

<b>Job Title:</b>	<b>Electronics/Electrical Design Engineer</b>	<b>Position Type:</b>	Full time
<b>Location:</b>	East Sussex	<b>Travel Required:</b>	10%
<b>HR Contact:</b>	personnel@quorumtech.com	<b>Date posted:</b>	11 <sup>th</sup> May 2023

### Job Description

#### MAIN PURPOSE OF JOB

To ensure that Quorum Technologies Ltd. maintains its position as the leading provider of sample preparation equipment used with electron microscopes by continuing to maintain a pipeline of innovative new products. The Senior Design Engineer will be responsible for designing new products incorporating analogue and digital electronics taking them from concept to manufacturing release and will take a leading role in working with suppliers and mentoring junior colleagues.

#### RELATIONSHIPS

**REPORTS TO:** Engineering Director

**RESPONSIBLE FOR:** Electronics and software design and development, obsolescence planning and change requests, maintaining engineering processes and training junior staff.

**INTERACTS WITH:** Sales, Marketing, Production, Service departments and external suppliers.

#### ROLE AND RESPONSIBILITIES

The Senior Electronics/Electrical Design Engineer will be responsible for design, development and testing of electronics and software for all Quorum products. Tasks will include:

- Work as part of NPD (New Product Development) teams to design and develop electrical/electronic solutions, meeting project timescales.
- Liaise with Sales, Marketing and OEM customers to define user interface needs and document them in technical requirements.
- Design both analogue and digital electronic systems. Identify suitable design solutions and take responsibility for their interface and operation.
- Firmware and user interface software development across a range of products. Defect analysis, debugging and problem solving. Configuration management and version control. Programming a wide range of communication protocols.
- Integration and testing of electronics and software with mechanical hardware. Preparation of test specifications for use in Development and Production.
- Design to meet safety and legal requirements (RoHS, Low Voltage Directive and EMC Directive). Compliance analysis and testing to all applicable directives. Arrange independent test and certification where necessary.

The Senior Electronics/Electrical Design Engineer will be responsible for maintenance of software and electrical systems in all existing products. Tasks will include:

- Working with Purchasing and external suppliers to track component obsolescence and redesign where necessary.
- Liaise with Sales and Service teams to track non-conformances in the field, identify root causes, propose, and implement corrective actions where required.
- Participate in Engineering Change Request (ECR) reviews, accept and manage any ECRs assigned.

The Senior Electronics/Electrical Design Engineer will master the electronics and software components of Quorum's products, acting as a reference for all areas of the business. Key tasks include:

- Mentor and train new and junior engineers.
- Assist marketing in drafting product specifications by providing potential solutions to practical problems.

The Senior Electronics/Electrical Design Engineer will enforce engineer processes, ensuring that design work is carried out to the agreed standard, and suggest improvements to processes where necessary. Key tasks include:

- Ensure new engineers are familiar with all processes relevant to electronics and electrical design.
- Consolidate feedback from colleagues and recommend process changes to management where appropriate.

**The above is not an exhaustive list of duties and you will be expected to perform different tasks as necessitated by your changing role within the organisation and the overall business objectives of the organisation.**

### **PERFORMANCE MEASUREMENT**

- Successful completion of new product development projects, on time and within budget.
- Concise, detailed, and accurate reporting of results, future forecasting of requirements and departmental KPIs as required by senior management.
- Ability to meet customer expectations and to maintain Quorum's established reputation for excellence.
- Ability to ensure that all established administrative routines and records are kept accurately and up to date.

### **QUALIFICATIONS AND EDUCATION REQUIREMENTS**

Degree or HND in Electronics or Electrical Engineering or similar discipline.

### **REQUIRED EXPERIENCE AND SKILLS**

#### **The successful candidate must have:**

Record of new product development in a similar manufacturing environment. Must be able to provide examples of products designed and launched to market.

Understanding of evaporative and sputter coating technologies.

Experience in mentoring and training junior engineers.

Practical experience in developing analogue and digital electronics. Must be competent in PCB design, preferably using Altium and SolidWorks.

Programming experience using embedded C, C++ or QML. Linux would be an advantage.

Ability to analyse field failure trends and manage obsolescence.

Proficiency in Microsoft Office Suite, especially Microsoft Excel.

Ability to cope with rapidly changing demands on time and prioritise jobs according to urgency.

Logical and methodical approach to work, with a deep understanding of processes and process boundaries between departments and the ability to identify and remove any roadblocks.

Excellent communication skills, the ability to challenge and question while maintaining positive relationships.

### **PREFERRED EXPERIENCE AND SKILLS**

Vacuum system design, build & testing (typical pressures to  $1 \times 10^{-7}$  mbar). Design of LN2 cooling systems.

MRP system experience (preferably SAP Business One).

BOM structuring and maintenance. Automation control.

### **ADDITIONAL NOTES:**

This role may require occasional travel to suppliers and customers. Valid driving license and passport required.

Assisting with packing/unpacking products will require bending, lifting, and carrying (sometimes) heavy equipment.

Signed as accepted: \_\_\_\_\_

Date: \_\_\_\_\_