



DRIVING THE FUTURE OF ELECTRIC VEHICLES

We are the world leader of in-wheel motors for passenger cars, light commercial vehicles and future transport solutions.

Protean Electric is an automotive technology firm with over 100 talented people globally. Our mission is to drive sustainable transport through innovation, and we are the technology behind vehicles that travel further, perform better and use fewer components.

We believe that freedom of ideas, integrity of response, desire to improve, and collaborative thinking drive innovation. Joining Protean means working with talented experts across the organisation who value your ideas, empower you to make a difference, and encourage you to challenge yourself and others.

Senior Power Electronics Engineer Farnham, UK

The Role

We are seeking the right individual to join our Electronics team.

Main Duties & Responsibilities

The role of Senior Power Electronics Engineer is key in the development of the electronics within Protean's in-wheel motor range, throughout the entire lifecycle of the products. Working alongside other Electronics Engineers, Mechanical Engineers and motor design engineers, you will be responsible for defining and designing the power electronics and verifying that the design meets the requirements set out by internal and external customers to ensure product delivery to time, quality and cost targets.

Reporting, Location & Travel

This role reports to the Electronics Manager and is based in Farnham, Surrey with occasional requirement for national and international travel, primarily to local suppliers / partners and China.

Key Responsibilities

Responsibilities include, although are not limited to the following:

- Full life cycle design from initial concept through to productionisation
- SMPS, PSU, Magnetic components and inverter design
- Sensor and sensor conditioning design
- Insulation coordination
- Circuit calculations and Simulations
- Schematic capture and designing/supporting PCB layout using Altium Designer
- Writing requirements, specifications and reports
- Driving test, validation and verification activities

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- Supporting manufacturing activities
- Building and maintaining relationships with leading suppliers of power electronics components to ensure good knowledge of relevant technology developments

Relevant Skills & Behaviours

We value and measure ourselves against the following 'Best-Self' values:

- **Will to Win:** we succeed by delivering to customers; on time, on quality, and on cost
- **Pioneering:** we are passionate about the technology
- **Courageous:** we face our challenges
- **Working Together:** we can rely on each other and others can rely on us
- **Personally Responsible:** we do what needs doing, when it needs doing
- **With Integrity:** we are honest, open and respectful

Successful candidates should be able to demonstrate the following relevant skills and behaviours:

- Exercise discretion and independent judgment in the performance of duties set out above
- Strong communication skills – ability to clearly articulate views and findings through technical documentation in English
- Exhibit strong interpersonal skills including interfacing, coordinating and negotiating with other employees, teams, customers and suppliers
- Strong IT skills - to prepare and review data, reports and documentation
- Make decisions using sound judgment while complying with policies, procedures, appropriate principles and applicable laws and regulations
- Ability to self-motivate and work with minimal oversight
- Strong collaboration and support skills across team and with colleagues

Relevant Knowledge & Experience

Candidates should assess their suitability against the following essential and/or desirable relevant knowledge and experience:

Essential:

- Minimum of a good degree in Power Electronic Engineering or other relevant subject
- A minimum of 6 years' experience in R&D of inverters for electric motors
- Design, test and evaluation of high voltage and high power, power electronics systems
- Electrical and thermal modelling and simulation
- Multiple journeys through complete development life cycles
- PCBA schematic and layout software experience
- Experience of working within a Tier 1 or relevant technological company

Desirable:

- SiC / GaN device-based converter development experience
- Electromagnetic FEA simulation experience
- Familiarity with relevant automotive legislation, standards and guidelines
- 30kW to 200kW, 400V to 800V inverter design experience
- Higher degree or PhD desirable in relevant subject
- Knowledge of Insulation Coordination
- Understanding of motor control and sensors
- Calculation of component stress & de-rating and reliability estimation
- Design for functional safety to ISO26262



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- Design for EMC; Analysing and rectifying compliance issues
- Using and applying DFMEA

If you'd like to apply, please send a copy of your cv along with the role you'd like to apply for over to ukjobs@proteanelectric.com.

