

Innovative Research Solutions with Industry

Manufacturing and Green Technology

CLIENT:
Mergon International

AREA:
Polymer Processing



Developing novel methods of reducing raw material costs in plastics processing



Mergon are innovators in technical plastic moulding solutions for the Automotive, Industrial and Healthcare sectors. They use the latest material and technologies to design, manufacture and test plastic components that meet the most demanding requirements.

Plastic processing is Mergon's core competence. Thirty years at the forefront of technical moulding and extensive research and development have led to a significant capability in assembly and finishing processes. Mergon's technical expertise and ability to innovate continues to lead to superior products and competitive advantage for their customers. Mergon works hard to maintain this technical lead in a highly-competitive sector. Their corporate Research and Development facility is based in Ireland and they have worked closely with AIT since the company was established by AIT graduate and CEO Pat Beirne.

Mergon has successfully interacted with the Polymer group at the AIT Materials Research Institute for many years. They have utilised the polymer expertise, including material testing, characterisation, compounding, injection moulding and extrusion, to fulfil their R&D requirements for long and short term projects, ranging from Innovation Partnerships to final product testing.

At Mergon, the number one cost constraint is raw material. In order to remain competitive Mergon



Mr. Zhi Cao developing novel polymer blends for use by Mergon International

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. ➔

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- Once the materials have been homogeneously combined, they are injection moulded into test specimens in-house prior to running a battery of polymer characterization tests including mechanical, thermal and chemical testing techniques.

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

To date such collaborations between AIT and Mergon have been funded through:

- Enterprise Ireland Innovation Partnership support for a Post-doctoral research fellow
- AIT President Seed fund support for a MSc student
- Environmental Protection Agency industry funding (Mergon as the applicant, AIT as a collaborator)
- Direct industry funding

Mergon works in a highly competitive manufacturing industry and is constantly under pressure from low cost economies. However, they have built long lasting relationships with their key customers to allow them to flourish. The research carried out in partnership with AIT has allowed Mergon to stay ahead of their competitors and remain the supplier of choice of some of the world's most recognized brands. ■

TESTIMONIAL

Michael Daly
Mergon International

“Working with AIT has allowed Mergon to leverage the extensive expertise and test equipment available within the Materials Research Institute to develop material and process improvements in order to remain at the forefront of technology in the Automotive, Industrial and Healthcare sectors.”



Prof. Clem Higginbotham

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