

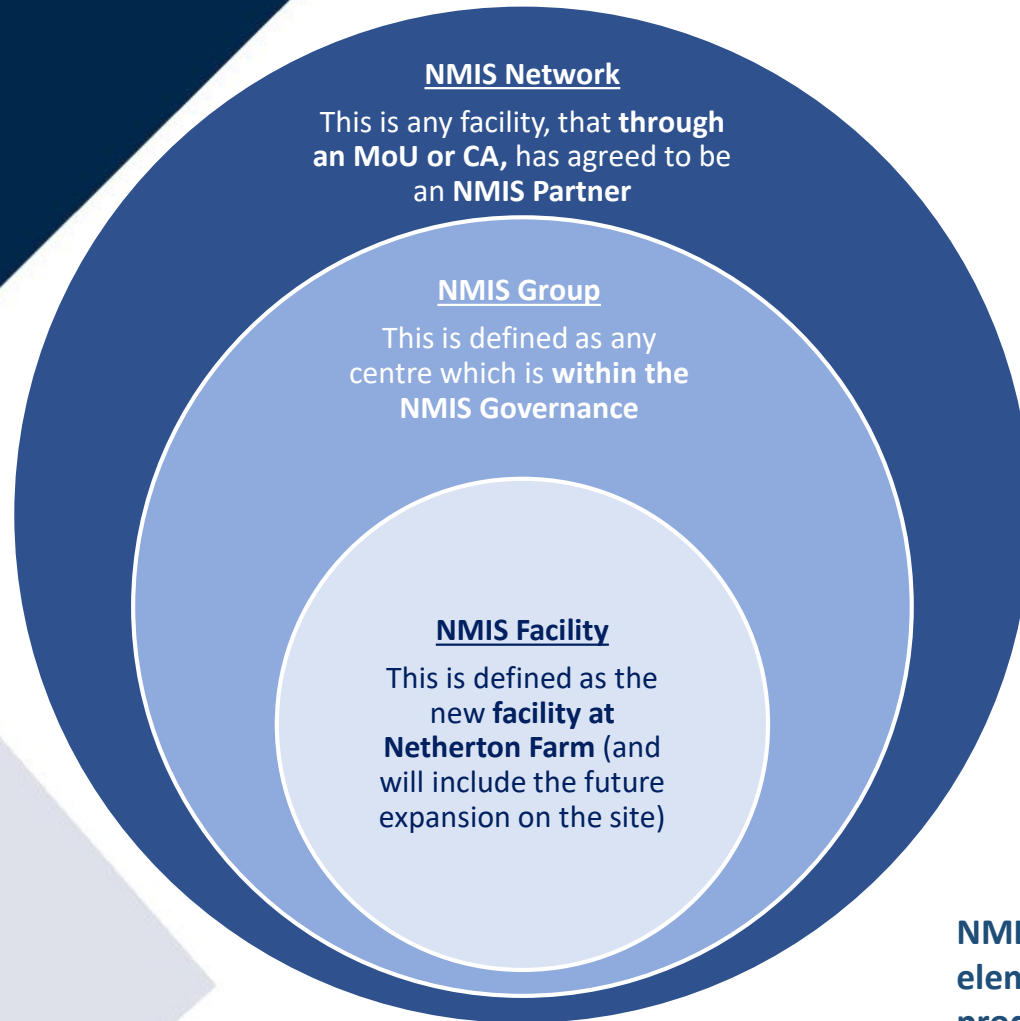
National Manufacturing Institute Scotland

June 2019

NMIS Partners:



The **National Manufacturing Institute Scotland** is an industry-led international centre of manufacturing expertise where industry, academia and the public-sector support bodies work together to transform skills, productivity and innovation making Scotland and the UK a global leader in advanced manufacturing.



NMIS Network is the collection of NMIS Partners (Universities, Colleges, Research Centres etc), who through a Memorandum or Understanding (MoU) or Collaboration Agreement (CA) have agreed to be part of the NMIS delivery. The NMIS Network will also provide advisory input to the NMIS Strategy (through the Outreach Forum) as this will be a representative group of multiple sectors and technology areas.

The **NMIS Group** includes other research centres which are within the NMIS Governance but are not necessarily co-located. This currently includes the Advanced Forming Research Centre (AFRC) and the new Lightweight Manufacturing Centre (LMC).

The creation of NMIS will be funded through a £48M Scottish Government investment, £8M contribution from the University of Strathclyde and £9M for the Lightweight Manufacturing Centre (LMC)

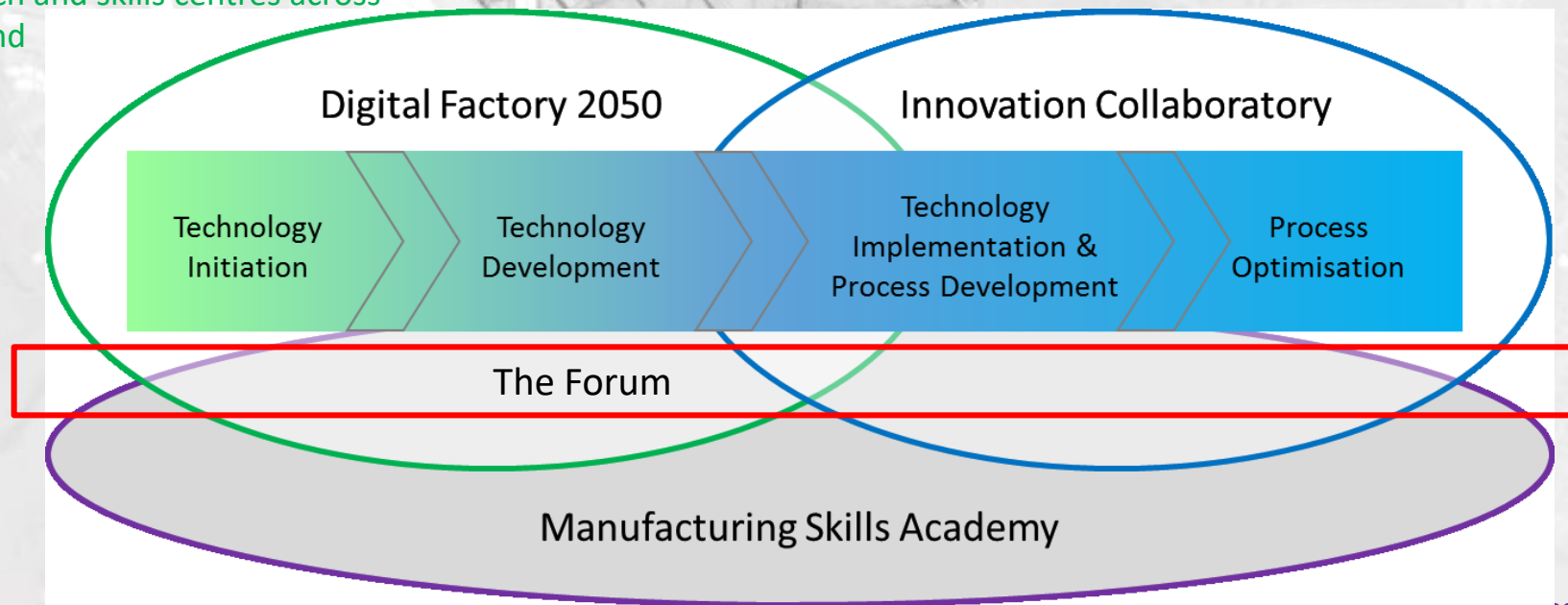
This funding is primarily to set up the new **NMIS Facility** at Netherton Farm, near Glasgow Airport, with a suite of advanced manufacturing equipment, as well as mobilising an expertise team of resources to support businesses through project delivery.

NMIS is the totality of the facility, the NMIS Group and the NMIS Network. With all elements present, the optimum solutions to meet industry needs - transforming skills, productivity and innovation - can be developed and delivered in partnership.

Core NMIS Facility

DF2050: Collaborative manufacturing research, technology & solution development, drawing in supply chain partners and SMEs and connecting research and skills centres across Scotland

IC: Manufacturing technology demonstration, application and process development



The Forum: Providing links to business support, to the One Scotland Partners & to external organisations such Zero Waste Scotland, Scottish Institute for Re-Manufacture

IVISA: A hub for advanced industry 4.0 manufacturing skills and education linking to existing and future providers across Scotland

Elements will operate as one entity across the full manufacturing life-cycle, developing new manufacturing technologies and techniques, providing focus for the application of technology, supporting the current manufacturing workforce and developing the future workforce.

Core NMIS Facility

The new **NMIS facility** will:

- Comprise of three primary components:
 - Manufacturing Skills Academy
 - Digital Factory of the Future
 - Innovation Collaboratory
- Provide a hub for manufacturing organisations, academia, enterprise agencies and training providers to collaborate
- Be at the centre of a new Advanced Manufacturing Innovation District Scotland (AMIDS) - which Renfrewshire Council are developing (£39M Glasgow City Region Deal funding) to support infrastructure work on the AMIDS development.
- Be in close proximity to the existing Advanced Forming Research Centre and the new Lightweight Manufacturing Centre, as well as being co-located on AMIDS with the Medicines Manufacturing Innovation Centre (MMIC)



Approach to NMIS from Netherton Square

Advanced Manufacturing Innovation District Scotland (AMIDS)

- NMIS will be located at the **heart of AMIDS**, in Renfrewshire, co-located with The Medicines Manufacturing Innovation Centre
- There are **opportunities** for advanced manufacturing companies to **co-locate** with NMIS at AMIDS
- This is also in close proximity to the Advanced Forming Research Centre, part of the High Value Manufacturing Catapult, the Lightweight Manufacturing Centre and the new Medicines Manufacturing Innovation Centre which will also be built on AMIDS



NMIS Timeline

- NMIS has begun operating and is providing services to businesses.
- Temporary accommodation is being sought near the NMIS site and is intended to be operational in 2019
- Senior leadership recruitment is underway and team is expected to be in post by Q3 2019
- The NMIS Industrial Doctorate Programme launched in Aug 2018 – three calls for proposals have been run, the third call closed end May 2019
- The NMIS CPD development is also underway, with the first modules are expected to be available in Summer 2019
- In parallel to this, the Design Team have been appointed, building design work is underway, with the onsite start expected in early 2020
- The new facility is expected to open and be operational in Q4 of 2021. Until the new facility is fully operational, NMIS will utilise existing capabilities that exist through Strathclyde University and throughout Scotland.

What NMIS can do for Industry

- Support understanding of what **Equipment/Facility requirements** businesses currently have and identify what NMIS could provide to support them
- Support identification of what **Skills needs/gaps** the organisation has, and offer services to close the gap
- Provide **initial support** for projects/programmes of work that would immediately bring benefit to the organisation as well as supporting scoping out the **longer term strategic projects**. This includes supporting/enabling **collaborations** between business, academic institutes and innovation centres.
- Identify if the wider **AMIDS offer** can benefit the organisation

NMIS – Get in touch

If you have further questions, or are interested in working with the NMIS Team, please contact:

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If you are interesting in Advanced Manufacturing Innovation District Scotland (AMIDS) please contact:

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Back Up Slides

What will NMIS do?

- **Accelerate innovation** by enabling manufacturing companies to trial and test new processes, applications and technologies.
- **Demonstrate new manufacturing technologies** and processes at an earlier stage.
- Encourage supply chain **collaboration** at the research stage of product development.
- Provide **access to modern equipment** and expertise to support prototyping, testing, and scale-up to industrial production, thereby helping de-risk investment, especially for SMEs.
- Provide a focal point for **applied manufacturing research expertise**, creating networks of Universities and Research organisations, thereby strengthening Scotland's reputation for R&D and attracting inward investment.
- Act as a beacon to **attract investment** in a much wider Manufacturing Innovation District.
- Digital Factory 2050 will house an array of **state of the art machinery** and other manufacturing equipment including digital and robotic technology.
- Help existing and future workers develop and **enhance the skills** they and employers need to **compete globally in manufacturing**.

Initial NMIS Technology & Process Focus

- Rapid prototyping and testing
- Component/product testing
- Productisation processes
- Manipulators and Robotics
- Automation and assistance with technology applications
- Rapid and multi-scale Additive/Subtractive Manufacturing
- Lightweight Materials
- Augmented Reality/Virtual Reality
- Data Science, Analytics and Artificial Intelligence
- New materials/hybrid composites
- Measurement and Non-Destructive Evaluation (NDE)
- Advanced/SMART manufacturing
- Monitoring and Sensing
- Production skills for complex/sophisticated devices

NMIS offering will evolve and develop as Industry needs are better understood and new requirements, challenges and opportunities emerge

NMIS: Manufacturing Skills Academy

The Manufacturing Skills Academy (MSA) will support the development of Advanced Manufacturing in Scotland through:

- Providing Short programmes for CPD - upskilling and reskilling the existing leaders, managers and operators to ensure organisations are prepared to take their business through the changes to stay competitive and innovative
- Contributing to the Apprenticeship Family: evolving multi-disciplinary Foundation, Modern and Graduate Apprenticeships and provide additional complimentary services to the existing programmes through Scotland and the college network
- Running the NMIS Industrial Doctorate Programmes, operated by SRPe, to carry out PhDs that are co-funded by industry and SFC – addressing real industrial challenges
- Evolving curriculum in line with industry demand, endorsed by Industry Curriculum Advisory Board
- Overall, this will build a skills supply system, using digital delivery and modern pedagogical skills

As well as training being conducted in the NMIS facility, delivery of the MSA training will also be accomplished through remote digital access throughout Scotland, and via College and University network, and work based learning opportunities

How businesses can engage with NMIS

NMIS will offer a variety of offerings to companies to suit their needs, including:

- Events
- Industry 4.0 Assessments
 - Skills Needs Assessments and Reviews for Industry 4.0
 - Technical Assessments and Reviews for Industry 4.0
- Fit for 4.0 Programme
 - Supplier Development
 - SME Rapid Response Service
- On-Line Diagnostics Services and Information provision
- Project Funding
- Membership Programme
 - Tier 1
 - Tier 2
- Bespoke Research Programme
- Collaborative Research Programmes
- Skills, Education and Continuous Professional Development

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Advanced Manufacturing Innovation District Scotland (AMIDS)



Artist's Impression

[AMID Fly-Through Link](#): **YouTube**