



## Senior Development Engineer – Job Description

(Job Code and Level: EDESDEV003.1)

### **Definition:**

Development is defined as: Develop systems, processes, methodologies as well as component and vehicle development 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 achieving 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:**

Responsible for the development and validation of products, systems and components. Analysing and directing recommendations for problem resolution to the expectation of the client. Work to improve the performance and efficiency of existing products. Provide support to new-business and vehicle-launch teams. Works on multiple highly complex major projects requiring innovative, original solutions. Responsible for large and fairly complex projects involving a large team or group. 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**

- Plan multiple projects simultaneously. Estimate, track and complete projects on time and within budget
- Ability to understand the development required to enable the design requirements to be delivered
- Analyse customer product specifications and applicable regulations /legislations for their area of the programme
- Define the product functional analysis (based on standard) to translate customer specifications and internal requirements into clear product performance criteria

- Agree the material choice proposed is able to meet mechanical performance requirements
- Support the creation and maintenance of process documentation associated with the analysis process
- Give the necessary inputs to the Design Engineer to ensure that the design meets the defined performance
- Support the Design Engineer with regard to specifications knowledge and product robustness if needed
- Participate in design reviews
- Participate in DFMEA processes (based on standards) and make sure tests that are identified as recommended actions are incorporated
- Subjectively and objectively assess component / vehicle stability performance in a repeatable, safe manner
- Use vehicle based instrumentation to gather on-vehicle data
- Use tools to gather data on system performance
- Use gathered data alongside subjective evaluation to identify parameter changes to drive the desired change in system and vehicle performance
- Work closely with suppliers to determine parameter changes
- According to validation/measurement results, define necessary product improvements to meet the specifications
- Lead the product validations for their area of the programme
- Define, plan, and follow the product validations
- Define the product improvements to meet the specifications
- Interfacing with internal and external clients to deliver updates, design recommendations and analysis results
- Preparation of detailed technical presentations for both internal and client project engineering review
- Support reaching the quality, costs and delivery targets of the program
- Report all resulting data on their area of the programme,
- Support design review and contribute to achievement of Engineering Milestones as well as Customer Program Milestones
- Undertake special projects as required
- Contribute to continuous improvement activities
- Quality control of work by appropriate reviews
- Support and lead 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
- Attend various meetings and action/communicate instructions
- Produce written reports and make presentations
- Undertake continuous training and development
- Perform root cause analysis and resolve problems

### **People Management**

- Lead groups of Engineers and Technicians if required
- Provides guidance 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
- Assertive, optimistic, resilient and welcomes change
- Proactively contributes to the team and has a collaborative approach to working with others
- Is self aware
- Shows moral courage, openness and honesty in all dealings
- Good team-working skills
- Self-motivated, flexible, proactive and committed

### **Skills and Attributes:**

- Exercise substantial initiative/judgement in work methods and interpreting goals
- Work independently and is reviewed infrequently with minimal supervision
- Self-supervising within the guidance and expectations of divisional management
- Analytical and numeracy skills
- Strong problem-solving skills with high attention to detail
- A creative, logical approach for generating new ideas and solutions, with the ability to transition through to part development
- An excellent grasp of engineering principles
- Knowledge of the qualities of metals and other materials
- Excellent communication and skills
- An understanding of manufacturing processes and construction methods
- Ability to plan and organise through several project stages
- An understanding of wider business demands
- An awareness of the environmental impact of design ideas
- Strong PC skills, including Microsoft Project
- Able to effectively train his/her work group and effectively support work teams within the work group.
- Able to write convincing proposals and reports with all necessary backup material for external and department consumption

- Very knowledgeable in all technical areas of the group's scope, or having demonstrated ability to achieve that level of proficiency in a short period of time
- Able to give effective presentations to critical/high level customers and effectively represent work group on review panels and cross-organisational teams
- Able and willing to balance the needs and desires of a group with those of the department, and take ownership of higher level institutional goals
- Able to estimate cost and manpower for assigned projects
- Able to present options and persuasively advocate for proposals
- Able to work productively with vendors
- People management ability

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

- Relevant manufacturing/engineering degree preferred, or ONC, A Levels, BTEC Diploma Level 3 or equivalent NVQ level 3 qualification
- Membership of an industry related Professional Body would be advantageous
- May require experience of using Auto CAD, Pro Engineer, CATIA V5, Unigraphics NX
- Understanding of legislation and standards
- An understanding of Lean Manufacturing
- 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.

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

- Senior Validation Engineer