

Candidate Information

Position: Senior Engineer - 3D Weaving for Composites
School/Department: AMIC
Reference: 25/112974
Closing Date: Monday 17 November 2025
Salary: £41,519 - £49,536 per annum
Anticipated Interview Date: Thursday 27 November 2025
Duration: 3 Years

JOB PURPOSE:

We are seeking engineers who want to innovate and apply their knowledge to the challenges of industry and society to support the delivery of industrially focused composite projects within AMIC's advanced manufacturing activities. You will apply your specialist knowledge and experience of 3D weaving processes, textile preform design and process validation to generate innovative research outputs which have a direct economic and technical benefit to companies and sectors. You will work collaboratively with the sustainable polymer and composite team, wider AMIC team, industry partners, technology providers, national technology centres and academia to deliver key projects focused on advanced technical textiles for composite structures.

MAJOR DUTIES:

1. Plan and organise own project work to achieve technical objectives ensuring delivery to time, quality and budget.
2. Provide guidance and direction to colleagues assisting with research projects.
3. Participate constructively in multi-disciplinary research projects to ensure timely delivery of project objectives.
4. Apply technical knowledge in the operation and optimisation of 3D weaving equipment, including programming, setup, maintenance and troubleshooting of textile looms and associated systems.
5. Take a leading role in the development, demonstration and validation of novel 3D woven textile preform designs and manufacturing processes, including design, weaving trials, case studies and direct client project delivery.
6. Integrate textile design, weaving processes and composite manufacturing requirements to develop optimised solutions for industrial partners.
7. Lead the development and implementation of digital technologies within textile design and delivery of 3D woven composite structures to improve cost and quality of woven preforms and manufactured components.
8. Produce high-quality technical reports, technical drawings and demonstrations to assist in generating funding opportunities to support further research activity.
9. Support business development through engagement with industrial partners and contribution to proposals.
10. Ensure all equipment is used safely and in accordance with standard operating procedures and Health and Safety guidance, including supervision of equipment operation when required.
11. Undertake any other duties that may reasonably be requested by management.

ESSENTIAL CRITERIA:

1. Honours degree or equivalent in a relevant engineering discipline, science, or a related discipline or minimum HND in a related engineering discipline with extensive recent and relevant experience.
2. Demonstrable experience in 3D weaving processes and technical textile engineering, including the development of woven preforms and their integration into composite products.
3. Evidence of process development and improving woven preform designs, weaving methods or textile manufacturing technologies to meet performance, quality, cost, and delivery requirements.
4. Experience of using relevant software packages for textile design and loom operation.
5. Experience of working with engineering drawings and working to close tolerances.
6. Evidence of relevant equipment proficiency, including setup, operation, maintenance, testing, and repair of textile weaving systems, including analysis and modification of complex components.

7. Knowledge and application of safety systems, risk management, and COSHH in textile and composite manufacturing environments.
8. Demonstrable evidence collaborating with a range of parties to deliver projects to agreed deadlines within budget, and to required quality standards.
9. Evidence of complex problem-solving skills.
10. Excellent written and verbal communication skills, including the ability to produce high-quality technical reports, technical drawings and convey complex technical information clearly to a range of stakeholders.

DESIRABLE CRITERIA:

1. Postgraduate qualification in a relevant discipline.
2. Experienced in design for manufacture of composite components.
3. Experience developing technical packages for textile manufacturing processes, including equipment specifications, process FMEAs and HSE documentation.
4. Experience in the use of process or structural simulation software for woven composite analysis.
5. Experience with manufacturing automation technologies and digital textile manufacturing systems.
6. Experience with composite characterisation methods including destructive and non-destructive testing for woven composite structures.
7. Understanding of technology readiness levels (TRL) (or similar processes such as MRL) and driving processes and projects to maturity.
8. Experience working to aerospace management systems and following process controls in textile or composite manufacturing environments.
9. Experience in the development of project proposals to attract new work.
10. Participation in collaborative research projects.
11. Willingness to visit collaborative partners and to attend meetings and conferences nationally and internationally as requested.