

Candidate Information

Position: Senior Engineer Tooling Design
School/Department: AMIC
Reference: 25/113055
Closing Date: Monday 19 January 2026
Salary: £41,519 - £49,536 per annum.
Duration: 3 years

JOB PURPOSE:

AMIC is a £100M investment through the Belfast Region City Deal - a collaborative, innovative powerhouse of advanced manufacturing set to elevate our region globally.

We are supporting economic growth and prosperity for Northern Ireland by creating high quality jobs and increasing inward investment through high value manufacturing innovation clusters.

We are driving industrial transformation, paving the way for future technologies and competing globally with a more sustainable focus.

Our existing team of highly capable and experienced staff has core capabilities in digitalising manufacturing, smart design, sustainable polymers & composites and nanotechnologies & photonics. We're excited to be expanding the team throughout 2026.

We are seeking a team-player who is passionate about innovative technology to play a major role in the leadership, management and expansion of applied research, innovation and knowledge transfer in composite design, processing and testing.

You will help to lead and support a team of engineers, scientists and technicians in the strategic direction and delivery of multiple concurrent composite and polymer tooling manufacturing projects across AMIC. This requires managing diverse composite and polymer tooling manufacturing processes and validation methodologies. You will work in collaboration with different technology areas, the wider sustainable polymer and composite team, technology providers, national technology centres, academia and industry to deliver key projects, develop regional and international links, and secure partnerships and funding.

You will support senior managers with a proactive approach in the identification, technical specification and delivery of new and novel materials & technology capabilities and strategies that will have a direct technical, economic and reputational benefit to AMIC, industry and Northern Ireland.

MAJOR DUTIES:

1. Plan and organise own tooling design project work to achieve technical objectives ensuring delivery to time, quality and budget.
2. Provide guidance and direction to colleagues assisting with tooling design and fabrication projects.
3. Participate constructively in multi-disciplinary research projects to ensure timely delivery of project objectives.
4. Apply technical knowledge in the design and optimisation of composite and polymer tooling across multiple manufacturing processes (e.g. hard and soft tooling for processes such as RTM, Autoclave Cure and press moulding for composites and injection moulding and rotational moulding for wider polymers, modular tooling systems, rapid tooling, additive manufactured tooling, etc).
5. Take a leading role in the development, demonstration and validation of novel tooling designs and mould engineering solutions, e.g. design trials, case studies and direct client project delivery.
6. Take a leading role in the development and implementation of digital technologies in tooling design, e.g. CAD/CAM integration, digital twin methodologies and design automation to improve cost and quality of tooling solutions.

7. Connect and evaluate concepts of tooling design, manufacturing requirements and component performance to deliver innovative solutions for industrial partners.
8. Undertake high-quality innovation and knowledge transfer in composite and polymer tooling design.
9. Produce high-quality technical reports, design documentation and demonstrations to assist in generating funding opportunities to support further research activity.
10. Support business development through engagement with industrial partners and contribution to proposals.
11. Work collaboratively with AMIC tooling machining team and external suppliers to ensure designs are manufactured to specification.
12. 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 with significant relevant industrial experience OR minimum HND in a related engineering discipline with extensive recent and relevant industrial experience OR substantial practical experience in composite manufacturing, with demonstrable technical expertise.
2. Demonstrable experience and in-depth understanding of tooling design requirements and the appropriate selection of tooling types and manufacturing processes, ensuring selected tooling solutions meet customer requirements for safety, quality, cost, delivery and lead time.
3. Evidence of applying tooling design knowledge to develop or improve moulds, tooling systems or manufacturing methods, with measurable impact.
4. Proficiency in CAD/CAM software packages (e.g. CATIA, NX, SolidWorks, Mastercam) and tooling simulation software to support design and validation in project delivery.
5. Demonstrable evidence of working on a range of composite and polymer tooling design projects including new tooling development and existing tooling improvement for composite and polymer manufacturing processes.
6. Knowledge and practical application of safety systems, risk management, and regulatory requirements relevant to tooling design and manufacturing environments.
7. Demonstrable evidence of design for manufacture principles for tooling, including concept development for moulds, modular tooling systems, jigs/fixtures, and selection of suitable tooling materials and manufacturing technologies to optimise performance, cost and lead time.
8. Proven ability to work with tooling vendors, machining teams and cross-functional teams to ensure tooling designs meet quality, performance, and delivery standards.
9. Evidence of identifying and implementing tooling design improvements, cost reductions, and efficiency gains within composite and polymer manufacturing.
10. Demonstrable evidence of delivering tooling design projects to agreed deadlines within budget, and to required quality standards, including working within project teams to manage risks and achieve objectives.
11. Evidence of complex problem-solving skills in a tooling design environment, with the ability to develop effective solutions under challenging conditions.
12. Excellent written and verbal communication skills, including the ability to produce high-quality technical design documentation and convey complex technical information clearly to a range of stakeholders.

DESIRABLE CRITERIA:

1. Postgraduate qualification in a relevant discipline.
2. Experienced in advanced mould design methodologies and tooling development strategies for composite and polymer manufacturing.
3. Experience in developing technical specifications for tooling (design specifications, tooling validation requirements, material specifications and manufacturing process documentation) to define and control tooling quality effectively.
4. Experience in the use of tooling simulation software (e.g. Moldex3D, Moldflow, VRTM) and structural analysis software (e.g. ABAQUS, ANSYS) for tooling validation.
5. Experience with advanced manufacturing technologies for tooling production including CNC machining, additive manufacturing and automated finishing processes.
6. Experience with tooling validation methods including thermal analysis, dimensional verification and structural validation techniques.
7. Understanding of technology readiness levels (TRL) or manufacturing readiness levels (MRL) and driving tooling design processes and projects to maturity.
8. Experience working to aerospace or automotive tooling standards and quality frameworks.

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.