



Engineer, Research – Job Description

(Job Code and Level: ERES003)

Definition:

Research is defined as: Blue sky thinking and research into new technology (10 years before development phase). Systems and methodologies that will improve the vehicle either for the customer and meet future legislation, recognising as well future needs and developments in other areas. For example, integration of new technology which has been developed outside of the automotive industry such as I-Phone technology or looking into future hybridisation strategies, lowering emissions, etc.

Overall Purpose of the Role:

Research and develop new and existing processes, devices, technologies, materials and techniques to provide best in class performance in the chosen products and markets of the business, including investigating how the product behaves under differing and certain conditions. Responsible for certain project management and business deliverables. To be aware of research developments across the field of specialism and utilise to inform work. Work on many phases or sub-tasks of projects or entire projects of moderate complexity, with results impacting on project completion. Work under general supervision, reviewed at project milestones and/or on completion by Senior Management.

Key Responsibilities:

General and Task Management

- Participate in all aspects of projects, from initial investigation and concept development through to delivering a cost effective useable solution
- Carry out research into new and existing processes, devices, technologies, materials and techniques
- Develop ideas for further investigation
- Research what others have done and what outcomes they have achieved
- Design experiments to test ideas and prove out
- Analyse data provided from tests and experiments and progress learning to gather knowledge and understanding of the subject of research

- Review results and continue to develop to the point of delivery required to progress into mainstream engineering
- Compare and contrast different approaches, methodologies, materials to develop the best outcome
- Work with other team members and the wider engineering community to develop and maintain good relationships with internal and external contacts at all levels including other companies, universities and research institutes
- Assess and collect technical information
- Review of competitors solutions, investigating the research activity of other manufacturing companies, research institutes and universities
- Keep up with current and developing engineering trends, arrange the gathered technical information and analyse
- Capture and document user requirements and turn aspirational company or customer goals into well-defined, achievable and testable specifications
- Integrate and produce test functionality platforms
- Review of available components
- Contributes to product and technology development planning
- Review of patents and create patent portfolio for IP generation
- Create New Product development proposals
- Plan and execute project work
- Creation of concise Design Manual and Product documentation, reports and version release notes
- Undertake special projects as required
- Contribute to continuous improvement activities
- Quality control of work by appropriate reviews
- Support process improvement activities
- Write reports and present progress at project meetings and to clients
- Achieve goals within budget
- Conduct benchmarking studies to determine best practices/designs and future trends
- Plan projects or subtasks so they may be tracked and presented
- Support delivery of the Key Performance Indicators (KPIs)
- Attend various meetings and action/communicate instructions
- Undertake continuous training and development
- Perform root cause analysis and resolve problems
- Independently determine approach and assigned tasks

People Management

- Lead and/or support technicians and trainee engineers
- Train people within own work group

Relationship Management

- Liaise and communicate with other departments, customers, suppliers and other service providers
- Be an effective team member, working with supervisor and colleagues to ensure smooth workflow with maximum output

- Developing technical relationships with key suppliers and business partners

Self Management

- Comply with the Health, Safety and Environmental Policies
- Develop and maintain expertise
- Assertive, resilient and welcomes change
- Engages interest and participation of others and has a collaborative approach to working
- Proactively contributes to the team
- Actively committed to teams development
- Is optimistic and self aware
- Shows moral courage, openness and honesty in all dealings

Skills and Attributes:

- Independently determines approach and assigned tasks
- Self-motivated, flexible, proactive and committed
- Analytical skills
- Strong problem-solving skills and logical approach
- A creative, logical approach for generating new ideas and solutions and to develop them
- A sound knowledge of computer aided design (CAD) software, technical drawings and 3D modelling
- An excellent grasp of engineering and design principles
- A knowledge of the qualities of metals and other materials
- Excellent communication and negotiation skills
- Attention to detail
- An understanding of manufacturing processes and construction methods
- Ability to write clear, concise reports
- The ability to work out costs and budgets and understand financial limits within area of responsibility
- Ability to plan and organise through several project stages
- Good team-working skills
- An appreciation of wider business demands
- An awareness of the environmental impact of design ideas
- Numeracy skills
- PC skills
- Exercises latitude and technical judgement in deciding work methods
- Ability to train the work group and lead teams within the work group

Qualifications and Experience Levels:

- Relevant manufacturing/engineering degree preferred, A Levels, ONC, City & Guilds level 3, BTEC National Diploma Level 3, IVQ Technician Diploma, NVQ level 3

- Professional accreditation with an industry related body would be advantageous
- Experience of using Auto CAD, Pro Engineer, CATIA V5, Unigraphics NX
- Previous experience of commodities, components and vehicle systems
- Understanding of legislation and standards
- An understanding of Lean Manufacturing

Example roles this job description may cover:

- Materials Research Engineer
- Specialist Engineer
- Advanced Research Engineer
- Advanced Project Engineer
- Research and Development Engineer