

## Candidate Information

<b>Position:</b>	Manufacturing Engineer - Digitalisation
<b>School/Department:</b>	Faculty Office EPS
<b>Reference:</b>	19/108038
<b>Closing Date:</b>	Monday 27 January 2020
<b>Salary:</b>	£33,797 to £40,322 per annum
<b>Anticipated Interview Date:</b>	Thursday 13 February 2020
<b>Duration:</b>	30 months

### JOB PURPOSE:

To support Digital Engineering activities within NITC's advanced manufacturing activities, utilising specialist knowledge and experience of methods and processes, to generate innovative research outputs which have a direct economic and technical benefit. Working collaboratively with academia, technology providers, national technology centres, and industry to deliver key projects focused on digital engineering in Advanced Manufacturing activities.

### MAJOR DUTIES:

1. Undertake high quality industrial research, development and knowledge transfer in the area of manufacturing process development, and in particular in one or more of the following technology areas:
  - a. Data capture - Sensors, PLC's, Machines, Robots and Wearables
  - b. Data harvesting – MES, ERP, SQL/No SQL Databases, Enterprise systems
  - c. Data Securing
    - i. Protocol Translation
    - ii. Edge/ Streaming analytics
    - iii. Data Reduction and Normalization
  - d. Data Aggregation and transformation
    - i. Data Storage – Database, Data lake, BLOB storage
    - ii. Data analytics
    - iii. Machine Learning
  - e. Data Dashboarding - Drilldown and insights
  - f. Data driven decision making
    - i. Multi source data decision making
    - ii. Role based alerting and insights
    - iii. Data driven machine control
  - iv. App Development
  - g. IOT platform and software stack management
  - h. IOT hardware expertise
  - i. Gateways, sensors, storage
2. Development and implementation of selected technology applications.
3. Development and implementation of digital technologies supporting selected technology.
4. Development and implementation of smart factory technologies.
5. Formally evaluate the effectiveness of new or enhanced methods arising from research.
6. Document activities through formal high quality technical reports.
7. Engage with industrial partners to facilitate the transfer of NITC capabilities into commercial R&D teams.
8. Contribute to the planning, development, delivery, maintenance and trailing of NITC projects.
9. Help develop the international reputation of NITC 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. Undertake any other duties that may reasonably be requested by management.

**Planning and Organising:**

1. Plan own work to meet given objectives and processes.
2. Contribute to the planning, development, delivery, maintenance and trialling of NITC projects.
3. Plan for the use of research resources and laboratories where appropriate.
4. Plan in advance to meet deadlines as required by management and project requirements.
5. Liaise with other team members to achieve co-ordinated progress against objectives.

**Resource Management Responsibilities:**

1. Ensure research and development resources are used in an effective and efficient manner.
2. Provide guidance as required to staff and any students who may be assisting with the research project.

**Internal and External Relationships:**

1. Participate in external engagements with commercial partners, suppliers, government bodies and academic institutions related to specialisation.
2. Coordinate and liaise with other members of the project team over work progress.

**ESSENTIAL CRITERIA:**

1. Honours Degree, HND or equivalent in computing, engineering, science, or a related discipline.
2. At least five years' relevant experience.
3. Competent in the securing and contextualisation of data from multiple sources, development of Apps, reports and dashboards to communicate data effectively to end user.
4. Strong evidence of complex problem solving skills with a proven ability to develop innovative solutions.
5. Excellent understanding of fundamental IOT, data harvesting and storage concepts.
6. Evidence of leading and delivering on multifaceted projects within deadlines and budget, displaying strong resource management ability.
7. Experience of using research tools and techniques resulting in high quality project and technical reports.
8. Evidence of communicating complex technical information.
9. Strong evidence of complex problem solving skills with a proven ability to develop innovative solutions.

**DESIRABLE CRITERIA:**

1. Hold or be about to hold a relevant higher degree or Ph.D.
2. Experience of working with international OEMs and SMEs.
3. Experience in using commercial cloud or on prem storage or application containers.
4. Experience in using either Machine learning, analytics or data manipulation.
5. Experience with securing and creating value from industrially generated data.
6. Experience of working effectively in a team.
7. Experience of collaborative research.