



OXSENSIS

Principal Mechanical Engineer

Directly reports to: Engineering Manager

About us

Oxsensis Ltd provides breakthrough monitoring solutions for extreme pressure and temperature environments. Oxsensis optical technology allows next generation level of control and optimisation for client systems and achieving industry leading levels in safety and efficiency. Our sensor technology is based on an all-optical approach targeting increased accuracy and reliability to decrease environmental impact of each installation. In order to achieve these goals Oxsensis is working in collaboration with blue chip OEMs in various industries including Power generation, Energy and Aerospace.

Role Summary:

We are seeking a dynamic and experienced Principal Mechanical Engineer to lead and take ownership of the development of mechanical design of Oxsensis products, ensuring that developed solutions are fit for purpose in their given environment through appropriate ownership of requirements capture and validation.

As the Principal Mechanical Engineer, you will be responsible for prioritisation of the mechanical engineering task list, provide guidance and training to less experienced engineers and provide peer review to their work.

Mechanical design tasks will include the selection of materials, definition of part geometry for mechanical, thermal, vibration and pressure loads, the production of design documentation and data using computer aided tools (CAD and FEA) to demonstrate mechanical design features. Further through the product lifecycle there is responsibility for relevant engineering changes in the existing design & control records, verification and implementation of a change.

The Mechanical Engineer may also take responsibility for design and development of necessary equipment and tooling to support manufacture and test of Oxsensis product, utilising mechanical engineering expertise in electro-mechanics, pneumatics, and thermodynamics.

Essential Experience:

- Bachelor's degree in mechanical engineering discipline or equivalent education or combination of technical work experience and vocational qualifications
- Strong creative and innovative mechanical design capability
- Background and experience in solving mechanical engineering challenges through design, calculation, and test
- Ability to solve complex technical problems using a broad variety of engineering tools
- Product Design
 - Ability to create complex models and assemblies using SolidWorks CAD tools
 - Ability to conduct finite element analysis for static and dynamic analysis for pressure, temperature, and vibrational loads, ideally SolidWorks FEA tools
 - Expertise in engineering drawings, geometric tolerancing and Design for Manufacture (DFM)
- System and equipment design
 - Expertise in pneumatics and pneumatic circuit design, fittings, and valves, etc.
 - Good understanding and appreciation of pressure system safety, both in terms of design and practical pressurised gas handling
 - Ability to develop simple programmes in C+ for Arduino
 - Basic control design skills, including control for linear motion, ball screws, linear stages, stepper motors
- General
 - Understanding of ERP software tools to manage configuration control
 - Strong practical problem-solving skills
 - Experience or understanding of FMEA

- Ability to write high quality technical reports
- Able to communicate effectively across all levels in a cross-disciplinary environment
- Leadership qualities
 - Coaching and development of colleagues
 - Change Management experience for implementation of continuous improvement
 - Broad view on developing technologies and opportunities

Desirable Experience

- Strong technical and practical understanding of manufacturing processes, such as welding, brazing, bonding, polishing, and etching, working with laser light sources
- Ability to lead DFMEA process through to mitigation and closure
- Experience of working with and processing optical fibres including splicing and joining
- Technical understanding and experience of designing optical devices

We offer:

- Supportive cross-discipline team of industry professionals (~30-person team)
- Flexible working options (balance of on-site and WFH depending on project activities)
- Opportunities for learning and regular professional education (courses, seminars, etc.)
- Great location at Harwell Campus (transport links, environment, food court, etc.)
- 25 days holiday (plus bank holiday)
- An opportunity for equity in the company
- Cycle to work scheme

Please send your application with a cover letter to Oxsensis Ltd contact@oxsensis.com