



## Principal Engineer, Research – Job Description

(Job Code and Level: ERES004.2)

### **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 the latest technologies, processes, devices, materials and techniques and play an instrumental role in finding innovative ways of developing products for customers. Manage team, and be able to apply engineering knowledge and principles to devise innovative solutions to unique problems. Responsible for the operation of a section, supporting the Manager in achieving business targets. Provide leadership and line management to the team, coordinating and overseeing their workloads, providing support to ensure that the team delivers, monitoring any issues, and ensuring timescales, KPIs and deadlines are met in order to meet the requirements of the customer. Develop the team by focusing on individual performance and support requirements to achieve high standards. Outcomes reviewed by organisational head. Decisions and results have a prolonged impact on the current and future direction of the function/ projects and their success. Performance affects the function's image.

### **Key Responsibilities:**

#### **Strategy and Development**

- Contribute to the creation and implementation of best practice research vision, strategy, policies, processes and procedures to aid and improve operational performance

#### **General and Task Management**

- Plan multiple projects simultaneously. Estimate, track and complete projects on time and within budget

- Responsible for 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 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
- Manage 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
- Create concise Design Manual and Product documentation, reports and version release notes
- Review and develop proposals and reports with all necessary backup material
- Write reports and present progress at project meetings and to clients
- Develop and maintain expertise
- Undertake continuous training and development
- Plan longer range for the project, tracking and completing projects on time within budget. Results have a critical impact on objectives and goals
- Develop and manage budgets and manpower figures required for projects
- Develop technical relationships with key suppliers and business partners
- Advance innovative solutions to unique problems
- Advance engineering principles, theories and concepts
- Apply specific technical skills as required to support the customer or colleagues
- Manage activities of a complex nature where there may be no precedents available

- Proactively seek out opportunities for new or repeat business
- Perform root cause analysis and resolve problems
- Quality control of work by appropriate reviews
- Conduct benchmarking studies to determine best practices/designs and future trends
- Lead on complex major projects requiring forefront-of-the-field, innovative, original solutions, provide technical expertise to the team
- Identify business improvement opportunities within the organisation
- Implement and manage continuous improvement principals by highlighting deficiencies and recommending changes in training, working practices and processes
- Ensure an effective interface with other departmental staff is maintained
- Identify and deploy the technical skill sets, resource levels and systems to deliver projects, including the engagement of external resources as required
- Ensure KPIs are met by working to the overall plan, including management of, and reporting
- Conduct risk assessments of processes and tasks in the department

### **Financial Budget and Control**

- Hold responsibility for departmental budget
- Achieve goals within budget and time deadlines

### **People Management**

- Lead a group of engineers and technicians
- Provide leadership, guidance and technical expertise to the team
- Train both team and broader organisation members and provide guidance to several groups of the organisation.
- Working with the line manager to ensure adequate staffing levels, managing holiday allowances, recruitment, training, development, appraisal, attendance, disciplinary issues and daily supervision to maximise efficient productivity
- Motivate and coach the team to operational success
- Monitor the completion of tasks and ensure good performance and record on appropriate systems
- Consistently promote high standards through personal example and roll out through the team so that each member of the team understands the standards and behaviours expected of them
- Develop, implement and manage key performance indicators (KPIs) for each area of responsibility
- Manage contractors on site to ensure they meet legal and company requirements

### **Relationship Management**

- Develop and maintain strong relationships with internal and external stakeholders including other companies, universities and research institutes to ensure optimal performance
- Work collaboratively, negotiate and engage with key stakeholders to facilitate delivery and compliance with the engineering strategy

- Communicate with stakeholders the impact of market change and potential effects on engineering design and development. Recommend solutions without compromising quality or service while optimising cost
- Feedback to the Management team to share ideas and improve operation, recommending, supporting and implementing continuous improvement activities and process and procedure improvements to optimise results and improve quality of delivery, in line with quality standards requirements delivery in line with Company and Customer requirements
- Be an effective team leader, working with manager and colleagues to ensure smooth workflow with maximum output
- Develop technical relationships with key suppliers and business partners
- Stay current and up to date on any technology changes that may affect engineering design and development and advise others of any impact
- Liaise and communicate with other departments, customers, suppliers and other service providers

### **Self Management**

- Support, comply and ensure complicity with Health & Safety regulations, the Company Handbook, Quality and Environmental standards, and all other Company policies and procedures
- Embraces personal challenge
- Confident, rounded thinking
- Is self aware
- Is resilient, optimistic and open to change
- Engages interest and participation of others and has a collaborative approach to working with others
- Actively Committed to team development

### **Skills and Attributes:**

- Exercise considerable initiative/judgement in work methods and in interpreting and delegating work requirements/goals
- Self-supervising within the guidance and expectations of divisional management
- Strong people management and leadership skills
- Ability to coach, counsel and develop people
- Excellent verbal and written communication skills
- Communicate with clarity and demonstrate excellence in approach to work and people activities
- Excellent organisation skills
- Excellent problem solving skills
- Ability to manage a wide variety of activities at the same time
- Ability to plan, analyse and challenge
- Able to work cross functionally and collaboratively with many stakeholders
- Solid understanding of all people related processes and procedures
- Financial and commercial acumen
- High levels of motivation and action orientated
- Able to identify root cause of any losses

## **Qualifications and Experience Levels:**

- Relevant manufacturing/engineering degree is preferred, HNC, BTec Professional Level 4 Award or equivalent NVQ Level 4 qualifications.
- Experience of leading and developing (multi-skilled) people
- Strong PC skills and experience of packages such as SAP
- Knowledge of lean manufacturing techniques and recognised QC tools
- Knowledge of Health & Safety legislation including ISO14001 and responsibilities
- Knowledge of Quality standard TS16949
- Membership of and Industry relevant Professional Body would be beneficial

## **Example roles this job description may cover:**

- Team Leader
- Supervisor