Overview of I-Form, Advanced Manufacturing Research Centre

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Additive Manufacturing is commonly known as ‘3-D Printing’
AM brings key benefits for component fabrication

- Previously unmakeable complex components
- Individualised components
- Improved performance (e.g. reduced weight)
- Flexible production
- More rapid product development
Combining a Digital Production Environment with Novel Additive Manufacturing (3D printing) Technologies
Integrates Cyber and Physical Systems during Additive Manufacturing
Decision Support for Additive Manufacturing
Augmented Reality – Integrated Design and Process Feedback

- Computer-Aided Engineering (FEA, CFD)
- Augmented / Mixed Reality Functional Evaluation
- Manufacturing / Assembly / Maintenance Performance Evaluation
- Medical Device Design Alternatives
- Medical device
- Factory hack attack (Holens)
- Digital Human Body (Biodigital)
- Medical device
Inter-disciplinary Research

Manufacturing | Data Analytics | Additive Manufacturing | Modelling | Mechanics | Micro/Nano Engineering Control Engineering | Informatics
Metallurgy | Polymer Processing | Augmented Reality | Cognitive Computing Data Privacy | Materials Analysis | Design | Machine Learning
Industry partners are global leaders in industrial R&D

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<th>AEROSPACE</th>
<th>MEDICAL/PRECISION ENGINEERING</th>
<th>SMART TOOLING</th>
<th>MATERIAL/EQUIPMENT</th>
<th>SMART MANUFACTURING</th>
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Employing over 13,000 staff
Skilled Workforce a Key Enabler of Investment in Irish Manufacturing

Programme student numbers (by 2023)

- 44 PhDs
- 34 Researchers
- 210 MEng Manufacturing
- 1200 Certificate and Diploma
- 800 Apprenticeship training
- >1000 Modules
Balanced regional development is a national priority

- Industry partner
- Academic partner
- Demonstrator

Plans for IMR’s Mullingar Facility
Engagement programme to inform, involve and inspire

PUBLIC
Engage & Involve

GOVERNMENT
Inform policy

STANDARDS
Develop & Influence

INDUSTRY
Stimulate Innovation

I-Form
Advanced Manufacturing Research Centre
Our International Partners
AM brings societal impacts across lifestyle and health
Environmental benefits from lower material use and weight reduction

Fuel saving: 3.3 million litres
CO₂ reduction: 8.5 million tonnes
Centre development through Spoke addition pipeline

Pharma Products  Food Products  Construction