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## Mechanical Engineer

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### **About ION Science Ltd:**

ION Science has over 36 years of industry experience designing, manufacturing, and supplying PID gas sensors, gas detection instruments and leak detectors for a wide range of industries and applications. We are an unrivalled worldwide gas and leak detection company, with a team of workers who strive to deliver exceptional product quality and customer satisfaction.

In 2022 ION Science were awarded the Queen's award for Enterprise for MiniPID Sensors. This is a fantastic opportunity to join our dynamic and growing team and be part of a well-recognised brand associated with quality.

### **MAIN PURPOSE OF JOB:**

This role focuses on the design and development of world class gas sensors and instruments. The right candidate will take designs from concept and see them through to the manufacturing and finishing stage, whilst complying and passing all safety requirements.

### **MAIN RESPONSIBILITIES:**

- Design of gas detection sensors and instrumentation products throughout life cycle
- Compliance with ATEX/UL intrinsic safety standards and/or SIL functional safety standards.
- Support and enhancement of existing products, to meet new requirements and to eliminate malfunctions
- Incorporate new gas sensing technologies into production for new applications
- Work with stake holders and suppliers to ensure the best outcome for the product

### **JOB ROLE:**

- Electro-mechanical component, robust IP rated enclosure, pneumatic system and full product design and problem solving
- Working with suppliers and production to ensure that parts and components achieve form, fit and function
- Create detailed engineering drawings, specifications, and documentation.
- Conduct simulations and analysis to evaluate theoretical designs, validate design concepts and optimize performance.
- Perform prototyping, testing, and troubleshooting of mechanical and electro-mechanical systems.
- Design for compliance with industry standards and regulations.
- Participate in design reviews and provide constructive feedback.
- As part of the product design, consider design failure modes and effects analysis, design for test, design for manufacture and design for assembly
- Support ongoing production including jig and fixture design and manufacture



### **QUALIFICATIONS:**

- Essential: Degree level qualified
- Essential: 3 years + engineering experience
- Desirable: engineering experience in sensors and instruments
- Be proficient in IT skills, e.g. Microsoft Office packages

### **SKILLS/EXPERIENCE:**

- Design of products compliant with Intrinsic safety (ATEX, IECEx) and CE mark (ideal)
- Knowledge of hazardous area classifications and safety standards and familiarity with explosion-proof and intrinsically safe design principles (ideal)
- Solid knowledge in 3D CAD software, ideally SolidWorks and PDMworks, to generate 3D design files and 2D drawing pack
- Experience in a range of manufacturing processes including injection moulding
- Good understanding and practice of tolerance analysis (GD&T)
- Use of simulation tools, COMSOL or FEA, to support product development (ideal)
- Material selection knowledge (ATEX specific ideal)
- An understanding and experience of following an NPD process
- Have a flexible, collaborative approach with good critical thinking skills and attention to detail.
- Be motivated in mechanical design with the ability to contribute to the full system design.
- Methodical, logical and detail oriented whilst still getting things done.
- Strong communication and teamwork abilities, building rapport with internal departments and external customers
- Possess good levels of organisation and prioritisation skills including version control, documenting the design evolution and capturing key design decisions
- Ability to work on multiple projects and meet required deadlines.

### **BENEFITS:**

- 25 days annual leave + Bank Holidays (annual holiday increasing with service)
- Excellent employer pension contributions of 8% after probation
- Life Assurance of 4% of pensionable salary
- In-house training
- Discretionary Annual Bonus
- On site shower & changing facilities
- Long term service awards
- Monthly lunch & drinks laid on by the company
- Sick Pay
- Christmas party
- On-site parking
- Private Medical with AXA
- Bike Purchase Scheme
- Car share scheme
- Early finish on Fridays



**WORKING PATTERN:**

- Monday to Thursday: 08:30 – 17:00
- Friday: 08:30 –15:45
- Immediate start available
- Full time – Permanent position

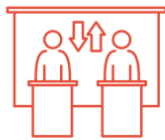
**LOCATION:**

This role is based at the ION Science head office, located in Fowlmere, 10 miles south of Cambridge. The role is required for you to be on site.

**Our Core Values:**



**Fun**



**Embrace  
change**



**Respectful**



**Responsive**



**Challenge the  
status QUO**



**Committed**

See what our employees have to say about working at ION: <https://ionscience.com/en/careers/>

Contact email/job application: [jobs@ionscience.com](mailto:jobs@ionscience.com)