

# ADVANCED MANUFACTURING



Cardiff is also home to an advanced manufacturing sector, supported by links to higher education, and a skilled workforce in manufacturing techniques. Specialism range from electronics, to state of the art steel production at EU's most efficient Electric Arc Furnace at Celsa Steel UK. Around 4,000 people are employed in advanced manufacturing in Cardiff, with many more employed in supporting sectors.

The sector is also supported by the city's universities, who have a close link with business and the commercialisation of research. The Centre for Advanced Manufacturing Systems at Cardiff (CAMSAC) is one example, a research centre set up to build directly on Cardiff's existing strong reputation for internationally leading manufacturing related research. CAMSAC bridges both engineering and business disciplines and works closely with businesses to develop new manufacturing concepts, drawing on funding from the Welsh Government, the EPSRC, the Technology Strategy Board, the European Union and industry.

Across the city-region there is also a wide range of expertise in sectors such as aerospace and defence, with businesses such as GE Aviation, British Airways, Airbus Defence & Security, BAE Systems, and General Dynamics having a presence in South East Wales. Other sectors with a significant presence include the automotive sector, where there is a particular focus on low carbon research, with business and academia working together, such as Cardiff University's Institute of Energy collaboration with Ricardo and Qinetiq on alternative fuels and technologies.

- 38,900 people employed across the sector in the cityregion - 6.5% of the total workforce
- Wales' Advanced Materials and Manufacturing productivity is 20% higher than the UK average
- Dedicated aerospace Enterprise Zone at St. Athan and Cardiff Airport 40 hectare manufacturing Enterprise Zone in the city region at Ebbw Vale
- World renowned reputation for aircraft MRO (Maintenance, Repair and Overhaul), with over 20% of the UK's market
- Gross Value Added (GVA) for advanced manufacturing and materials in Wales was £5,080 million for 2012
- GVA per hour worked was £33.6 in 2012; 27% higher than the equivalent UK figure and 56.1% above the average for all industries in Wales

The city is also home to advanced technology manufactures such as IQE, who use advanced crystal growth technology (epitaxy) to manufacture and supply bespoke semiconductor wafers ('epi-wafers') to the major chip manufacturing companies. IQE is unique in being able to supply wafers using all of the leading crystal growth technology platforms.

In comparison with the UK's Core Cities, Cardiff has a broad range of businesses within advanced manufacturing. The table above outlines that a greater proportion of people are employed in Cardiff in a range of manufacturing sectors than the UK average, from electronic appliances top construction materials.