



Technical Expert Research – Job Description

(Job Code and Level: ERES004)

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:

Technical expert who works in a consultancy capacity across all areas of research.

Research the latest technologies, processes, devices, materials and techniques and play an instrumental role in finding innovative ways of developing products for customers. Provide technical expertise and work closely with other engineers, and be able to apply engineering knowledge and principles to devise innovative solutions to unique problems. Provide technical consultancy to management, suppliers and customers regarding advanced technical studies, their potential application and the resolution of complex problems. Work and act independently, being self-supervising within the expectations of Senior Management with outcomes reviewed at senior level. Work on multiple major projects requiring innovative solutions at the cutting edge of the technical field. Decisions and results have a prolonged impact on the direction of the project and its success. Performance affects the function's technical image.

Key Responsibilities:

General and Task Management

- Known as a Technical Lead in field of expertise
- 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
- Arrange the gathered technical information and analyse technology trends
- 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
- Advise on product and technology development planning
- Review of patents and create patent portfolio for IP generation
- Create New Product development proposals
- Create of concise Design Manual and Product documentation, reports and version release notes
- Write proposals and reports with all necessary backup material and present progress at project meetings and to clients
- Keep up with current and developing engineering trends
- Develop and maintain expertise and undertake continuous training and development
- Long range planning
- Develop 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
- Provide technical expertise to multiple projects and groups
- Manage activities of a complex nature where there may be no precedents available
- Undertake special projects as required
- Contribute to continuous improvement activities

- Quality control of work by appropriate reviews
- Support and lead process improvement activities
- 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
- Manage the Key Performance Indicators (KPIs)
- Attend various meetings and action/communicate instructions
- Produce written reports and make presentations
- Perform root cause analysis and resolve problems

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
- Contribute to new business initiatives and projects and review and communicate the impact on engineering activities
- Be willing and available to work at company and customer premises as required
- 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

- Comply with the Health, Safety and Environmental Policies
- Supports, encourages and develops the team and has a collaborative approach to working with others
- Takes ownership for team cohesion and proactively contribute to creating a good team atmosphere
- Anticipates and overcomes obstacles
- Makes useful links to arrive at insightful plans and solutions
- Embraces personal challenge
- Confident, rounded thinking
- Is self aware
- Is resilient, influential, optimistic and open to change

Skills and Attributes:

- Self-supervising within the expectations of Senior Management with outcomes reviewed at Senior level
- Advance engineering principles, theories and concepts

- Broad experience of working in an automotive environment
- Act independently within the organisational level. Outcomes reviewed by organisational head
- Highly skilled communicator with the ability to form and maintain good relationships internally and externally
- Strong interpersonal, negotiation and influencing skills
- Proven management skills with the ability to optimise team performance and development
- Commercial and financial acumen
- Highly developed analytical skills
- Strong technical mindset and able to read and interpret technical data and translate to others
- Highly numerate with the ability to research, assemble, manage and manipulate numerical information
- Advanced knowledge of estimating strategies and techniques
- Results orientated and organised with the ability to plan and deliver against deadlines
- Excellent attention to detail skills
- Project Management skills

Qualifications and Experience Levels:

- Relevant manufacturing/engineering degree preferred, HNC, City & Guilds Licentiate, BTEC Higher Professional Diploma or equivalent NVQ level 4 qualification
- Membership of an industry related Professional Body would be advantageous
- Able to demonstrate experience of working with relevant products
- Strong working knowledge of 2D and 3D CAD
- In depth knowledge and experience of DFMEA, FMEA, APQP, PPAP, and Lean
- Experience of New Product Introduction, reworking design changes and upgrades through to production
- Experience of testing and prototyping
- Distinguished record of creativity and innovation

Example roles this job description may cover:

- Research Expert