







The KTI Impact Awards recognise successful collaboration between industry and researchers in Ireland. They also celebrate the commercialisation of research that translates knowledge and expertise for the wider benefit of our economy and society.

The awards also recognise the winner's university, institute of technology or research performing organisation (RPO) for promoting and supporting knowledge transfer at institutional level.

About the awards

Research2Business Collaborative Impact

Licence2Market Impact

Spin-out Company Impact

Consultancy Impact

Categories 2015

Dr. Ena Prosser, Fountain Healthcare Partners (Chair)

Dr. Alison Campbell, Knowledge Transfer Ireland

Dr. Phil Clare, University of Oxford

Denis Hayes, Industry Research & Development Group

Dr. Dara Dunican, Science Foundation Ireland

Dr. Mark Southern, University of Limerick

**Judging Panel** 

### Research2Business Collaborative Impact award

This award recognises collaborative research between Irish publicly funded RPOs and industry that has led to clear benefits for the company (or companies) involved. The collaboration will also have benefitted the research group and the institution.

For industry, the collaboration may include access to knowledge and expertise, technology, facilities and infrastructure, and might involve researcher or student exchange.

This year's entries provide a range of examples of collaboration, ranging from deep relationships formed with a single company to multi-company collaborative platforms.

Researchers nominated include those early in their career through to more established investigators. A common theme in the nominations is how researchers and companies communicate and develop a mutual understanding of business needs and research competencies, which lead to them developing meaningful relationships.

#### **Shortlisted nominees**

**Dr. Felicity Kelliher**Waterford Institute of Technology

**Dr. Peter O'Brien**Tyndall National Institute
University College Cork

**Dr. Tofail Syed**University of Limerick

Felicity lectures on doctoral, masters and executive programmes specialising in organisational behaviour, leadership, change management and business development at Waterford Institute of Technology (WIT).

She also facilitates executive development and small firm continuing professional development (CPD) initiatives through her work with the Research in Innovation, Knowledge, Organisations and Networks (RIKON) research group. She comanages the MBA organisational change programme, and supervises and examines masters and doctoral research candidates.

An award-winning academic for her research in small firm and executive capability development, Felicity has published in top-tier journals including the Journal of Tourism Management and the Journal of Business Ethics and has co-edited a book, Green Innovation and Future Technology (2014).

Before becoming an academic, she worked in international project management and consultancy from 1987 to 2000. Felicity's experience facilitates a balanced approach to practice/theory-led knowledge generation and integration, allowing for the co-creation of knowledge within and between RIKON, SMEs and WIT.

As a Fulbright Scholar, she travelled to the University of Missouri in 2015 to study trust among rural micro-firm networks. Felicity is a member of the Royal Irish Academy Social Science Committee, and is the membership officer and newsletter editor of the Irish Academy of Management. She received her PhD from Queen's University Belfast and is a visiting professor at Shanghai University, China.

Dr. Felicity Kelliher

Waterford Institute of Technology



Dr. Felicity Kelliher is a senior lecturer in management at the School of Business, Waterford Institute of Technology. She is also co-chair of RIKON, which she cofounded in 2008.

RIKON helps small and medium-sized enterprises (SMEs) be innovative, improve their learning capability and achieve sustainable business success by sharing knowledge from academia. The group is a leading service innovation provider in Ireland, having engaged with more than 1.000 SMEs.

Through work in areas such as process improvement, strategy development, market research, product development and marketing, it has helped clients to learn

best practice, improve their businesses and integrate research findings into developing their companies and staff.

RIKON has grown from three founders to a team of more than 30. It has engaged in more than 350 SME-based service and process projects through Enterprise Ireland's Innovation Voucher scheme. With support from Fáilte Ireland, RIKON has contributed to the up-skilling of more than 600 tourism operators through the Tourism Learning Network initiative, the senior tourism project and other programmes.

### **Impact**

#### Dr. Peter O'Brien

Tyndall National Institute University College Cork



Peter has a PhD in physics and a Masters in engineering from University College Cork. He also has a degree in physics from Trinity College Dublin. Before joining Tyndall, he was a visiting researcher at the University of California at Santa Barbara, the University of Marburg in Germany and the École Nationale Supérieure d'Électronique et de Radioélectricité de Grenoble. France.

He was a postdoctoral scholar at the California Institute of Technology and a research scientist at NASA's Jet Propulsion Laboratory, where he was responsible for development of terahertz semiconductor devices for space exploration.

Peter co-founded Biosensia, a point of care in vitro diagnostics company. He solely founded Epi-Light, which produces highly specialised optical systems for biotech and pharmaceutical imaging applications. He successfully sold Epi-Light in 2009 and the company continues to employ a team of engineers in Cork. Peter has also worked as a technical consultant performing due diligence for international venture capital companies and worked for some years for US multinational General Instrument

#### Impact

Dr. Peter O'Brien is head of the Photonics Packaging and Integration Group, which he established in 2008 at the Tyndall National Institute. He is also deputy director at the Irish Photonic Integration Centre (IPIC), a Science Foundation Ireland research centre. His research group develops advanced photonic prototypes in the medical devices and telecoms sectors.

With a strong outward-facing and business-friendly ethos, Peter's team enables large multinationals to create prototypes cost-effectively, which can be difficult in the constrained and focused environment of a multinational. For smaller companies without the necessary resources and equipment, the team offers bespoke services that are truly unique within the research community.

Peter's group has enabled Tyndall to offer complete prototyping solutions to industry. This work has increased the institute's ability to collaborate with a broad range of companies, including:

- · medical device manufacturers
- LED solutions and laser modules manufacturers
- commercial research laboratories such as Bell Labs
- · optical sensing companies

The group collaborates with leading industry partners such as Medtronic, Stryker, Covidien, STMicroelectronics and many Irish-based SMEs. Their collaborative work has produced new prototypes, patentable inventions and commercial licences. Many of the companies with which Peter engages are not only investing in development projects but also in PhD students.

The group focuses on carrying out flexible, cost-effective and client-focused research work. It has had multiple repeat customers (at least 50 per cent of current projects) and Peter is seen as a driving force for commercialisation in University College Cork.

Syed has a PhD in Physics from the University of Limerick (UL). He also holds an MSc and BSc in Metallurgical Engineering from Bangladesh University of Engineering and Technology. Tofail lectures at UL's Department of Physics and Energy, specialising in materials and physics. He has led 26 research projects in the past 10 years and secured about €19 million in research grants. Tofail's scientific interest is versatile, but centres on disruptive innovations in traditional products and tools.

His team also developed a campus company Tergo Technologies, which emanated from an EU-funded project he led. Tergo has developed a preventative technique that is applied to textile materials. It inhibits the growth and spread of microbes in healthcare environments and the wider community through the application of smart textiles.

**Dr. Tofail Syed**University of Limerick



A lecturer in biomaterials physics at UL, Dr. Tofail Syed has been collaborating with Irish industry on materials design since 2005. He developed a strong research relationship with medical device firm Cook Medical, which has seen the company return to the university to pursue further collaborations.

The initial project with Cook assembled a joint academic-industry team developing a low-cost alternative alloy to platinum. This was subsequently extended to a project to develop the process technology to productise the new alloy. A further project led to the production of a new radiopaque Nitinol wire that could replace titanium. Enterprise Ireland Innovation Partnership awards funded all of these projects.

Tofail's work with Cook has resulted in three distinct families of platform technologies. From these, 13 separate patent applications were filed in significant markets, three of which have been granted to date and 10 having patents pending.

The rights to the technology were licensed to Cook by UL under two intellectual property agreements. The outcomes from the research projects enhanced the profile of Cook's Limerick operation within the international parent. The work also supported the development of a state-of-the-art R&D innovation centre at the Limerick plant which further increased the number of high value jobs in the centre to more than 50.

More recently, Tofail has extended the application of his research beyond the biomedical device sector and has initiated innovation partnerships with Delta Filtration in Limerick and BorgWarner, Tralee.

Tailoring his expertise to company needs, he has also provided surface analysis services to companies including Guidant, Stryker, Element 6, Molex and OMC.

He provided materials consultancy advice to ChipSensor, a start-up that was sold to Silicon Labs for €10 million in 2010

#### Impact

KTI Impact Awards 2015 5

## Licence2Market Impact award

The Licence2Market award recognises a commercial product or service based on a licence to intellectual property rights (IPR) from an Irish publicly funded RPO. As it takes time for products to come to market, the underpinning licence may go back several years.

Submissions this year cover a range of sectors and technology types, including data analytics, thermal science and molecular biology. Licensees include company start-ups, SMEs and established companies.

The panel shortlisted two submissions that exemplify the pathway taken by a technology transfer office (TTO) to move IP intellectual property (IP) from an initial idea to a commercial licence and the subsequent development by the licensee to bring a product to market.

#### **Shortlisted nominees**

Diagnostic test for BSE

Professor Mark Rogers University College Dublin

TTO NovaUCD TTO Ecanvasser

Brendan Finucane and Dr. David Sammon University College Cork

TTO
University College Cork TTO

This product arose from a research collaboration between UCD researcher Professor Mark Rogers and a company specialising in computer-aided molecular design. It began in the early 1990s when Mark and his team used their expertise in prion proteins to develop specific antibodies that went on to form the basis of a diagnostic test for BSE (also known as mad cow disease).

The IP that underpinned the test combined a patent and secret know-how, giving it a particular commercial advantage that would prevent competitors from copying or using the technology.

When BSE and Creutzfeldt-Jacob disease in humans were directly linked in 1996, interest in the test skyrocketed. The IP was licensed to Enfer Scientific, which further developed the technology to a commercially robust diagnostic that became one of the first in Europe to get regulatory approval.

Enfer, initially a small company with six employees in Tipperary, expanded in response to the EU regulatory requirement for BSE testing and eventually became the leading company in Europe involved in testing meat for BSE. At its peak, it employed 120 and, by 2002, its turnover was €40m. Although demand for BSE testing waned, the experience enabled Enfer to diversify into producing many other diagnostic tests for livestock. It continues to be a major employer in the Irish veterinary sector.

This reliable Irish test was widely adopted in the meat industry. It boosted confidence in Irish beef in the supply chain and with the consumer. While UCD earned more than €2 million from the licensing of the BSE test, more importantly for the university, the license deal consolidated its relationship with Enfer. This has led to ongoing collaborative and contract research projects, and employment opportunities for UCD graduates.

## Diagnostic test for BSE

TTO
NovaUCD TTO

Professor Mark Rogers graduated from Trinity College in 1983 with a first-class honours degree in genetics. He earned a PhD in genetics from the University of Glasgow in 1986. With a Fellowship from the European Molecular Biology Organization (EMBO) and, subsequently, the John Douglas French Foundation for Alzheimer's Research, Mark undertook research on prion diseases in the Laboratory of Nobel Laureate Professor Stanley Prusiner. He returned to Ireland in 1991 to become a lecturer at UCD.

His research is in the field of scrapie in sheep and BSE in cattle, and he has published many highly cited research papers in prestigious journals. He has led several large EU research consortiums in prion research and been the inventor of highly successful royalty-bearing licences to immunodiagnostic technologies used in BSE diagnosis (as outlined above).

In 2006, Mark was appointed dean of science at UCD. He was recently appointed registrar and deputy president of UCD, having acted in this role since 2011.

## **Professor Mark Rogers**

University College Dublin (UCD)



#### **Ecanvasser**

TTO University College Cork TTO The Ecanvasser product is an app and cloud service that helps political campaign teams to better plan canvasses, record voter queries and respond to them, and analyse voter trends. It replaces existing paper systems for key campaign data. It is based on a prototype app developed by Brendan Finucane as a project for his undergraduate degree in Business Information Systems at University College Cork (UCC).

Brendan approached the TTO at UCC to discuss protecting his idea and using it as the basis of a start-up company. The TTO worked with him to protect the IP and to get the right licence in place with his new company, Vconnecta.

All rights in the app, including knowhow and copyright in the software, were assigned from UCC to Vconnecta in May 2012. The company went on to secure private investment and to launch Ecanvasser. Vconnecta now employs four people.

Since its launch, Ecanvasser has seen extensive uptake. In the run up to the Irish local elections in 2014, it was used to survey more than 10,000 households in Ireland each week. Campaigners in Nevada in the US have also used the tool in congressional elections. More than 200 political campaigns have been managed with the system, including campaigns for members of parliament in the United Kingdom. Of Ecanvasser clients, 72 per cent were elected.

The app saves users time, reduces errors, enables faster responses, helps to improve relationships with voters and gives users remote access to data.

Brendan Finucane is a Business Information Systems (BIS) graduate of UCC. He was awarded a Commercialisation Award from Tyndall National Institute in 2013.

Having been involved in local politics from a young age, Brendan had witnessed first-hand the importance of face-toface community engagement in building successful relationships of trust with local residents. He was also aware, however, of the outdated and inefficient methods organisations used to make that relationship work successfully.

**Brendan Finucane**University College Cork



Dr. David Sammon was Brendan's project supervisor. David is a researcher/lecturer in Business Information Systems at UCC. His current research interests focus on the areas of conceptual data modelling, data/information management, theory and theory-building, and redesigning organisational routines through mindfulness.

David has published extensively in international journals and conferences. He is an associate editor of the Journal of Decision Systems and co-author of the book Enterprise Resource Planning Era: Lessons Learned and Issues for the Future (2004).

He has received numerous research awards and grants from State agencies and industry, including funding under the Science Foundation Ireland Research Frontiers Programme for research into a context-aware real-time assistant for falls assessment in the elderly and a project to analyse trends in big retail sales data.

**Dr. David Sammon**University College Cork



## Spin-out Company Impact award

The Spin-out Company Impact award recognises a spin-out company from an Irish publicly funded RPO that has achieved a significant and successful event in the previous calendar year. It celebrates both the company success and its heritage in the RPO, including the support provided by the TTO.

A spin-out company is one based on RPO research and that, at the time of formation, was dependent on the exploitation of specific intellectual property rights (IPR) of the RPO. The RPO may have or have had equity in the spin-out and will have licensed IPR to the company.

The large number of entries this year shows Ireland's spin-out companies are thriving. Submissions include companies that have raised significant levels of funding or have developed new products and services. Many have created new jobs in Ireland. Several exemplify the often-complex path to success and are able to show the pivotal role played by the TTO.

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Academic founder
Barry Downes
Waterford Institute of
Technology
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FeedHenry Ltd

TTO
Waterford Institute of
Technology TTO

## Orbsen Therapeutics Ltd

Academic founders
Professor Frank Barry and
Professor Tim O'Brien
NUI Galway

TTO NUI Galway Ignite TTO

#### OxyMem Ltd

Academic founders
Professor Eoin Casey and
Dr. Eoin Syron
University College Dublin

TTO NovaUCD TTO

While FeedHenry is noted for securing the second-highest valuation to date for a business developed from a spin-out from an Irish higher education institution, there is more to the story of the acquisition in 2014 of FeedHenry for \$82 million by Red Hat Inc.

FeedHenry was born of the commercialisation of a research programme led by Barry Downes into next-generation service delivery platforms and services. Having succeeded in securing some commercial contracts, Barry focused the FeedHenry offering in 2010 and it became an end-to-end cloud service provider for mobile applications.

Since it was spun out of the Telecommunications Software and Systems Group (TSSG) at Waterford Institute of Technology (WIT), it has created 52 jobs in Waterford, 10 in Dublin and about 20 more across its Boston, I ondon and San Francisco offices.

Following the acquisition, Red Hat is the first global software company to have a presence in the south-east of Ireland and is already an important anchor for a local cluster of high-tech companies.

The FeedHenry project has been an innovation catalyst. Many of the TSSG staff who worked on it have gone on to start up their own companies, such as nearForm and StitcherAds (formerly Betapond). The development of the technology underpinning FeedHenry has had significant impact on the region, and, in particular has been instrumental in establishing Waterford as a globally recognised competence centre for node development and consultancy.

The vison to create a spin-out company from research in TSSG and the persistence to develop it relied on champions within the research team, WIT management, the TTO and Enterprise Ireland.

#### **FeedHenry Ltd**

TTO
Waterford Institute of
Technology TTO

Barry Downes is the CEO of TSSG and the Centre Director of the Mobile Services Technology Gateway (MSTG), a close-to-market mobile applications and platforms R&D initiative supported by Enterprise Ireland. MSTG delivers advanced mobile technologies and solutions to Enterprise Ireland and IDA Ireland clients.

Barry holds a BSc in Applied Computing from WIT and an MBA from the Michael Smurfit Graduate School of Business at UCD. He also holds executive education qualifications from Harvard Law School and Henley Business School in the UK.

Barry's current research and entrepreneurial interests are in creating new start-ups in mobile (fuseami.com), the Internet of Things and virtual reality industries. Academic founder

## **Barry Downes**

Waterford Institute of Technology



## Orbsen Therapeutics Ltd

TTO NUI Galway Ignite TTO Ireland's leading cell therapy biotechnology company, Orbsen Therapeutics, was spun out of the Regenerative Medicine Institute (REMEDI) at NUI Galway by Professors Frank Barry (now CEO) and Tim O'Brien. Orbsen is developing the stromal cell therapy Cyndacel™ to treat five diseases with critical unmet need. Its core products are highly purified cells isolated from either human bone marrow or human umbilical cords

Orbsen has generated EU funding of €22.8 million and a further €1.2 million in private equity to bring Cyndacel™ from a novel discovery through four EU-funded phase 1 and 2 clinical trials. The company has grown from having one full-time employee in 2012 to its current team of 14, with an additional 25 collaborators in the EU and US.

Orbsen has a well-developed IP strategy that enabled its key patent to be approved by the European Patent Office in less than three years. The approval in November 2014 has protected commercial exploitation of the patent for about 17 years.

In 2014 alone, Orbsen raised €18 million in EU funds for clinical trials of Cyndacel™ in three diseases, primary sclerosing cholangitis, diabetic kidney disease and corneal transplant rejection. The company plans a stock market initial public offering in early 2018 to raise funds for phase 3 clinical trials of Cyndacel™.

Based at NUI Galway, Professor Frank
Barry is the Scientific Director of REMEDI
and currently leads the ADIPOA-2 EU
project, which is developing a stem cell
therapy for osteoarthritis. Barry served
as director of arthritis research at Osiris
Therapeutics Inc. in Baltimore and
assistant professor in the Department of
Biochemistry at the University of South
Florida.

He has acted as consultant to several companies in the areas of regenerative medicine and is a member of the scientific advisory boards of Ovagen Ltd and the MCSC research consortium. Frank

is currently Chair of the Euronanomed Review Panel and a member of the Leonardo Group. He has served on review boards for the European Commission, the Research Council of Norway and the National Science and Engineering Research Council of Canada.

Academic founder **Professor Frank Barry**NUI Galway



Professor Tim O'Brien is Consultant Endocrinologist at Galway University Hospital. He previously worked as a Consultant in the Division of Endocrinology, Nutrition and Metabolism at the Mayo Clinic in the US.

He is the Director of REMEDI and head of the Department of Medicine at NUI Galway. Tim serves on the scientific advisory boards of Clinigene, a European network of excellence for the advancement of clinical gene transfer and therapy, and the Finnish Centre of Excellence in Cardiovascular Diseases and Diabetes Research. He also co-ordinates the diabetes-related REDDSTAR and NEPHSTROM EU projects with Orbsen.

Academic founder **Professor Tim O'Brien**NUI Galway



#### OxyMem Ltd

TTO NovaUCD TTO OxyMem Ltd is a rapidly growing Irish company that spun out from UCD in 2013. It brings process efficiency and reduced energy use to the wastewater treatment sector with associated environmental impact.

Wastewater treatment is extremely energy-intensive. The key component is aeration, a process that has remained effectively unchanged for a century. Trying to improve its efficiency and reduce its cost have long been challenges for industry and municipalities worldwide.

OxyMem has devised the world's first commercially available membrane aerated biofilm reactor (MABR) technology, which was developed in Professor Eoin Casey's laboratory at UCD. This disruptive technology dramatically reduces the operating costs for wastewater aeration. It brings a fourfold saving on energy costs compared with forced aeration, which is the current industry standard.

The company's cornerstone is its patent covering the MABR technology. Stemming from an invention disclosure in 2008, the TTO at UCD handled patent protection and prosecution, leading to successful patent grants in Europe in 2013 and in the US in 2014. The company has secured several rounds of investment since its seed investment in 2013 and, having successfully delivered field trials, it has secured early orders

The company opened a 25,000sq ft. manufacturing facility and offices in Athlone, Co Westmeath at the end of 2013. During 2014, it created 28 full-time jobs, the majority hired locally, and plans to hire at least 20 more people`````in 2015.

Manufacturing this technology requires highly skilled industry-specific expertise. This has led to synergetic relationships with centres of excellence such as Athlone Institute of Technology and Athlone Extrusions. The growth of OxyMem's Athlone facility and its plans for expansion have strategic importance for the region.

Professor Eoin Casey is a professor and head of school in the UCD School of Chemical and Bioprocess Engineering. His research focuses on bacterial adhesion and biofilms, directed primarily towards wastewater treatment processes. His research group is active in advanced membrane separation technologies, bioplastic production and bioprocess scale-up.

He is a worldwide pioneer of MABR technology, having written the seminal papers on the topic. Eoin is a coinventor on the key-enabling patent, an acknowledged expert in MABR (three

of the 10 highest cited papers for this technology) and the author of the recent critical review in the top-ranked journal Environmental Science and Technology.

Eoin has supervised six PhD students, published widely and is regularly invited to present his work at conferences. Since 2002, he has led the Biofilm Engineering Research Group at UCD.

Academic founder **Professor Eoin Casey**University College

Dublin



Dr. Eoin Syron is a graduate of the School of Chemical Engineering UCD. His PhD thesis, under the supervision of Professor Casey, focused on membrane aerated biofilm reactors. This research resulted in a patent application that forms the basis for the OxyMem technology.

Following his PhD, Eoin worked in the water treatment industry in process engineering and project management roles. This included two years with Veolia Environment Research and Innovation in France. There, he managed both internal technology development projects and

external projects and provided technical support for the international design and build teams.

Eoin re-joined Professor Casey's group in 2011 to continue to develop the MABR technology, focusing on scaling issues and investigating full-scale deployment of the technology. Eoin is a co-founder and technical director of OxyMem Ltd since 2013.

Academic founder **Dr. Eoin Syron**University College

Dublin



# Consultancy Impact award

The Consultancy Impact award recognises a researcher or research group at an Irish publicly funded RPO whose consultancy advice to a business or public sector organisation has resulted in a clear economic or public benefit. Recognising that it can take time to achieve an outcome, the consulting engagement may have taken place within the past five years.

Research consulting is defined as advice and assistance provided by the RPO to a business or public sector organisation. It does not involve performing new research and is neither research collaboration nor contract research.

Consultancy is an under-recognised aspect of knowledge transfer in Ireland, but it is a mechanism that adds real value to companies. Having access to knowledge and expertise that cannot be found in-house can really help both companies and public sector organisations to make business-critical decisions.

This year saw one entry in this category, although several entries in other categories cited consultancy as part of their activity. The judging panel evaluated the application on its merits and found it was a worthy example of commercial impact from consultancy.

Ramesh is Centre Manager at South Eastern Applied Materials (SEAM). He holds a PhD from University of Twente, The Netherlands, and three Masters degrees (an MSc in Materials Sciences, an MS in Metallurgical Engineering and an MBA). He was a senior research fellow in the University of Limerick for five years. Before joining SEAM in May 2008, he was senior materials technologist for a multinational company in Dundalk for more than 10 years.

Ramesh is responsible for the overall operation of SEAM. Within five years of the centre's launch. Ramesh has been

instrumental in establishing collaborations with more than 90 Irish-based businesses.

Through these and State-supported projects, Ramesh has secured more than €6 million in funding for SEAM. He is the inventor on a patent in microwave processing of ceramic materials and in co-firing of ceramics. He has authored or co-authored more than 55 refereed journal publications.

#### Winner

Dr. Ramesh Raghavendra

Waterford Institute of Technology



SEAM, headed by Centre Manager Dr Ramesh Raghavendra, offers worldclass expertise to Irish-based businesses. It provides a wide range of complete solution services to industry including:

- · failure analysis
- metrology analysis
- material characterisation
- contaminant identification and analysis
- · mechanical property analysis

SEAM offers a range of flexible and bespoke short- and long-term services to SMEs, large Irish companies and multinationals. Its work has enabled clients to improve processes, speed up production and reduce costs. SEAM has carried out more than 800 directly funded industry projects within five years of its launch. It has seen significant growth in projects that are totally industry-funded, which now comprise 80 per cent of its work.

Launched in 2009, SEAM has grown its staff from two to 10, with plans for further recruitment in 2015. It currently serves more than 90 multinational and indigenous companies across multiple sectors, including biomedical, pharmaceuticals, precision engineering, energy and electronics. Notable repeat clients include Teva Pharmaceuticals, Bausch & Lomb, Schivo, Boston Scientific, Lake Region Medical, Carten Controls, Nypro Ireland, Stryker, Valeo and Honeywell.

SEAM continuously reinvests revenue generated to strengthen its equipment infrastructure and human resources. In collaboration with three industrial partners - medical device technology multinational Boston Scientific and two Waterford region-based SMEs (Schivo and Lisnabrin) - SEAM recently launched a metal 3D printing programme that aims to manufacture intricate metallic components and parts with complex 3D structures beyond the limits of conventional manufacturing.

#### Impact

KTI Knowledge Transfer Ireland Enterprise Ireland, The Plaza, East Point Business Park, Dublin 3. T +353 (0)1 727 2000
E kti@knowledgetransferireland.com
W knowledgetransferireland.com



