

Resilience, Sustainability & Inclusive Growth



TUS

Ollscoil Teicneolaíochta na Sionainne
Lár Tíre, An tIarthar Láir
Technological University of the Shannon
Midlands Midwest

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Table of Abbreviations

ADAPT	Centre for AI-Driven Digital Content Technology	NFQ	National Framework of Qualifications.
AMBER	Advanced Materials and BioEngineering Research	NGOs	Non-Governmental Organisations
APT	Applied Polymer Technology	NORF	National Open Research Forum
ATIM	Advanced Technologies in Manufacturing	PGRs	Postgraduate Research students
CABR	Centre for Applied Bioscience Research	PhD	Doctor of Philosophy
CoARA	Coalition for Advancing Research Assessment	PRISM	Polymer, Recycling, Industrial Sustainability and Manufacturing Research Institute
COMAND	Connected Media Application Design and Delivery		
CÚRAM	Taighde Éireann Centre for Medical Devices	PTMA	Precision Tooling and Machining Association
DORA	Digital Operational Resilience Act	R&D	Research and Development
EC	European Commission	RDI	Research Development and Innovation
EDI	Equity, Diversity, and Inclusion	REPs	Regional Enterprise Plans
EI	Enterprise Ireland	ReSHAPE	Regional Skills Horizon and Pathways to Employment
EiR	Entrepreneurs, Executives & Experts in Residence	RI	Research Institutes
ERDF	Education Research and Development Foundation	RSO's	Research Support Officers
EU	European Union	RUN-EU	Regional University Network -European University
EY	Ernst & Young	SDGs	Sustainable Development Goals (SDGs)
HEA	Higher Education Authority	SDRI	Sustainable Development Research Institute
HPSU	High Potential Start-Up	SFI	Science Foundation Ireland
IBEC	Irish Business and Employers Confederation	SMEs	Small and Medium-sized Enterprises
ICT	Information and Communication Technology	SRI	Software Research Institute
IDEAM	Irish Digital Engineering and Advanced Manufacturing	SSC	Social Sciences ConneXion
IMDA	Irish Medical Device Association	SSPC	Synthesis and Solid State Pharmaceutical Research Institute
IP	Intellectual Property	STEM	Science, Technology, Engineering, and Mathematics
IRDG	Industry Research & Development Group	TU	Technological University
IReL	Irish Research e-Library	TU RISE	Technological Universities Research and Innovation Supporting Enterprise
JT	Just Transition	TUS	Technological University of the Shannon
KTCO	Knowledge Transfer and Commercialisation Office	TUS RISE	Technological University of the Shannon Research and Innovation Supporting Enterprise
KPI	Key Performance Indicators	UL	University of Limerick
KT	Knowledge Transfer		
LERO	Taighde Éireann Centre for Software		
LSAD	Limerick School of Art and Design		
MA	Master of Arts		
MIRC	Midlands Innovation and Research Centre		

Executive Summary

TUS delivers excellence in multidisciplinary research practice and encourages collaboration between researchers and strategic European and Global partners in industry and academia. The ambition of our research ecosystem plan is shaped by the TU legislative requirements and also national and international policies including European RDI initiatives, Innovation 2030 and Project Ireland 2040, which plans for a scaling of the capability of the technological higher education sector building on regional, national and international policies, strategies and initiatives. The aim is to advance the key research priorities relevant to the region, aligned with national research priority areas, European research priorities, and the United Nations' Sustainable Development Goals (SDGs).

The TUS research and innovation strategy aims to deliver impactful applied research, growing the research community, engaging in next generation thinking and tackling issues at a regional, national and global level. TUS RDI embrace a regional approach to address the challenges outlined in the Midlands and Midwest Regional Enterprise Plans (REPs). To give a local and regional insight to national innovation priorities. Boosting regional innovation is at the heart of TUS Smart Specialisations, focusing on enhancement of our research driven regional innovation ecosystem and aligned with the national strategic priorities of digitalisation, green transformation for enterprise, innovation diffusion and improving our regional enterprise research innovation system.

Our mission is to increase staff and student participation in research to drive Research, Development and Innovation (RDI) income, increase postgraduate research enrolments, enhance graduate student satisfaction, and improve overall growth in research outputs.



The 'knowledge square' of research, innovation, education and society is the foundation of our knowledge-based research approach, disseminating knowledge, transforming ideas into businesses, delivering global impact, value and innovative solutions for the economy and for society. **Our vision** is to ensure a high level of enhanced, sustainable research cooperation across all levels of the organisation and across different areas of research activity that will build on their complementary strengths and where research students and staff are empowered to implement our strategy and exceed our goals.

This ambition is mirrored in our 'quintuple helix' innovation model involving interactions among five key elements of society: academia, industry, government, culture, and the environment. This will ensure the establishment of research links and structures which will facilitate the creation of a true multi-locational university campus embedded in our regions in collaboration with all external and internal stakeholders.

Aim

Our Research, Development and Innovation (RDI) strategy aims to produce impactful applied research, grow our ecosystem and research community, support knowledge transfer and innovative entrepreneurship, engage in next-generation thinking and develop transnational solutions to regional, national and global challenges.

Strategic Goals

01

Sustainably grow RDI activities through embedding a pioneering research culture to enhance capacity, capability, support research activity and increase research output and impact.

02

Strengthen key research priorities aligned to regional smart specialisations, through investment in our research ecosystem.

- Advanced Manufacturing & Materials Engineering
- Sustainable Development, Climate Action, Energy & Environment
- Biotechnology, Bioeconomy, Lifesciences, Health & Food
- Social Sciences, Entrepreneurship & Innovation
- ICT, Digitalisation, Design Thinking & Creative Technologies

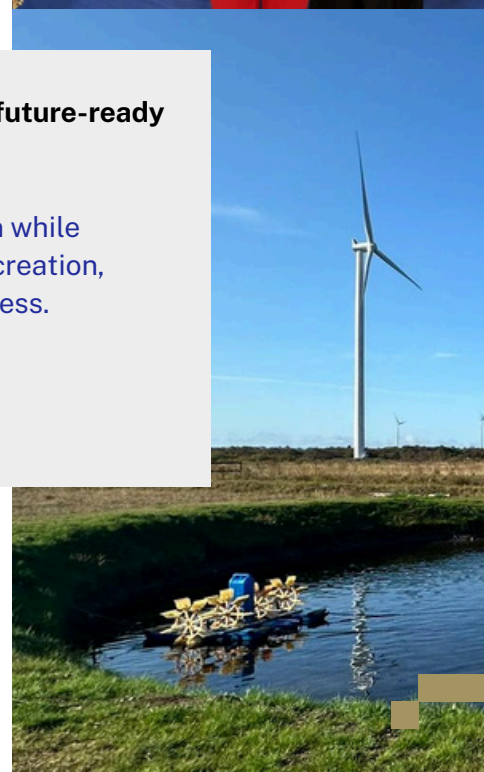


03

Enhance innovation and entrepreneurship by developing future-ready researchers, students, and enterprises.

Strengthen internal capacity for innovation and venture creation while advancing a dynamic external environment that drives start-up creation, scaling success, regional development, and global competitiveness.

Advance the mission of TUS to increase impact, building on the objectives of the TUS strategic plan.



Opening Statement by the President

This strategy is a vital pillar in our collective journey as set out in Connecting and Creating 2023 - 2026. It is not merely an extension of our ambitions - it is a declaration of intent to transform, expand, and enrich the research culture in Technological University of the Shannon.

It outlines our bold vision: to grow our research capacity, expand the pipeline of postgraduate researchers, and enable inclusive, cross-cutting collaborations that span our key research priorities. These synergies will amplify applied knowledge and practice that speak directly to the needs of our communities, industries, and society at large.

Rooted in the spirit of Impact 2030: Ireland's Research and Innovation Strategy, our roadmap harnesses national momentum to propel our institution toward becoming a leader in transformative change. From concept to creation and commercialisation, we are committed to fostering a dynamic ecosystem that supports both the scaling of our existing research strengths and the exploration of new interdisciplinary frontiers, and to driving an increase in research commercialisation outcomes that grow the knowledge economy in our regions and nationally.

As proud leaders within the Regional University Network - European University (RUN-EU), we are uniquely positioned to harness cross-European collaboration, leveraging shared expertise to address transnational challenges and shape a research agenda that is truly global in its scope and impact.

The initiatives set forth in this strategy are designed with longevity and purpose. They lay the foundation for a sustainable and vibrant research and innovation ecosystem - one that thrives on inclusivity, relevance, and excellence. Through a shared commitment to excellence, our aim is clear: to inculcate a culture of research in TUS which precipitates sustainable change, transforms lives and resonates far beyond our region. Together, we will shape a future where research, development and innovation are not only central to our university's mission but are powerful forces for positive change.

Best wishes,

Professor Vincent Cunnane

President





Message from Vice President Research, Development and Innovation

To secure a sustainable, inclusive future in a world of continuous, overlapping disruptions, resilience is critical and investing in Research, Development and Innovation (RDI) will support the green and digital agendas along with social inclusion. RDI at TUS will be a key enabler in driving competitiveness and growth in the companies and community organisations that we engage with.

TUS is committed to building research capacity and capability at scale with a strong link to education and enterprise, with a global orientation. TUS is committed to the development of staff qualified to level 9 and 10, while also expanding and growing the student research base as required by the TU Act. This RDI strategy will enhance TUS's reputation for agility, responsiveness, creativity, inclusiveness and collaboration. Our track record as a strategic knowledge generator and knowledge transfer partner of choice for companies and organisations aiming to achieve sustained competitive advantage in their marketplace is well proven and we will continue to leverage from the existing and emerging areas of expertise across all of our campuses.

Policymakers and funding agencies have emphasised the importance of research that has

societal and economic impact. Our Technological University will be no exception. Included in our drive towards responsible research and innovation TUS are signatories of CoARA and support DORA's responsible research assessment and are aligned to the Sustainable Development Goals and Do No Significant Harm. Our impact will be to create and diffuse high quality new knowledge, skills, technologies and innovative solutions to industry and society, addressing global challenges.

Deepening and strengthening our engagement with regional, national, and international collaborators, researcher exchange, national and international co-supervision of students are critical aspects of our strategy. We will grow supervisory capacity by building critical mass in our key domains and fostering new and emerging areas along with providing formal and informal training to existing and potential supervisors. We will continue the development of joint future-facing international multidisciplinary research teams across RUN-EU and beyond, addressing major societal challenges. We will foster a generation of open minded, socially conscious, agile graduates with a deep and profound respect for other cultures and societal needs, while continuing our commitment to academic freedom. Our research dissemination and engagement will inform societal understanding, discussion and debate about real world challenges. We will enhance our capacity to support knowledge transfer, nurture new ventures, and drive impactful outcomes.

Ultimately, TUS will deliver impact for all of our stakeholders through world leading research, development, innovation, engagement and cutting edge learner provision.

Dr Liam Brown

Vice President for Research,
Development and Innovation





Research Impact Case Study

Our four case studies highlight how TUS leverages its areas of expertise to drive real-world impact, showcasing leadership in innovation and the strength of its academic-industry collaborations.

Biopharma, Life Sciences & Food, Biotech, ICT, Climate Action

This case study focuses on unlocking applied bioscience, engineering and ICT innovations at Mount Lucas site in Irish peatlands, demonstrating how research, enterprise and education supports sustainable solutions at scale in areas ranging from bioenergy and biomaterials to solving climate mitigation pressure on agriculture; thus, co-creating economic, environmental and societal values. Mount Lucas site operates as an integrated, lynch-pin ‘pathfinder’ demonstration site for building and growing an ‘ecosystem of swarming enterprises’ that oozes tangible impacts including new products, services and jobs for regional regeneration with an international leadership and partnering orientation. It will inform, guide and tailor new strategic policies.

Pioneering Sustainable Innovation and Education in Ireland’s Midlands

Formally a peat bog fuelling the Edenderry Power Station, the **Mount Lucas Bioeconomy Initiative** is now a flagship site for sustainable transformation. Following the cessation of peat extraction by Bord na Móna in 2020, the site has been revitalised through a €5.25 million investment by the Department of Agriculture, Food and the Marine and EU Just Transition Fund supported by Bord Iascaigh Mhara. Today, the Mount Lucas ‘Biowetlands’ site stands at the forefront of aquaculture and AquaTech innovation and is positioned as an all-island Centre of Excellence for Ireland’s growing the bioeconomy



and biobased sectors along with digital transformation.

Based in County Offaly, Mount Lucas is a fully circular facility powered by renewable energy generated from onsite wind turbines. It supports integrated aquaculture systems that focus on feeding and nutrition, cultivating duckweed and macroalgae from agri-food waste streams. These processes demonstrate how sustainable practices can create new food ingredients and animal feeds, reinforcing both regional and global food security and sustainability goals, with onsite peatland innovative activities are underpinned by Dr Emer O'Neill. Digital twin, living and extended reality lab will revolutionise innovation, training and end-user experiences also transforming remote educational provision. Under the leadership of Professor Neil J. Rowan, Mount Lucas promotes a zero waste, zero pollution ethos, embedding climate action and circular economy principles into every aspect of its

operation. It engages a wide spectrum of stakeholders - from local entrepreneurs and smallholders to multinational researchers and sustainability advocates - creating an interdisciplinary ecosystem that supports scalable bioeconomy demonstrations, eco-innovation, and sustainable product development.

Mount Lucas plays a vital role as a cornerstone of the Midlands EU Just Transition Fund, which supports communities transitioning from carbon-intensive industries toward a more sustainable, low-carbon future. In collaboration with Mount Lucas, two key initiatives - ReSHAPE (Regional Skills Horizon and Pathways to Employment), led by Caitríona Mordan, and the TUS Just Transition (JT) Academy, spearheaded by Dr Maura Clancy - are actively working to support individuals and communities across Offaly, Laois, Longford, and Westmeath, the counties most affected by the shift to a greener economy. These programmes focus on delivering targeted education, training, and upskilling opportunities, especially for those who are traditionally underrepresented in formal education. ReSHAPE will support over 3,900 fully funded learners, while the JT Academy will work with more than 1,000 learners and 25 social enterprises under the pillar's regenerative education, regenerative agriculture, regenerative community and regenerative economy.

Mount Lucas also acts as a co-creational framework demonstration site to advance other potentially disruptive projects including iAgriLab, led by Dr Yuansong Qiao, and Research Ireland-funded 'Frontier of the Future' macroalgae project spearheaded by Dr Antoine Fort. Additionally, it connects other aquaculture and related paludiculture-based projects nationally and internationally for added-value and to rerisk for new markets.

Together, they demonstrate a strong commitment to inclusive education, community resilience, and sustainable regional development.

Mount Lucas is more than a research site - it's a living model of how to transition from legacy fossil-intensive industries to sustainable, knowledge-driven economies. It aligns with national and EU climate neutrality targets and provides a replicable framework for bioeconomic innovation, education, and enterprise development. Its work is making real contributions to climate action, digital transformation, and the circular economy, not only in Ireland but on a global leadership stage.



Introduction

Technological University of the Shannon will navigate complexity and create lasting impact by fully leveraging the TUS Research, Development, and Innovation Strategy 2025 -2029.

The urgency to address global challenges has never been greater in a world marked by ongoing, intersectional disruptions and growing geopolitical uncertainty. To secure a sustainable and inclusive future—for both society and the planet—we must act decisively and

collaboratively. Long-term resilience is essential—not to withstand disruption, but to adapt and grow through it.

The following steps outline how we will strengthen resilience to ensure a better future for society and our world.



Research Ecosystem

Grow a dynamic, responsive, and agile research ecosystem that combines a broad regional focus with a global orientation.



Sustainable Finance

Leverage internal and external financial frameworks to support diverse research, innovation and enterprise funding.



Graduate Researchers

Harness our graduate school model and quality assurance to ensure research excellence enabling a seamless process interface with faculties.



Internationalisation

Enhance researcher mobility and intercultural engagement through strong international alliances, including the Regional University Network - European University (RUN-EU).



Knowledge Transfer

Maximise the impact, value and return from our research activities by identifying, developing and protecting new technologies and commercialising them through licencing and establishing new spin-out companies.



Open Knowledge

Foster impactful partnerships that drive innovation by building open and applied knowledge transfer and exchange across academic, enterprise, and community initiatives.



Entrepreneurial Development

Build an entrepreneurship ecosystem that supports the creation and scaling of new ventures through targeted development programmes and enterprise engagement.



Successful Organisation

Develop a strong organisational structure to build research expertise, ambition, capacity and scale in partnership with our internal and external stakeholders.

TUS Research, Development & Innovation Ecosystem

TUS RDI comprises the teams that drive research, development, and innovation at TUS. Reporting to the Office of the Vice President of Research, Development & Innovation, TUS RDI supports research excellence, postgraduate project enrolments, industry collaboration, enterprise development, knowledge transfer and commercialisation to deliver real-world impact.

Research Office

The TUS Research Office plays a pivotal role in enabling research success across the university. It provides administrative, technical, and strategic support to academics & researchers, helping them navigate the complex landscape of funding, compliance, partnerships consortia building, and reporting. The research support structures assist in the identification of funding opportunities (national and international), the development of high-quality proposals, budget preparation, and the grant agreements management process once funded. In addition, the office coordinates research contracts and ensures that projects align with institutional, national, and EU-level priorities. Through planned expansion of the Research Support System a team of RSO's are available to enable a more streamlined research process and provide expert advice and reduce administrative burdens on researchers, allowing them to focus on high-impact work. The RSO team will support the planned growth of TUS Research as outlined in Goal 1 & Goal 2 to deliver the ambitious research targets to significantly contribute to the university's overall RDI performance and reputation, which will help to attract both talent and investment.

Graduate School

The Graduate School at TUS serves as the cornerstone for nurturing the next generation of researchers, offering structured supports, training, and development opportunities for postgraduate students. It ensures doctoral and research master's candidates have access to high-quality supervision, tailored research skills development, industry immersion programmes and interdisciplinary networking opportunities. The Graduate School fosters a vibrant scholarly community by facilitating workshops, seminars, and research colloquia, encouraging students to engage across faculties and institutes. This structure also supports early-career researchers in navigating the complexities of research ethics, publication, and career progression. By embedding strong graduate training within the institution, TUS not only enhances the quality of its research outputs but also contributes to the broader innovation ecosystem by producing graduates equipped with the vital, relevant expertise, critical thinking, and adaptability necessary to thrive in both academic and non-academic research environments.

Innovation & Enterprise

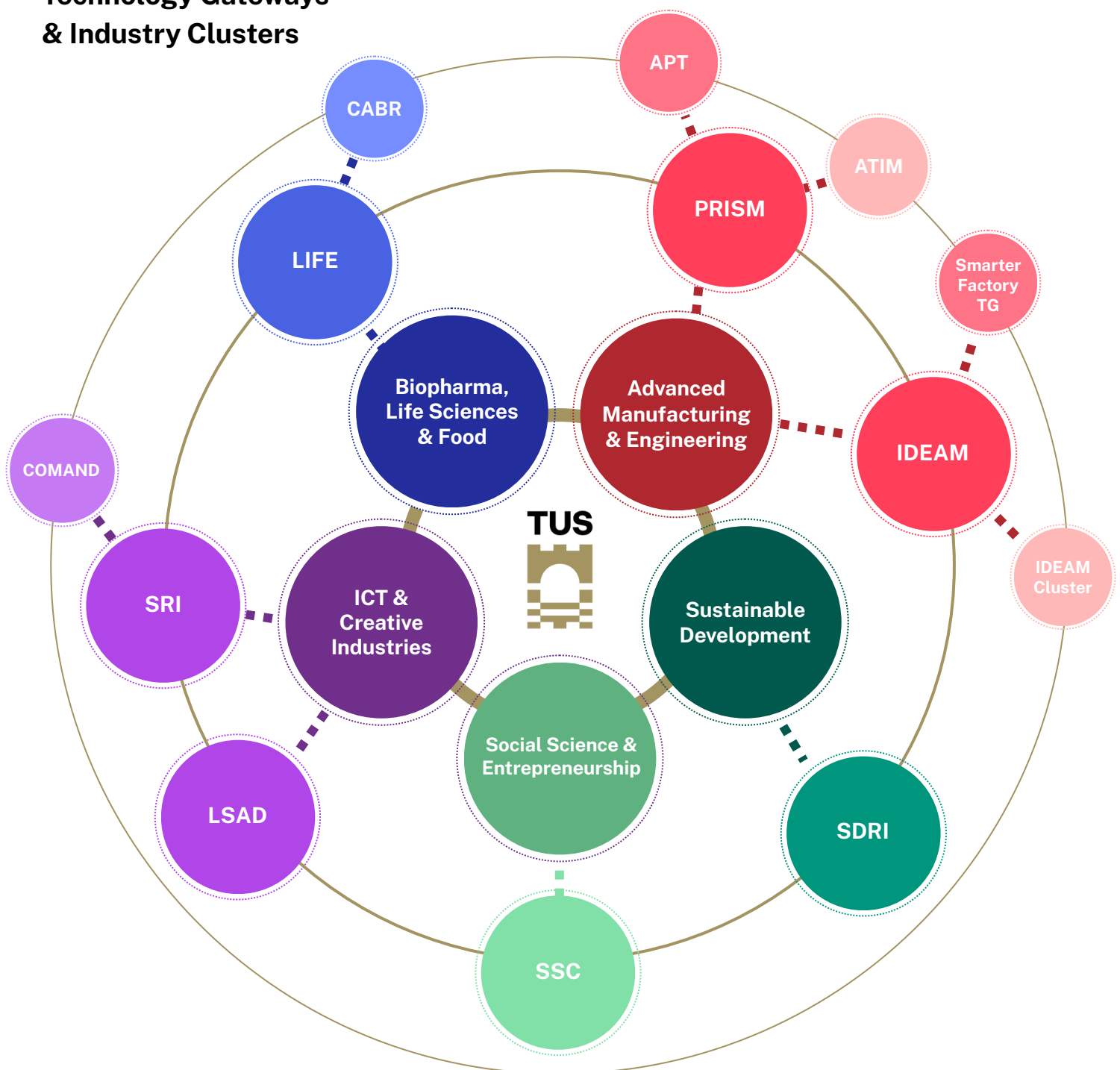
TUS aims to maximise the impact of our research, innovation and enterprise development activities by providing essential knowledge transfer, business development supports and environments for the commercialisation of TUS intellectual property and for early-stage businesses to thrive. A key objective of TUS's innovation and enterprise activities is to turn ideas into innovation and innovation into new knowledge-based companies helping to drive economic and sustainable growth within our expanded regions and across Ireland. TUS's four campus incubation centres provide incubation facilities for innovative and knowledge-based enterprises, deliver programmes for entrepreneurs and start-ups – including New Frontiers, TUS Works and Student Inc - and make available the wider resources and expertise of TUS to support entrepreneurs and client companies. TUS's Knowledge Transfer and Commercialisation Office supports the identification, protection and commercialisation of TUS intellectual property and promotes a pro-innovation culture across our campuses.

Drivers of TUS Research, Development & Innovation

RDI is embedded in our faculties and encompasses regional smart specialisations and disciplines. TUS hosts seven dedicated research institutes, four Technology Gateways, two industry clusters and many more research centres and groups.

Strategic Research Areas Research Institutes, Technology Gateways & Industry Clusters

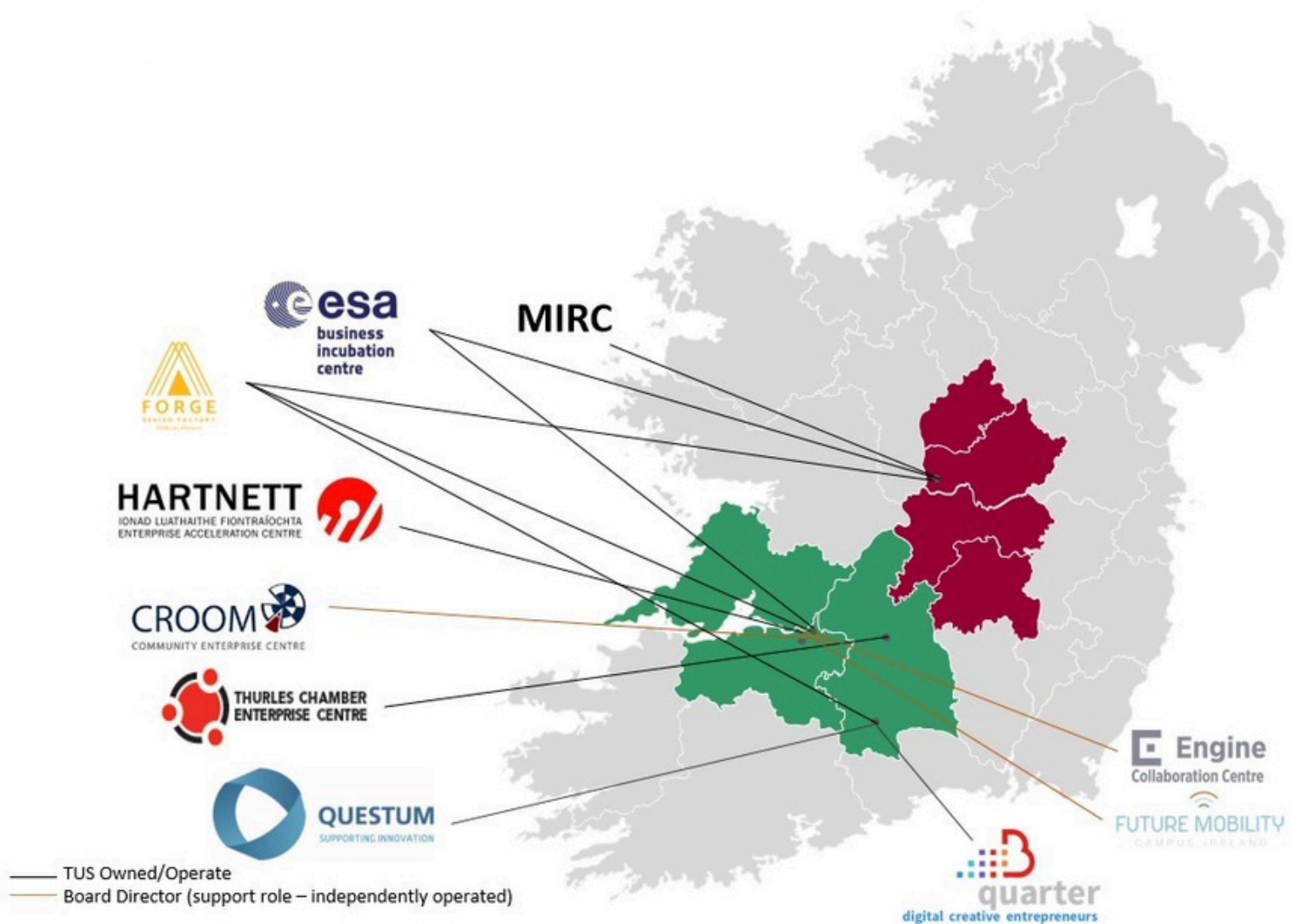
Further research ecosystem information available on pg 28-30.



Innovation & Enterprise Centres

Knowledge transfer and enterprise development are embedded and core activities of TUS delivered through TUS's four campus incubation centres and a dedicated Knowledge Transfer and Commercialisation Office.

They support the identification, protection and commercialisation of TUS intellectual property and promote a pro innovation culture across our campuses.



Regional University Network - European University (RUN-EU)

Established in 2020 under the European Universities Alliance and funded by ERASMUS, RUN-EU is a transnational alliance of higher education institutions working together to create a regional development-oriented European University that embodies the ethos of sustainability, multiculturalism, and inclusiveness in all of its work. It promotes European values and identity, as well as revolutionising the quality and competitiveness of European higher education, research, development and innovation.

Uniting over..



90,000 Students



9,000 Staff

Including 5,140 academic staff & researchers



65 Faculties

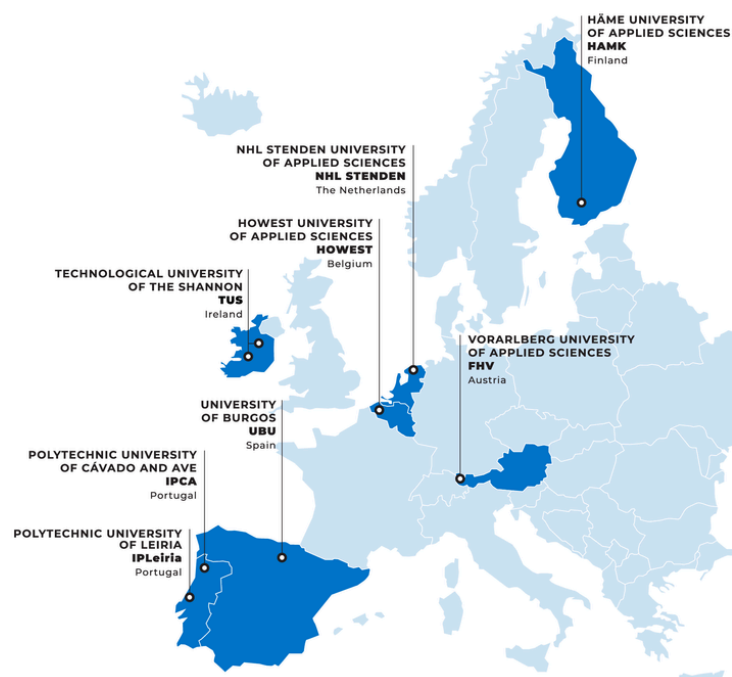


101 Research Centres & Groups



31 Associated Partners

Including regional & national authorities, NGOs and Chamber of Commerce



TUS is the first ever Irish university to lead a European University, as RUN-EU enters its next phase with two new partners joining the alliance, it will focus on collaborative activities including the twin digital and green transition agendas along with social inclusion.

RUN-EU strengthens research, development, and innovation across its member institutions by fostering deep, collaborative engagement. Through joint master's and PhD programmes, students and researchers engage in transnational, interdisciplinary work that addresses real-world challenges. Staff mobility further enriches this environment, enabling the exchange of ideas, expertise, and best practices.

Central to this vision are the European Innovation Hubs, RUN Discovery Programme and RUN-Immersive Research Institute, which together bring diverse teams to co-create impactful, challenge-based solutions. RUN-EU also empowers members to secure competitive European funding through coordinated applications, enhancing research capacity across the alliance.

Initiatives such as our short advanced learning programmes (SAPs) ensure that innovation is not only generated but also shared, applied, and sustained—connecting academia, industry, and society in meaningful and lasting ways.



Key Performance Indicators 2025 - 2029

Our current and future knowledge base is built on research, innovation, knowledge transfer, education, and engagement with society. By fostering long-term resilience, we will drive innovation, competitiveness and employment across industry, enterprise, and community organisations.

Through the dissemination of knowledge and the transformation of ideas into businesses, we will deliver global impact, create value, and develop innovative solutions that benefit both the economy and society. To deliver on our ambitious goals, TUS has established a clear set of objectives with

measurable targets and key performance indicators (KPIs). These ensure progress is tracked, impact is demonstrated, and resources are aligned effectively, allowing the university to translate strategic intent into tangible outcomes and sustained research excellence.

€100M

in Research
Contracts



x2

Research
Publications,
Outputs &
Disseminations



x2

Knowledge
Transfer
Outputs



30%

Increase
Spin-ins



20%

Increase in
Research
Active Staff

33%

Increase in
Industrial
Agreements



1,000

Participants in Entrepreneur & Innovation
Development Programmes



20%

Increase in
Postgraduate
Research Student
Enrolments

25%

Increase in
Postgraduate Research
Students Reporting a
Positive Experience



Strategic Alignment

Set out in the table below we can view the TUS RDI Strategic Goals and how they align to the RDI KPIs. The RDI pillars and goals are set up to provide cross cutting support to each other to work in collaboration to deliver on the ambitions of TUS staff and students in a holistic and driven manner. There are a number of strategic programmes existing and proposed that further support this set up and ambition such as TUS RISE [2024-2027], KTI Boost [2021 - 2027], New Frontiers, TUS Strategic Research Fund [proposed 2025 - 2028], and HEA Systems Performance Agreement [2024 - 2028].

	 Sustainably grow RDI activities and income	 Strengthen key research priorities	 Enhance innovation and entrepreneurship
 €100M in Research Contracts (i)	✓	✓	✓
 x2 Research Publications, Outputs & Disseminations (ii)	✓	✓	✓
 x2 Knowledge Transfer Outputs (iii)	✓		✓
 30% Increase Spin-ins (iv)		✓	✓
 20% Increase in Research Active Staff (v)	✓	✓	
 33% Increase in Industrial Agreements (iii)		✓	
 1,000 Participants in Entrepreneur & Innovation Development Programmes (iv)			✓
 20% Increase in Postgraduate Research Student Enrolments (vi)	✓	✓	
 25% Increase in Postgraduate Research Students Reporting a Positive Experience (vii)	✓		

Data Source: (i) TUS Financial Accounts, (ii) SciVal, Scopus & PURE, (iii) KTI Annual Knowledge Transfer Survey, (iv) TUS Rerecords and Enterprise Ireland Reports, (v) HERD Data, (vi) TUS Graduate School Reports, (vii) StudentSurvey.ie

Strategic Goals & Mechanisms for Success

Goal 01

Sustainably grow RDI activities through embedding a pioneering research culture to enhance capacity, capability, support research activity and increase research output and impact.

Goal 1 focuses on expanding the university's research ecosystem, fostering a thriving community of scholars, and driving forward knowledge transfer and innovation. TUS will continue to address regional, national, and global challenges by cultivating an environment that nurtures next generation thinking and transnational collaboration. By investing in key supports such as undergraduate, postgraduate, and staff training, internal funding, advanced research management systems, and professionalised research support services, TUS is laying the groundwork for long-term, sustainable research growth. This goal aligns with the university's broader mission to advance knowledge, deliver societal impact, and create an ecosystem where creativity and entrepreneurship flourish alongside academic excellence.

Internal Support Mechanisms

Strategic Research Fund

The fund also serves as a mechanism to strategically advance priority research areas identified in the university's RDI strategy, helping to align internal resources with institutional ambitions. Importantly, the fund promotes inclusivity by supporting both established and early-career researchers, ensuring a broad base of research activity. The cumulative effect will be

building a dynamic research environment that is agile, responsive, and primed for growth. Following is an outline of each of the award categories of the strategic Research Development Fund.

Research Support Officers

A newly formed Research Support Team of RSOs are in place to support the planning, writing and managing of successful TUS national and EU projects & consortiums and to support the industry/researcher nexus, to strengthen the quality and outcome of ongoing / future research projects. The RSOs through the provision of enhanced specialism capability, provide professional expertise and skills in funding acquisition, proposal development, industrial programmes and work in collaboration with TUS RDI to achieve research support targets. The RSO team, through understanding relevant research areas, funding materials and programmes and national and EU policies, support TUS RDI to support their writing in strategic (infrastructure, industrial research) funding proposals to develop PhDs, Centres of Excellence, Innovation Services, Support actions and Network developments.

Research Time Release

Research within a TU is a complex but necessary activity to support the academic freedom of academics, researchers and students. Research Time Release is a TUS initiative that supports the buyout of an academic for a number of hours to facilitate them to engage in research by reducing their teaching load which are typically in the region of 16-18 contact hours per week. Research Time Release supports TUS to develop the Research Ecosystem through engagement of expertise and experience from our academic staff.

Staff PhD & Development Support

TUS is committed to the professional development of staff through a range of supports to facilitate upskilling and continued engagement with research. This includes financial supports and time release for staff members who are completing PhD and doctoral degrees both in Ireland and internationally. This encompasses PhD and doctoral work in areas including humanities, arts, science, business, law and interdisciplinary and transdisciplinary topics. This is to ensure that TUS meets its targets of the proportion of staff members who are trained to NFQ Level 10. It also acts as a 'ricochet' for research activity and meeting our targets in other areas including publications and grant funding.

Professional Doctorates

TUS has substantially expanded the number and orientation of research programmes for Postgraduate Research students (PGRs) including Structured PhDs and Masters by Research degrees, Article-based PhDs/PhDs by Publication, Professional Doctorates and Industry-Based PhDs. This substantially adds to TUS's reputation in the spheres of academic excellence and industry engagement, harnessing stakeholder's knowledge for sustained societal, cultural and economic impacts in the Midlands Midwest regions, nationally and internationally.



Postdoctoral Research Programme [Research Fellowship]

Research Postdoctoral fellowship will support 2 one-year TUS Post-Doctoral Fellowship awards (Research Ireland Level 2A) to allow support for new post-doctoral talent potentially from our existing PhD student cohort to develop a research & funding strategy towards external competitive funding with the support of the TUS RISE Research Support Team. TUS Research will be working with our EDI office to ensure an open and inclusive competition promotion and recruitment process for the fellowships.

Research Outputs Fund

The financial burden of “publishing” research outputs is well recognised within the sector, especially so for those not in receipt of external funding, and where access to IREL deals are not available. RDI will launch an annual call to support staff with research output costs. The call will not be limited to ‘traditional’ research outputs, in line with our support of both CoARA, and DORA, but more importantly highlighting the value and recognition we place in the various types of outputs produced by our research staff. This call will assist with meeting our dissemination targets and will support the national target of reaching 100% open access as set out in the NORF action plan.

Conference Travel Bursary / EU Project / Consortium Development

Conferences provide excellent opportunities to expand your research network, to meet with leaders and peers from your domain, to explore cutting-edge developments in your area of expertise, discuss best practise and network towards upcoming research funding calls with colleagues and peers. This conference fund will provide financial support towards attending conferences and scientific meetings. These bursaries can be used towards funding travel, accommodation, conference fees and subsistence to a maximum value of €1000 as a co-fund with a faculty department. This support for Conference fees/Travel and Subsistence for researchers is for such costs not otherwise covered with research grant awards and national funded travel and co-ordinator grants.

Dynamic Time Release

For research activities not otherwise covered other initiatives e.g. RI/Large project leads. Cognisant of the high teaching loads and academic commitments Dynamic Time Release will support short time buy outs to support research funded activity.

PURE (Research Information Management System) & Grant Management Module

TUS Repository, PURE, profiles all academic staff members and researchers who engage in research-related activities. The research profile is a key marketing and engagement tool to promote the TUS RDI and to help attract research collaborations with fellow academic institutions, industry, and enterprises, and to attract potential research postgraduate students and postdoctoral researchers. It lends itself to those



external parties seeking expert knowledge and is one of the more dynamic aspects of the organisation that facilitates its promotion. The public-facing aspect of the system, the [TUS PURE Portal](#), supports the dissemination of all research-related activity within the university. This research management system, is a critical digital tool that supports and simplifies the process of maintaining up-to-date research profiles, showcasing publications, and demonstrating research impact. For the institution, it offers powerful analytics and reporting capabilities, enabling data-driven decision-making and facilitating compliance with national and international reporting obligations.

With the support of TU RISE, TUS has made a significant investment in the efficient management, tracking, and reporting of research activities across TUS. With the planned addition of a grant management module, PURE will provide an integrated platform that streamlines the entire research lifecycle—from project inception and funding applications to outputs, impact tracking, and reporting. For researchers, PURE The grant management module will enhance this functionality by offering end-to-end oversight of funding applications and awards, reducing administrative overhead and improving the success rate of proposals.

TUS RISE

TUS RISE is a flagship initiative co-funded by the Government of Ireland and the European Union through the ERDF Southern, Eastern & Midland Regional Programme 2021-27., administered by the Higher Education Authority (HEA) to enhance the professionalism, capacity, and impact of research support functions within the university. The RDI team focuses on developing robust internal systems, training staff, and embedding best practices to support the full research pipeline—from idea generation to impact delivery. TUS RISE enables the university to provide tailored supports to researchers, including capacity-building workshops, strategic research development, and improved management of partnerships and collaborations. By investing in people, systems, and processes, TUS RISE ensures the university's research ecosystem is competitive, well-governed, and aligned with national and European research agendas. Critically, the project contributes to long-term institutional sustainability by strengthening internal research infrastructures, fostering a culture of continuous improvement, and driving innovation through enhanced support mechanisms.



Rialtas na hÉireann
Government of Ireland



Ama chomhchistiú ag
an Aontas Eorpach
Co-funded by the
European Union



Tionól Réigiúnach
an Deiscirt
Southern Regional
Assembly



HIGHER EDUCATION AUTHORITY
AN tUdairias um Ard-Oideachas



Strategic Actions

- Implementation of research mentoring, tasters, and enterprise internship schemes at undergraduate and postgraduate levels.
- Introduction of new (and novel) research modules in entrepreneurship and innovation; interdisciplinary and transdisciplinary research for enterprise and social enterprise engagement for PhD, master's and undergraduate level (co-developed with RUN-EU partners).
- Development of new international MA and PhD professional doctorate programmes in Innovation, Entrepreneurship and Development (co-developed with RUN-EU).
- Development of part-time online DBA programme.

Research Impact Case Study

Our four case studies highlight how TUS leverages its areas of expertise to drive real-world impact, showcasing leadership in innovation and the strength of its academic-industry collaborations.

Sustainable Development

SOILCRATES addresses sustainability challenges through soil monitoring and management innovations, providing solutions for agriculture, environmental protection, and climate resilience.

Soil, Society, and Sustainability: The Transformative Impact of SOILCRATES – Ireland

Launched in 2024, SOILCRATES – Ireland is a European-wide Living Lab initiative dedicated to improving soil health—the foundation of sustainable farming. Led by Dr Lena Madden and based in the Mid-West of Ireland, the project brings together a wide range of stakeholders including farmers, farming organisations, community groups, academic researchers, environmental specialists, local authorities, and soil-focused businesses.

Soil health is facing growing threats from slurry runoff, compaction, flooding, over-fertilisation, and nutrient loss. SOILCRATES tackles these challenges head-on through a participant-centred, applied research approach that prioritises real-life testing and co-designed solutions on working farms. Rather than relying on theory alone, the project empowers farmers and local stakeholders to trial, assess, and implement soil solutions that are practical, sustainable, and seeded with in local knowledge.

Rooted in rural and farming communities across Clare, Limerick, and Tipperary, SOILCRATES was developed in partnership with Ballyhoura Development CLG, Wild Atlantic Hemp, Loop Head Peninsula, Cloughjordan Community Farm, and TUS.

Following a participant led model of inclusivity the project aligns with the EU Mission ‘A Soil Deal for Europe’, it strengthens regional capacity for sustainable agriculture by fostering innovation, education, and collaboration between local actors and EU-level research frameworks

The project aims to create a dynamic ecosystem for innovation, entrepreneurship, rural development, and environmental stewardship and encapsulates core focus areas including Sustainable Soil Management; Biodiversity Conservation; Carbon Sequestration; Circular Agriculture; Community Engagement and Soil Literacy.

SOILCRATES – Ireland is more than a research project; it is a collaborative movement to restore soil health and rural vitality. Through its work, the project is enhancing soil structure and resilience, improving biodiversity via more sustainable land management, and raising public awareness of the critical role soil plays in our ecosystems and food systems. At the same time, it is creating a replicable, place-based model of innovation and collaboration that puts farmers and communities at the heart of change. In doing so, SOILCRATES paves the way for a future grounded in environmental integrity, resilient agriculture, and a more informed and engaged society.



TUS
Campas Dhurlais
Thurles Campus



Strategic Goals & Mechanisms for Success

Goal 02

Strengthen key research priorities aligned to regional smart specialisations, through investment in our research ecosystem.

- Advanced Manufacturing & Materials Engineering
- Biotechnology, Bioeconomy, Lifesciences, Health & Food
- ICT, Digitalisation, Design Thinking & Creative Technologies
- Sustainable Development, Climate Action, Energy & Environment
- Social Sciences, Entrepreneurship & Innovation

Goal 2: Central to the RDI Strategy is the goal of fostering distinctive research specialisms, positioning TUS as a key player in addressing major societal and technological challenges. Through our 7 research institutes, 4 technology gateways, and 2 industry clusters, the university builds structured platforms that support cutting-edge work. Highlighting impactful case studies in biosciences, advanced manufacturing, sustainable development, and ICT, TUS showcases how its research ecosystem not only contributes to academic advancement but also generates tangible impact for industries, communities, and policy.

Support Mechanisms

Research Institutes General [Non Pay Operational Budget Allocation]

Operational budget for Research Institutes. TUS Research Institutes work from a grants only budget so with the inclusion of an operational budget research institutes will be given a level of autonomy to support small scale research aligned activities for their institutes and researchers. Operational funding will be awarded aligned to research income and a minimum baseline budget amount also included.

Summer Internship Programme

Undergraduate Internship Scholarship programme is set up to foster an interest in research and highlight TUS Research within our undergraduate student community. Successful undergraduates studying from one of the TUS faculties aligned to a TUS Research will be given an opportunity to gain practical research experience and an understanding of research processes, techniques, and methodologies by conducting a small research project while co-supervised by a TUS academic and research staff member.



Research Project Seed Funding

Research Project Seed Fund supports three month research project feasibility/seed funding study to pump prime research activities not otherwise fundable through existing funding agencies. Such funding for feasibility / seed projects are essentially to support the development of baseline data needed for the application towards larger funding calls. Each fund would be for a max of €5,000. This funding would cover such projects not covered by an external feasibility grant.

Professional Doctorates

Professional doctorates are at the forefront of knowledge and represent a significant step forward for the TUS Graduate School. Oriented to professional practice and academic excellence, they represent a bridge between workplace learning, practice wisdom and cutting-edge advancements in scholarship, knowledge and skills acquisition. Our professional doctorates will further collaboration and innovation between civil society, the university, industry and enterprise, attracting a wide range of student researchers from traditional academic backgrounds, industry, enterprise, NGOs, and the community and voluntary sectors. This is reflected in the industry-based PhDs and our other doctoral research programmes which marry together impact, excellence and are oriented to global transformations in society, industry and economy.

TUS RISE

TUS RISE is delivering smarter and more competitive midlands and midwest regions by building additional research, development and innovation capacity and capability within TUS through increased knowledge transfer at regional level, supporting increased innovation diffusion and strengthening regional innovation ecosystems. Alignment with the European Regional Development Fund (ERDF), Ireland's Smart Specialisation Strategy (S3) and the Regional Enterprise Plans (REPs) is central to TUS RISE.



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Research Institutes

TUS Research Institutes are the engines of specialised knowledge production within the university, creating dedicated hubs where interdisciplinary teams address key scientific, technological, and societal challenges. These institutes offer modern infrastructure and combine expertise across faculties, often partnering with industry, government, and civil society to solve complex problems. Aligned with institutional strengths, they raise TUS's profile, attract top researchers, and serve as training grounds for postgraduates, providing opportunities to work on advanced projects with experienced mentors. Crucially, the institutes drive innovation by turning academic research into real-world impact through technology development, policy input, and community engagement-reinforcing TUS's role in shaping a more informed, sustainable, and inclusive future.



IDEAM

Irish Digital Engineering a
Advanced Manufacturing
Institute

The IDEAM Research Institute is a centre of excellence in applied engineering and technology research, working closely with industry to drive innovation, resilience, and global competitiveness. Through

initiatives such as FactoryXChange, DigiWIND, and the Smarter Factory Gateway, IDEAM advances AI, digitalisation, and sustainability. Its mission is to empower industry via market-driven research and impactful collaborations. Strategic goals include leadership in AI and decarbonisation, excellent research delivery, resource development and

strengthened industry partnerships. IDEAM supports staff excellence, modernises legacy systems, and develops world-class facilities at TUS. Success is measured by research outputs, funding secured, and industry impact, positioning IDEAM as a key player in European innovation and industrial transformation.



LIFE

Health and Wellbeing
Biosciences Research
Institute

The goal of LIFE RI is to deliver innovative research solutions in bioscience, and biotechnology, propelling sustainable progress in human and environmental health and wellbeing. Established in 2023, LIFE RI acts as a campus-

wide conduit, building the reputation of TUS for excellence in bioscience research and industry engagement. Working in tandem with nature, expert understanding and talent in harnessing the relationship between the structure of biomaterials and their macroscopic function is used to develop novel technologies and products to meet health and

environmental challenges. These multidisciplinary activities encompass strategically important areas of microbiology, fermentation, bioprocessing, biorefining, toxicology, parasitology, analytical chemistry, cell and molecular biology, bioinformatics, immunology, health systems and other disciplines



LSAD

Research
Institute

The LSAD Research Institute at TUS is a vibrant hub where creativity meets curiosity, advancing critical and interdisciplinary research in art, design, filmmaking, and cultural studies. Its vision is to inspire

positive change and cultural enrichment through creative scholarship. The Institute supports TUS's strategic goals by promoting impactful, inclusive research, expanding postgraduate programmes, and fostering collaboration across disciplines and industries. It aims to enhance the student experience, support independent researchers, and bridge the arts

with technology through innovation and design thinking. By attracting talent and funding, building global partnerships, and engaging local communities through exhibitions and public projects, LSAD strengthens TUS's research profile. Committed to sustainability, growth, and academic excellence, LSAD is shaping the future of creative research in Ireland and beyond.



PRISM

Polymer, Recycling, Industrial, Sustainability and Manufacturing Research Institute

PRISM aims to lead innovation in polymer science by connecting cutting-edge research with industry to develop sustainable, high-performance materials. Its mission is to solve real-world manufacturing and environmental challenges through collaboration

advanced technologies, and education. Strategic priorities include excellence in polymer, biomedical, and sustainable materials research; deep industry partnerships; and technology transfer. PRISM supports circular economy goals, develops eco-friendly materials, and trains future scientists through joint PhDs and scholarships. It seeks to expand infrastructure, foster

global collaborations, and align research with industry needs. Key targets include €15M in funding, 170+ publications, and 40 postgraduate graduates. As TUS's largest research institute, PRISM hopes to build the structural support needed to sustain growth, strengthen supervision, and continue delivering high-impact, industry-relevant research.



SDRI

Sustainable Development Research Institute

The TUS Sustainable Development Research Institute (SDRI) aims to become a nationally and internationally recognised centre of excellence in sustainable development. SDRI drives interdisciplinary research across four sustainability pillars:

Nature, Economy, Society, and Wellbeing, aligned with the UN SDGs. Through regional and global partnerships, SDRI leads impactful projects such as AgriNext, supporting rural resilience and lifelong learning; WeNaTour, advancing sustainable tourism and wellbeing across six EU nations; and ManagEnergy, empowering local energy

agencies to lead the green transition. SDRI works across TUS to embed sustainability in research, policy, and education. It strives to build capacity, engage communities, and position TUS as a leader in sustainability through innovation, collaboration, and structural research support.



SRI

Software Research Institute

The Software Research Institute (SRI) at TUS drives applied research and innovation through collaboration with industry. It focuses on cybersecurity, cloud-edge computing, network protocols, immersive multimedia,

robotics, and AI, with cross-disciplinary work in materials and biosciences. SRI hosts the COMAND Technology Gateway, supporting digital media innovation, and contributes to the SFI CONFIRM Smart Manufacturing Centre, advancing intelligent and trustworthy manufacturing systems. The institute actively engages in

national and EU-funded projects (SFI, EI, EC) and partners with academic and industry leaders globally. Through cutting-edge research and partnership, SRI strengthens TUS's technological capabilities and fosters a dynamic innovation ecosystem.



Social Science ConneXions

Social Sciences ConneXion (SSC) is a collaborative, inclusive research community committed to positive social change and improving the lives of marginalised groups. It promotes impactful, emancipatory research

and is a key partner in human rights advocacy, policy, and practice. SSC supports researchers through skill-sharing, funding competitiveness, and ethical, participatory methods. Its values - critical inquiry, social engagement, authenticity, inclusion, and accountability - guide its work. SSC aims to grow active researchers, enhance

RUN-EU partnerships, and support postgraduate development. Success is measured by increased publications, engagement, postgraduate graduation, and researcher participation. Since 2020, SSC has expanded its research groups, publishing base, and influence within TU and beyond.

Technology Gateways

Aligned to our industry focused Research Institutes and specialisms, TUS hosts four Enterprise Ireland funded Technology Gateways. Of the 4,200+ industrial projects completed to 2020 within the fifteen Enterprise Ireland technology gateway network, TUS gateways accounted for 27% of total industry project engagements including 28% of Enterprise Ireland Innovation Partnership projects. TUS is a partner in the SFI funded, ADAPT, AMBER, SSPC, CÚRAM and LERO Research Centres, in the EI/IDA funded PMTC and MTI Technology Centres and also collaborates closely with the SFI-funded BiOrbic Research Centre, the Irish Bioeconomy Foundation, IERC Tyndall and Irish Manufacturing Research.

APT (Applied Polymer Technology)

Applied materials and polymer technological solutions for industry and SME's across key sectors including MedTech, AgriTech, Sustainability, Composite, Packaging and Greentech.



COMAND (Meáin Nasctha • Connected Media)

Research and development of prospective interactive media technologies focusing on Augmenting User Interactions, End-to-end Applications and Intelligent Infrastructure.



CABR (Centre for Applied Bioscience Research)

Identifies innovative biological products from natural resources using novel state-of-the-art processes to obtain lead molecules for applications including but not limited to food & drink, healthcare, cosmetics, agriculture, marine, nutraceutical, bio & pharma.



Smarter Factory Technology Gateway

Supports innovative companies with digital technologies to help them achieve efficiencies, cost reductions and performance improvements to strengthen their business.



Industry Clusters

TUS also hosts two Enterprise Ireland funded Regional Clusters: Irish Digital Engineering & Advanced Manufacturing (IDEAM): supports manufacturing SMEs in all aspects of smart manufacturing and digital engineering & the Advanced Technologies in Manufacturing (ATIM): enables manufacturing SMEs to take advantage of the opportunities presented by Industry 4.0.

ATIM (Advanced Technologies in Manufacturing)

Collaborative cluster with industry, academics, and government, unlocking new opportunities for manufacturing SMEs in the Midlands and companies along the value chain.



IDEAM (Irish Digital Engineering and Advanced Manufacturing)

Innovative national cluster supporting businesses to collaborate, create and grow, focussing on the digitalisation and green transition of manufacturing.



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Southern Regional Assembly



Enterprise
Ireland

The Enterprise Ireland Technology Gateway Programme in TUS is co-funded by the Government of Ireland and the European Union through the ERDF Southern, Eastern & Midland Regional Programme 2021-27



Strategic Actions

- Co-Fund 34 industry focused PhD and Masters by Research projects in strategic areas of importance TUS and the wider region.
- Delivery and development of research mentoring programme for supervisors with emphasis on developing work-based PhD programmes with industry.
- Co-development and roll out of industrial doctorate in polymer engineering,
- Scoping exercise of new markets for online/blended PhD/Doctoral level provision (e.g., North America).
- Collaborative network with TUS staff on interdisciplinary and transdisciplinary research with industry.
- Industry-Focused Conferences: Organise and participate in conferences or symposiums that focus on industry-specific challenges and research findings in conjunction with regional and national representative groups e.g. Midlands and Midwest Regional Enterprise Plans fora, Regional Assemblies, IRDG, PTMA, Explore Engineering, Regional Chambers, American Chamber, Enterprise Ireland, Local Enterprise Offices and IDA Ireland. Invite industry partners to participate and share their insights.
- Technology Showcase Events: Organise and participate in events or fairs where university researchers can present their latest technologies, innovations, and research findings to industry partners e.g., EI Technology Gateways, Centres and Cluster events, Bioeconomy Week in conjunction with the Irish Bioeconomy Foundation (IBF), IBEC and its subgroups Polymer Technology Ireland and Irish Medical Device Association (IMDA).



Research Impact Case Study

Our four case studies highlight how TUS leverages its areas of expertise to drive real-world impact, showcasing leadership in innovation and the strength of its academic-industry collaborations.

Advanced Manufacturing & Engineering

Focusing on collaborative digital twin technologies for wind energy systems, TUS researchers are advancing Ireland's renewable energy capabilities and improving industrial efficiencies.

DigiWind: Powering the Green and Digital Future of Europe's Energy Sector

DigiWind is a progressive initiative supporting Europe's green and digital transition by equipping Science, Technology, Engineering, and Mathematics (STEM) professionals with the next generation of digital competencies. Focused on wind and energy systems, the project develops and delivers Specialised Education Programmes (SEPs) designed to future-proof careers and empower a digitally skilled renewable energy workforce.

As the global demand for clean energy grows, so does the need for a workforce proficient in both renewable energy and cutting-edge digital technologies. DigiWind responds to this need by upskilling the wind and energy systems sector with in-demand digital competences and applications of artificial intelligence (AI), delivered through interoperable digital learning platforms and infrastructure and expanding access to education in the renewable energy field.

Led by the Technical University of Denmark (DTU) and coordinated in Ireland by Dr John Cosgrove and the IDEAM Research Institute, DigiWind spans five European countries: Denmark, Norway,

Poland, the Netherlands, and Ireland. The consortium includes five leading higher education institutions (HEIs) in wind and energy systems, two innovative SMEs at the nexus of digital technology and renewable energy, and two research organisation specialising in digital content and immersive digital learning (AR/VR) environments.

DigiWind bridges the digital skills gap in the renewable energy sector by redefining the landscape of renewable energy education through the design and delivery of a suite of flexible and scalable education programmes including specialised Master of Science programmes, Masterclasses, micro-credentials, self-paced online courses and lifelong learning modules for industry professionals. The project not only strengthens industry resilience but also contributes directly to European policy goals around climate neutrality, digitalisation, and sustainable economic growth.

DigiWind is accelerating an advanced technology driven and inclusive transition to a clean and digitally enabled energy future.



Strategic Goals & Mechanisms for Success

Goal 03

Enhance innovation and entrepreneurship by developing future-ready researchers, students, and enterprises.

Strengthen internal capacity for innovation and venture creation while advancing a dynamic external environment that drives start-up creation, scaling success, regional development, and global competitiveness.

Advance the mission of TUS to increase impact, building on the objectives of the TUS strategic plan.

Goal 3 focuses on strengthening TUS's capacity for innovation and venture creation while advancing an environment that fosters start-up creation, scaling success, regional development, and global competitiveness. Through an integrated approach across research, enterprise, and innovation activities, TUS will empower researchers, students, and enterprises to transform ideas into impactful solutions, driving sustainable growth for the Midlands and Midwest regions and beyond. By embedding entrepreneurship across education and research, enhancing research commercialisation pathways, supporting enterprise development, and expanding strategic partnerships, TUS aims to act as a driver of regional innovation ecosystems and an engine of socio-economic development.

TUS's leadership role in the European University alliance, RUN-EU, reflects our ambition to embed global connectivity into our innovation and enterprise activities. We are committed to supporting sustainable, inclusive innovation, strengthening the research-enterprise nexus, and advancing enterprise development to deliver regional resilience and global competitiveness.

Support Mechanisms

- Integrated supports for entrepreneurship, knowledge transfer, research commercialisation, and enterprise development across the university.
- Structured programmes developing entrepreneurial skills among students, researchers, and staff, including pre-accelerators, Student Inc., and industry-informed professional doctorates.
- Strategic delivery of enterprise supports such as New Frontiers, enabling innovation-driven start-ups to launch, scale, and compete successfully in national and international markets.
- Expansion and enhancement of innovation and enterprise centres to strengthen regional development and innovation diffusion.
- Strengthened partnerships with local authorities, enterprise and innovation agencies, industry, Chambers of Commerce, and representative organisations such as the IRDG, along with international networks, to broaden access to markets, expertise, and innovation ecosystems.

- Enhanced research commercialisation capacity through targeted knowledge transfer initiatives, leveraging national and international best practice, and strengthening internal capability through programmes such as KT Boost.
- Commitment to inclusive, sustainable innovation, supporting diversity, female-led entrepreneurship, and the integration of sustainable development principles across all innovation activities.

Delivery of Goal 3 is enabled by a range of strategic initiatives, partnerships, and funding supports that underpin TUS's innovation and entrepreneurship ecosystem. Key enablers include national programmes such as KT Boost (supporting knowledge transfer and commercialisation capacity), New Frontiers (fostering innovation-driven start-ups), TUS Works (institutionally led) and Student Inc. (nationally coordinated), providing structured pathways from ideation to market and scaling. These platforms will continue to evolve to meet emerging needs in the innovation landscape. The following sections provide an overview of selected key initiatives and centres, illustrating how TUS delivers on its innovation and entrepreneurship goals.

Knowledge Transfer & Commercialisation Office

TUS's Knowledge Transfer and Commercialisation Office leads work to support knowledge transfer and to identify and commercialise IP arising from research at TUS, within limits of authority set by TUS's IP Policy and subject to compliance with the requirements of the National IP Protocol.

TUS's knowledge transfer activities are supported by Knowledge Transfer Ireland's KT Boost Programme, a four-year knowledge transfer funding programme for Irish universities. Its objective is to increase research commercialisation outcomes both regionally and nationally and to develop consistent practices across the knowledge transfer sector.



TUS's strategic objectives under KT Boost are:

- Develop TUS knowledge transfer capacity and capability.
- Increase TUS knowledge transfer outcomes.
- Enhance operational quality of TUS knowledge transfer.

A key strategic objective of TUS RDI is to maximise the impact, value and return of our research activities by identifying, developing and protecting new technologies and commercialising them through licencing and establishing new HPSU spin-out companies in the region.

By strengthening TUS's knowledge transfer capacity and outcomes, TUS not only maximises the value of its research but also contributes to national innovation goals, creating pathways for economic development and societal benefit.

TUS's Knowledge Transfer and Commercialisation Office is supported by KT Boost co-funded by the Government of Ireland and the European Union through the ERDF Southern, Eastern & Midland Regional Programme 2021-2027.



TUS Enterprise & Innovation Centres

TUS operates a network of four campus-based enterprise and innovation centres that anchor entrepreneurial activity across the Midlands and Midwest: Midlands Innovation & Research Centre in Athlone, Hartnett Enterprise Acceleration Centre in Limerick, Thurles Chamber Enterprise Centre and the QUESTUM Centre in Clonmel. Together these four centres, along with support staff on our campuses, help to deliver incubation and business support for innovative start-ups in our regions.

The Questum Acceleration Centre in Clonmel Co Tipperary demonstrates the impact of this regional infrastructure in supporting high-potential startups and scaling ventures.



Questum Acceleration Centre: Driving High-Impact Startups in the South-East

Located in Clonmel, the Questum Acceleration Centre is a cornerstone of TUS's regional innovation and enterprise network. Purpose-built to support scaling startups and high-potential ventures, Questum offers incubation, acceleration, and advisory services in a vibrant, innovation-driven environment.

Questum has been home to standout companies such as Shorla Oncology (EY Entrepreneurs of the Year 2024), Theradep, and Skanstec, each contributing to innovation leadership and economic development across the South-East and beyond.

The Centre operates an active Entrepreneurs in Residence programme, including respected industry leader Tom Brennan, providing hands-on mentorship and strategic guidance. Governance is strengthened by an Advisory Board chaired by Pat McGrath, with strong regional support from Anthony Fitzgerald of Tipperary County Council. Integrated into the wider TUS RDI ecosystem, Questum connects resident companies to the university's Technology Gateways, industry clusters, and national and international networks. The centre plays a key role in supporting regional



and international job creation, entrepreneurial capacity-building, and enterprise-led innovation

Recognising its success and future potential, TUS is actively pursuing plans to expand Questum, ensuring that it continues to scale its impact and support the next generation of high-growth ventures through 2029 and beyond.

New Frontiers

New Frontiers is Ireland's national entrepreneur development programme, funded and managed by Enterprise Ireland, supporting the creation and growth of high-potential startups across all regions. Aligned with Enterprise Ireland's evolving strategy to foster innovation-driven, globally scalable enterprises, New Frontiers offers a structured, phased programme that enables founders to validate ideas, develop robust business models, and build investor-ready ventures.

At TUS, New Frontiers is delivered in the Midlands-Mid-East region by the Midlands Innovation and Research Centre (MIRC) in partnership with MaynoothWorks at Maynooth University, and in the Midwest region from the Hartnett Enterprise Acceleration Centre in collaboration with the UL Nexus Centre.

Participants benefit from intensive business development training, one-to-one mentoring, incubation space, R&D advisory supports, and access to a network of industry experts and investors. Financial support is provided by Enterprise Ireland during the programme, enabling founders to focus full-time on developing and scaling their ventures.

New Frontiers at TUS is deeply integrated into the university's RDI ecosystem - giving participants access to Technology Gateways, industry clusters, research institutes, and a connected local, national, and international network.

Alumni from New Frontiers at TUS include Dr Paul Byrnes (co-founder of Mavarick.ai), John Killian (co-founder of GreyScout), Ian Kerr (founder of IDASO), Marie Toft (Emotionise AI), and Hannah Wrixon (founder of WrkWrk).

New Frontiers plays a critical role in advancing TUS's Goal 3 by fostering entrepreneurial talent, supporting innovation-led growth, and strengthening the regional and national startup ecosystem.

TUS Works

TUS Works is a university-wide innovation and entrepreneurship programme, operated by the Innovation & Enterprise team under the TU RISE framework, designed to support TUS researchers, academic staff, and students in developing the skills, networks, and pathways needed to bring research-led innovation to market.

How does it work?

TUS Works offers a structured, flexible pathway: TUS Works Pathfinder: a pre-accelerator helping participants validate ideas, assess commercial potential, and build innovation and entrepreneurial skills.

TUS Works: Works+ is post-programme tailored support, including one-to-one mentoring, spin-out readiness clinics, legal and IP advisory, and customised pathways for licensing or venture formation.

Participants also benefit from:

- Commercialisation Fridays: monthly knowledge-sharing and skills sessions.
- Startup Clinics: one-to-one venture support and advisory including support from the TUS EiR programme (Entrepreneurs, Executives & Experts in Residence mentoring programme).
- Hackathons and Design Jams - innovation and ideation events
- Opportunity Mining Workshops - early-stage idea development
- Innovation Champions Network - peer mentors embedded across faculties and research institutes
- Access to a Commercialisation Toolkit - providing step-by-step guidance.



Student Inc.

Student Inc. is Ireland's national student accelerator programme, funded by the Higher Education Authority (HEA), supporting full-time students from first year undergraduate to PhD level across participating higher education institutions.

TUS delivers Student Inc. for students across the Midlands and Midwest regions, offering a structured, intensive programme that helps students develop, validate, and progress their business ideas. Over 13 weeks, students engage in intensive training workshops, mentoring sessions, and hands-on development activities. Each participant also receives a stipend, enabling them to dedicate their summer to entrepreneurial and innovation-led skill development outside the academic term.

The programme provides a structured journey that equips students with the skills, tools, and networks needed to transform ideas into viable business propositions - offering access to incubation space at TUS's four campus incubators, expert mentoring, network building, review sessions, and R&D support. Many Student Inc alumni have successfully progressed onto programmes such as New Frontiers, demonstrating the pathway to further entrepreneurial development beyond Student Inc.

In 2025, TUS launched Creative Student Inc, a new sector-specific pilot under the national Student Inc programme, building on the success of TUS-led initiatives like Crafting Business and Cultivator, and other similar programmes delivered by Student Inc partners including IADT. This new strand reflects our ambition to develop tailored supports for key sectors, with further sector-focused pathways anticipated over the lifetime of this strategy.

Student Inc complements TUS Works, providing an intensive, stipend-supported pathway for student researchers to focus on commercialisation and entrepreneurship. It plays a key role in fostering innovation capacity, shaping future entrepreneurs, and expanding TUS's impact within the regional and national research and enterprise ecosystem.

Collaboration and Support

TUS Works is delivered in close collaboration with the Knowledge Transfer and Commercialisation Office (KTCO), the Research Support Office, Research Institutes, and the Graduate School, ensuring a connected and supportive internal innovation ecosystem.

Why it Matters?

TUS Works is supported by the Higher Education Authority (HEA) through the TU RISE Scheme, co-funded by the Government of Ireland and the European Union under the ERDF Southern, Eastern & Midland Regional Programme 2021–2027. The programme advances the national objective to build smarter, more competitive regions by strengthening research commercialisation, licensing, and spin-out activity.

TUS Works also aligns with national innovation and enterprise strategies, complementing initiatives supported by Enterprise Ireland, Knowledge Transfer Ireland, and Research Ireland, contributing to Ireland's ambition to translate publicly funded research into high-impact enterprise and regional development.



Strategic Actions

- Strengthen and scale the impact of internal supports for research-driven entrepreneurship, venture creation, and commercialisation, accelerating pathways to market and international growth.
- Deliver enterprise supports through programmes such as New Frontiers and Student Inc., fostering innovation-driven start-ups with strong scaling potential and global market ambition.
- Increase research commercialisation outputs, including spin-out companies, licensing agreements, and collaborative innovation projects with enterprise partners, enhancing competitiveness and high-value job creation.
 - Position TUS's innovation and enterprise centres as critical hubs for regional development and community engagement, supporting expansion initiatives such as Questum Acceleration Centre to drive entrepreneurial growth.
- Embed entrepreneurship and innovation learning across undergraduate, postgraduate, and researcher development programmes to foster entrepreneurial mindsets, strengthen researcher career pathways, and develop the next generation of innovation leaders.
- Build strategic partnerships across national and international innovation ecosystems to enhance scaling opportunities and accelerate the internationalisation of enterprises and research outcomes.
- Advance inclusive innovation initiatives, supporting diversity, gender equality, and underrepresented groups in entrepreneurship and enterprise development.



Strategic Actions Continued..

- Enhance intellectual property management and commercialisation processes to maximise research and innovation impact and increase the pipeline of spin-out ventures.
- Support the development of industry-informed professional doctorates and structured research pathways that contribute to enterprise-led innovation, address skills gaps, and deliver solutions to regional, national, and global challenges.
- Strengthen regional innovation diffusion by fostering collaboration with SMEs, spin-ins, social enterprises, and industry clusters to boost competitiveness and support sustainable growth.

Research Impact Case Study

Our four case studies highlight how TUS leverages its areas of expertise to drive real-world impact, showcasing leadership in innovation and the strength of its academic-industry collaborations.

ICT & Creative Industries

Partnering with Ericsson and Three, TUS leads cutting-edge research into next-generation communication technologies, exploring applications of 5G in sectors like healthcare, smart cities, and manufacturing.

Unlocking the Future: How TUS and Partners Are Driving 5G Innovation in Ireland

Standing at the forefront of Ireland's digital transformation, TUS is strategically leading a groundbreaking initiative aimed at accelerating digital transformation in the Irish Midlands through the deployment and application of 5G standalone technology. Under the leadership of Dr Enda Fallon, in collaboration with Anthony Cunningham and the COMAND Technology Gateway, and in partnership with Ericsson, Three and Samsung, the project aims to showcase the potential of next-generation connectivity. Through a series of applied use cases, it integrates cutting-edge research with community engagement and regional economic development, highlighting the transformative impact of 5G standalone technology.

Capitalising on TUS's research expertise and Three's advanced 5G network infrastructure to develop practical, scalable solutions with direct relevance to industry and society. The use of 5G standalone technology characterised by ultra-low latency and real-time data transmission - enables transformative applications across a range of sectors. In agriculture, for instance, the integration of autonomous vehicles and connected systems supports increased productivity, cost reduction, and environmental

sustainability, strengthening Ireland's agri-tech competitiveness. In the area of sports and performance analytics, cloud-based optical recognition tools are enhancing player development, coaching strategies, and officiating accuracy. An innovative application, Angel on My Shoulder, utilises drone technology and 5G connectivity to monitor athletes during training sessions, offering immediate feedback on performance, safety, and wellbeing.

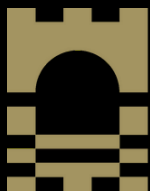
Serving as a central coordinator, TUS spearheads research and educational outreach, and ensuring that the benefits of technological advancement are inclusive and regionally embedded. Ericsson, a long-established technology leader in the Midlands region, contributes both to the project's technological development and to the alignment of academic programmes with future industry needs. The company's recent commitment to invest €200 million in research, development, and innovation at its Athlone facility reflects its long-term vision for the region as a centre of ICT excellence.

The overarching aim of the initiative is to foster a more connected, digitally enabled, and resilient regional economy. By prioritising inclusive engagement with local communities, SMEs, and social enterprises, the project ensures that technological advancements are both accessible and impactful. The long-term goal is to establish the Irish Midlands as the most connected and digitalised region in Europe.

Through its integrated model of applied research, skills development, and industry collaboration, this initiative represents a forward-looking framework for regional innovation. It offers a compelling example of how academic institutions, global technology partners, and local communities can work together to realise the full potential of emerging technologies for societal benefit.





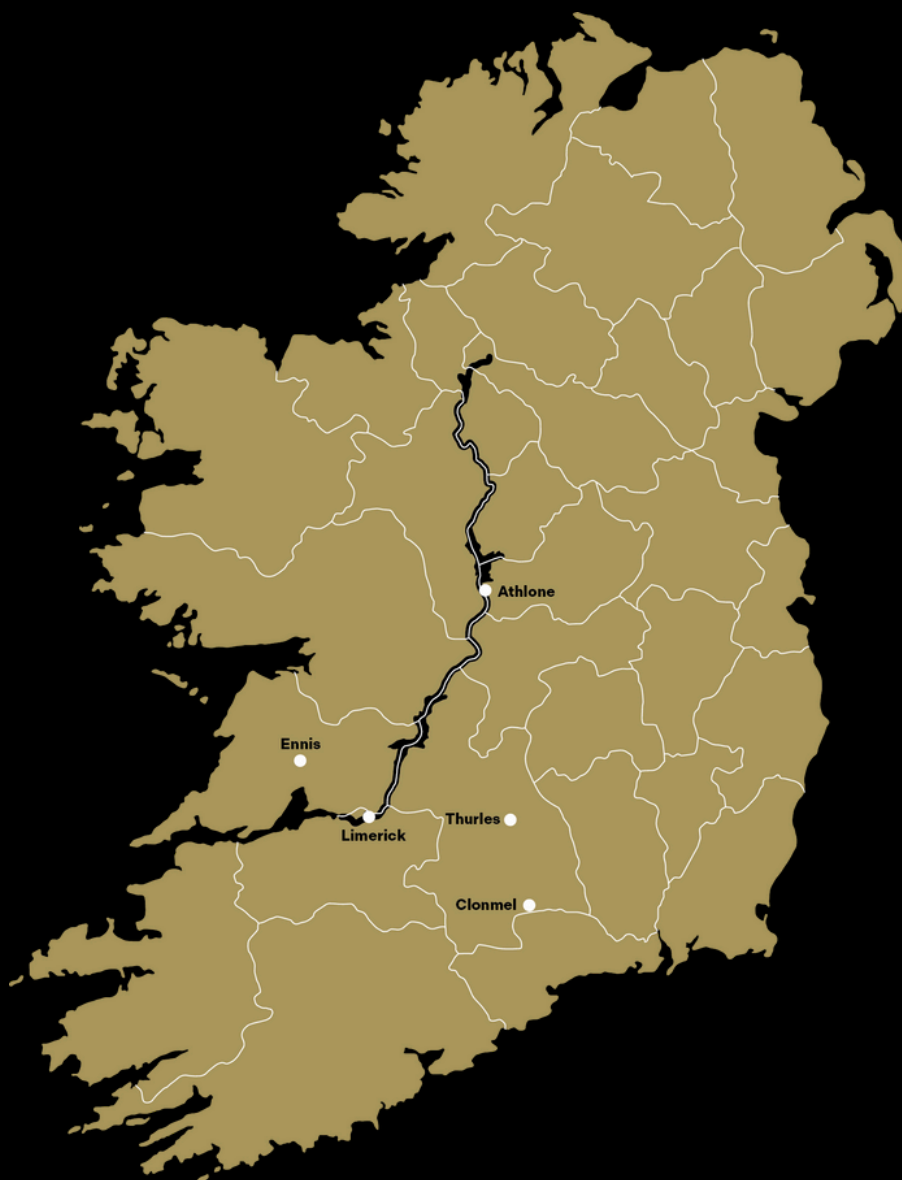


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