

## Candidate Information

**Position:** Senior Engineer Manufacturing Digitalisation  
**School/Department:** BRCD AMIC  
**Reference:** 25/112873  
**Closing Date:** Monday 6 October 2025  
**Salary:** £41,519 - £49,536 per annum  
**Anticipated Interview Date:** Monday 20 October 2025  
**Duration:** 3 Years

### JOB PURPOSE:

AMIC - a £100M investment through the Belfast Region City Deal - is 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.

When you join our team, you will have access to the latest advanced industrial technologies, and have the opportunity to grow and develop as an engineer and technology leader. Our mission is to provide you with the environment to innovate and create impact.

Our team of experienced staff has core capabilities in digitalising manufacturing, smart design, sustainable polymers & composites and nanotechnologies & photonics. We are excited to be expanding the team throughout 2025.

We are seeking engineers who want to innovate and apply their knowledge to the challenges of industry and society to support emerging approaches to digitalisation for industry 4.0 within AMIC's advanced manufacturing activities. You will apply your specialist knowledge and experience of methods and processes, to generate innovative research outputs which have a direct economic and technical benefit to companies and sectors. You will work collaboratively with your team, industry, technology providers, national technology centers and academia to deliver key projects focused on advanced manufacturing. You will be involved in implementing a Unified Namespace Architecture within AMICs facilities on a state-of-the-art modern infrastructure and demonstrating best practices to industry.

### MAJOR DUTIES:

1. Industrial Research & Development: Conduct high-quality research, development, and knowledge transfer within smart factory technologies.
2. Technical Innovation: Apply expertise in support of the development of innovative, industry-focused solutions.
3. Industry Engagement: Collaborate with industrial partners to facilitate the transfer of AMIC capabilities into commercial production and R&D teams.
4. Manufacturing Systems Development & Systems Integration: Assist in integrating, designing, implementing, and optimising manufacturing systems (MES, ERP, etc.) to improve efficiency and data flow in manufacturing environments.
5. Workflow Automation: Develop logic-driven workflows for event-based process automation, improving responsiveness and reducing manual intervention.
6. Microservice Development & Deployment: Design, develop, and deploy modular microservices to support scalable and maintainable manufacturing system architectures. Ensure interoperability across MES, ERP, IIOT, and enterprise platforms using containerisation technologies and API-driven communication. Contribute to the implementation of CI/CD pipelines and structured change control processes to support agile development and secure deployment.

7. Unified Namespace Implementation & Systems Integration: Contribute to the implementation of Unified Namespace architectures to unify data streams across PLM, ERP, MES, SCADA, IIOT and low-code platforms. Ensure robust connectivity using industrial protocols and event-driven architectures, enabling seamless communication and traceability across manufacturing operations.
8. Multidisciplinary Collaboration: Engage constructively in cross-functional research activities, including staff training and development.
9. Global Reputation & Outreach: Enhance the international reputation of AMIC and QUB by delivering presentations, attending trade shows, and engaging with major companies and research centres worldwide.
10. Technical Documentation: Produce high-quality technical reports and demonstrations to support funding opportunities and future program activities.
11. Additional Duties: Undertake any other responsibilities reasonably requested by management.

#### **ESSENTIAL CRITERIA:**

1. Undergraduate degree in Computer Science, Software Engineering, Engineering, Science, or a related discipline. OR; extensive recent and relevant industrial experience directly related to the role..
2. Manufacturing Systems Integration to include MES, ERP systems.
3. Structuring and contextualising data across multiple systems (MES, ERP, SCADA, IIOT).
4. Designing logical and scalable tag structures that reflect physical and digital assets across the enterprise.
5. Working with industrial protocols such as OPC-UA, MQTT, Modbus, Profibus for secure industrial data exchange.
6. Implementing role-based authentication, cybersecurity best practices, and compliance with industrial data governance frameworks.
7. Using publish/subscribe patterns, real-time data streaming, and workflow automation.
8. Using Python, JavaScript, or similar for industrial automation and data processing applications.
9. Demonstrable evidence of working within multifaceted environments delivering to deadlines and within budget.
10. Experience of using research/industrial tools and techniques resulting in high quality projects and technical reports.
11. Evidence of complex problem-solving skills obtained with a proven ability to develop innovative solutions.
12. Excellent written and verbal communication skills, including ability to communicate complex technical information.
13. Willingness to visit collaborative partners and to attend meetings and conferences nationally and internationally as requested.

#### **DESIRABLE CRITERIA:**

1. Postgraduate qualification in a relevant discipline (e.g., Data Science, Computer Science, Engineering, or Manufacturing Technology).
2. Experience working with international OEMs (Original Equipment Manufacturers) and SMEs (Small and Medium Enterprises) on data-driven solutions and digital transformation initiatives.
3. UNS Platform Experience - such as Inductive Automation Ignition, HiveMQ, Cirrus Link modules, or HighByte Intelligence Hub.
4. Digital Twin Implementation - Experience connecting physical assets to digital representations within UNS frameworks.
5. Understanding of edge-to-cloud data architectures and edge computing in manufacturing environments.
6. Experience implementing real-time analytics and dashboarding on top of UNS data structures.
7. Experience with specific manufacturing sectors (automotive, aerospace, pharmaceuticals, etc.).
8. Understanding of regulatory compliance requirements (ISO standards).
9. Lean manufacturing and continuous improvement methodologies.