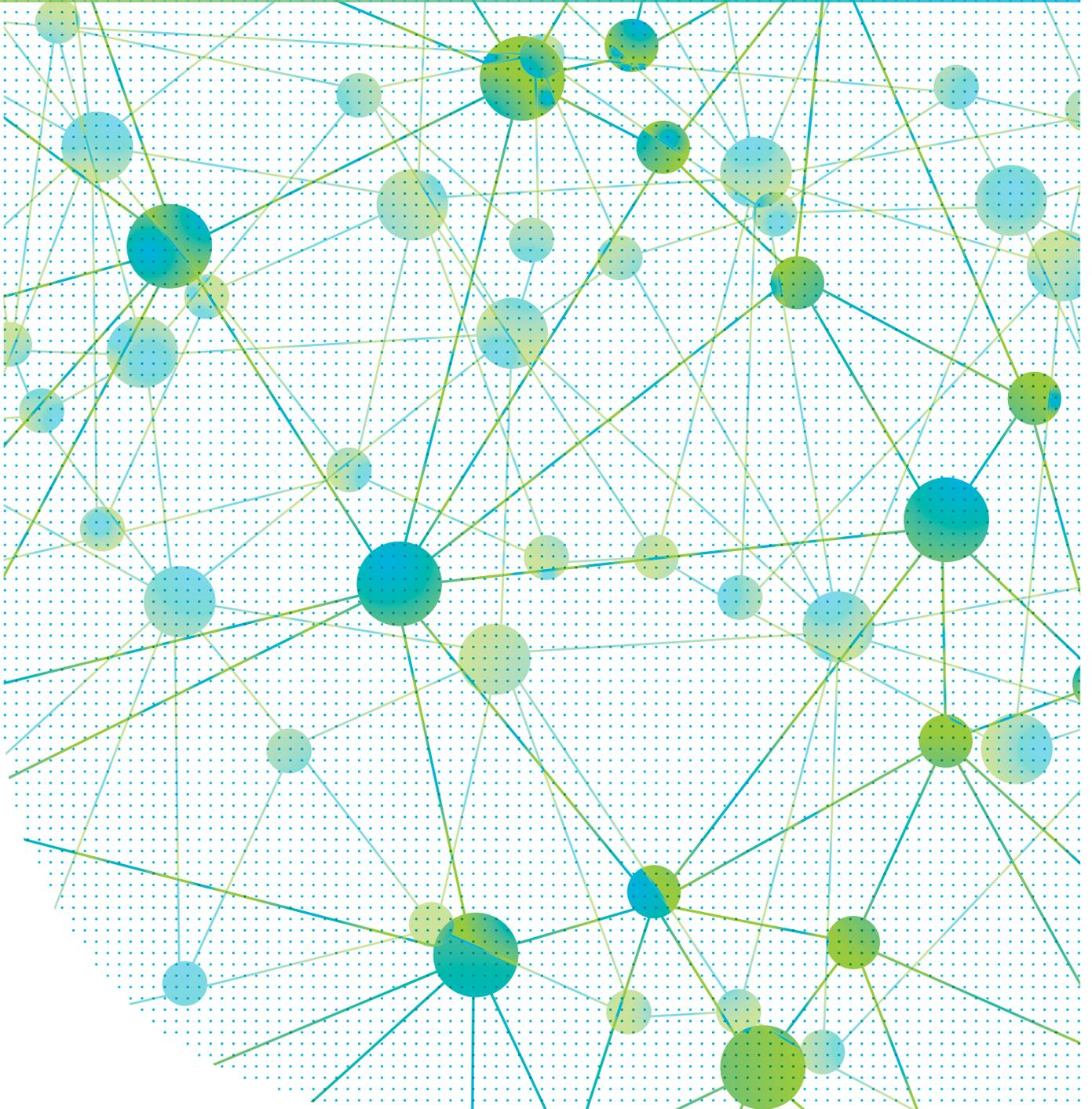


ACCESSING THE TECHNOLOGY GATEWAY NETWORK

A GUIDE FOR COMPANIES



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Foreword



Minister Damien English, TD,
Minister for Research, Innovation
and Skills

There is no doubt that the importance of investment in science, technology and innovation (STI) to Ireland's on-going and future economic and social development and well-being has been well recognised by the Government. The investment in research and development has, and continues to have, many positive impacts including powering an innovative and enterprising economy, creating high-value jobs, attracting, developing and nurturing business, scientists and talented people, and ensuring Ireland is connected and respected internationally.

Innovation is very much a strategic priority for Irish businesses and an important element of driving the growth and competitiveness of our enterprises across the country. The Government's innovation policy is about helping businesses to perform better and contributing to the wider economic objectives of growth, jobs and sustainability.

The Government's role is to create the conditions where enterprise, entrepreneurship and innovation can flourish and quality employment opportunities can be grown and maintained. The Technology Gateway Programme represents a significant investment by the Government, through Enterprise Ireland, in creating these conditions with total funding of €23 million over the 5 years to December 2017 committed to the Programme. Through the Technology Gateways the innovation and technological expertise in the Institutes of Technology is being harnessed for the benefit of Irish based Industry on a regional and national basis.

Each Gateway, hosted by the 8 participating Institutes of Technology, is acting as a portal to the expertise located nationwide in other Technology Gateways, and to the wider Irish research infrastructure. Companies can source technology solutions for their 'close-to-market' needs in a wide range of sectors including; wireless solutions, applied biotechnology, polymer technologies, connected media, engineered materials, pharmaceutical and healthcare.

When it comes to measuring the success of initiatives like this, it is all about real results for companies. This publication highlights the ways in which many companies have benefited from the Technology Gateways network to date. The innovation and technological outcomes from the network will continue to be a key driver of competitiveness and employment growth.

I hope this guide to using the gateways to access research groups in Ireland's Institutes of Technology is useful to your company.

A handwritten signature in black ink that reads "Damien English." The signature is written in a cursive, flowing style.

Damien English, T.D.
Minister for Research, Innovation & Skills

Introduction to the Technology Gateway Network

The Enterprise Ireland Technology Gateway Programme has since 2013 created a Nationwide Network of 12 industry focussed Gateways located in 8 Institutes of Technology. The Gateways have predominantly originated from the technology platform created by the EI Applied Research Enhancement (ARE) Programme. Between 2005 and 2012 Enterprise Ireland funded 17 ARE centres that generated increased applied research capabilities and expertise for the benefit of industry. The Gateway Network leverages this industry focused expertise within the IoTs to deliver near to market solutions for Irish industry.

The Technology Gateways have a proven track record of working with industry and act as open access points for industry of all sizes but in particular high potential start-up companies (HPSU) and Small and Medium Enterprises (SMEs). Since 2008 the Gateways and their predecessors the AREs have completed greater than 1,200 innovation based industry projects with over 600 Irish based companies across all sectors. The total value of these projects is in excess of €15 million with 42% of the total directly coming from industry. There has been consistent year on year growth in the level of completed industry projects, an average of 36% for 2013 and 2014, focusing on the development of a new product or service or to help optimise a manufacturing process. Successful collaborations result in the Gateway joining the company on its innovation journey towards increased growth and sustainability, resulting in re-occurring projects that progressively grow in value and impact for the company.

This ongoing success has been achieved by the Gateway Managers acting as the key contact points for industry within the relevant Institutes of Technology. This entails the promotion of the Gateway and the securing, managing and successful delivery of industry projects and solutions to their industrial partners in a time scale that companies expect. The Gateways are a portal to the wider research infrastructure of personnel and specialised equipment within the Network of Gateways and beyond in Ireland. Currently over 300 industry focussed researchers within the Gateway Network undertake the research and technical work for the industry projects and for a defined time period effectively become an extension of a company's R & D department.

In order to quantify the impact of these industrial collaborations, Enterprise Ireland commissioned independent consultants Frontline in 2014 to complete an economic impact analysis of the industry work undertaken by ARE centres from 2010 to 2012 and assess how this has impacted the collaborating companies. Frontline found that 87% of companies interviewed believed that the support received from this initiative had brought about business benefits. The most frequently cited benefits were:

- introduction of new products: 46%
- improved products: 43%
- informal and iterative development and research: 35%
- improved processes: 33%
- new processes: 26%

With regard to longer term benefits of the scheme companies cited the following benefits:

- improved technological knowledge: 94%
- cost savings: 28%
- access to new export markets: 28%
- improved higher level skills: 24%
- an increase in the overall value of the company: 20%
- an increase in the volume of exports: 20%
- new domestic sales: 18%
- improved ability to attract highly skilled staff: 18%

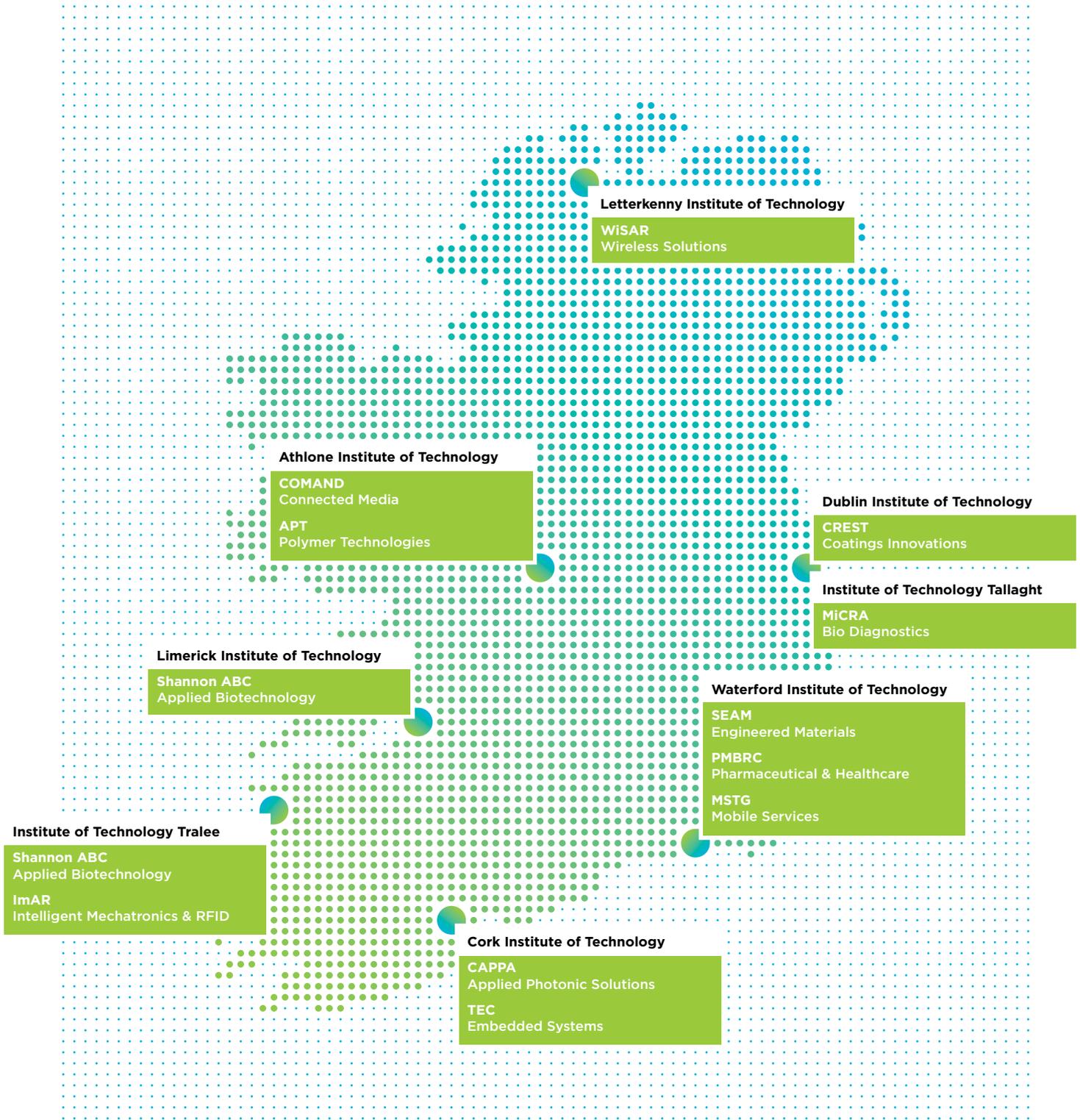
The net turnover impact to date from this scheme, amounts to €215m (NPV €166m). This is a return of €5.85 for every €1 invested in the Programme.

The survey clearly highlights the advantages companies felt they achieved by undertaking industrial research project collaborations with the ARE centres, and the economic impacts for companies that can be accrued from these collaborations.

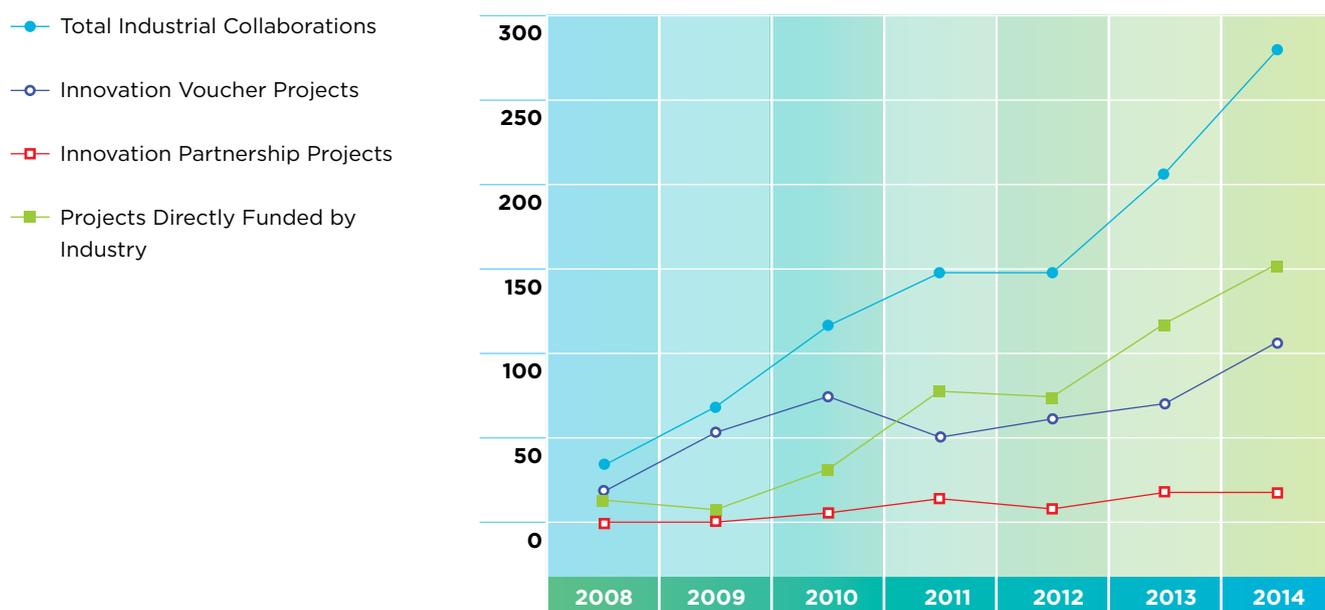
This publication provides a guide to the 12 Technology Gateways and the industry sectors in which they specialise. They are always happy to discuss potential collaborations with industry regardless of the size of the company or the project concerned.

For more information visit www.technologygateway.ie

Graphical Representation of the Technology Gateway Network



Demonstration of the increased level of industrial collaboration achieved from 2008 to 2014



Industry projects undertaken from 2008 to December 2014

Project Type	2008	2009	2010	2011	2012	2013	2014
Total Industrial Collaborations	36	69	117	150	150	208	279
Innovation Voucher Projects	20	55	75	52	64	71	107
Innovation Partnership Projects	2	5	8	18	11	19	18
Projects Directly Funded by Industry	14	9	34	80	75	118	154

Profile of Technology Gateways

The APT Gateway | Polymer Technologies

About Us

The **APT Gateway** is based on the Athlone IT campus. APT is providing polymer technology solutions for companies in the medical, composite, recycling and pharmaceutical sectors. APT provides industry with access to:

Pilot and Production scale Injection Moulding, Blow Moulding, Thermoforming, Extrusion and Compounding lines

Advanced Analytical Facilities for materials research, testing and troubleshooting

Design, Rapid Prototyping and Micro-Moulding Capabilities

Case Study

Shabra is a global market leader in integrated plastics recycling, reprocessing, manufacturing and supply of recycled products, and remains totally committed to promotion of recycling and reprocessing in Ireland, reducing waste plastics going to landfill and helping companies to reduce their carbon footprint. Innovation and R&D are a strong focus of Shabra, which is continuously expanding its range of products and services. The company has established a substantial export business, with sales worldwide – primarily to India, the Far East and Europe. This project entailed the development of a standard testing protocol for PET (Polyethylene Terephthalate) recyclate for the Shabra group and investigating methods of adding value to the material so that it could be used in higher value products. Based on this project, Shabra have opened a new R & D laboratory and have also taken on new employees. The APT team in AIT has transferred methods and technologies to Shabra which involved the training of Shabra employees on the testing methods.

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“We enjoyed very much working the APT team in AIT. AIT are highly responsive and fast in contextualising our requirements with focus and dynamism. We now view AIT as a natural extension to Shabra Group capability... APT in AIT is our Athlone based Lab”.

Rita Shah Managing Director, Shabra Group

The CAPPa Gateway | Applied Photonic Solutions

About Us

The CAPPa Gateway based in CIT is applying light based photonic technologies for near to market problems for industrial partners seeking solutions for:

[New Photonics Devices](#)

[Med Tech & Pharmaceuticals](#)

[Food & Beverages](#)

[Manufacturing Technologies](#)

Case Study

ProPhotonix Ireland is based in Cork, and this facility designs and manufactures LED, (Light Emitting Diodes) systems with specific focus on system design and thermal management and efficiency. ProPhotonix identified a current market gap for a cost effective high power fibre coupled module in the near-UV wavelength region. There are high-power arrays available on the market in this wavelength range but the light sources are monolithic so if one emitter in the array loses power or fails it cannot be replaced without the customer replacing the entire system or operating at a restricted power level. The ProPhotonix solution allows end users to replace discrete modules as opposed to the entire system, providing reduced costs while offering increased ease of instalment and repair.

CAPPa & ProPhotonix undertook an initial feasibility study to understand the challenges for this project. Based on preliminary results the project proceeded to full Innovation Partnership funded by Enterprise Ireland in conjunction with the Tyndall Institute. The collaboration generated a number of module prototypes that out-performed the desired specifications by 25%. Pro-Photonix Ireland has signed an exclusive worldwide license with the CAPPa Gateway & Tyndall that will extend its laser module solutions offering. The company gained access to key research and development expertise that has allowed them to develop this product and the company now has a market disruptive product with key customers targeted.

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“We are delighted with the success of our collaboration with CAPPa & Tyndall and look forward to working together in the future to expand photonics technologies. These new capabilities provide a platform to develop a range of innovative product solutions for our customers in the industrial, security and medical markets for a diverse range of applications including food and pharmaceutical product sorting and semiconductor and biomedical inspection systems. The technology was developed to be “production ready”.

Simon Stanley Managing Director, ProPhotonix Ireland

The COMAND Gateway | Connected Media

About Us

The COMAND Gateway is delivering solutions for the software industry across multiple media platforms. The industry focussed technology offer from COMAND includes:

Cloud Media Platform: Leverage media processing in the cloud and end user

Media Systems: Intelligent and Cross Platform Multimodal Development

User Interfaces: multimodal interfacing

Real Time Data Analytics

Interoperability of the Internet of Things

Case Study

Caramagic is a start-up company based in the Digital Hub that produces and markets apps. Its first app MagicFriends is a new animated puppeteer app that allows children chat with their fantasy character. This is achieved by pairing 2 mobile devices over a VoIP network, and allows the voice of the parent to be altered to that of the fantasy character in real time while talking to the child. For Christmas 2014 the company launched the MagicFriends Xmas app. The child can chat with Santa, Sam the Snowman, Candy the elf or Prancer the reindeer on the screen. The app's voice changer allows the puppeteer to morph their voice to match each different character and the morphed voice syncs with the mouth movement of the character on the child's screen. The puppeteer can also control the animation and with a swipe make the Santa jump, wave, wink, dance or twirl.

The COMAND Gateway worked with Caramagic through an EI Innovation Voucher and Contract Design to Setup the SIP (Session Initiated Protocol) system in the cloud supporting full SIP functions and NAT traversing “ that enabled calls to be made and also “Integrated the voice changing module into the VoIP client for IOS and Android”.

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“An in-depth knowledge of SIP, that the COMAND Technology Gateway had amassed from previous Enterprise Ireland funded applied research projects enabled experts to produce a quality real life working product in a competitive time frame”.

Mike Hennessey CEO & Founder CaraMagic

The CREST Gateway | Coatings Innovations

About Us

The CREST Gateway based in DIT delivers coatings innovation solutions for industry in the engineering, construction, healthcare and biomedical industries. CREST offers companies expertise in:

Protective Coatings for challenging environments

Surface treatment of metal components

Coatings for Environmental Applications

Biomedical Devices

Case Study

The Metal Improvement Company (MIC), a subsidiary of the Curtiss-Wright Corporation opened a new Parylene coatings facility in Galway in 2011. MIC has over twenty years' experience in parylene coatings and the Galway site provides a coating service for the Medical Device, Electronics and Aerospace markets. As part of the PDI Innovation Partnership funded by Enterprise Ireland, MIC worked with CREST to optimise the adhesion of parylene onto Aluminium components to use as heating elements for blood packs. The aluminium components were supplied by a Dutch medical device company (Helvoet BV) who require a device that allows blood to be taken from storage (+4°C) and rapidly heated to body temperature, thus ensuring best practise for patient care. Previous work by MIC found that the traditional cleaning degreasing steps were not sufficient to prepare the surface for optimised parylene adhesion.

The Gateway worked with the CREST Research group to investigate commercially available cleaning chemistries and adhesion promoters to maximise parylene adhesion. Through a controlled series of iterative steps a cleaning/adhesion promoter system was delivered which achieved adhesion and chemical resistance standards. The surface treatment enabled MIC to successfully coat the heating elements with full conformal coatings at a thickness of less than 4 microns. As a result of this work new orders have been generated for the company with a new production line being installed, CREST are assisting the company in this process.

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“CREST were very instrumental in helping MIC securing this Helvoet project against stiff competition. A number of other commercial projects are in the pipeline, with challenging material and adhesion requirements. CREST are actively researching these projects to provide optimum adhesion solutions”.

Denis Healy MD Metal Improvement Company Ireland

The IMaR Gateway | Intelligent Mechatronics & RFID

About Us

The IMaR Gateway based in IT Tralee is applying its core expertise in Intelligent Mechatronics and RFID to provide technology solutions for manufacturing industries including Telecommunications, Automotive, Pharmaceutical, Biomedical, Aeronautical, Environmental and Agri-business. IMARs technology offer is the integration of:

Intelligent sensor systems using RFID for monitoring environmental conditions or process based measurements

Mechtronic sensors for industrial automation

Case Study

Standard Access specialises in the acquisition, disposal and leasing of commercial real estate investments in Ireland and the UK. Through the EI Innovation Partnership Programme the IMaR Gateway investigated the feasibility of developing a uniquely combined hardware/software based electronic lock system accessible via smartphone and/or tablet, integrated with a client management platform to facilitate secure building access from anywhere in the globe. This system is targeted across both commercial and residential property markets. Smartphones were chosen because of their increasingly ubiquitous nature and their capacity to take full advantage of Internet-of-things technologies including computation, communication, and interface capabilities (e.g., a camera, Bluetooth).

The development team at IMaR delivered a complimentary hardware and accompanying software solution. This involved developing state of the art hardware, software and lock combination which facilitated secure building access using a smartphone or tablet, integrated with a client management platform. During this process the Standard Access team were regularly updated on development progress and regularly visited the IMaR facilities for demonstrations and potential stakeholder visits. This regular engagement was essential as it enabled Standard Access to gain a better understanding of the potential of the technology in the market place and actively engage potential stakeholders during the development phase. The developed solution is now at scale stage with the assistance of the IMaR. Standard Access is beginning commercial product development for the global market.

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“The impact of IMaR’s service to my problem has been immense. From the start I was made to feel very welcome at all stages during development and through regular meetings my concerns were allayed almost immediately. Standard Access is now in the process of launching product onto the European, US and Russian markets in 2015. Standard access, a company that started as a small subsidiary is now preparing to launch product onto a global platform in 2015”.

Damien Browne CEO Standard Access

The MiCRA Gateway | Bio Diagnostics

About Us

The MiCRA Gateway based in IT Tallaght delivers solutions for companies in the in vitro diagnostics, environmental, food and pharmaceutical sectors with expertise in:

Sensor prototyping and manufacturing

Materials development and characterisation

Immunoassay platform development

Enzyme biosensors for human & animal health care

Biosensors for the rapid and sensitive detection of bacteria

Case Study

Allogen Biotech is a start-up company based in Dublin targeting the food allergen market. They aim to commercialise a hand held diagnostic technology to provide immediate results on food contamination at point of manufacture. This will bypass the requirement for time consuming centralised laboratory testing. One of Allogen's key targets is the gluten testing market. The company has been successful in attracting private investment and has been a successful recipient of Enterprise Ireland's competitive start-up fund. Gluten is a complex protein consisting of the individual proteins glutenin and gliadin. The protein is difficult to extract and is insoluble in water. Current protocols are therefore not suitable for rapid gluten analysis at point of manufacture. A further complication is that the protein can be found in a wide range of foods with different matrix types.

MiCRA in a co funded EI Innovation Voucher with Allogen, developed a number of extraction reagents and protocols for the efficient extraction of gluten depending on the sample type. Reagents were developed to improve extraction times and reduce the requirement for noxious chemicals and mechanical sample extraction. Current protocols for gluten extraction were inconvenient and time consuming. As a result they were not suitable for rapid gluten analysis at point of manufacture. The improved protocols developed by MiCRA will enable the company to realise their ambition of rapid gluten testing in a manufacturing environment.

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“Once again MiCRA successfully delivered on a very challenging project. This has enormous benefits to us as current gluten extraction methods would have prevented us from developing a gluten test at point of manufacture. The outputs from this project will enable us to circumvent these problems. We are looking forward to continuing our collaboration with MiCRA and we have no doubt they are the best partner for us”.

Ben Teeling CEO Allogen Biotech

The MSTG Gateway | Mobile Services

About Us

The MSTG Gateway based in WIT collaborates with companies involved in delivering mobile services primarily for smart phones and tablets. MSTG's technology offer is based upon expertise in:

Distributed & cloud-based mobile services

Next generation IP based voice and video

Virtual and Augmented reality services

Location, context, smart space and social service enablers

Data science and mining

Case Study

eDrive Group and the MSTG Gateway collaborated on an Innovation Partnership to develop smart sensor technology and software that records and provides data that drivers can utilise to reduce car insurance costs by demonstrating safe driving. This product incorporates the installation and provisioning of telemetric devices in cars of consumers and the ability of eDrive to offer a range of value add on services to the consumer through targeted analysis. For consumers it will allow them the ability to sign up, login and have access to data captured on their vehicles by the telemetrics. It will summarise the data into a dashboard that provides visually key information on their driving. The data will be the property of the driver and the platform will allow them to switch insurance companies and potentially avail of discounts based on responsible driving habits. Because the full driving history is available, car dealers can offer a more comprehensive car servicing to customers as well as enhanced quality guarantees for car reselling.

MSTG has developed for eDriveGroup a software platform that can scale with the anticipated growing demand for this product. The platform also allows the flexibility for the company to offer new service options in time, based on consumer driver habits without new functional developments having to take place to accommodate this.

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“We saw a gap in the market and we went to the MSTG Gateway. They worked closely with us and teased out what can and can't be done and the result of this is we are now ready to go to market with a new product”.

Kevin Mullarkey eDrive Group

The PMBRC Gateway | Pharmaceutical & Healthcare

About Us

The PMBRC Gateway based in WIT delivers solutions for industry in the pharmaceutical and healthcare sectors in areas such as drug delivery, process technology, biotechnology, biomedical and separation science with expertise in:

Physico-chemical characterisation of materials

Advanced analytical capability

Formulation, process development and drug delivery

Case Study

Teva Pharmaceuticals Ireland is a major employer in Ireland with hundreds of highly skilled staff working in the company's Waterford based manufacturing facility, which includes a research and development department on campus. The Waterford plant is of major strategic importance within the Teva manufacturing network and is responsible for the manufacture and development of respiratory products for supply to the United States and other global markets.

The Spiromax® Dry Powder Inhaler (DPI) is a proprietary technology developed by Teva for the treatment of respiratory conditions. DPIs contain fine drug particles blended with a carrier material (usually lactose). When the patient takes a breath, the powder is drawn through the mouthpiece of the inhaler. The turbulent flow of the powder causes the fine drug particles to detach from the lactose and they are carried into the lungs. In order to work properly the drug must stick to the lactose particles, but not adhere too strongly such that they do not detach on actuation. This project funded by Enterprise Ireland Innovation Partnership Programme aimed to help Teva understand the critical material properties required for the optimum performance of the Spiromax® DPI.

PMBRC determined the effect of certain formulation and processing factors on the performance of the device. The project focussed on a single DPI product and the work has enabled Teva to understand the optimal formulation and process parameters for the manufacture of that product. The analytical techniques developed as part of the project and the knowledge gained can now be applied to all other DPI products currently in development in Teva, Waterford. A number of invention disclosures and academic publications are in preparation and Teva has agreed to fund the continuation of the research for a further two years.

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“The work carried out by the PMBRC on the project has significantly enhanced our understanding of the drug-carrier interactions in our DPI product. Pharmaceutical regulators demand a thorough understanding of the factors affecting drug product performance. The knowledge gained in this project will help us to meet our regulatory obligations and will also have a knock-on effect on products currently in development. We are so pleased with the research that we have agreed to fully fund the continuation of the work for a further two years”.

Dr. Julian Blair Senior Director of R&D, Teva Pharmaceuticals Ireland

The Shannon ABC Gateway | Applied Biotechnology

About Us

The Shannon ABC Gateway is based on the IT Tralee & Limerick IT campuses and develops new processes and novel products from bio-resources, transferring these solutions to Biotech, Food and Life Science industries. Shannon ABC has expertise in:

Bio-Prospecting & Bio Processing: Screening, extraction, characterisation and testing of bioactive molecules, as well identifying routes to scale-up

Analytical and Research Services: Shannon ABC's expertise, state of the art facilities and equipment are available to assist companies to address specific challenges

Case Study

Lifes2good is an Irish natural healthcare company based in Galway which markets & distributes natural health, beauty & lifestyle products. Like many nutraceutical and pharmaceutical companies, Lifes2good faces counterfeiting challenges. Counterfeit detection is a problem for many companies and can seriously compromise a company's reputation and bottom line. While packaging can in some respects combat this problem, there is always some potential for packaging also to be copied. Lifes2good and the Shannon ABC Technology Gateway undertook a collaborative EI funded Innovation Partnership funded project and arising from this Shannon ABC provided a defined, repeatable, stringent biological fingerprint of the company's flagship Viviscal hair growth product.

The selection of which components to include in the fingerprint was developed based on Shannon ABC's expertise with bio resources and natural products. Since development of this fingerprint, Lifes2good has the ability to clearly define internet based sales that are counterfeit and to serve cease and desist notices based on robust scientific data. This provides Lifes2good with a rapid, indisputable way to prevent this reputational damage that could impact on sales.

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“Over the last two and a half years we have achieved substantial results in understanding the nature and biological impact of our product and have now built up a significant knowledge bank on our key ingredients. Results from this work has led to further more in depth analysis to focus on the creation of a cell culture model to demonstrate cause and effect of the product on the relevant cells in the body. Shannon ABC has greatly assisted in enhancing our scientific and technical capability while offering us access to state of the art facilities and resources and people with the expertise and knowledge to provide real value added solutions”.

James Murphy Managing Director Lifes2good”

The SEAM Gateway | Engineered Materials

About Us

The SEAM Gateway based in WIT provides engineering material solutions for industry in sectors such as Bio-medical devices, Pharmaceuticals, Micro-Electronics, Precision Engineering & Construction with expertise in:

X-Ray Micro-tomography (XMT): 3D Non-destructive characterisation

Finite Element Analysis: 3D Software Modelling

3D Metal Additive Manufacturing

Materials & Precision Engineering: engineering design & characterisation

Bio Medical Engineering: Development of Novel materials

Case Study

Nypro Healthcare develops and manufactures of complex drug delivery and diagnostic devices. The company has been in Bray, Co. Wicklow since 1980 and has now established an additional state of the art medical device manufacturing facility in Waterford which will result in the creation of over 200 new high quality jobs in phase 1 and is expected to increase in subsequent years. Nypro's new facility will manufacture advanced respiratory and injectable devices for global healthcare and pharmaceutical customers

Nypro Healthcare and the SEAM Gateway in WIT has developed an ongoing relationship whereby SEAM actively supports the Device Development Support (DDS) design engineering group in Nypro in improving product design and efficiency with its suite of characterisation equipment and materials engineering expertise. A critical part of this technology support is the utilisation of SEAM X-Ray Micro tomography which can provide non-destructive 3D images of moulded components and nominal comparisons with the original CADs. In combination with polymer characterisation techniques such as Differential Scanning Calorimetry, Thermo-Gravimetric Analysis and Scanning Electron Microscopy with Energy Dispersive Analyser, SEAM have helped Nypro Healthcare to undertake root cause investigations into optimising manufacturing process and product design solutions for their portfolio of drug delivery and diagnostic devices.

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“Nypro Healthcare have found SEAM to be a valuable and flexible resource in providing X-Ray Microtomography in the development of measuring complex CAD geometry within plastic components. This service has resulted in reduced early stage development time, cost and shorter metrology lead times, in some situations, when compared to the conventional methods of metrology utilised in injection moulding. In addition, given SEAM's location in the South-East of Ireland this has also benefitted Nypro Healthcare as moulding can be quickly be sent to SEAM for quick turnaround of X-Ray Microtomography requirements. Nypro Healthcare expect to develop and continue to use this excellent service provided by SEAM into the near further for next generation projects”.

Derek Fenlon Device Development Manager

The TEC Gateway | Embedded Systems

About Us

The TEC Gateway based in CIT is the industry interface for the Nimbus group in CIT. The Gateway develops 'Internet of things' prototypes for a broad range of companies, connecting everyday objects and systems and making them 'smart' with a focus on the following sectors:

Energy: Intermittency & Demand

Water: Remote monitoring,

Location Based Services and Applications: Security, Tourism eHealth

Case Study

Nixatel is a start-up software development company based in the Rubicon incubator at Cork Institute of Technology that provides web and mobile application development services to big and small companies. Nixatel wanted to develop a prototype system to remotely monitor elderly people's movement in the home. They lacked the technical expertise required to research, plan and develop a prototype solution to the problem. Through an EI Innovation Voucher project, the TEC Gateway in CIT's Nimbus Centre researched and selected the optimum Architecture Specification for the required E-monitoring system hub with appropriate off the shelf sensors. Next they developed and documented the process for Data gathering from Sensors to the monitoring hub. Once this was complete the 'backend development' took place, designing and creating a database and web application to store information from the sensors. 'Front end development' then began, allowing the data from the sensors to be seen real time. The entire package was tested to prove that the data flowed correctly from sensor to monitoring hub to web server and finally to browser. This fully documented package was then delivered to Nixatel.

Nixatel came to Nimbus with an idea for implementation and at the end of the project had a fully tested prototype which they could showcase to potential clients and investors. This work advanced the business from a conceptual stage to a real, implemented application.

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"We are delighted to have worked with the Nimbus centre and with the solution they have delivered. They were very quick in picking up our requirements for our assisted living solution and simplifying the complex process. The team produced a proposal which was spot on and reflected exactly the areas discussed. They then delivered a solution which not only met our requirements, but surpassed them. We are very pleased with the outcome".

Russell Quigley CEO Nixatel

The WiSAR Gateway | Wireless Solutions

About Us

The WiSAR Gateway based in LyIT provides solutions to Irish industry for The Internet of Things (IoT) using expertise in wireless, embedded systems and power electronics. WiSAR offers this expertise to companies in the following sectors:

Wearable Tech: Healthcare, Sport and Tourism

Remote monitoring: Industrial Control, Environmental, Marine

Power electronics: Renewable Energy and Electric Vehicles

Communications: WLAN, Zigbee, Bluetooth, UWB, RF and Microwave

Case Study

Ecoballast Technologies is a start up company based in Dunboyne, Co Meath. The company have designed and patented a new generation “Hybrid Illuminated Signage Apparatus” using EL (Electroluminescence) technology that better meets the application needs of light signage such as traffic lights. Ecoballast wanted to develop a prototype of their patented technology, the “Hybrid Illuminated Signage Apparatus” to enable them to be able to demonstrate the technology and explain the concept.

Traffic lights using this technology can provide significant energy consumption benefits over the current LED technology. ETL estimates that by adopting this technology the global annual energy saving could potentially amount to in excess of €10B by 2020 while also reducing greenhouse gas emissions by up to 30M tonnes per year. There is a significant global market opportunity for traffic lights using this technology since the “new installation” global market for traffic lights is approximately €5B per year and is expected to grow at between 2% and 7% out to 2020.

The WiSAR Gateway through an EI funded Innovation Voucher performed research and development on the state-of-the-art in traffic light technology and developed a proof on concept prototype to demonstrate the technology and provide initial data showing a 46% saving in energy. Ecoballast Technologies Limited now has a proof of concept traffic light based upon their patented technology to explain and demonstrate their proposed product. Initial results on the prototype have provided evidence of the energy saving potential of their proposed solution and will be influential as they seek investment for further development.

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“In the current climate it is important for companies to continue to innovate and enhance their products. The voucher provided an excellent opportunity for small companies like us to tap into the knowledge that exists in the third level educational sector such as the specialist resources at LYIT and the WiSAR Lab”.

Managing Director Ecoballast Technologies

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