



## National Manufacturing Institute Scotland

The National Manufacturing Institute Scotland is a group of industry-led manufacturing research and development facilities where research, industry and the public sector work together to transform skills, productivity and innovation to attract investment and make Scotland a global leader in advanced manufacturing.

Key Capabilities / Centres	Descriptions
<b>Manufacture</b>	An end-to-end approach to material, process and product understanding and improvement. Enable customers to develop, prove and scale-up the next generation of products, processes and technologies utilising our industrial scale facilities.
<b>Design</b>	Using a robust stage gated design process to take customer from product idea to manufacturing. Establishing and advancing Technology Readiness Levels through verification and validation planning to meet market needs. Supporting industry to make appropriate design decisions for circularity and through-life services.
<b>Skills</b>	Offering online and in-person training courses for both individuals and companies, to 1 on 1 skills consultations to advance manufacturing training and development opportunities for individuals at all levels of their career.
<b>Materials</b>	Offering expertise in simulation and testing of both traditional, novel and lightweight materials. To access suitability and behaviour through both manufacturing processes, applications and end use.
<b>Digital Implementation</b>	Offering solutions to industry in the adoption of digital technologies to overcome roadblocks and inefficiencies, increase productivity, improve sustainability and push forward innovation in manufacturing and engineering applications.

Value Chain Areas	Testing & validation	Pilot manufacturing	Digital tools & simulation	Open innovation spaces	Skills development
Production	O	✓	O	O	O
Networks	X	X	X	X	X
Storage	✓	✓	✓	O	O
Transport	✓	✓	✓	O	O
Industry	O	O	✓	O	O
Power	O	O	O	X	O
Heat	O	✓	✓	O	O

\*Tick = yes, O = potential, X = no

## Collaboration opportunities

Examples of collaboration opportunities, are listed below (please note this list is not exhaustive):

- Hydrogen supply chain improvements i.e. data driven solutions for hydrogen component manufacture.
- Streamlining manufacture timelines via digital solutions for hydrogen supply chain.
- Potential for future inclusion of hydrogen specific courses.
- Reconfigurable Pilot Line and testbed, that can provide an accessible, flexible and modular alternative to a traditional fixed pilot line for manufacturers that want to become more agile without an initial large upfront investment.
- Manufacturing feasibility studies and production trials using industry scale equipment.
- The potential to access and characterise material behaviour.

## Centre location



## Hydrogen case studies

- **Hydrogen Valve development:** Working in collaboration with client to develop requirements, concept design & materials selection support for their development of a leak free valve.
- **Online Digital Manufacturing and Leadership CPD training support:** Online training available to Scottish SMEs across all manufacturing sectors, offering courses in digital manufacturing and leadership. Topics covered include the circular economy, sustainable design & production, and electrification and hydrogen.

## Key hydrogen contact:

**Paul Cantwell**  
Head of Net Zero Programmes

Paul.Cantwell@strath.ac.uk

