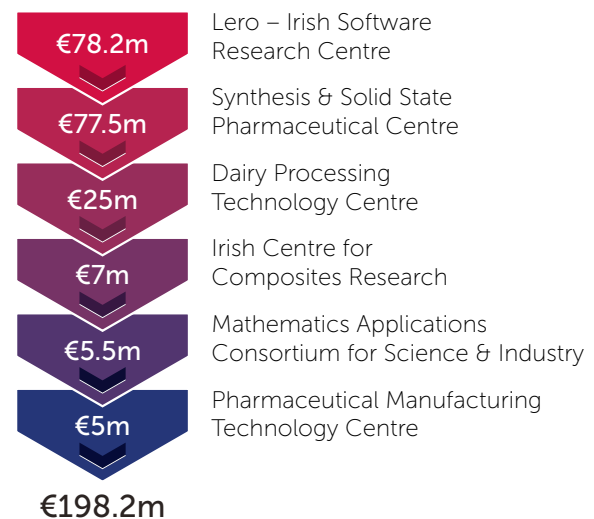
Collaboration and external engagement are embedded in our approach to research and innovation. We actively encourage multidisciplinary and collaborative research and seek to maximise the impact of our research outputs on society and the economy.

This focus on collaborative research is facilitated by the ongoing contact our staff and students have with external stakeholders through their participation on our cooperative education programme – the largest student placement programme in Europe. Furthermore, a significant proportion of our staff have worked in non-academic organisations at home and abroad. We have a reputation for excellent engagement with industry and have demonstrated leadership in academia/industry collaborations.

Due to our expertise and demonstrated leadership of collaborative research we have attracted significant sustained investments to support the establishment of multi-partner, academia/industry collaborative research centres led by UL, including the Synthesis and Solid State Pharmaceutical Centre (SSPC), the Pharmaceutical Manufacturing Technology Centre (PMTc), the Irish

Software Research Centre (Lero), the Dairy Processing Technology Centre (DPTC), the Irish Centre for Composites Research (IComp), the Mathematics Applications Consortium for Science and Industry (MACSI) and the National Centre for STEM Education (EPI-STEM).

INDUSTRY RESEARCH PARTNERSHIPS LED BY UL



IMPACT

Our research has applications in areas of national and international importance, including health, education, social inclusion, sustainability and technology, and has attracted significant sustained investments in these areas, including funding for large-scale, UL-led national centres.

Consequently, UL has seen unprecedented growth in research income, which increased from €20 million in 2008 to more than €50 million in 2015. This success will facilitate the further enhancement of our growing international reputation for conducting world-class research.

We take a broad view of impact. Our contributions are evident across a wide range of areas, from award-winning inventions to curriculum practice interventions and from arts practice methodologies to innovative clinical care initiatives. Our award-winning creative writers, musicians and dancers foster new ways of imagining the communities to which we are connected, and our language specialists conduct pioneering research into the methodology of teaching other languages. We value, support and encourage research excellence with demonstrable academic and societal impact across all disciplines, and we pride ourselves on a reputation for delivering impactful research.

THE STRATEGY

VISION

By 2020, the University of Limerick will be internationally recognised as a research-led institution that delivers excellent research with impact, fosters a research ethos that provides an outstanding student learning experience and is globally connected in addressing societal and economic challenges.

To realise this vision, we are committed to building and supporting, across all disciplines, a culture of research excellence and impact that will pervade all aspects of our organisation, enhance our international reputation and become a point of pride and a key aspect of our identity.

Working in such a culture will not only enhance the quality and quantity of our research outputs but also inform cutting-edge, research-led teaching and learning to further enrich our student experience.



GOALS

By specifying strategic goals to be achieved over the next five years, Excellence and Impact 2020 sets out a roadmap to be followed for realising the University's vision. The strategy identifies a number of objectives to be achieved with respect to each goal, and each objective is associated with a number of specific action items and targets/outcomes.

Excellence and Impact 2020 is based around the achievement of the following four strategic goals:

1

RESEARCH EXCELLENCE

Deliver excellent research to firmly establish our reputation as a research-led university.

2

IMPACT

Leverage our position as the leader in translational research and innovation to make an impact on the economy and society.

3

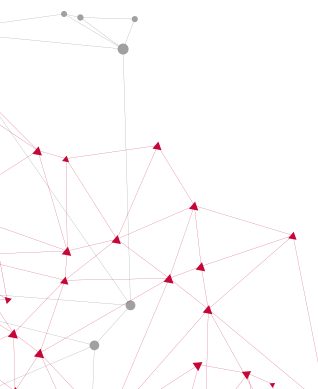
PEOPLE AND ECOSYSTEM

Invest in and empower our people through a culture of excellence and impact.

4

INTERNATIONAL REACH

Extend our global reach by engaging in collaborative partnerships and disseminating research.



Translating our
research outcomes
to **maximise impact**
and **extend our**
international reach
to create a **diverse,**
sustainable ecosystem
of research and
innovation





Goal **1**

RESEARCH EXCELLENCE

Deliver excellent research to firmly establish our reputation as **a research-led university**

An abstract graphic in the bottom right corner consisting of several white lines and polygons of varying shades of red and white, creating a dynamic, geometric pattern.

The University of Limerick commits to creating a world-class environment that nurtures and encourages research excellence across all disciplines and career stages. Under this strategy, research activity will be supported and prioritised as we strive to increase the quality and quantity of our research outputs.

OBJECTIVE 1.1:

MAXIMISE THE QUALITY AND QUANTITY OF RESEARCH OUTPUTS
ACROSS ALL DISCIPLINES

We will seek to increase research productivity by improving overall research performance and focusing on high-quality, internationally prominent journals and books.

We will:

- Publish and disseminate research in high-quality, internationally prominent journals and books.
- Improve research performance by tailoring faculty, institute and centre research plans to build on existing strengths and distinctiveness.
- Provide training and supports to enhance research productivity across all career stages, from early career researchers through to senior leaders.
- Monitor research performance in a comprehensive way, while recognising discipline norms, across the following key indicators: postgraduate students, projects, publications, partnerships, practice and prestige (6Ps).



The University of Limerick is internationally recognised as a leader in crystal engineering, crystallisation research, pharmaceutical manufacturing, formulation processing and fluid dynamics. Our multidisciplinary teams of experts in these fields are working with industry through our externally funded national centres: **Synthesis & Solid State Pharmaceutical Centre, Dairy Processing Technology Centre and Pharmaceutical Manufacturing Technology Centre.**

OBJECTIVE 1.2:

FURTHER CONCENTRATE OUR RESOURCES ON OUR AREAS OF STRENGTH WHILE CONSOLIDATING RESEARCH ACTIVITIES TO ESTABLISH CRITICAL MASS IN EMERGING AND NICHE AREAS.

By prioritising the resourcing of our areas of strength, we will lay the bedrock for further growth. By building critical mass with an interdisciplinary approach, we will work to secure our position among world leaders in targeted fields.

We will:

- ✦ Structure and organise our research institutes to realise the full potential of our investments in human and physical capital.
- ✦ Promote best practice in our multi-partner national centres to enable them to become world leaders in research excellence.
- ✦ Align resource and recruitment planning with our research strategy to build critical mass and support performance.
- ✦ Continue to invest in research infrastructure to support performing areas.
- ✦ Review our research performance through benchmarking against international standards to inform strategic planning and identify emerging and niche areas.

OBJECTIVE 1.3:

DIVERSIFY AND INCREASE OUR RESEARCH FUNDING TO SUPPORT LONG-TERM SUSTAINABLE GROWTH AND EXCELLENCE

We acknowledge that we work in a world where there is more competition for fewer resources. To realise our ambition and compete globally, we need to become organisationally effective and deliver on our commitments.

We will:

- ✦ Focus more on funding from EU and non-exchequer sources.
- ✦ Expand in-house expertise across the fields of proposal development, networking and industry engagement.
- ✦ Put in place structures and supports to achieve our funding diversification targets.

Targets/Outcomes

- ❖ A 30% increase in the number of publications in top-10 percentile journals
- ❖ A 50% increase in the citation impact of publications
- ❖ A significant increase in the number of research books and book chapters with high-impact publishers
- ❖ A doubling of income from European funding sources relative to that achieved under FP7
- ❖ Benchmarking and research performance review process embedded across the institution

Goal 2

IMPACT

Leverage our position as the **leader in translational research and innovation** to make an impact on the economy and society



Shane McCarthy, founder of Bluechief Social – one of the companies based at the Nexus Innovation Centre, University of Limerick

We pride ourselves on a reputation for delivering translational research that makes an impact on industry, society and the wider community. To strengthen our commitment to the pursuit of excellence in the generation of new knowledge that moves the world forward, we have established a number of key strategies across the areas of research impact, knowledge transfer, enterprise engagement, innovation and entrepreneurship. We will champion the concept of the quadruple helix innovation model whereby government, industry, academia and community partners work together to co-create the future and drive transformative change.

OBJECTIVE 2.1:

ENSURE THAT OUR SOCIAL, CULTURAL, POLICY AND ENTERPRISE STAKEHOLDERS REAP THE BENEFITS OF OUR RESEARCH

The University of Limerick has made significant progress in the area of translational research and research impact. We will continue to deepen and enhance this culture of impact and relevance. We will foster collaborative problem solving to deliver real change for our wide network of stakeholders.

We will:

- Expand the UL Research Impact Programme through internationalisation, capacity building and leadership in the field.
- Evaluate the economic impact and social engagement of UL research and innovation activity and identify opportunities and mechanisms to enhance impact.
- Embed research impact principles in our research programmes and enhance our focus on strategic partnerships in the renewal of our Knowledge Transfer and Enterprise Strategy.



The University of Limerick has launched a new research initiative driven by the concept of the measurable impact that research can have on society, culture and the economy. The **UL Research Impact** initiative highlights best practice across a series of activities, including case study development, training and skills development, PhD scholarships and external engagement events.



The establishment of the **UL Enterprise Corridor** encapsulates a convergence of enterprise activity at the Kemmy Business School, the International Business Centre and the Nexus Innovation Centre. The Enterprise Corridor is now home to a subsidiary of one of the world's biggest life sciences companies, Johnson & Johnson.

The presence of companies like this on our campus is testament to our level of engagement; it helps us to deliver on the objectives of Ireland's *Policy Statement on FDI in Ireland* and contributes towards achieving the *Limerick 2030 – An Economic and Spatial Plan for Limerick*.

OBJECTIVE 2.2:

STRENGTHEN OUR LEADERSHIP POSITION AS INDUSTRY'S THIRD-LEVEL PARTNER OF CHOICE

The University of Limerick has a long track record of excellent collaboration with industry. We partner with multinational and SME companies in leading sectors of our economy, from pharmaceuticals, advanced manufacturing and agri-food to software, communications and med-tech. By anchoring R&D activity firmly within the Irish enterprise landscape, these partnerships lead to job retention and creation, skills enhancement and greater competitiveness and ultimately copper-fasten Ireland's reputation as a knowledge-based economy.

We will:

- Build on our strong track record in technology transfer, business incubation, innovation and enterprise engagement.
- Review our R&D industry engagement structures with a view to strengthening our enterprise partnerships with SME and multinational companies.

OBJECTIVE 2.3:

EMBED A CULTURE OF INNOVATION AND ENTREPRENEURSHIP
ACROSS ALL FACETS OF OUR ORGANISATION

Through the Nexus Innovation Centre, Kemmy Business School and our research institutes and centres, the University of Limerick places entrepreneurship and incubation activity at its core. This will be enhanced by the development of the UL Enterprise Corridor and will position us to develop the campus into a leading hub for innovation. The ability to be connected to the world, think creatively, take risks and navigate challenges can enhance our society and support the economy. Through our graduate attributes, we look to develop future leaders who have entrepreneurial and innovation skills and who will contribute to national competitiveness, social development and economic growth.

We will:

- Further develop the UL Enterprise Corridor while working in partnership with companies that contribute to the economic growth and development of the region.
- Strengthen Nexus as a leading incubator of spin-out activity and entrepreneurship in the region by extending its pipeline and international reach.
- Establish student- and staff-focused commercialisation programmes and entrepreneurship modules and expand enterprise boot camp activities for second- and third-level students.



Engagement with industry is part of the UL DNA. 'Limerick for IT' is a highly successful collaboration involving major industry in the Limerick region, including General Motors, Johnson & Johnson and Kerry Group, working with the University of Limerick, Limerick Institute of Technology, Limerick City & County Council and IDA Ireland.

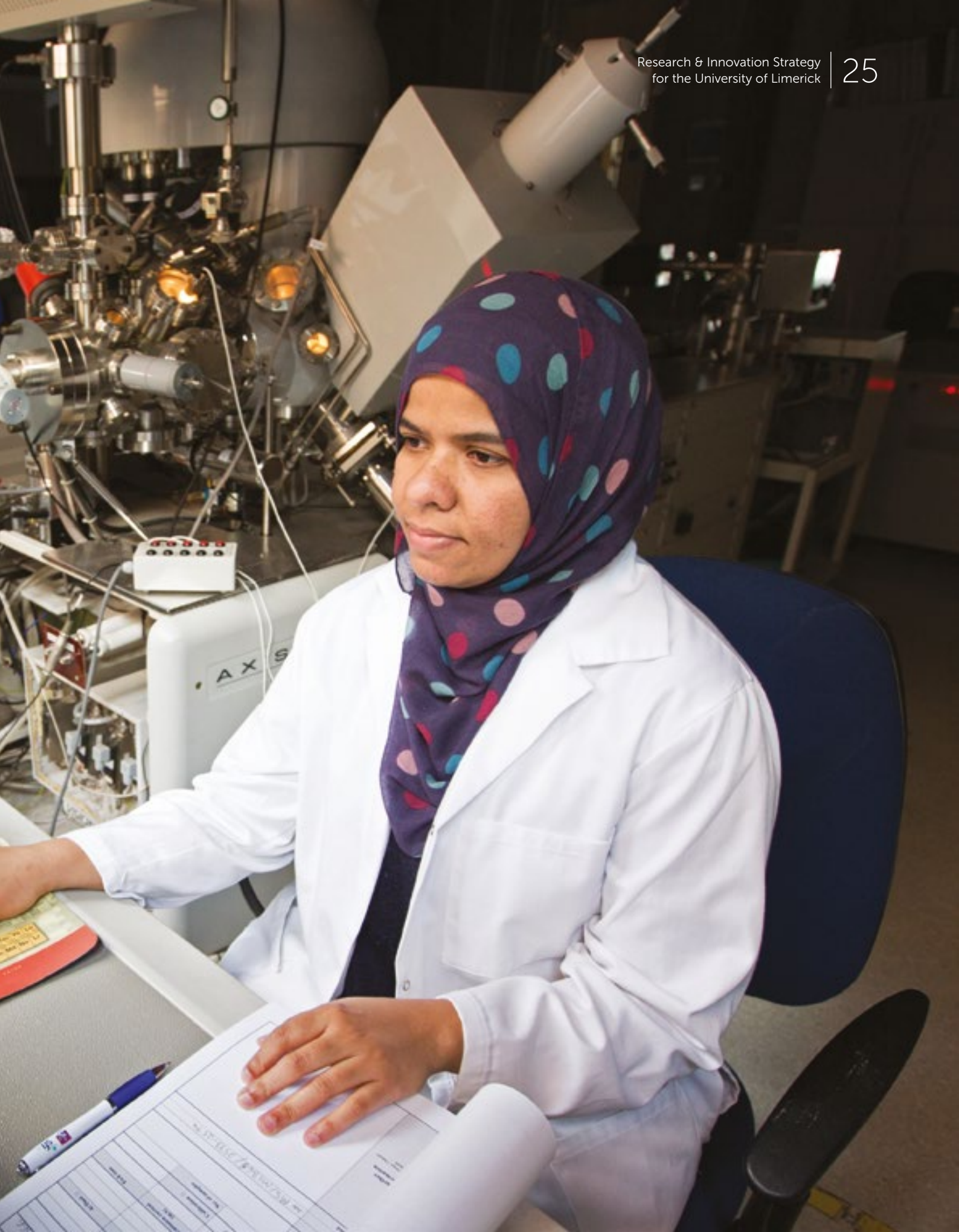
By creating a virtuous circle of emerging skills and jobs, this unique IT skills partnership uses an employer-led process to assess the future skills needs of multinationals and SMEs.

Targets/Outcomes

- Economic and Social Impact Report delivered by 2016
- The enhanced Knowledge Transfer and Enterprise Strategy delivered by 2017
- Technology Transfer indicators at international best practice level (by 2019)
 - Licences, options and assignments per funding signed with industry – 5 per €10 million investment per annum.
 - Invention disclosures – 15 per €10 million investment per annum.
 - Patent applications – 5 per €10 million investment per annum.
- A 25% increase in the number of new spin-out companies formed and a 20% increase in research income from industry
- Commercialisation and entrepreneurship training provided to staff and students
- An expansion of the student enterprise boot camp programme impacting 50% more second-level students

UL researcher Dr. Fathima Laffir, MSSI using an X-ray photoelectron spectrometer (XPS).





Goal **3**

PEOPLE AND ECOSYSTEM

Invest in and empower our people through **a culture of excellence and impact**

Our staff and students are the key to our success. Their energy, responsiveness and collaborative spirit provide the foundation for a culture of excellence. Thus, attracting world-leading researchers while nurturing and supporting our research community is a central pillar of our research strategy and will continue to be a priority.

OBJECTIVE 3.1:

ATTRACT ESTABLISHED AND FUTURE RESEARCH LEADERS

Research of the highest standard requires people of outstanding talent. To continue to build our internationally-respected research community, the University of Limerick is attracting excellent researchers. We will continue to invest in and support research leaders from across our academic community. Research excellence and leadership are key criteria that determine all recruitments across the University.

We will:

- Develop recruitment strategies and funding diversification plans that prioritise excellent track records and international experience to attract high-performing researchers capable of securing significant funding, such as European Research Council (ERC) awards.
- Focus on attracting prestigious international fellowships, including Marie Skłodowska-Curie.
- Put in place support mechanisms to develop research leaders who make a global impact.
- Create an environment that encourages multidisciplinary thinking and collaboration.

Research at the University of Limerick's **Stokes Laboratories** has inspired an ecosystem of high profile start-up enterprises in the area of **microfluidics**. The research theme has focused on droplet-based technologies for applications in biotechnology, pharmaceuticals and manufacturing processes. Recent acquisitions of these Irish fluidic-based enterprises has attracted in excess of €180 million of direct investment into the Limerick region.




OBJECTIVE 3.2:

RECOGNISE AND ENCOURAGE EXCELLENCE ACROSS OUR RESEARCH COMMUNITY

To realise the ambitions of this strategic plan, we will need all members of our community to share our vision and be motivated to work together to realise it. This will be achieved by building capacity and leadership skills across research and support teams, utilising professional development opportunities, forging collaborations and creating an environment that supports our research goals and encourages staff engagement. Investing in our leadership and management capacity will help us to support colleagues to respond flexibly to a changing research environment. We will continue to be committed to and promote the principle of equality of opportunity.

We will:

- Ring-fence time for research in workload allocation models and timetabling and scheduling systems to facilitate greater research output and support for active researchers.
- Encourage staff and research students to reach their full research potential and support their career development through tailored professional development and training programmes.
- Enhance the skills of our research leaders and research community to maximise our competitive research funding success rate in a global environment, particularly in EU Horizon 2020 priority areas.
- Ensure that staff engage with Athena Swan actions across all disciplines to support women to remain research active throughout their careers, to encourage progression and to ensure gender equality.
- Increase research productivity across all career stages and encourage UL administration and support staff to become research aware and embrace a changing research culture.
- Establish a research equipment and infrastructure renewal and maintenance plan.



UL is home to the **National Centre for STEM Education (EPI-STEM)**, which is leading a research-informed approach to STEM education in Ireland. Producing and using reliable evidence on STEM curricula, pedagogy and learning will strengthen Ireland's global competitiveness in STEM.

OBJECTIVE 3.3:

PROVIDE STUDENTS WITH A RESEARCH-LED EDUCATION

The benefits of fostering an enquiry-based, research-led learning environment in higher education institutions are well documented; they include more research opportunities and outputs; higher-quality, research-informed teaching and learning; independent thinking; and a culture of entrepreneurialism, all of which collectively create better career opportunities for students. It is our aspiration that students will graduate with strong entrepreneurship skills and will be adept at collaboration and informed by research. Supervision plays a crucial role in research postgraduate education, and UL is committed to providing professional development to supervisors. We will continue to enhance our transferable skills training for postgraduates.

We will:

- Improve the alignment of teaching with research at all levels.
- Champion innovation and excellence in doctoral education with a focus on enhancing the quality of the educational experience to produce graduates with suitable attributes for their future careers.
- Increase our doctoral enrolments while improving completion times and rates.
- Improve the provision of professional development to supervisors, including formal training and the informal sharing of experiences within faculties.
- Enhance our taught postgraduate programmes to build upon our research strengths and align to market demands.
- Consolidate and align structures and processes to support growth in research postgraduate numbers.



Research with Impact – A team of researchers from the **Kemmy Business School**, University of Limerick is working to better **understand the landscape of multinational companies (MNCs) in Ireland**. The team's research focuses on an ever-changing sector that has a wide-ranging impact on our society.

The researchers' work will inform policy makers and the Irish government on current issues pertaining to multinational companies in Ireland and contribute to public debate and policy development.

OBJECTIVE 3.4:

OPTIMISE MANAGEMENT AND SUPPORT STRUCTURES AND POLICIES TO ENABLE OUR STRATEGY

We recognise the role that best-in-class structures and policies play in our efforts to enable researchers and support teams to deliver on our strategic priorities. We will ensure that research is prioritised throughout the institution by embedding it in all our management and support structures and policies, including recruitment, strategic planning and leadership activities.

We will:

- Embed research, including associated accountability, reporting and incentivisation processes, as a priority across all institutional management structures and systems.
- Recruit and reorganise high-performing teams around key appointments to maximise research impact and support succession planning.
- Put in place research institute strategies and faculty and divisional plans that support the institutional research goals.
- Promote best practice in research leadership and management, including equal opportunities and diversity.

Targets/Outcomes

- A 50% increase in the number of staff involved in research and academic leadership training programmes
- All faculty, research institute and divisional plans in place and clearly supporting the institutional research goals
- A 20% increase in the number of international fellowships
- A 20% increase in the number of research postgraduates with publication outputs
- A 20% increase in the number of research postgraduates with international co-supervisors
- A 20% increase in the number of doctoral enrolments
- A 100% increase in the number of employment-based and part-time doctoral enrolments
- A 40% increase in the number of tenured academics supervising doctoral students

Goal **4**

INTERNATIONAL REACH

Extend our global reach by engaging in collaborative partnerships and disseminating research



The University of Limerick will become a truly international institution through its research and enterprise engagement activity. We will broaden our horizons, extend our global reach and bring our unique UL research story to the world by engaging in collaborative partnerships and networks and disseminating our research as widely as possible.

OBJECTIVE 4.1:

FOSTER AND STRENGTHEN OUR GLOBAL PARTNERSHIPS AND ENABLE OUR PEOPLE TO BECOME KEY INTERNATIONAL INFLUENCERS IN THEIR FIELD

By expanding our strategic global partnerships, we seek to enable our research leaders to become key figures in the international landscape of their discipline. The strength and depth of our collaborations and partnerships will help UL to become a more globally connected research institution.

We will:

- Undertake a comprehensive audit of existing international research partnerships to identify gaps and opportunities.
- Encourage and support staff to avail of travel, exchange and fellowship schemes to build international research links.
- Identify and engage with international research networks that align to our areas of strength.
- Establish an international research outreach programme across areas of strategic importance.



University of Limerick researchers engage in socially important research in areas such as **languages; culture; governance; health and social inclusion**. Research at the Faculty of Arts, Humanities and Social Sciences is outward looking, critical and globally focused.

Research programmes within the faculty engage with questions which are of importance at local, national and international levels.

OBJECTIVE 4.2:

EMBED DISSEMINATION AND COMMUNICATION IN ALL RESEARCH ACTIVITY TO RAISE OUR PROFILE AND EXPAND OUR NETWORKS.

Sharing and communicating our research successes effectively will help us to achieve our global ambitions. Telling our research stories must become second nature as we seek to extend our global reach in truly innovative ways.

We will:

- Maximise the exposure of our publications within academia through traditional and digital dissemination methods and by increasing the number of publications with international co-authorship.
- Provide communication and dissemination training to all researchers.
- Enhance our external and internal research communication activity by emphasising dissemination, international audiences and digital delivery.
- Establish an institutional open-access publication fund for quartile one publications.

Targets / Outcomes

- ✦ A 30% increase in the number of publications with international co-authorship
- ✦ An international research partnerships report delivered by 2017
- ✦ The percentage of peer-reviewed publications (excepting embargoed publications) in the UL Institutional Repository increased to 70%

Dr Con Sheahan, Co-ordinator of FP7 funded project - DEMA. DEMA is a UL-led project focusing on the development, demonstration and licensing of a complete, economically competitive technology for the direct production of bioethanol from microalgae.

IMPLEMENTATION

Excellence and Impact 2020 was developed in consultation with the University's research community, management and external stakeholders.

The strategy supports the objectives of our institutional strategy, *Broadening Horizons 2015-2019*, and our teaching, learning and assessment strategy, *Engaged Learning 2014-2018*. The development of Excellence and Impact 2020 was led by the Office of the Vice President Research and the Committee for Direction & Implementation of Research Strategy (CDIRS). The strategy was informed through engagement with our research community and by national and international policy and benchmarking.

The extent to which the strategy's actions are being completed and targets reached will be monitored throughout the implementation phase. The targets were set in the context of national and international best practice and relate to the institution's commitment to research and innovation as

articulated in *Broadening Horizons 2015-2019*. A key element of the strategy's implementation will be the development of faculty and research institute plans, which will include relevant comprehensive performance indicators.

For the goals of this strategy to be achieved, the UL community needs to be fully engaged with the process throughout the implementation phase.

A detailed implementation plan has been developed and performance against targets will be reviewed on an ongoing basis. The Vice President Research will oversee regular reviews of the strategy and will report on findings to the Executive Committee and Governing Authority.



EXCELLENCE & IMPACT 2020



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