



Mechanical Engineering Analyst

Farnham, UK

Protean Electric is an automotive technology firm. Our mission is to drive sustainable transport through innovation, and we are looking for the best people to join us and help stay ahead of the competition.

Working with us is your opportunity to become an expert in your field and to join us in setting world-class standards in design and production quality. Diversity and inclusion are fundamental to our approach. We know that teams who share one vision whilst drawing from a range of diverse backgrounds and experiences are the most innovative.

Working here means enjoying a fast paced, dynamic and collaborative environment. Our challenges require innovative solutions and provide a unique opportunity to shine and grow with the company.

We value and measure ourselves against these “Best Self” behaviours:

- Pioneering
- Driven
- Tenacious
- Collaborative
- High Integrity
- Responsible

If you decide to apply for the role, please email your CV, cover letter and salary expectations to: ukjobs@proteanelectric.com. It is important that you **quote the full Job Title in the subject line.**

Thanks for taking an interest in joining us and please see the specific details below:

The Role

We are seeking the right individual to join our Mechanical Design team.

Main Duties & Responsibilities

We are looking for a Mechanical Engineering Analyst to perform professional technical work, which is complex in nature and requires in-depth knowledge and diversified application of mechanical engineering principles, theories, concepts, practices and techniques generally used to solve problems within a defined field of technology. Reporting to the Mechanical Design Manager, the primary responsibility is the design, development and delivery of electro mechanical systems for the in-wheel motor.

- **Perform Mechanical Analyses:** Analyse mechanical components and subsystems using SolidWorks Simulation and more advanced programs as applicable. Performs kinematic, dynamic, heat transfer, shock, noise vibration and harshness analyses on complex materials, structural components and functional systems. Document results for presentation to program staff.
- **Provide Design Input:** Provide design guidance for mechanical parts and assemblies based on experience and analysis results. Inputs should take into account program technical requirements as well as program cost, schedule and technical risk appetite.
- **Guide Test of Hardware:** Provide input to mechanical hardware test plans with particular focus on achieving correlation between test and analysis.
- **Maintain and Continuously Improve Mechanical Analysis Knowledge Base:** Plan and execute process for maintaining best practices and lessons learned for mechanical specific analysis information. Maintain up-to-date knowledge of developments in the analysis discipline. Suggest and plan initiatives to grow capability and knowledge when needed.
- **Document the Product Development:** Generate, review and approve written reports supporting the design, analyses, and test of the product design including drawings, engineering specifications. Report on project status and progress measured against specific plans. Prepare design review packages and present data to both internal and external customers.
- **Implement Continuous Improvement:** Implement the Mechanical Design Process in work plans, and adhere to our Quality System. Provide feedback to improve the process, and work to meet engineering objectives. Maintain up-to-date knowledge of developments in the mechanical engineering disciplines. Ensure cost effectiveness and manufacturability of design.
- **Perform Other Duties:** Coordinate and direct the work efforts of lower level engineers and support personnel, if assigned. Assignments may include development of new techniques as a result of independent study and materials development. Perform other duties and responsibilities as required

Key Responsibilities

Include, although are not limited to the following:

- Specifying and completing analyses of mechanical parts and assemblies to substantiate design intent through life
- Discussing and resolving technically complex problems with manufacturers, suppliers, customers, etc.
- Providing detailed specifications from an outline brief ensuring a product can be made reliably and will perform consistently in specific operating environments
- Producing outline designs and determining feasibility giving consideration to
- implications such as cost, safety and time constraints
- Evaluating and recommending modifications of prototypes and tooling after test results
- Liaising with suppliers with regard to specification and availability of materials and keeping abreast with latest technologies for electromagnetic/thermal design
- Producing engineering reports and presentations to management
- Providing technical support to other departments as and when required
- Supporting DFMEA activities
- Checking Engineering drawings to BS8888
- Supporting the training, development and growth of mechanical engineering talent in the company's facilities In China



Relevant Skills	Relevant Knowledge & Experience
<ul style="list-style-type: none"> • Exercise discretion and independent judgment in the performance of duties set forth above • Communicate effectively both orally and in writing • Exhibit sound interpersonal skills involving interfacing, coordinating and negotiating with company personnel, customers and suppliers • Utilise computer skills to prepare appropriate reports and documents; • Make decisions using sound judgment while complying with policies, procedures, appropriate principles and applicable laws and regulations • Analyse, evaluate, develop and implement processes and systems within budget and adhere to time requirements and schedule • Design and develop products and services using state of-the-art technology, principles, theories and concepts • Innovative approach 	<p>Minimum:</p> <ul style="list-style-type: none"> • Thorough understanding and experience of hand calculations and FEA • Sound knowledge of physics and mechanical engineering theory • Technical understanding of vehicle and suspension loading • Experience using SolidWorks and SolidWorks Simulation • Degree (BEng) in relevant engineering field • Understanding of automotive mechanical design processes • Knowledge of codes of conduct and ethical working • Significant experience in Electro Mechanical product engineering functions is essential <p>Desirable:</p> <ul style="list-style-type: none"> • Masters degree in relevant engineering field • Chartered status with a recognised engineering body • OEM/Tier 1 experience with vehicle systems/assemblies • Experience working with high power electric and hybrid powertrains • Experience of automotive traction batteries and motors • Experience of component testing • Experience in heat management, casting and mechanical techniques is desirable • Previous design experience based on ISO26262 is desirable

