



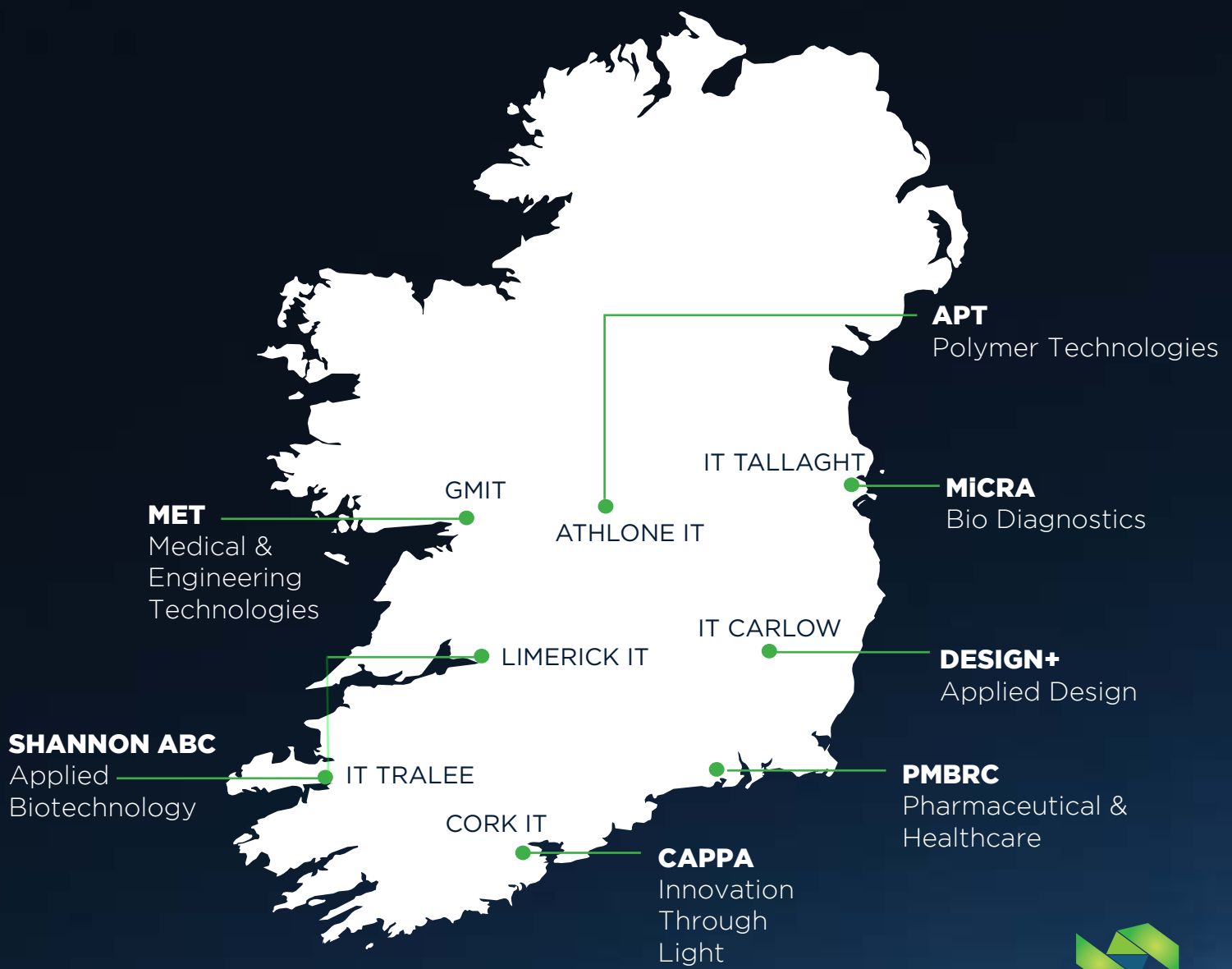
**Irishfoodtech**

an **Enterprise Ireland**  
Technology Gateway cluster

A Guide For Companies

The Irish Food Tech Cluster is a consortium of seven of Enterprise Ireland's Technology Gateways operating within the food and beverage technology sector. The cluster provides a range of expertise for companies who are looking to access research and development within these areas.

The cluster can connect industry with researchers in a wide selection of areas that include bioprocessing, food for health, process control and packaging amongst many others.



  
**Irishfoodtech**

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Irish Food Tech facilitates your access to the seven specialised centres across the Gateway Cluster. Each centre can provide assistance and support in delivering near-to-market solutions, becoming an important extension of your company's R&D capability.

We offer Industry Support in the form of various Enterprise Ireland funding initiatives such as Innovation Vouchers, Feasibility Studies and Innovation Partnerships. You can also access the gateway cluster by direct consultancy.

Each gateway centre within the cluster has access to a dedicated Gateway manager and a team of specialised business development engineers to help with your companies' individual needs. The Irish Food Tech Cluster is available to SMEs, large indigenous companies and multinationals.

## Key benefits of working with the cluster

1. Access to seven specialised centres across the Irish Food Tech cluster.
2. Extend your company's R&D capability, with nearly 300 industry-focused researchers and engineers across the wider Technology Gateway Network
3. Help with the various Enterprise Ireland funding mechanisms available, including Innovation Vouchers, Feasibility Studies and Innovation Partnerships.
4. Deliver project feasibility – from short term up to longer product or service research and development projects (two years).
5. Access a dedicated Gateway manager and a team of specialised business development engineers.

### **Irish Food Tech Cluster office**

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**Irish Food Tech**  
Technology Gateways



## Applied Polymer Technologies

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

- Pilot and Production scale Injection Moulding, Blow Moulding, Thermoforming, Extrusion and Compounding lines and 3D additive printing.
- Advanced Analytical Facilities for materials research, testing and troubleshooting.
- Design, Rapid Prototyping and Micro-Moulding Capabilities.

The APT Gateway applies polymer technologies for Ireland-based companies who use polymer materials - ranging in size from startups and SMEs to multinational companies. The plastics industry in Ireland is worth €2 billion and comprises of 200 companies with an accumulated 12,000 employees. APT has a core focus on three applied technology areas it aims to transfer to industry: biomedical polymers, polymer recycling and composites. APT is a dedicated resource for the Irish polymer manufacturing industry and regularly provides training and information dissemination, as well as production demonstration days for companies.

Using its suite of characterisation equipment and pilot polymer processing facilities, APT can cover all areas of the production lifecycle. This capacity ranges from concept design and prototype development towards commercial launch of a development product, production optimisation and troubleshooting for existing processes and end of life recycling. Using 3D additive printing, APT can fabricate customised injection mould tooling which, married with its pilot production facilities, can fabricate a limited run of bespoke prototypes.

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**Project:** Contamination analysis of Prototype packaging

**Profile of Company:** A large infant food manufacturer based in Ireland

APT worked with the company to examine samples of a new packaging solution that was being trialed for a product with an upcoming launch date. Contamination of the product was identified using FTIR, DSC and GC-MS.

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**CENTRE FOR  
ADVANCED PHOTONICS  
& PROCESS ANALYSIS** **CAPPA**

*Innovation Through Light*

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

CAPPA applies photonics solutions to industry in a wide range of sectors, including medical devices and technologies, pharmaceutical manufacturing, food & beverage technologies and electronics and telecommunications. Photonics is the science of generating, controlling and detecting light, and is a key enabling technology underpinning many different application areas. Examples addressed by CAPPA include advanced imaging & spectroscopy – a suite of powerful spectroscopy and microscopy techniques covering a wide wavelength range (including FTIR, Raman, UV/Vis) providing detailed information on chemical composition, active ingredient distribution, optical device dynamics, etc. It can be used to monitor processes, detect counterfeit products, aid root cause analysis, and investigate novel materials.

Non-invasive sensing and detection – optical sensors can provide compact and non- or minimally-invasive solutions for a wide range of sensing and imaging requirements. Using ‘fingerprint’ absorption wavelengths, specific gases or liquids can be targeted. Optical sensors have applications in medical devices, process monitoring and environmental sensing. Optical design and modelling – we use advanced simulation software such as Zemax to design efficient, compact and cost-effective optical systems, with 3D printing capabilities available for fast prototyping. This has been used, for instance, to design backlighting for a remote control, and UV illumination for a water purification system.

## **Project:** FTIR and Raman Analysis of cheese maturity

[Read Case Study](#)

“The CAPPA group engaged with us from the onset where they explored the viability of the project prior to the Enterprise Ireland application and also helping us with the application as questions arose. The group maintained contact with us during the entire process where they demonstrated commitment to understanding the issues and the impact to our business. The group were successful in building a quality control model to allow us assess the maturity of mozzarella which will help us to ensure customer satisfaction. we would highly recommend the CAPPA group and would have no hesitation in working with the group in the future”

**Seamus Lane - Owner, Four Star Pizza (ZZ Ltd)**

The **DESIGN+** Gateway based in IT Carlow is applying its Industrial Design capabilities for companies from the Engineering, ICT & Software and Bio Lifescience sectors based in the midlands, southeast and nationally. The technology offer to industry is

- Engineering: Prototype design and scale to manufacture
- ICT & Software: Integration of user experience and interface design
- Bio Lifesciences: product design orientated by end user needs

The Design+ Gateway applies industrial design capabilities for companies from the engineering, ICT & software and bio-lifescience sectors based in the midlands, southeast and nationally. Approaching a product or service with the user in mind is key to successful product development. During the development process, Design+ use end-user insights to make informed decisions that drive strategic and tactical progress. The greater the meaning of the final experience, the greater the authenticity and level of user engagement – regardless of the product, service or system being designed. This is very important in engaging the user and building a positive experience.

Prototyping is key to building knowledge in the product development process. It enables proof and reasoning of decision making and the identification of possible issues in early-stage development, enabling critical elimination of tooling and production costs or errors. Through the analytical evaluation of prototypes, Design+ are enabled to develop the design for assembly and manufacturing making significant savings for a company. Design+ can also introduce the user at this early stage to review interaction and ergonomics and test the fundamental intent of the project – adding valuable insight to a project.

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**Project:** New packaging design for a consumer food product

[Read Case Study](#)

“We are delighted with the work undertaken by the design team at IT Carlow. We worked closely with them in the design research of our packaging. They developed creative and original packing design for us which has received fantastic feedback from our customers”

Noreen Doyle - MD, Irish Biltong Company



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The MET Gateway based in GMIT has a Medicinal Nutrition offering for companies based in the West of Ireland and nationally which consists of:

**Food Analysis and Testing:**

- Metabolic testing
- Antioxidant assays
- Other food assays
- Food intake studies
- Sensory testing

**Human Interventional Trials:**

- Strictly controlled experiments on human volunteers for one day to several weeks
- Long-term studies of up to 6 months or longer on human volunteers, with measures taken either in-house or amongst free-living populations
- Randomised controlled trials

**Product development and Optimisation:**

- Nutritional labelling, formulation, replacing synthetic additives, shelf life, evaluating functional and sensory properties;
- Compliance assessment with compositional, labeling, packaging and advertising regulations in the EU.

**Project:** Ocean Harvest  
– Clinical evaluation of  
specific seaweed blends  
for the aquaculture  
industry

The work carried out at GMIT will enable Ocean Harvest Technology to have confidence in its product development strategy based on scientific data, and give it a competitive advantage in the global salmon industry.

[Read Case Study](#)





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

Based in IT Tallaght, the MiCRA Gateway focuses on the advancement of biosensor technologies, using materials such as enzymes and advanced polymers. MiCRA delivers solutions to companies in many sectors including in vitro diagnostics, environmental, food and pharmaceuticals. MiCRA's facility consists of state-of-the-art surface science instrumentation, cell culture and microbiology labs, and prototype fabrication facilities.

Staffed by microbiologists, chemists, physical scientists and engineers, MiCRA helps companies in many areas including sensor prototyping and manufacturing, materials development and characterisation, immunoassay platform development, enzyme biosensors for human and animal health care, and biosensors for the rapid and sensitive detection of bacteria. MiCRA partners with academic research, entrepreneurs, startups, SMEs and large industrial companies to deliver solutions in biosensors and diagnostic products for Irish industry.

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**Project:** Bee Hive Health - Developing Real-Time Monitoring Solutions

The Bee Hive Health Project in conjunction with Advance Science Ltd drew on the expertise of MiCRA in the R&D of bio- and electro-chemical sensors.

The project partners outlined a programme to design and engineer sensor technology to facilitate detection and differentiation between specified target entities – or biological markers of the health of the bee hive.

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The PMBRC Gateway based in WIT is delivering 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

The PMBRC Gateway supports bio-lifescience companies in the south east of Ireland and nationwide. PMBRC occupies an 800m<sup>2</sup> state-of-the-art facility, with an extensive suite of characterisation and analytical equipment as well as access to a dedicated team of 34 industry-focused research personnel. PMBRC collaborates with many companies across a number of sectors, including pharmaceutical, medical device, food and veterinary.

PMBRC undertakes collaborative projects of a variety of sizes – from large-scale projects to more short-term feasibility studies and contract analysis. Some of the projects and areas of development the PMBRC have collaborated on with industry include: materials characterisation and pre-formulation; drug delivery and formulation; chromatography, separation science and impurity identification; novel sensor and process technologies; and biomedical research and molecular biotechnology.

**Project:** Stability test protocol for a niche plant oil product

Funded via Innovation Vouchers, PMBRC developed a stability test protocol for a niche plant oil product, for a new natural product producer. The producer is now planning to proceed with taking the product to market.



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: Expertise and state of the art facilities and equipment are available to assist companies to address specific challenges.
- Food Innovation: helping food and drink companies, from raw material to final product.

Shannon ABC – based on the IT Tralee and Limerick IT campuses – delivers solutions to the challenges faced by industries by developing new processes and products from bio-resources. These solutions are delivered to the biotech, food and life science industries. Shannon ABC develops state-of-the-art processes, using ingredients and biological products from natural resources. The results of these processes include drug development, and value added food, flavour and medicinal products.

Collaboration, a key focus of Shannon ABC, has happened on both a regional and a national basis with partners in the industry of bioactive compounds, as well as with others in the biotechnology sector. Shannon ABC delivers confidential collaboration with industry, academia, research centres and researchers in Ireland and abroad through Horizon 2020.

## Shannon ABC Gateway Manager

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**Project:** Truly Irish  
Review of opportunities  
for protein drinks  
and bars

Based on the report produced by Shannon ABC, Truly Irish established the formulation and branding for a lactose free milkshake that is high in protein, low in fat, with 539mg calcium per serving and has an extended shelf life. The product was launched in October 2017.

# Enterprise Ireland Supports

## Innovation voucher

The Innovation Voucher initiative was developed to build links between Ireland's public knowledge providers (i.e. higher education institutes, public research bodies) and small businesses. Innovation Vouchers worth €5,000 are available to assist a company or companies to explore a business opportunity or problem with a registered knowledge provider.

### Am I eligible?

The Innovation Vouchers initiative is open to all small and medium-sized limited companies registered in Ireland. Applications are not restricted to clients of Enterprise Ireland.

### How does it work?

If you own or manage a small limited company and you want to explore a business problem or opportunity you can apply for an Innovation Voucher worth €5,000. The voucher can be exchanged for advice and expertise from knowledge providers. To be successful in your application, your project must require an innovative solution, provide additional value for your company and have on-going benefits.

You can see the full list of participating knowledge providers on the Enterprise Ireland website.

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## Agile innovation fund

This fund supports clients to quickly develop innovations and respond to opportunities and threats in new and existing markets. It is a great fit for companies that need to rapidly develop solutions or are planning a first R&D project. Eligible companies submit a short online application form to get quicker approval for projects with a maximum expenditure of €300,000.

# Enterprise Ireland Supports

## **Innovation partnership programme**

The Innovation Partnership Programme encourages Irish-based companies to work with Irish research institutes resulting in mutually beneficial co-operation and interaction. Companies can access expertise and resources to develop new and improved products, processes, services, and generate new knowledge and know-how.

The participating company benefits in terms of its growth, the evolution of its strategic research and development and the creation of new knowledge that it can use to generate commercial advantage. The research institute benefits in terms of developing skill sets, intellectual property and publications.

### **Company Contribution**

All Innovation Partnership projects require the company partner to provide minimum cash contribution of 20% of the total project cost. In all cases, the company partner must have the resources to contribute its share of the funding for the research and to fund the commercialisation of the research, when completed.

### **Eligibility**

A manufacturing or internationally traded services company with an operating base in the Republic of Ireland that wishes to collaborate with one or more research institutes, also based in the Republic of Ireland, is eligible to participate. The company must be a registered client of one of the following state development agencies: Enterprise Ireland, IDA Ireland, Údarás na Gaeltachta, a Local Enterprise Office.

### **Funding - Enterprise Ireland Innovation Partnership**

Programme provides grants of up to 80% towards eligible costs of the research project. Funding from Enterprise Ireland will normally not exceed €200,000.



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