



LIGHTWEIGHT MANUFACTURING CENTRE

a first step towards
creating a National
Manufacturing Institute
for Scotland

Lightweighting is a term used in the automotive and aerospace industries for the design and manufacture of lightweight components. The aim is to reduce the weight of the vehicle or aircraft by manufacturing with materials which are light and strong, such as composites, titanium and aluminium alloys. Reducing weight reduces emissions and environmental impact.



Introducing the Lightweight Manufacturing Centre

The Lightweight Manufacturing Centre is the first step towards creating a National Manufacturing Institute for Scotland (NMIS).

NMIS was announced in the 2016 Programme for Government and is being developed with the University of Strathclyde. The Lightweight Manufacturing Centre will forge an alliance with the University's Advanced Forming Research Centre, utilising its materials and manufacturing expertise.

The new centre will be housed at the existing Doosan Babcock facility in Renfrew and will fill a significant gap in Scottish technical capability in lightweighting and advanced materials development.

What will the Lightweight Manufacturing Centre do?

The Lightweight Manufacturing Centre will focus on the manufacture of lightweight components for a range of industries in which lighter materials offer benefits, including, aerospace, automotive, oil and gas, renewables, medical, marine and off-highway transport.

It will deliver cutting-edge research and development projects involving lightweight materials in partnership with companies in Scotland.

Why is the new Centre needed?

Due to a lack of local expertise in lightweight manufacturing technology, many companies in the Scottish aerospace and automotive sectors rely on overseas production. The Lightweight Manufacturing Centre will bring this expertise to Scotland for the first time.

The Lightweight Manufacturing Centre will revolutionise how Scotland interacts with high-value manufacturers across the world by developing materials such

as light alloys, composites and hybrid materials and combining this with expertise in advanced materials such as metal matrix composites and ceramic matrix composites.

The new centre positions Scotland at the forefront of new manufacturing techniques and processes.

The Lightweight Manufacturing Centre will revolutionise how Scotland interacts with high-value manufacturers across the world

What will the Lightweight Manufacturing Centre look like?

The Lightweight Manufacturing Centre will be designed as a flexible space supporting a broad range of research and development activity, linking academia to industry.

In support of industry, the centre will have the following capability and facilities:

- Resin transfer moulding of composite components
- Automatic tape laying
- Autoclave
- Machining cell for machining and trimming composite components and manufacturing composite tooling
- Non-destructive testing
- CNC Ply cutting
- ISO Class 8 clean-room

National Manufacturing Institute for Scotland

In February 2016, the Scottish Government launched its manufacturing action plan: A Manufacturing Future for Scotland, which called for a centre of excellence for manufacturing along with a skills academy.

In September 2016, in the Government's Programme for Government, this centre for excellence and skills academy became known as the National Manufacturing Institute for Scotland (NMIS). NMIS is a major, transformative project being developed by the Scottish Government and the University of Strathclyde, in association with the Scottish Research Partnership in Engineering, Scottish Enterprise and Highlands and Islands Enterprise, Skills Development Scotland, the Scottish Funding Council and the private sector.

NMIS will launch a new era for Scottish manufacturing and will equip manufacturers of all sizes to compete in future international markets. It will support the transformation of Scotland's manufacturing industry in terms of innovation and digital opportunities and create sustainable, high-value, highly-skilled jobs.



Find out more

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