**Job Description**

**Job Title: Senior Research Engineer**

**Career Level: 3**

**Department or Business Sector:**  **Product Design Group –**

**Advanced Production Systems - Technology**

**Location**: Coventry

**Reporting to (manager’s job role): 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 various technology departments and industrial sectors.To 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.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 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. [Chameleon/Large Programme Specific]*Where required, the role may take additional responsibility to support the leadership, and carrying out of, a specific functional role within a Technology function or large program of work within the MTC’s Technology Group or Industrial Sectors.*  |
| 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), pro-actively reporting any concerns, near-misses or accidents.Able to demonstrate an excellent standard of verbal and written communication skills; Can demonstrate the ability to communicate technical data to a non-technical audience; |
| 1. **Innovation**
 | Generation of key project and strategic initiatives in alignment with theme's strategy, actively supporting to develop the theme business and technology strategy in a specific area of expertise; You will take the lead and ownership in proposal of new capability development projects that align with the Department, Technology Theme, and overall MTC strategy, and able to explore different routes for project funding (internal, industrial, or CR&D funding);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**
 | Degree calibre engineer, technologist, scientist or mathematician.Ideally working towards professional registration, Chartered professional qualification is desirable;A proven background in product development, mechanical problem solving and delivery of projects and solutions;Comfortable & competent in educating stakeholders in the value of design;Demonstrable applied or (engineering) mechanics in order to create mathematical models to illustrate concepts, challenges or validate design direction;You will have a broad knowledge of manufacturing processes and materials, and can show application of these processes or materials in products you have been involved in developing;Able to communicate concepts visually via sketches or a graphics package during delivery of project work or when supporting others to deliver project work;Comfortable with the stage gate process and its application in product development;Design FMEA. (failure modes and effects analysis) and its application during the product development journey, knowing how, why and when to apply;Static FEA. (finite element analysis) using 3D CAD software or specialist mechanical analysis software to a level where mentoring of peers is second nature, a high quality 3D CAD (Solidworks or NX) abilities.Concept development and selection skills, an awareness of design thinking and human centred design approaches.A strong understanding of the new product introduction (NPI) process, can share with junior engineers and other stakeholders to aid project deliveryTechnical project leadership and management capabilities, can support others in developing their project leadership skillsCommunication of risk reduction techniques applicable to product development and appropriate use in delivery of projects or guiding others in risk management.Additional knowledge that would bring value to this role includes:Application of dynamic FEA and understanding of CFD (computational fluid dynamics).Competence in software rendering of design workUse of Adobe creative cloud software to develop designs, presentations and concept communication.First-hand knowledge of getting a product to market |
| 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 the theme. Expert knowledge of the manufacturing sector and deep understanding of manufacturing systems and technologies;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.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. |