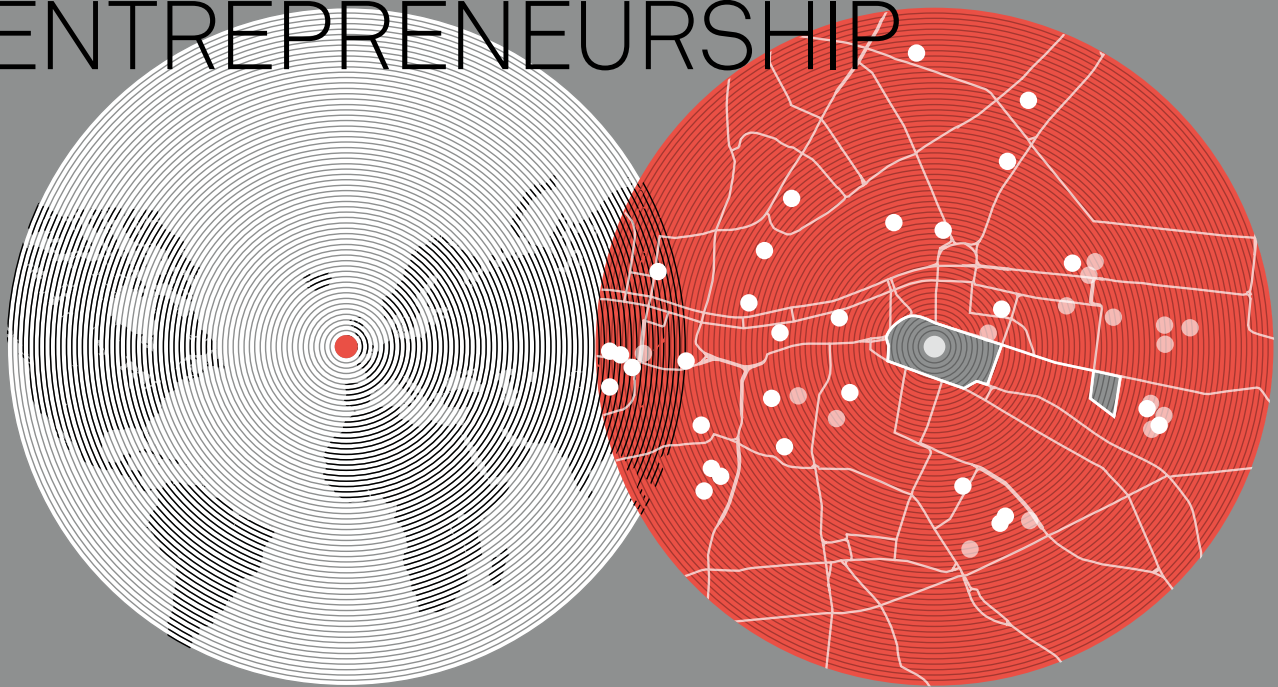
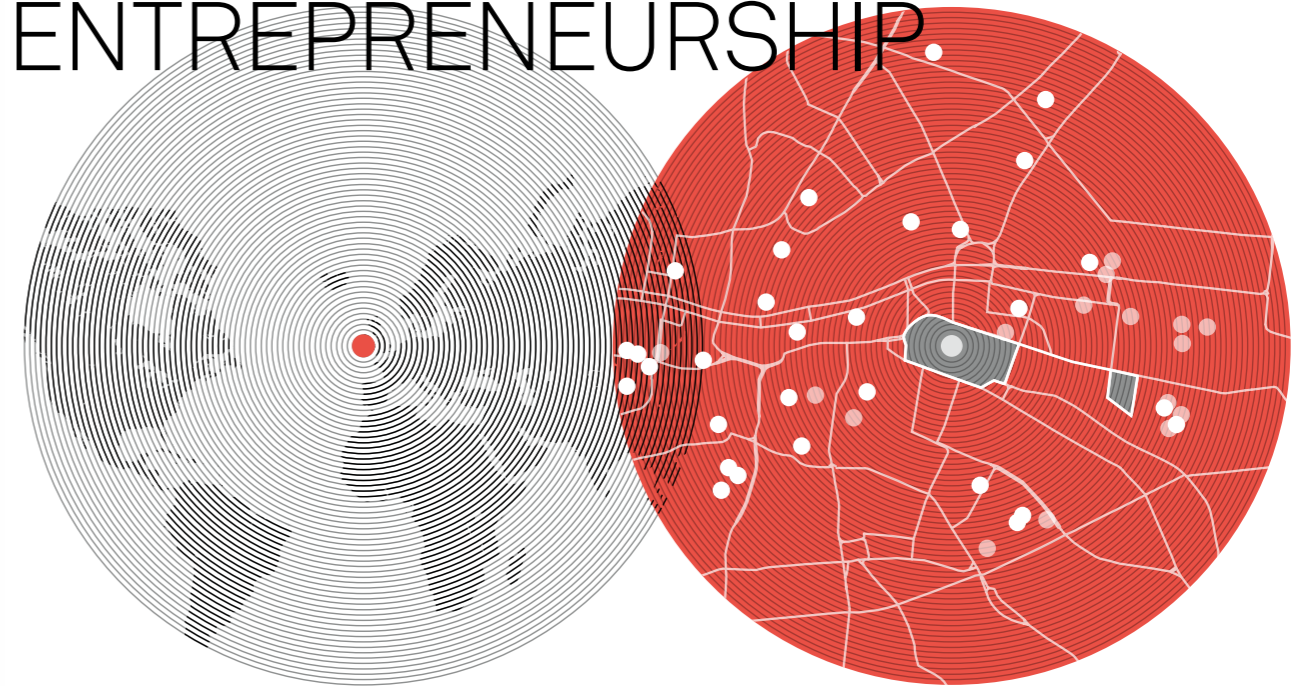


# STRATEGY FOR INNOVATION AND ENTREPRENEURSHIP



# STRATEGY FOR INNOVATION AND ENTREPRENEURSHIP.



# TRINITY — CREATING VALUE FOR IRELAND



For generations, Trinity College Dublin has delivered high-quality, internationally recognised education based on a foundation of excellence in research and scholarship. The University provides a unique and vibrant student experience that adds significant value to students' personal development, and we are proud to have produced generations of leaders, decision-makers, innovators and entrepreneurs.

We recognise that we live in a world undergoing rapid economic transformation. The major driver of this transformation is competition between regions and cities. Universities play a pivotal role in winning this competition because they can be catalysts for innovation and value creation.

Trinity is at the heart of the national push to attract talent to Ireland, nurture existing talent, and turn good ideas into sustainable jobs. We collaborate with eight of the top 10 ICT exporters in Ireland, and partner with eight of the top 10 medical device companies. Last year, we entered into 100 research agreements with industry. Trinity now accounts for one-fifth of all spin-out companies from Irish higher education institutions.

These are impressive figures, and the foundation for further progress. Trinity's new Innovation and Entrepreneurship Strategy will further embed a culture of innovation and entrepreneurship right across the University. This Innovation and Entrepreneurship Strategy will permeate the activities of Trinity's 24 academic schools, as well as integrating our flagship research institutes – the Trinity Biomedical Sciences Institute, the Centre for Research on Adaptive Nanostructures and Nanodevices, the Trinity Long Room Hub Institute for the Arts and Humanities, the Institute for International Integration Studies, and the Trinity College Institute of Neuroscience, along with E3, the planned Institute for Engineering, Energy and Environment and a set of national research centres addressing information and communications technologies. A new Trinity Innovation and Entrepreneurship Hub will be housed in a world-class facility, co-located with an expanded School of Business.

The strategy reflects Trinity's commitment to harnessing the creative, disruptive promise of innovation for Dublin and for the country. We want to play our part in the renewal of society and the economy by providing the best educational environment for learning the skills of business and entrepreneurship, and by working with the research, creative and enterprise communities in a partnership for innovation. This should be underpinned by an enabling policy mix, with Government and Trinity working together for Ireland's future.

The new strategy is about forging an entrepreneurial campus, with a focus on bringing forward a new generation of graduates who know how to create new jobs – as well as to get them. The Innovation and Entrepreneurship Strategy will underpin a concerted mission to deliver economic, cultural and social value founded on research and scholarship, as well as the education of future generations of entrepreneurially-minded graduates.

Located in the heart of Dublin city as the University of Dublin, Trinity is a natural 'creative incubator' where the city's 'tech', cultural and scientific ecosystems merge. We aim to make best advantage of this for Ireland, helping Dublin to position itself among the world's most innovation-intensive cities.

Trinity already acts as an innovation hub in the capital city. We plan to magnify that role, acting as a catalyst for high-tech and creative clusters by feeding through a talent pool and stimulating knowledge transfer. The Trinity Innovation and Entrepreneurship Hub will build on Dublin's innovation heritage, and support initiatives such as 'Activating Dublin' in maximising the capital city's start-up ecosystem and international visibility. Our plans for creative entrepreneurship have huge potential for the development of a creative quarter blending creativity with technology, and extending along the Pearse Street corridor to the Grand Canal Basin.

We believe that the Strategy for Innovation and Entrepreneurship can contribute to economic growth, spurring on a new wave of innovation in Dublin. Trinity innovators and entrepreneurs will generate long-term economic impact for the country. We believe Trinity's new strategy can be an enabling framework for value creation in Ireland, we hope you will join us on the implementation journey.

**Dr Patrick Prendergast**  
Provost

# TRINITY — CATALYSING A REGIONAL INNOVATION ECOSYSTEM FOR IRELAND

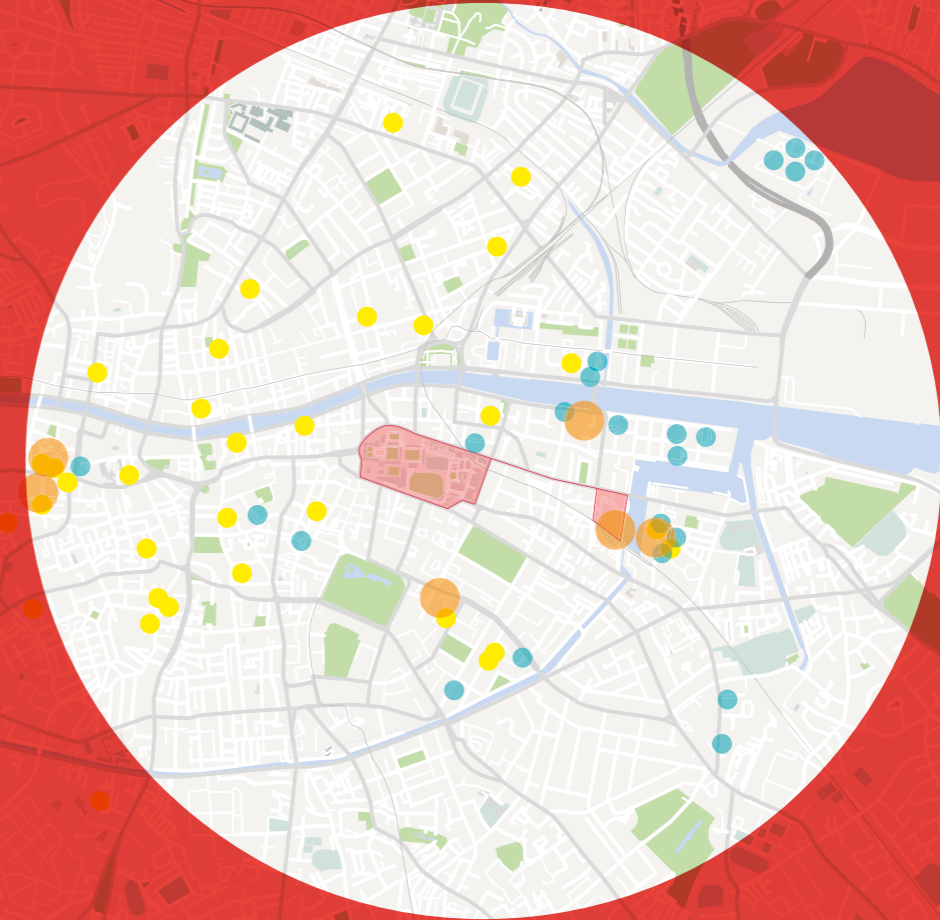
Dublin boasts a thriving innovation ecosystem and has seen the emergence of a dynamic entrepreneurial culture in the past two decades. Universities are recognised as being one of the driving forces behind the creation of innovation clusters leading to economic growth and job creation. Trinity is currently at the forefront of this activity in the capital city. Building on that foundation there is potential to substantially grow the city's innovation ecosystem and position it as a leading global innovation and start-up centre. Trinity, as an integral part of the city's ecosystem, has a central role to play in that process. Its new strategy for Innovation and Entrepreneurship aims to further drive the development of Dublin as an innovation cluster.

Recognising the many guises under which innovation and entrepreneurship appear – scientific, technological, commercial, social, creative, and cultural – Trinity has identified its broad base of disciplinary activity as an opportunity for university-wide participation in innovation and entrepreneurship. We intend to take a truly integrated approach to innovation and entrepreneurship that is also unique internationally and is founded on an approach to education and research that allows creativity and innovation to flourish. We will promote a new approach to education, of which innovation will be a centrepiece. We will pursue a new approach to creating value from research, in collaboration with our enterprise, social and cultural partners.

▶ START-UP CLUSTERS

▶ TECH COMPANIES

▶ CREATIVE ENTERPRISES



We will support the development of new and expanding businesses, across the information and communications technology, biomedical and biotechnology, energy and environmental, and cultural and creative sectors.

We will explore the potential for creative entrepreneurship to deliver significant value and impact through the development of a creative quarter blending creativity with technology, and extending along Pearse Street to the Grand Canal Basin – a corridor that extends from College Green to Boland's Mills.

**New disruptive ideas combined with smart business models will lead to new social, technological, and cultural enterprises, creating value and sustainable jobs for Ireland.**

**ACTING AS A CATALYST FOR ECONOMIC DEVELOPMENT IN THE CAPITAL CITY, TRINITY WILL CONTINUE TO:**

- provide world-class education that values independence of thought, imparting the skills and motivation to be the entrepreneurs and innovators of the future;
- tap into global innovation networks speeding up the development of the Dublin innovation system;
- provide discoveries that lead to spin-outs and knowledge transfer;
- attract leading scientists and researchers who have established themselves at the forefront of research in their fields and can stimulate disruptive innovation;
- provide knowledge-based services to companies operating in Ireland;
- foster a regional innovation culture;
- develop entrepreneurial and management competencies;
- spur innovation and growth through its engagement with industry and government;
- act as a 'connector' for Dublin in building a regional innovation network.

 16,646

NUMBER OF STUDENTS

 45

START-UP COMPANIES INCUBATED ON CAMPUS FOR 2013

 4,472

NUMBER OF POSTGRADUATES

 290

INVENTIONS FROM 2008–2013

 100,277

NUMBER OF ALUMNI

 38

CAMPUS COMPANIES FORMED FROM 2008–2013

 70

LICENCES TO INDUSTRY FROM 2008–2013

# TRINITY — A UNIVERSITY FOR ENTREPRENEURSHIP

Ireland has made significant investment in research over the last ten years that has resulted in a step-change in both the quality and quantity of research that is being undertaken within the country. In particular, this investment has seen the emergence of a new generation of graduate students and postdoctoral researchers that are increasingly innovative and entrepreneurial in their outlook. Motivated by the early success of high-profile Trinity spin-outs such as Iona Technologies in the 1990s and more recently Havok in information technology, and IdentiGEN and Opsona Therapeutics in the biomedical sciences, this generation of researchers is increasingly eager to maximise the impact of their

research, and this will lead to economic and social benefit for the whole country as well as the founders. Likewise, Trinity's undergraduates are increasingly innovation-minded and entrepreneurial. It is clear that there is significant potential for Trinity to strengthen and enhance the achievements to date. It will take a proactive role in the development of the capabilities and structures required to develop and exploit the potential latent in research and educational activities associated with innovation and entrepreneurship. It will promote innovation as a process that transforms the outcomes of joint education and research into real world impact and value.



**THE MAIN PILLARS OF TRINITY'S STRATEGY FOR INNOVATION AND ENTREPRENEURSHIP ARE:**

- a new approach to education of which innovation will be a centrepiece;
- a new approach to creating value from research, in collaboration with our enterprise, social and cultural partners;
- the development of a world-leading entrepreneurship education available to all undergraduate and postgraduate students;
- a substantially expanded School of Business playing a leading role as a source of education and training to support innovation and entrepreneurship across the university and the city;
- a new Trinity Innovation and Entrepreneurship Hub housing support for innovation and entrepreneurship throughout the university building on the research strength of our institutes and schools;
- a new Office of Corporate Partnership and Knowledge Transfer, positioning Trinity as a partner of choice for industry and business, supporting access to intellectual property and providing knowledge-based services to companies;
- development of an emblematic building, to house the Trinity Innovation and Entrepreneurship Hub and the School of Business and designed to facilitate a variety of activities supporting innovation and entrepreneurship.

**Innovation will transform  
the outcomes of education  
and research into real world  
impact and value.**



# TRINITY — A WORLD-LEADING RESEARCH UNIVERSITY

Trinity is recognised as one of the world's leading research-intensive universities and its research continues to address issues of global societal and economic importance. The University's research strategy is based on developing multi-disciplinary areas in which the College has the critical mass of world-class researchers needed to deliver research of global consequence. Among the priority research themes being addressed by Trinity researchers are ageing, nanoscience and materials, telecommunications, neuroscience, human identity, cancer, international integration, arts practice, and the inclusive society. These are topics that not only address issues of immediate and long-term concern to society but offer opportunities for future economic development.

The University's commitment to a research-led education means that our students are exposed to leaders in their discipline, to the latest knowledge and ideas, and to an education that emphasises analytical skills and creative thinking, and gives students an opportunity to develop a broad range of skills by engaging in personal research.

This excellence in research underpins Trinity's Innovation and Entrepreneurship strategy. Research is central to the generation of the new disruptive ideas that will underpin future sustainable businesses. The knowledge created by Trinity is critical for the social, cultural and economic development of Ireland as it is for the education on offer to our students.



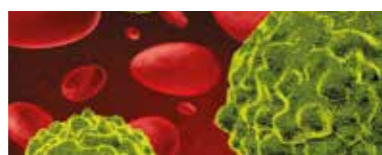


**04 TRINITY — A WORLD-LEADING RESEARCH UNIVERSITY**

Trinity's research themes are supported by a set of research institutes that provide the infrastructure needed to support multi-disciplinary research as well as engagement with enterprise and social partners working in partnership with Trinity's 24 schools:



**THE PLANNED ENGINEERING, ENERGY AND THE ENVIRONMENT INSTITUTE** will address energy and sustainability.



**THE TRINITY BIOMEDICAL SCIENCES INSTITUTE** with a research focus on immunology, cancer, & bioengineering.



**THE TRINITY COLLEGE INSTITUTE OF NEUROSCIENCE** with a research focus on neuroscience.



**THE CENTRE FOR RESEARCH ON ADAPTIVE NANOSTRUCTURES AND NANODEVICES** with a research focus on nanoscience and materials and next-generation medical devices.



**THE TRINITY LONG ROOM HUB ARTS AND HUMANITIES RESEARCH INSTITUTE** supporting research on identities in transformation, digital humanities and creative arts practice.



**THE INSTITUTE FOR INTERNATIONAL INTEGRATION STUDIES** addressing international integration, international development, and the inclusive society.

Trinity also leads three national research centres funded by Science Foundation Ireland that together underpin its excellence in ICT and engagement with industry: AMBER, a partnership between leading researchers in material science and industry to develop new materials and medical devices, CTVR,

the Telecommunications Research Centre, and CNGL the Centre for Global Intelligent Content.

Trinity therefore represents a focal point for research located at the heart of the ICT and creative innovation ecosystem that has emerged in Dublin in recent years.

**WORLD UNIVERSITY RANKINGS**

**01**  
UNIVERSITY IN IRELAND <sup>1</sup>

**18<sup>th</sup>**  
IN EUROPE ACROSS ALL INDICATORS <sup>2</sup>

**61<sup>st</sup>**  
IN THE WORLD ACROSS ALL INDICATORS <sup>2</sup>

**RESEARCH PERFORMANCE RANKINGS**

**09<sup>th</sup> / 42<sup>nd</sup>**  
IN EUROPE / THE WORLD <sup>4</sup>

**top 1%**  
OF RESEARCH INSTITUTIONS IN THE WORLD IN 18 FIELDS <sup>5</sup>

**61<sup>st</sup>**  
IN THE WORLD IN TERMS OF RESEARCH IMPACT <sup>3</sup>

**SUBJECT RANKINGS/ QS FACULTY RANKINGS**

**55<sup>th</sup>**  
IN THE WORLD IN ARTS AND HUMANITIES <sup>2</sup>

**top 100**  
WORLD UNIVERSITIES IN ENGINEERING AND TECHNOLOGY <sup>2</sup>

**top 100**  
WORLD UNIVERSITIES IN LIFE SCIENCES AND MEDICINE <sup>2</sup>

**Statistics Sources**

<sup>1</sup> QS World University Ranking, THE World University Ranking, Academic Ranking of World Universities (Shanghai)

<sup>2</sup> QS World University Ranking 2013

<sup>3</sup> Times Higher Education World University Ranking 2013

<sup>4</sup> Leiden University Ranking of World Universities, May 2013

<sup>5</sup> Essential Science Indicators (Thompson Reuters) November 2013

# TRINITY — EDUCATING ENTREPRENEURS

Trinity's commitment to enabling future generations of students to create their own companies and jobs with long-term benefits for the economy and society is founded on an approach to research and education that promotes creativity and innovation. Building on its existing entrepreneurship programmes, Trinity will pioneer an integrated approach to innovation and entrepreneurship permeating all levels of education. To support the initiative Trinity intends to create a cadre of Innovation lectureships that are philanthropically funded across schools to provide discipline-specific leadership in innovation, design thinking, and entrepreneurship.

An entrepreneurship education recognises that innovation and creativity are at the heart of a research-inspired curriculum. That is why Trinity will provide all undergraduate students with an opportunity to undertake a research/innovation project in their final year and to incubate results that might lead to new businesses. The programme will also serve to develop a broad range of skills that are attractive to employers. In a new departure for Trinity in scale and reach, an entrepreneurship education will be available to students from all disciplines including engineering, science, health-care, arts, humanities and the social sciences.



**FOR THE ENTREPRENEURS OF THE FUTURE,  
TRINITY AIMS TO:**

- **CREATE** the mindset of the innovator and entrepreneur in the early stages;
- **ENABLE** experimentation, practice and refinement of ideas, products and services;
- **PROVIDE** a broad range of skills in leadership, ideation, management and organisation, operations management, organisational behaviour, design thinking, marketing, accounting, and law among others.

At postgraduate level, Trinity will deliver a range of new postgraduate taught programmes in innovation and entrepreneurship, supporting creative entrepreneurs, social entrepreneurs, as well as business and 'tech' entrepreneurs. Building on existing programmes, it will draw on interdisciplinary skills, expertise from across the schools, as well as input from our partners.

Ireland's entrepreneurs and professional managers will also be able to avail of executive education of the highest quality at Trinity. It will deliver courses that will service the ongoing and emerging developmental needs of these professionals ensuring that they have access to the educational programmes that will equip them to grow global businesses of scale and value.

**TRINITY STUDENT ENTREPRENEURIAL SOCIETY****1,700**

MEMBERS

**10%**

OF TRINITY STUDENTS

**UNDERGRADUATE SPIN OUT COMPANIES**

**DAFT** – founded by Trinity graduate Brian Fallon



**TAXBACK** – Terry Clune, also Trinity graduate



**FOODCLOUD** – founded by Trinity graduate, Iseult Ward

**THE NEWLY LAUNCHED M PHIL IN CREATIVE AND CULTURAL ENTREPRENEURSHIP**, which integrates entrepreneurship with the development of creative practices, embodies the type of programme to be developed and is jointly provided with Goldsmiths, University of London. It is the first postgraduate course of its kind ever to be launched in Ireland and aims to encourage and support creative entrepreneurship in Ireland.

**THE INNOVATION ACADEMY** a partnership with QUB and UCD that educates PhD students to recognise the innovation potential of their research and exploit their ideas in a competitive world will also be expanded as an exciting intellectual space that promotes creativity and innovative thinking in postgraduate students.



# THE TRINITY SCHOOL OF BUSINESS — SUPPORTING INNOVATION AND ENTREPRENEURSHIP

The Trinity School of Business has a pivotal and integrative role to play as a source of education, training and research in support of innovation and entrepreneurship across the University. Best practice within the international higher education system reveals that successful innovation and entrepreneurship activities are primarily rooted in a core set of schools such as Business, Engineering, Computer Science and (Biomedical) Science. Providing a cohesive approach across these disciplines can be challenging. However, Trinity's approach to business

education has been unusually integrated within the fabric of the University. Students studying business mostly do so in conjunction with other social science disciplines, languages, law or computer science. Furthermore, Trinity's wide-ranging disciplinary suite and its current activity set creates an opportunity to develop a broadly-based portfolio of innovation-focused activities that extends beyond engineering and science to embrace creative and cultural domains. Achieving this will require an even more integral positioning of the School within the University.



The School of Business will act as a focus for educational activities relating to the organisation, management, leadership, commercialising and operationalising of innovation and entrepreneurship. In doing so, its courses and programmes will be made available across all disciplines and with a corresponding multi-disciplinary research focus.

To enable this strategy Trinity will significantly expand the School to support the growth of innovation and entrepreneurship in the public, private, social and cultural sectors. This will be done by hiring and deploying a cadre of 30 new academic staff over the next five years to deliver the academic and practice-based content envisaged while also developing new specific learning concentrations around innovation and entrepreneurship.

A new Professor of Business Studies with a specialism in innovation and entrepreneurship will be recruited to provide both conceptual and practice-based leadership for this initiative. Further staff will then be recruited in subject areas supportive of innovation and entrepreneurship. The intention is to develop customised and transformative learning in areas such as organisation and management, leadership, finance, marketing and operations that is supportive of innovation and entrepreneurship. This will lead to the delivery of new modules and programmes that are supportive of the strategy.

A new state-of-the-art building will be designed and built to house the School and reflect its role in delivering education and research that is central to innovation and entrepreneurship. This world-class facility will provide the co-location of the School of Business and the Trinity Innovation and Entrepreneurship Hub.

06

## NEW UNDERGRADUATE PROGRAMME MODULES:

- ▶ THE SPIRIT OF ENTREPRENEURSHIP
- ▶ SOCIAL INNOVATION & ENTREPRENEURSHIP
- ▶ ACCOUNTING
- ▶ FINANCE
- ▶ MARKETING
- ▶ STRATEGY

30

## NEW ACADEMIC STAFF

10

## NEW POSTGRADUATE PROGRAMMES

1000

## POSTGRADUATE STUDENTS



# THE TRINITY INNOVATION AND ENTREPRENEURSHIP HUB — DRIVING INNOVATION AND ENTREPRENEURSHIP UNIVERSITY-WIDE

The Trinity Innovation and Entrepreneurship Hub, to be co-located with the School of Business, will act as a venue to promote scientific, technological, commercial, social, creative and cultural innovation and entrepreneurship activity throughout Trinity. It will act as a facilitator and enabler for integrating such activity with multi-disciplinary excellence in research and scholarship. The Trinity Innovation and Entrepreneurship Hub, will support collaborative research aimed at generating new products and services that will be of economic and social benefit and contribute to the Irish innovation ecosystem.

It will support the full pipeline of activities intended to create value from research and scholarship. At one end of the pipeline, the Innovation and Entrepreneurship Hub will be a nucleus for academic centres addressing innovation and entrepreneurship activity including the Centre for Innovation and Entrepreneurship, the Centre for Social Engagement, and a planned Centre for Creative and Cultural Entrepreneurship. The Trinity Innovation and Entrepreneurship Hub, will provide training, services and facilities to students and staff engaged in developing entrepreneurial skills allowing them to conceptualise, develop and prototype their ideas.



At the other end of the pipeline the Trinity Innovation and Entrepreneurship Hub, will house a number of incubator programmes at the disposal of Trinity staff and students to enable them to incubate and deploy new products and services.

The Trinity Innovation and Entrepreneurship Hub, will be located in a world-class facility co-located with the School of Business. It will provide an inspiring environment for education and research. It will be flexible and modular and capable of facilitating diverse activities such as design and creativity, workshops, lectures, seminars, prototyping and early-stage incubation.

The building will stand alongside facilities such as Aalto University’s Design Factory and Stanford’s Hasso Plattner Institute of Design as venues designed to inspire and enable creativity and innovation.

The Innovation and Entrepreneurship Hub will house Trinity’s new Office of Corporate Partnership and Engagement, and serve as an open space for engagement with and between social, commercial and cultural enterprises, state agencies, Trinity’s alumni and angel mentor network – the Trinity Angels, and the University.

**LAUNCHBOX**

LaunchBox aims to support students in developing investor-ready ventures. Supported by the Trinity Angels, a network of Trinity’s alumni and friends, LaunchBox offers an innovative combination of practice and education. Students are provided with seed funding, incubator space and master classes in marketing and funding.



**CREATIVE ARTS INCUBATOR PROGRAMME**

The Trinity Creative incubator is intended to position Dublin as a location of choice for international cultural and creative entrepreneurs and innovators. It would bring artistic, musical, film and literary culture together with emerging technologies and commercial skills in a new facility to support and nurture a new generation of young creative entrepreneurs.



01 The Trinity Biomedical Sciences Institute

03 Centre for Research on Adaptive Nanostructures and Nanodevices

05 The Trinity College Institute of Neuroscience

02 The Trinity Long Room Hub Arts and Humanities Research Institute

04 The planned Engineering, Energy and the Environment Institute

06 The Institute for International Integration Studies

# MAKING TRINITY THE PARTNER OF CHOICE FOR INDUSTRY AND COMMERCIALISATION

Trinity has always valued innovation and entrepreneurship and has been a national pioneer in the area of knowledge transfer. It was the first Irish university to have a technology transfer office. It produces more spin-outs than any other Irish university – many of which have grown to be leading companies e.g. Opsona, Havok, IdentiGEN, Iona Technologies. It supports collaborative research programmes with hundreds of Irish and international companies.

However, Trinity is also innovative in how it engages with partnership and knowledge transfer. It is committed to not just building on its past success but in transforming its approach to ensure its future performance is stronger; delivering greater impact for Ireland.

Trinity is establishing a new Office of Corporate Partnership and Knowledge Transfer. It will bring under one roof all of the functions necessary to support research collaboration and commercialisation for both internal and external parties. For industry it will provide a single interface, which will reduce any barriers for companies to interact with Trinity researchers and infrastructure. It will be a customer focused office that will incorporate Trinity's industry liaison, knowledge transfer, contracts and entrepreneurship activities.

TRANSLATING INVENTION THROUGH INNOVATION INTO JOBS

290 → 70 + 38

INVENTIONS

LICENCES TO INDUSTRY

CAMPUS COMPANIES FORMED IN PAST FIVE YEARS



**OFFICE OF CORPORATE PARTNERSHIP AND KNOWLEDGE EXCHANGE**

The Office of Corporate Partnership and Knowledge Transfer will transform how Trinity does business with business. It will also focus on reaching out to industry and the business community to develop partnerships that allow industry to benefit from the world leading teaching, research and infrastructure within Trinity. It will ensure that all of the pathways which enable knowledge transfer to industry are open and supported [e.g., student placements, materials transfer, licensing of technology, collaborative research programmes, and industry researchers-in-residence]. It will foster an internationally positive environment for industry-academic engagement and will make Trinity the partner of choice for collaborative research and open innovation.

It will provide enhanced support in the transfer of knowledge. As Trinity researchers develop value-creating innovations we will support this intellectual property being made available for campus company formation or license to external third parties. This is enabled through a new IP policy which is based on the principles of collaboration and open innovation. Principles intended to ensure that Trinity's research results are used for societal benefit and all barriers to commercialisation are minimised.

It will enable the broader activities of the Trinity Innovation and Entrepreneurship Hub. It will support the student-focused incubator programme, Launchbox. It will provide space to house post incubation start-up and other knowledge-based and creative companies as well as institutes and centres that have an industry focus in the Trinity Technology and Enterprise Campus, located on Pearse Street at the Grand Canal Basin.


**85**

SPIN-OUTS FORMED FROM TRINITY RESEARCH SINCE 1985


**400+**

RESEARCH COLLABORATIONS WITH INDUSTRY

**TRINITY IS COLLABORATING WITH:**

**08**

OF THE TOP 10 MEDICAL DEVICE COMPANIES


**14**

OF TOP 20 GLOBAL INNOVATIVE COMPANIES


**08**

OF THE TOP 10 ICT EXPORTERS

SPIN-OUT  
CASE STUDIES**HAVOK**

Havok, the games industry software company that was sold to Intel for €76m was originally set up by Trinity researchers Dr Steven Collins and Mr Hugh Reynolds. Havok is the world leader in the development and sale of real time physics and animation software to the games industry. The classic cycle of entrepreneurship from laboratory research to success in the marketplace by building a globally operating company was executed by the Trinity team. Havok was carefully planned through proof of concept to start-up to international venture, from internationalisation in Germany and on to the USA, to growth and to exit, and return to Ireland.

**OPSONA THERAPEUTICS**

Opsona Therapeutics is a biopharmaceutical company focused on the treatment of autoimmune and inflammatory diseases, and cancers. It was founded in 2004 by three Trinity researchers: former Professor of Medicine, Dermot Kelleher, Professor of Biochemistry, Luke O'Neill and Professor of Experimental Immunology, Kingston Mills – both at the School of Biochemistry and Immunology. It is actively identifying new ways to prevent and treat these diseases and has developed a unique and advanced pipeline of drugs at research locations in Dublin. The company has completed a series of rounds of financing, most recently, €33 million was raised and investors include Novartis Venture Fund, Fountain Healthcare Partners, Roche Venture Fund and Seroba Kernel Life Sciences, BB Biotech Ventures, Sunstone Capital, Baxter Ventures, Amgen Ventures, and EMBL Ventures.



**INTEL IRELAND**

Over the past 20 years Intel Ireland has had a dynamic and productive relationship with Trinity College which extends from the many Trinity graduates who have worked for Intel to the advanced R&D across a number of areas such as nanotechnology, digital health and digital media. It is one company – one university – lots of connections. Intel Ireland's participation in Trinity's nanoscience institute, CRANN, demonstrates a commitment to nanotechnology research in Ireland towards the provision of high-end solutions to future industry needs. There are currently four Intel researchers-in-residence at CRANN. Intel Labs Europe, are collaborating with Trinity and Dublin City Council in the 'Sustainable Connected Cities – Dublin' initiative that will see the development and testing of citizen centric services and solutions. These engagements illustrate how Intel and Trinity have collaborated on technological and social challenges of fundamental importance to society, accelerating the success of partnering and bringing new products and services to the market place.

**GOOGLE**

It partnered with Trinity to develop a new project aimed at transforming computer science in Irish schools. Under the project, teachers will have the opportunity to undertake a certified course in 21st Century Computer Science Teaching Skills, developed by the Trinity Access 21 network in Trinity College Dublin. Google has also supported the Science Gallery to develop its Global Science Gallery Network. Funding of €1.5m was allocated by Google to each of these projects. It also collaborates with Trinity in a broad range of additional initiatives, including the Centre of Creative Technologies that involves computer science, engineering and the dramatic arts.



8 COMPANIES BASED ON TRINITY RESEARCH ATTRACTED A COMBINED TOTAL OF OVER €57.8 MILLION IN VENTURE CAPITAL INVESTMENT IN THE LAST 2 YEARS:



**BIOCROÍ** offers solutions to advance current high-content screening of drug candidates in the drug development laboratory.



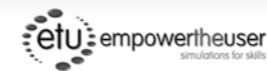
**GENABLE TECHNOLOGIES** is a bio-pharmaceutical company developing new gene medicines to treat dominant genetic diseases.



**OPSONA THERAPEUTICS** is a leader in drug development in immunology research, with particular focus on the innate immunity pathways.



**TRINO THERAPEUTICS** is a drug discovery and early drug development company focused on anti-inflammatory therapeutics.



**(ETU) EMPOWERTHEUSER** specialises in technologies for immersive learning and developmental skills.



**TRIMOD THERAPEUTICS** is founded on ground-breaking cancer immunotherapy technology.



**SWRVE** is dedicated to building lasting, personalised relationships with mobile app consumers.



**SILVERCLOUD'S** cloud-based platform aims to enable healthcare organisations to deliver a broad range of evidence-based clinical content programmes.

**The Office of Corporate Partnership and Knowledge Transfer will transform how Trinity does business with business**

# TRINITY — DELIVERING FOR IRELAND



Ireland's future depends on innovation. Trinity, as Ireland's leading university situated in Dublin's city centre, can be a key enabler, drawing on the best of our academic and industry partnerships in a new framework for innovation and entrepreneurship. Trinity is at the heart of an ecosystem, locally based but globally connected, that is helping to position Ireland as the vanguard of innovation. We are committed to matching disruptive ideas with smart business models. Trinity's Strategy for Innovation and Entrepreneurship will help us to make that link. It is an enabling plan for a step change in how Ireland approaches job creation and value-add for society and the economy.

Trinity's students and graduates will be among the job creators of the future. Under the Strategy for Innovation and Entrepreneurship, they will have access to new education experiences increasing their capacity as agents of innovation as well as access to incubator programmes to grow their ideas into new enterprises and creative businesses. They will be encouraged to work in teams and benefit from a broad teaching and learning experience. They will be guided by a holistic support system for innovation and entrepreneurship, with the new School of Business and the Trinity Innovation and Entrepreneurship Hub playing a central role.

The entrepreneurship education provided by the School of Business will help develop business creation and management skills across the city, supporting the scaling of new and existing ventures and transforming innovation into commercial and economic growth.

The innovations and knowledge created by our students and researchers will have greater commercialisation potential. Trinity will become a partner of choice for business and industry, as well as for collaborative research. Through interaction with the creative sector, industry partners and global research institutions, students will get access to high-level knowledge, creating the potential for disruptive innovations that can drive globally scalable businesses.

The Government's Action Plan for Jobs 2013 highlights seven 'disruptive reforms' which can drive job creation. Trinity's Strategy for Innovation and Entrepreneurship can help deliver on the Government's strategic national objectives, driving new innovations across a range of areas where there is economic growth potential for Ireland. Innovation clusters and regions across the world are predicated on the active partnership between a world-leading university, enterprise and government. Dublin can be the hub of a regional economic cluster

marked by innovative companies, with Trinity as the city centre 'connector' promoting new models of collaboration between enterprise and academia.

This is our vision for Dublin and for Ireland. The Strategy for Innovation and Entrepreneurship is a radical new blueprint for the development of Irish innovation, drawing together our best strengths as researchers and academics forging new connections with enterprise and government in the spirit of national endeavour.

Together, we can co-invest in Ireland's future.

**Professor Vinny Cahill**  
Dean of Research

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