



## Principal Engineer, Design – Job Description

(Job Code and Level: EDES004.2)

### **Definitions:**

Design is defined as: Designing systems, processes, methodologies as well as component and vehicle designs to enhance the overall vehicle performance for the customer and environment. Transforming concepts into prototypes for testing, validating and improvement for ultimately mass volume production. This includes designing to meet costs, timing and quality requirements.

Each level of Engineer builds on the level below as experience and learning enables more complexity and responsibility within the role.

### **Overall Purpose of the Role:**

Lead a design team from concept phase to practical completion of a project. Manage the team to produce high quality solutions for projects, and be able to apply engineering knowledge and principles to devise innovative solutions to unique design 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. Works on multiple major projects of the highest complexity requiring forefront-of-field, innovative solutions. Decisions have a large impact and results have a critical impact on the objectives and goals of the department. Acts independently at the organisational level, being self-supervising, within guidance and expectations of divisional management. Performance affects the function's image.

### **Key Responsibilities:**

#### **Strategy and Development**

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

- Ability to capture and specify the design requirements

### **General and Task Management**

- Lead on complex major projects requiring forefront-of-the-field, innovative, original solutions, provide technical expertise to the team
- Plan and manage multiple projects simultaneously. Estimate, track and complete projects on time and within budget
- Research concept ideas using mathematical modelling to work out whether new developments and innovations would work and be cost effective
- Analyse the Engineering and Project input in order to interrogate it, reach an agreement and integrate it formally in a Design solution
- Produce design ideas, based on research, into technical plans for prototypes using computer-aided design (CAD) and computer-assisted engineering (CAE) software
- Analyses the design proposals and the technical information in order to identify the issues arising during the development, defining and implementing adequate solutions in order to reach a feasible proposal with a high form and aesthetic quality
- Cost proposals
- Carry out simulations of products for new and prototype projects using in-house software for the customer and provide support and feedback on design
- Analyse and manage multiple design related issues to identify root cause
- Modify designs based on the analysis to re-test and analyse until design meets specification requirements
- Make design changes on existing products and track them
- Lead process improvement activities
- Perform root cause analysis and resolve problems
- Write reports and present progress at project meetings and to clients
- Quality control of work by appropriate reviews
- Apply specific technical skills as required to support the customer or colleagues
- Proactively seek out opportunities for new or repeat business
- Conduct benchmarking studies to determine best practices/designs and future trends
- Plan longer range for the project, tracking and completing projects on time within budget. Results have a critical impact on objectives and goals
- Manage activities of a complex nature where there are limited precedents available
- Lead the development of innovative solutions to unique problems
- Identify business improvement opportunities within the organisation
- Work as part of 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
- Ensure an effective interface with other departmental staff is maintained

- Provide technical expertise to the team
- Identify and deploy the technical skill sets, resource levels and systems to deliver projects, including the engagement of external resources as required
- Monitor the completion of tasks and ensure good performance and record on appropriate systems
- Develop, implement and manage key performance indicators (KPIs) for each area of responsibility
- 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
- Undertake continuous training and development

### **People Management**

- Provide leadership and guidance to a group of engineers and technicians
- Manage contractors on site to ensure they meet legal and company requirements
- Train both team and broader organisation members and provide guidance to several groups of the organisation.
- Support line management 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
- Communicate KPIs from the strategic annual plan so that each employee is aware
- 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

### **Financial Budget and Control**

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

### **Relationship Management**

- 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
- Liaise and communicate with other departments, customers, suppliers and other service providers
- Be willing and available to visit customer premises as required

### **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, assertive, optimistic and open to change
- Engages interest and participation of others and has a collaborative approach to working with others
- Proactively contributes to the team development
- High levels of motivation and action orientated

### **Skills and Attributes:**

- Exercise considerable initiative/judgement in work methods and in interpreting and delegating work requirements/goals
- Work independently and is reviewed infrequently with minimal supervision
- Self-supervising within the guidance and expectations of divisional management
- Strong people management and leadership skills, able to coach, mentor and develop staff of various skills and personalities
- 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
- Able to manage a wide variety of activities at the same time
- Able 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 acumen with ability to balance material usage
- Able to identify root cause of any losses
- Able to work well with and mentor both high and low performers in a team or group environment, setting expectations, and providing input and feedback in a helpful way that fosters accountability

### **Qualifications and Experience Levels:**

- Relevant business/commercial or manufacturing/engineering degree is preferred, or HNC, BTEC Professional Level 4 Award or equivalent NVQ Level 4 qualifications.
- Membership of an Industry related Professional Body
- Ability to use CAD
- Ability to design products, systems, processes and layouts
- Experience of FMEA (Failure Mode Effects Analysis), Kaizen/A3 (continuous improvement and problem solving) process improvement and Poka Yoke (error proofing) techniques
- Extensive work experience in a high volume manufacturing environment, preferably automotive
- Consistently demonstrates extremely high levels of technical knowledge, ingenuity and creativity.

- Broad knowledge about the design and operation of systems outside of speciality.
- Leadership and people management skill set
- Proven management experience

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

- Group Leader
- Supervisor