

## POLYMER PROCESSING

APT houses the only dedicated pilot and industrial scale processing R&D facility in Ireland. Our extensive processing capabilities include:

- Injection Moulding (various tonnages, Twin Shot and Micro-Moulding)
- Compression Moulding
- Single and Twin Screw Extrusion,
- Tube, Profile, Film Extrusion
- Compounding
- Blow Moulding
- Thermoforming

APT makes these facilities available to a range of clients across numerous sectors and provides services such as Trial Runs, Compounding, Material Modification, R&D and Masterbatching.



“APT IS THE LEADING HUB FOR POLYMER RESEARCH AND DEVELOPMENT IN IRELAND, WITH AIT PLAYING A KEY ROLE IN SUPPORTING THE IRISH POLYMER AND PLASTICS INDUSTRY FOR MORE THAN 30 YEARS.”



### Dr. Sean Lyons

#### Centre Manager

Dr. Lyons holds a first class honours degree in Polymer Engineering and a PhD in Materials Science from Athlone Institute of Technology, he is the Vice Chair of the European medical plastics division of the Society of Plastics Engineers and is a Chartered Engineer and Fellow of Engineers Ireland.

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### Prof. Clement Higginbotham

#### Director of MRI / Principal Investigator

Professor Higginbotham is Director of the Materials Research Institute at AIT and a Co-Principal Investigator in the establishment of the Applied Polymer Technologies Centre. He has been an active researcher in the fields of controlled drug delivery, tissue engineering and biomedical materials for the past 20 years

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### Dr. Luke Geever

#### Principal Investigator

Dr. Luke Geever is a leading advanced polymer materials expert with over 15 year's Research and Development experience. He is a lead Principal Investigator in establishing the Applied Polymer Technologies Gateway which is Ireland's National Polymer Materials and Processing research centre.

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## Applied Polymer Technologies

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Applied Polymer Technologies



Institiúid Teicneolaíochta  
Bhailé Átha Luain  
Athlone Institute  
of Technology

**TECHNOLOGY GATEWAYS**  
delivering solutions for industry  
an Enterprise Ireland network

## APT IRELAND

The APT Gateway is based on the Athlone IT campus and is part of the Technology Gateway Network, a nationwide resource for industry based in the IoTs delivering solutions on near to market problems for industrial partners.



**“APT IS PROVIDING SOLUTIONS FOR COMPANIES USING PLASTICS MATERIALS ACROSS 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

### **APT offers independent, reliable and cost effective test services for troubleshooting and product / process development**

- Our testing expertise includes troubleshooting, safety, quality control, research and development, design engineering and evaluation, prototype testing and validation, and product benchmark testing.
- We analyze thousands of different client products and materials every year. Our scientists, engineers, chemists, and technologists are highly qualified professionals with years of industrial experience. They use state-of-the-art instrumentation to provide a full range of quality, product safety, materials and research analysis and testing services.
- Tests can be performed on raw material, product, product lines, prototype creations and services either in our laboratories, in the field, or in our clients' own manufacturing facilities.
- A Broad spectrum of industries utilize our testing services annually including automotive, industrial, consumer, medical, aerospace and pharmaceutical clients.

**“WORKING WITH APT HAS ALLOWED MERGON TO LEVERAGE THE EXTENSIVE EXPERTISE AND TEST EQUIPMENT AVAILABLE WITHIN THE RESEARCH INSTITUTE TO DEVELOP MATERIAL AND PROCESS IMPROVEMENTS IN ORDER TO REMAIN AT THE FOREFRONT OF TECHNOLOGY IN THE AUTOMOTIVE, INDUSTRIAL AND HEALTHCARE SECTORS.”**

*- Michael Daly, Mergon International.*

## CASE STUDY

### **Mergon International**

In order to remain competitive Mergon has undertaken a variety of projects with AIT to reduce raw material costs either through the incorporation of low cost fillers, reducing the density of the moulded parts or through the use of recycled polymers. These components are introduced into the polymer raw material through a compounding process. Once the materials have been homogeneously combined, they are injection moulded into test specimens in-house prior to running a battery of polymer characterization techniques.

### **How did APT Deliver the Solution for Industry?**

APT successfully identified novel methods which can be utilized to reduce raw material costs. APT continues to develop these methods in order to produce a commercially ready additive for on-going manufacturing use.

### **Impact for the Company**

Mergon works in a highly competitive manufacturing industry and is constantly under pressure from low cost economies. In the context of the research carried out at APT these research findings have allowed Mergon to stay ahead of their competitors and remain the supplier of choice of some of the world's most recognized brands.