**Job Description**

**Job Title: Senior Research Engineer**

**Career Level: 3**

**Department or Business Sector:**   **Informatics, DE**

**Location**: Coventry/Liverpool, UK

**Reporting to (manager’s job title): Designated Resource Manager**

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| **Heading:** | **Description** |
| 1. **Job Purpose / Impact** | The Senior Research Engineer (SRE) role is primarily focused on the independent technical delivery of projects and leadership in the development of project related activities across The MTC, working across multiple technology departments and industrial sectors.  You will support the Informatics group in the development and deployment of projects related to data systems, data mining and decision support systems;  Largely independent supply of larger project's technical deliverables, and act as Technical Lead for smaller projects where required in the Informatics area; ensuring work meets or exceeds agreed customer requirements, within agreed budgets and timescales.  Lead project technical deliverables, taking ownership to ensure work meets or exceeds agreed customer requirements, and is delivered within agreed budgets and timescales. Where delegated, to act as Technical Governance lead for project deliverables.  You will undertake innovative Engineering research work focused primarily on technology/manufacturing readiness levels (TRL/MRL) 3+, and able to demonstrate industrial project delivery.  You will support Senior Managers with a proactive approach in the identification, technical specification, and delivery of new and novel technology capability into the MTC, customers, or industrial member’s premises.  You will support the requirements engineering phase and ensure that the industrial requirements are appropriately translated to the technical delivery teams;  You will develop proposals for individual research projects to meet clients’ needs in full;  You will require involvement in all aspects of the project delivery, taking overall ownership and ensuring compliance with all relevant standards, technical support of commissioning, management of project budget and deliverables; |
| 1. **Communication** | Must be able to communicate to all levels of the business in a professional and courteous manner, to support all parts of the business to run as one MTC to deliver corporate objectives.  Able to demonstrate the use of coaching and mentoring to support colleagues and transfer knowledge in area of expertise to others, within own department and wider MTC colleagues, proactive in Support training and development of team members;  You will lead customer and internal partner liaison in collaborative projects to ensure overall project delivery and direction, able to lead technical liaison with customers during project delivery;  Demonstrable commercial awareness;  Show ownership of Health and Safety to ensure own and your colleague’s health (both physical & mental), proactively reporting any concerns, near-misses or accidents.  Able to demonstrate an excellent standard of verbal and written communication skills, |
| 1. **Innovation** | Generation of key project and strategic initiatives in alignment with Informatics’ strategy, actively supporting to develop the theme business and technology strategy in your specific area of expertise;  You will take the lead and ownership in proposal of new cross-sector capability development projects that align with the Department, Technology Theme, and overall MTC strategy, and are able to explore different routes for project funding (internal, industrial, or CR&D funding);  You will promote MTC capabilities through publications in International Journals and presentations at prestigious conferences, to Professional Bodies and Specialist Interest Groups with due consideration of confidentiality requirements associated with particular areas of research / projects;  Involved with horizon scanning of technologies and new approaches to solving industrial problems across a range of industrial sectors;  Able to lead engagement with existing customers to win repeat business;  Able to identify and support continuous improvement in technical aspects of the MTC’s project delivery capability including: behaviours; processes; structures; and, tools. |
| 1. **Knowledge** | At least 3 or more years' recent and substantial work experience on relevant manufacturing systems in industrial manufacturing or R&D environments;  Experience in the use of advanced statistical analysis and machine learning methods (e.g. statistical significance, correlation, pattern recognition, regression models, probabilistic models, decision tree, clustering, variable selection, rule generation etc.);  Experience in statistical software packages and visualisation toolkit (e.g. R, Python, MatLab, madlib, Tableau etc.);  Experience with programming and software development, including Python, R, or another high-level language;  Experience on development of decision support system;  Extensive experience programming in Python and a good understanding of ML libraries such as TensorFlow & Pytorch  Experience with modern infrastructure, tools and cloud technology (e.g. AWS, Docker, Kubernetes, Terraform, etc.).  Knowledge of NoSQL data stores, open source big-data technology, such as Apache Hadoop, Storm;  Knowledge of the manufacturing sector and deep understanding of manufacturing systems and technologies;  Good knowledge of CI/CD & Devops principles  Relevant degree; Masters, PhD or industrial experience is desirable;  Excellent research skills;  Excellent report writing skills;  Excellent presentation skills. |
| 1. **Person Specification** | All aspects of the role are to be carried out as an exemplar within the business in adhering to the MTC RIGHT way:   * Acting responsibly, putting MTC’s interests ahead of personal ambition; * Providing inspirational leadership to all who come in contact with you; * Delivering in the broadest sense a great working environment; * Leading with humility, honesty and integrity in all that you do; * Promoting teamwork, supporting through difficult times and collectively celebrating our successes.   In addition:  Demonstrable substantial and recognised expertise in a specific area relevant to Informatics. Expert knowledge of the manufacturing sector and deep understanding of manufacturing systems and technologies;  Ability to translate complex industrial requirements to technical delivery team;  Ability to provide technical leadership in a team;  Demonstrable experience of leading projects or larger programmes;  Committed to work collaboratively and network effectively, able to recognise the contribution of others and team-work with a one MTC mind-set;  Pragmatic hands on experience, providing problem solving approach and who is willing to physically participate in completion of work when required.  Self-motivated and a self-starter, with the ability to work autonomously to meet deadlines, budgets and quality expectations, both within a team, or independently.  Experience working where subsequent adherence to associated process and policy is critical to maintain customer confidentiality.  In addition:  Whilst not obligatory, there is a preference that you are willing and able to apply for Developed Vetting security clearance by the UK Government and undertake duties associated with this level of clearance;  Behaviours – MTC holds a high standard of professional behaviour and conduct of all colleagues; the environment across The MTC is one of collaboration. Colleagues are supported by leaders across the business to be empowered to challenge all colleagues in the MTC Right Way that is respectful and constructive. |