

## **Scottish Enterprise**

Scotland has significant activity in the aerospace, defence and marine sector. It also has a strong Energy sector, with an increasing focus on offshore renewables. Spirit AeroSystems at Prestwick undertakes a growing range of composite-based wing design and manufacturing activity for a range of Tier 1s, including all the Airbus families, where has secured the fixed leading edge contract for the new Airbus A350XWB. Other aerospace companies engaged in composites include Slingsby Advanced Composites, SE and the Scottish Government have invested various composites facilities and various R&D projects including the new Spirit Composites Development Centre and contributions to the national NGCW programme..

While currently focused primarily on metal-based building technologies, Scotland's world class naval shipbuilding facilities operated by BVT Surface Fleet, which have has significant investment support from the public sector, are increasingly looking to the use of composite materials in ship construction.

Almost 50 Companies in Scotland are presently active in the composite material supply chain across the aerospace, energy, marine, automotive and construction sector with around a dozen in the area of carbon and carbon / metal composites.

Composite activity for the aerospace industry is spread throughout the supply chain, and includes:

- Manufacture of carbon fibres.
- Conversion of technical textiles and polymers.
- Design engineering.
- Integration of manufactured composite products.

Aerospace composite industry players in Scotland range from micro-businesses to global corporations.

Scotland has significant capability in carbon and polypropylene fibres and an emerging capacity in textile preforms and cores. There is also extensive expertise in the research and development and repair and manufacture of composite products. Scottish universities undertake extensive composites research, development and training activity, as well as research into new NDT technologies, essential for speeding up the regulatory approvals process for aerospace.

Scottish companies, particularly those already operating in technical textiles, have the potential to address currently unmet market needs on a global basis. The presence of major composite end users in the UK provides the platform for Scottish companies to build relationships with these key strategic players. Scottish Enterprise has invested in the research and development of a 3D weaving demonstrator aimed at developing and proving technologies for use in composite components.

## **Projects**

ITI Energy invested £3.6m in phase 1 and further £4.5m in phase 2 into composite pipeline structure - Helipipe – an innovative all-steel composite pipeline technology that significantly reduce pipe wall thickness and therefore weight and material cost, whilst maintaining excellent operating characteristics and can be manufacture on-site. Initially, the product will be apply into oil and gas transport. ITI Energy is in the latter stages of approving a new research project in Offshore Renewables, with a specific focus on composite manufacturing systems for wind turbine blades.

**Slingsby Advanced Composites** – £1.25M Composite Design and Manufacturing facility at Prestwick which will become a centre of excellence featuring the design of prototype composite structures, the manufacture of aerospace components and a repair and renovation scheme of composite parts.

**Spirit Aerosystems (Europe) Ltd** - £12.1M composite manufacturing facility designing and automated manufacture of wing and fuselage aerostructures. Specific future development in advanced automation and materials modelling.

**Advanced Composite companies in Scotland: further details in accompanying spreadsheet**

Company Name	Address1	Address2	Address3	Address5
Calcarb Ltd	12 North Road		Bellshill	ML4 1EN
Fineunit Ltd (design etc)	3 Woodend Crescent	Ettrickbridge	Selkirk	TD7 5JQ
SGL Technic Ltd	Muir of Ord Industrial Estate		Muir of Ord East	IV6 7UA
Tufnol Composites Ltd	3 James Watt Place		Kilbride	G74 5HQ
BAE Systems Regional Aircraft Weir Group	BAE Systems Regional Aircraft	Prestwick International Airport, 20 Waterloo Street	Prestwick Glasgow	KA9 2RW G2 6DB
Spirit Aerosystems (Europe) Ltd	Prestwick International Airport	Ayrshire	Prestwick	KA9 2RW
Cellucomp Ltd	Unit 3, West Dock	Harbour Place	Burntisland	KY3 9DW
WL Gore and Associates (UK) Ltd	Kirkton South Road	Kirkton Campus	Livingston	EH54 7BT
Doosan Babcock	Porterfield Road		Renfrew	PA4 8DJ
Goodrich Aerostructures	Prestwick Service Centre	1 Dow Avenue	Prestwick	KA92SA
Piezo Composite Transducers Ltd (PCT Ltd)	Campus 2		Aberdeen	AB22 8GU

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