

# Job Description



**Role Title:** Electronics Engineer

**Reporting to:** Chief Electrical and Electronics Engineer

**Role Purpose:**

We require an Electronics Engineer to develop control systems for batteries, power electronics or electric vehicles for our wide range of customer applications focussed on electrification.

The successful candidate will be involved at all stages of the design process including inception, development and verification. They will liaise directly with suppliers and manufacturers and work with the wider multi-disciplinary engineering team to support the delivery of effective engineering solutions.

**Key Responsibilities:**

- Work closely with the electronics team and other engineering disciplines, such as EDS, mechanical and control systems, to develop modern, innovative, and practical electronic solutions
- Design of robust electronic systems incorporating features such as microcontrollers, power supplies, FPGA, analog and digital I/O, voltage and current sensing as required
- Generation of detailed electronic design schematics and overseeing PCB design layouts
- Commissioning and verification of electronic systems to confirm compliance with requirements and relevant standards. Root-cause investigation and resolution of any issues
- Support prototype builds and provide electronics support for system test and integration
- Support the management of requirements, delivery of FMEA and other systems analysis and functional safety compliance at a hardware level
- Work to company engineering standards, within change control and other processes and create required project documentation to ensure necessary levels of design quality
- Delivery of engineering tasks and reporting of progress and issues in line with project milestones
- Develop and maintain relationships with external suppliers of relevant components or technologies

## **Qualifications, Experience and Skills Required:**

- Degree qualified in Electronics engineering or similar discipline
- Experience in development of microcontroller-based control electronics platforms through the entire development cycle, working within a multi-disciplinary team to deliver products to cost, time and quality constraints
- Digital and analog circuit design, including ADC, DAC, signal processing/filtering, voltage, temperature and current measurement
- Knowledge of communication interfaces such as SPI, I2C, CANbus and Ethernet
- Design of point-of-load low-voltage power supplies. Selection of topology, switching devices, magnetics and passives and verification against requirements.
- Experienced and skilled in schematic design and the specification and evaluation of PCB designs, including Design for Manufacture and Design for Test principles.
- Use of simulation tools (e.g. SPICE) to model circuit behaviour
- Experience of using standard lab equipment to verify and investigate issues with electronic systems

## **Preferred:**

- Experience of product development in a relevant industry (such as automotive, energy storage aerospace)
- Experience of design of control electronics for power electronics applications
- Experience of development with FPGAs
- Experience in the design of complex multi-layer PCBs for control applications using industry standard toolset
- Knowledge/experience of hardware design to functional safety standards
- Practical experience of lab testing of hazardous voltage systems and safe working practices
- Skilled in soldering and rework of printed circuit boards and cabling to a professional standard

## **System or Knowledge:**

- Understanding of microcontroller architectures and interfaces and how to select them appropriately depending on the application. Understanding of register-level software interfaces for configuration and control, bootloader operation and methods of programming the device.
- Knowledge of a wide range of electronic component types, their properties and criteria for selection in different applications

## **Personal Attributes:**

- Good problem solving and analytical skills
- Quality-focussed with an attention to detail
- Strong communication skills – including report writing and presentation
- Self-motivated and enjoys working within a team environment
- Willingness to accept responsibility and challenges required to achieve objectives
- Commitment to professional development and continuous learning

## **Location and Travel:**

- You must be eligible to work in the **UK** and have no restrictions for world-wide travel.
- This role is based at our Head Office in the **UK**, with flexibility for remote working.
- Working hours are 0900 to 1700, including 30-minute paid break, 5 days a week, however some travel is expected, and flexible working patterns are essential to the role.