

Candidate Information

Position:	Senior Engineer - Manufacturing Systems
School/Department:	BRC D AMIC
Reference:	24/112275
Closing Date:	Monday 3 February 2025
Salary:	£39,922 - £47,631 per annum
Anticipated Interview Date:	Thursday 20 February 2025
Duration:	3 Years

JOB PURPOSE:

AMIC is a £100M investment through the Belfast Region City Deal and is set to become a collaborative, innovative powerhouse in advanced manufacturing, elevating Northern Ireland's manufacturing capabilities globally. Our mission is to support the region's economic growth by creating high-quality jobs and increasing inward investment through high-value manufacturing innovation clusters. We are driving industrial transformation, leading the adoption of future technologies with a sustainable focus, and enabling companies to compete globally.

When you join our team, you'll have access to cutting-edge industrial technologies and an environment where you can grow and innovate as an engineer and technology leader. Our launch team has core expertise in digital manufacturing, smart design, sustainable polymers & composites, and nanotechnologies & photonics, and we're expanding the team throughout 2024.

We are seeking an experienced Manufacturing Systems Engineer with a passion for industrial digitalisation to support manufacturing research test bed within AMIC's advanced manufacturing operations. Your responsibilities may include integrating and optimising a range of industry-standard systems, including ERP, PLM, or MES, to ensure seamless data flow and process optimisation in both virtual and real-world manufacturing environments. Your work will directly relate to AMIC's R&D in the areas of industrial networks, compute infrastructure, and software systems, and contribute to the long-term success of the AMIC research centre and Northern Ireland manufacturing sector.

MAJOR DUTIES:

1. **Systems Integration:** Develop, implement, and manage the integration of manufacturing systems into a digital twin/virtual factory framework. Ensure a cohesive digital thread across design, production, and operations.
2. **Data Management & Automation:** Facilitate the collection and flow of data from manufacturing systems, enabling real-time performance monitoring and data-driven decision-making.
3. **Process Optimisation:** Drive the optimisation of manufacturing processes by ensuring that manufacturing systems are aligned to enhance production efficiency, scheduling, and supply chain management.
4. **Infrastructure Management:** Work with central and edge infrastructure to ensure robust and scalable operations, data storage, and management.
5. **Collaboration:** Work closely with the broader AMIC engineering teams, industry partners, and technology providers to deliver integrated systems and solutions.
6. **Project Planning & Execution:** Contribute to the design, delivery, and testing of projects, ensuring all systems operate within budget, timeframes, and compliance with health and safety regulations.

ESSENTIAL CRITERIA:

1. Degree in computing, engineering, science, or a related discipline. Consideration will also be given to applicants without a degree but who have substantial relevant industrial experience in a similar role.
2. Substantial, recent relevant experience in an industrial or relevant R&D environment, with specific knowledge of the integration of virtual and physical systems alongside strong data management.

3. Demonstrable experience in one or more of the following: systems integration, data flow management, automating workflows between separate software packages.
4. Proven experience in optimising workflows, managing infrastructure and delivering improvements through technology in either an industrial or relevant R&D environment.
5. Strong knowledge of more than one of the following: API-based integration, containerisation, industrial IOT/Industry 4.0 software systems (e.g. any of the following ERP, MES, SCADA, AI) and communication protocols (e.g. MQTT, OPC-UA).
6. Strong knowledge of connectivity technologies – e.g. ethernet, Wi-Fi, cellular and other relevant IOT communication tech.
7. A clear and strong understanding of the hardware and software that is used in manufacturing facilities.
8. A basic understanding of any of the following DevOps, CI/CD, Git or SDLC (software development life cycle).
9. Strong project management skills, with evidence of delivering high-quality technical reports and solutions in industrial environments.
10. Ability to conduct high quality research to enable systems design, development, implementation and evaluation.
11. Demonstrable problem-solving skills relevant to manufacturing IT challenges
12. Strong written and verbal communication skills, with the ability to articulate complex technical information to various stakeholders.
13. Evidence of collaborative research or project work within a multi-disciplinary team.

DESIRABLE CRITERIA:

1. Postgraduate qualification in a related discipline.
2. Experience with containers and orchestration for ERP/MES systems.
3. Evidence of resource management in a digital manufacturing environment.
4. Experience working with international OEMs and SMEs in a manufacturing context.
5. Hands-on experience with advanced data analytics, including predictive maintenance and machine learning applications.
6. Direct experience in securing and creating value from industrial data to drive system optimisation and workflow automation