



Senior Technical Specialist Engineer – Job Description

(Job Code and Level: EDESTEC003.1)

Definition:

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:

To provide specific in-depth technical expertise for design projects, with responsibility for the planning and deployment of the design of specific new products, technologies, components and their integration into systems (e.g. diesel or gasoline engines, electric or electronic systems, air conditioning systems, vehicle interiors). Provide technical liaison with supplier, manufacturing, design engineering and customers. 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 overall design content from concept through to delivery into manufacture, using innovative engineering skills to ensure seamless integration. Very hands on position, demanding high levels of creativity and flexibility. Work on many phases or sub-tasks of large projects working under instruction of the Principal Technical Specialist Engineer or entire projects of moderate complexity. Works mostly independently with minimal supervision. Work is reviewed infrequently by organisational management/head. Results are key to successful completion of major projects/programmes.

Key Responsibilities:

General and Task Management

- Provide significant in-depth knowledge and experience in one or more specialist components/technologies e.g. telematics or serial data networks and architecture. (Experience can be in any vehicle component and not necessarily in vehicle electronics)
- Contribute to the development of features and designs for future vehicle solutions.
- Utilise prior expertise to involve global partners, suppliers and academia to leverage invention and create production ready innovations
- Develop and implement engineering design solutions in-house, with suppliers or academia for future technologies
- Develop technical specifications and supplier documentation for new technologies
- Perform design analysis and product evaluations for future technology
- Responsible for rapid prototyping, specifying requirements and evaluation of designs, analysis, development, testing and control of features, as well as a high level of independent judgement.
- Exercise technical direction for products of expertise
- Provide technical expertise of the product features to personnel supporting the assigned project
- Support advanced technical work that develops new technologies and/or product features
- Support the development of new features and system requirements
- Show solid judgement and build consensus, particularly in the face of competing design requirements
- Research concept ideas using mathematical modelling to work out whether new developments and innovations would work and be cost effective
- Produce design ideas, based on research, into technical plans for prototypes using computer-aided design (CAD) and computer-assisted engineering (CAE) software
- Analyse the design proposals and the technical information in order to identify the issues arising during product development, defining and implementing adequate solutions in order to reach a feasible proposal with a high form and aesthetic quality
- Attend design reviews to present design ideas and to discuss and critique alternative design solutions
- Be a subject matter expert on systems under specialty and with a detailed understanding of how systems interact
- 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 and track design changes on existing products in conjunction with the Design Engineer
- Estimates, tracks and completes projects on time and within budget

- Identifies problems and actively devises appropriate innovative solutions to unique problems
- Keep up with current and developing engineering trends
- Undertake special projects as required
- Contribute to continuous improvement activities
- Quality control of work by appropriate reviews
- Support process improvement activities
- Support technical staff and/or junior engineers
- 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
- Attend various meetings and action/communicate instructions
- Make presentations
- Independently determine approach and assigned tasks

People Management

- Provides guidance and support to other team members
- Train both team and broader organisation members

Relationship Management

- Manage and work with vendors
- Represent work team at reviews and cross-organisational team meetings
- Liaise and communicate with other departments, customers, suppliers and other service providers
- Work with other team members of the wider engineering team
- Develop and maintain good relationships with internal and external contacts at all levels including other companies, universities and research institutes
- Develop technical relationships with key suppliers and business partners

Self Management

- Comply with the Health, Safety and Environmental Policies
- Manage and work with vendors
- Represent work team at reviews and cross-organisational team meetings
- Liaise and communicate with other departments, customers, suppliers and other service providers
- Work with other team members of the wider engineering team
- Develop and maintain good relationships with internal and external contacts at all levels including other companies, universities and research institutes
- Develop technical relationships with key suppliers and business partners
- Undertake continuous training and development to maintain and further develop expertise and stay ahead of technological developments

Skills and Attributes:

- Exercise substantial initiative/judgement in work methods and interpreting goals
- Self-supervising within the guidance and expectations of divisional management
- Understanding of engineering theory and principles of design and manufacture
- High level of analytical ability
- Demonstrated performance in a position requiring both high creativity and engineering technical excellence
- History of success in applying advanced technology to enhance usability of complex parts and/or systems
- Experience of developing and deploying products in a global market
- Demonstrate excellent level of analytical ability, communication and interpersonal skills required to build relationships with team members and customers to solve problems and resolve issues
- Demonstrated ability to manage multiple and significantly complex projects and assignments with high level of autonomy and accountability for results
- Demonstrate initiative by reaching beyond work assigned to improve output and/or help others understand the technical nuances of product of expertise
- Able to deal with ambiguity
- A sound knowledge of computer aided design (CAD) software, technical drawings and 3D modelling
- A knowledge of the qualities of metals and other materials
- An understanding of manufacturing processes and construction methods
- Ability to plan and organise through several project stages
- An appreciation of wider business demands
- An awareness of the environmental impact of design ideas
- Strong PC skills, including Microsoft Project
- Able to give effective presentations to general audiences and write convincing proposals and reports with all necessary backup material for department consumption
- Knowledgeable in some technical areas of the group's scope, or having demonstrated ability to achieve a high level of proficiency in a short period of time
- Ability to support group to achieve goals within budget
- Demonstrated fiscal responsibility
- Ability to work well with others in a team environment, providing input and feedback in a helpful manner
- Able to exercise some latitude and technical judgement in deciding work methods

Qualifications and Experience Levels:

- Relevant 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 would be advantageous

- Ability to use CAD
- Ability to design 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 training

Example roles this job description may cover:

- Senior Technology Specialist