

Candidate Information

Position:	Senior Engineer - Data Engineer (Manufacturing Design Systems), BRCD AMIC
School/Department:	Smart Design
Reference:	24/112336
Closing Date:	Monday 13 January 2025
Salary:	£39,922 - £47,631 per annum.
Anticipated Interview Date:	Tuesday 28 January 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 launch team of over 40 staff has core capabilities in digitalising manufacturing, smart design, sustainable polymers & composites and nanotechnologies & photonics. We're excited to be expanding the team throughout 2024.

Job Purpose and impact:

We are seeking engineers who want to innovate and apply their knowledge to the challenges of industry and society to support Digital Design and Manufacturing Engineering activities within AMIC.

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 centres and academia to deliver key projects focused on advanced manufacturing.

MAJOR DUTIES:

1. Apply technical knowledge and experience in support of the development of innovative and emerging industry-focused solutions.
2. Design, develop, and maintain data integration solutions to support business needs within design and manufacturing.
3. Implement ETL (Extract, Transform, Load) processes to integrate data from various engineering, manufacturing and product data sources.
4. Undertake high quality industrial research, development and knowledge transfer in the area of digital design and manufacturing technology applications.
5. Formally evaluate the effectiveness of new or enhanced methods arising from research.
6. Engage with industrial partners to facilitate the transfer of AMIC capabilities into commercial R&D teams.
7. Contribute to the planning, development, delivery, maintenance and trialling of AMIC projects, ensuring that all equipment is used in compliance with Health and Safety guidance.

8. Participate constructively in multi-disciplinary research activities, including staff training and development.
9. Help develop the international reputation of AMIC and QUB through presentations, attendance at trade-shows and visiting major companies and research & technology centres worldwide.
10. Produce high quality technical reports and demonstrations to assist in generating funding opportunities to support further programme activity.
11. Carry out routine administrative tasks to ensure project goals are completed on time and within budget.
12. Undertake any other duties that may reasonably be requested by management.

ESSENTIAL CRITERIA:

1. Honours degree or equivalent in computing, engineering or a related discipline with significant relevant industrial experience OR minimum HND in a related discipline with extensive recent and relevant industrial experience.
2. Recent relevant experience as a data integration engineer within an industrial or R&D setting, preferably with a focus on engineering design and product data management.
3. Demonstrable proficiency in data transformation and analytics techniques to harmonise and understand structured, semi-structured, and unstructured datasets.
4. Strong knowledge of ETL tools and data integration platforms.
5. Proficiency in SQL and experience with relational databases.
6. Demonstrable hands-on experience with programming and scripting highlighting evidence of one or more of the following:
 - a. Strong skills in Python, Java, or C# for developing integration workflows.
 - b. Proficiency with data manipulation libraries like Pandas, NumPy, and data visualisation tools.
 - c. Scripting expertise (e.g., Bash, PowerShell) for automating integration tasks.
7. Demonstrable evidence of data integration between IT/OT domains, preferably with a focus on design and manufacturing systems (e.g. CAD, CAM, MES, ERP, PLM, etc).
8. Demonstrable experience in systems integration, data flow management, and automating workflows between separate software packages.
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. Demonstrable evidence of complex problem-solving skills obtained / relevant for industrial data-related problems.
12. Excellent written and verbal communication skills, including ability to communicate complex technical information.
13. Ability to innovate and rapidly contribute to research projects.
14. 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.
2. Experience with big data technologies (e.g., Hadoop, Spark).
3. Knowledge of data governance and data quality best practices.
4. Demonstrable experience highlighting familiarity with industrial data standards like OPC UA, MTConnect, or ISA-95.
5. Experience of collaborative research and effective working in a team.
6. Evidence of resource management.
7. Evidence of working with international OEMs and SMEs.
8. Knowledge of data encryption, secure data transmission, and access control measures.
9. Awareness of regulatory requirements like GDPR, ISO standards, or NIST guidelines for manufacturing environments.
10. Demonstrable experience with securing and creating value from industrially generated data for internal data driven decision making.