**Job Description**

**Job Title: Senior Research Engineer – Product Design Group**

**Career Level: 3**

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

**Advanced Production Systems (APS) - Technology**

**Location**: Coventry

**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 focused on the technical delivery of projects and support the development of project related activities across The MTC, working across various technology departments and industrial sectors.  Largely independent supply of larger project's technical deliverables, and act as Technical Lead for smaller projects where required; ensuring work meets or exceeds customer requirements, within agreed budgets and timescales.  Undertake innovative Engineering research work focused primarily on technology/manufacturing readiness levels (TRL/MRL) 3+, and able to demonstrate industrial project delivery.  To contribute in the identification, technical specification and delivery of new and novel technology capability into the MTC, customers, or industrial members premises.  This role will require involvement in all aspects of the project delivery including but not restricted to: concept generation, detailed design, ensuring compliance with all relevant standards, technical support of commissioning, awareness of project budget and deliverables. |
| 1. **Communication** | Excellent interpersonal and organisational skills are required for the role; able to demonstrate a high standard of persuasive report writing and presentation skills.  Use of facilitation skills for design workshops, delivering value to participants from a multitude of backgrounds, and effective communication of project activities and concepts to a varied audience is expected in the performance of this role  A desire to support colleagues and transfer knowledge in area of expertise to others in the department, and also to wider MTC colleagues.  Able to support senior colleagues with customer and internal partner liaison in collaborative projects, able to lead technical liaison with customers during project to ensure delivery;  Evidence that commercial awareness is developing;  Own career development through mentoring coaching and training courses. |
| 1. **Innovation** | Contribute and support senior colleagues in the theme business and technology strategy;  Supporting of 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. |
| 1. **Knowledge** | Industrial or Product Design Degree qualified creative, with background knowledge of engineering or a science related discipline and over 5 years in industry.  Candidate should be able to demonstrate taking product concepts through multiple stages of a New Product Development process, ideally with experience of getting a product to market.  Essential is a proactive approach and being able to work autonomously, either on-site or remotely, whilst consulting appropriately with peers and senior engineers to deliver high quality project work.  Core skills involve developing innovative solutions to problems, liaising directly with clients & stakeholders to create technical specifications, design requirements and understand user needs. Effective and confident communication of project activities and concepts to a varied audience is also a key requirement for the role, both verbally & visually.  Competence in one or more computer aided design packages such as Solidworks or Siemens NX. An underpinning knowledge and awareness of technical manufacturing drawings or drawing standards such as BS8888 would be advantageous.  Demonstrable knowledge of manufacturing methods such as injection moulding, thermoforming, fabrication, machining or laser cutting, familiar with rapid prototyping techniques to demonstrate concepts throughout the design cycle.  Conversant in New Product Development (NPD) and/or New Product Introduction (NPI) techniques to generate design work, a firm understanding of critical thinking or Design Thinking approaches to product development. Understanding of verification & validation techniques used in NPI/NPD for design work such as user needs validation or awareness of prototype testing techniques and failure mode analysis  Ability to work in a multi-disciplinary team across involving skillsets such as Industrial design, Mechanical engineering, Electronics, Software and Systems engineering whilst balancing the best outcome for the project.  Prerequisite is having a portfolio of evidence of project delivery at a high level, in terms of technical output, visual output and stakeholder management. A varied portfolio of work across different industries and sectors would be beneficial.  Technical project management skills such as appropriate resourcing, balancing cost and scope. Understand how to manage and mitigate design risks and explain the implication of decisions to stakeholders in terms of timescales and resultant influence to final outcome.  Provide support of the senior team to develop the Product Design Group and colleagues through developing tools and templates to assist with delivery of projects. Able to manage and guide colleagues of varying experience for multiple projects at different stages of the design cycle.  Able to support customer education around Design and Design methodology and creation of content to aid this activity.  Some evidence of leadership skills and balancing business acumen with technical 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:  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.  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.  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; |