Candidate Information

Position: Senior Engineer - Industrial Metrology
School/Department: AMIC
Reference: 26/113171
Closing Date: Monday 23 March 2026
Salary: £41,519 - £49,536 per annum
Anticipated Interview Date: Thursday 2 April 2026
Duration: 3 years

JOB PURPOSE:

We are seeking a highly motivated Senior Engineer to work in AMIC's Industrial Metrology team to deliver projects as part of AMIC's advanced manufacturing activities.

We are seeking an engineer who wants to innovate and apply their knowledge to the challenges of industry, in support of applied industrial research and development, and knowledge transfer in Industrial Metrology within AMIC's advanced manufacturing activities. You will apply your specialist knowledge and experience to generate innovative research outputs which have a direct economic and technical benefit to companies within a range of industrial sectors. You will work collaboratively with industry, technology providers, national technology centres and academia to deliver key projects focused on Industrial Metrology for advanced manufacturing. You will assist in national and international business development activities as required to secure funding from industry and government sources, nationally and internationally.

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 AMIC 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're excited to be expanding the team throughout 2026.

The successful candidate will undertake laboratory and workshop-based research and development activities and apply their knowledge and experience to ensure delivery of projects which will have a direct economic and technical benefit to our partner companies. The successful candidate will work collaboratively with the Industrial Metrology team, wider AMIC team and industry partners to deliver key projects focused on advanced manufacturing.

MAJOR DUTIES:

1. Undertake high quality industrial research, development and knowledge transfer in the area of industrial metrology for advanced manufacturing.
2. Develop and implement comprehensive 3D inspection and measurement strategies using equipment such as CMM, Portable CMM, Machine Vision, Laser Tracker, CT Scanner and other 3D measurement and inspection systems.
3. Use offline programming software to simulate, plan and optimise inspection processes.
4. Perform acquisition, formatting, analysis, evaluation and reporting of data using e.g. statistical analysis, point cloud processing and reverse engineering methods.
5. Research, procure, assess and deploy metrology solutions, moving technology from laboratory proof-of-concept to industrial demonstration.
6. Drive the integration and automation of metrology equipment and methods into manufacturing processes.
7. Integrate metrology data into enterprise systems to inform real-time process control, automated manufacturing and design processes in support of data-based business intelligence.
8. Maintain inspection equipment and perform routine health checks. Liaise with external maintenance and calibration providers to ensure inspection equipment adheres to pre-defined calibration schedules.

9. Produce high-quality technical documentation and demonstrations to secure funding and support future project development.
10. Enhance the reputation of AMIC and Queen's University Belfast (QUB) by presenting findings at international conferences, trade shows, and research centres.
11. Provide independent advice and facilitate the transfer of knowledge to industry.
12. Support and mentor staff and other teams in metrology related tasks, championing best practices in industrial metrology.
13. Any other duties which are appropriate to the post as may be reasonably requested by management.

ESSENTIAL CRITERIA:

1. Honours Degree, or equivalent, in related engineering discipline with significant recent relevant industrial experience; OR Minimum HNC in related engineering discipline with substantial recent relevant industrial experience.
2. Demonstrable evidence of competence in the programming and operation of industrial measurement equipment for the inspection of 3D geometry and surface properties of manufactured mechanical components.
3. Extensive experience in programming and operation of one of the following: Coordinate Measurement Machine, laser tracker or 3D scanning.
4. Extensive breadth and depth of specialist knowledge in the discipline, and of research and development methods and techniques to work within established research programmes, with proven competence and technical expertise in:

- Dimensional measurement principles, GD&T, traceability, uncertainty, measurement strategy, Measurement System Analysis.
- Experience using relevant software packages for 3D metrology, to carry out inspection planning, programming, precision data acquisition, complex geometric analysis and reporting.
- Theory and implementation of inspection methodologies including at least two of: non-contact measurement; in-process control; final inspection; 3D scanning; automated inspection processes; inspection process modelling and simulation; high-fidelity reverse engineering; utilisation of metrology data in enterprise production and design processes.

5. Demonstrable evidence of working within multifaceted environments delivering to deadlines and within budget.
6. Experience of using research/industrial tools and techniques resulting in high quality projects and technical reports.
7. Evidence of complex problem-solving skills obtained with a proven ability to develop innovative solutions.
8. Excellent written and verbal communication skills, including ability to communicate complex technical information.
9. Strong IT skills (Microsoft PowerPoint, Word, Excel).

DESIRABLE CRITERIA:

1. Hold or be about to hold a relevant higher degree or Ph.D.
2. Qualification(s)/certification(s) in metrology/dimensional measurement from a recognised institution.
3. Experience using Computer Aided Inspection software : PCDMIS, PolyWorks, Spatial Analyzer, for off-line programming of inspection devices.
4. Experience using software for Computer Aided Design and Reverse Engineering e.g. SolidWorks, Catia, 3DX, Siemens NX, PolyWorks.
5. Demonstrable knowledge of calibration processes for metrology instruments, machine tools or robots.
6. Demonstrable knowledge of quality procedures, processes and techniques in relation to modern quality and inspection best practice.
7. Experience of working with international OEMs and SMEs.
8. Health & Safety qualifications.
9. Knowledge of COSHH procedures.