



Embedded Software Engineer

About ION Science Ltd:

ION Science has over 37 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 was 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:

To design, develop, and maintain embedded software for world leading gas detection sensors and instruments that are used in Hazardous Locations (e.g. ATEX and SIL). The role spans the full product lifecycle, including legacy systems, new product development, and test jig development and support.

MAIN RESPONSIBILITIES:

- Design, develop, and maintain embedded software using C and C++, bare metal, FreeRTOS, for STM32 microcontroller platforms to save lives and protect the environment from harmful volatile organic compounds (VOCs).
- Drive integration of hardware and firmware, including Hardware Abstraction Layers (HALs) and Device Drivers.
- Troubleshoot product issues, perform fault finding, and resolve system-level problems.
- Contribute to new product development while maintaining and enhancing legacy embedded systems.
- Collaborate with cross-functional teams including electronic engineers, mechanical engineers, scientists, researchers, product managers, and product verification.
- Participate in code reviews, testing, and documentation to ensure high-quality deliverables.

JOB ROLE:

This is a hands-on engineering role focused primarily on embedded software development for instrumentation products. The role demands strong technical problem-solving skills, a collaborative mindset, and the ability to work across disciplines to deliver robust and reliable solutions.

QUALIFICATIONS:

- Degree in Electronics, Computer science or equivalent experience

SKILLS/EXPERIENCE:

- 5+ years product development engineering experience, ideally in sensor/instruments.
- Understanding of scientific principles in physical sciences (chemistry/physics)



- Embedded software development using C and C++, bare metal, FreeRTOS, for 8-bit and 32-bit microcontrollers.
- Communication protocols such as UART, SPI, I2C, Modbus, CAN, USB, BLE and WiFi.
- Ability to work with and modernise legacy codebases.
- Able to understand schematics and mechanical drawings
- Working with PCBs and microcontroller programmers
- Use of standard electronics tools including debuggers, multimeters and logic analysers
- Programming test-jigs for production environment
- Possess good levels of organisation and prioritisation skills including version control, documenting the design evolution and capturing key design decisions
- Have a flexible, collaborative approach with good critical thinking skills and excellent attention to detail.
- Worked following NPD process and Agile development methodologies.

BENEFITS:

- 25 days annual leave + Bank Holidays (annual holiday increasing with service)
- Excellent employer pension contributions of 8% after probation
- Life Assurance of 4 times 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:

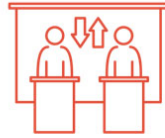
This role is based at the ION Science head office, located in Fowlmere, 10 miles south of Cambridge. The role is required for you to be on site.



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/>

Due to the high volume of CVs we receive, it might not be possible to provide feedback to all applicants. If you are successful, we will be in touch to arrange a call with our recruitment manager.