

# Job Specification

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## Embedded C Software Engineer

**Responsible to:** Head of Software Engineering

**Grade of post:** Senior / Junior

**Salary:** To be agreed

**Hours of work:** 37 hours per week

**Work location:** Oakley, Bedford

### Role Purpose:

You will be required to support a mixture of R&D and product development activities within a leading autonomy and unmanned systems company. Blue Bear continuously innovates within core areas such as UAV autopilots, mission systems, ground control stations, and all supporting systems and infrastructure.

You will be keen to get involved in all development areas, and have a good track history / proven track record in both problem solving and quality software development.

Working as part of a team in a multidisciplinary environment you will have good communication skills. A can-do attitude and a genuine passion for innovative technology will be advantageous.

Development of low-level drivers for UAV for control of effectors, reading instrumentation and integration of novel sensors.

### Key Responsibilities

- Primarily, your role will be to assist in the design, implementation and test of real time embedded software to support both experimental activities and product development, ensuring real-time safety, security and redundancy considerations are met.
- The opportunity will enable the successful candidate to gain knowledge of cutting-edge autonomous systems.
- You will be responsible for delivery, reporting and presentation of technical work and writing and submitting any necessary documentation.
- Delivery and maintenance of the embedded systems software within the UAV specifically.

## **Other Duties and Responsibilities**

- To actively participate in Blue Bear's Performance Management Scheme.
- To undertake such other duties and responsibilities as may be reasonably required within the grade and level of the post.
- You will be expected to perform different tasks as necessitated by your evolving role within the company and the overall business objectives of the company. Some travel within the UK may be required.

## **Equality and Diversity**

We are committed to the promotion of equality of opportunity in all of our activities and to encouraging access to our organisation from all groups irrespective of the equality strands. We are working to create an environment in which cultural diversity and individual difference are positively valued in an atmosphere free from harassment and discrimination. We take our legal and moral obligations with respect to equal opportunities seriously and welcome dialogue with individuals on ways in which our equal opportunities policies and practice can be enhanced.

## **Health and Safety**

The organisation together with the assistance of all employees are fully committed to developing a positive safety culture.

We encourage and support employees becoming involved in and participating in health, safety and welfare matters. Our goal is to motivate and empower all employees to work safely and protect their long-term health, not simply to avoid accidents.



## PERSON SPECIFICATION

<b>Education/Qualifications</b>	<b>S/L</b>	<b>I</b>	<b>A</b>
<i>Desirable:</i>			
• Degree in Software Engineering or SMET discipline (e.g. Maths or Physics) with a demonstrable aptitude for Software Engineering			
<b>Knowledge and Experience</b>			
<i>Essential:</i>			
• Bare Metal Development	<b>X</b>	<b>X</b>	<b>X</b>
• Embedded C	<b>X</b>	<b>X</b>	<b>X</b>
• Real Time		<b>X</b>	<b>X</b>
• Real Time Operating System (RTOS) e.g. FreeRTOS	<b>X</b>	<b>X</b>	
• Microprocessors e.g. NXP Kinetis or Arm Cortex-M0/M3/M4		<b>X</b>	
• Built In Tests (BIT)		<b>X</b>	
• Integration with Electronics		<b>X</b>	
• UML Sequence Diagrams		<b>X</b>	
• Full software development lifecycle – including unit and integration testing		<b>X</b>	
• Refactoring and maintenance		<b>X</b>	
• Regression testing (auto build and auto test frameworks)		<b>X</b>	
• Technical author – requirements, design, test, user		<b>X</b>	
• Mature engineering - quality development		<b>X</b>	
• Configuration Management		<b>X</b>	
<i>Desirable</i>			
• 10+ years software development (at least 5+ years)			
• Embedded C++		<b>X</b>	
• High Level Languages		<b>X</b>	
• Protocols: CANbus, SPI, Serial (485, 422, 232), I2C, Ethernet (UDP, TCP)		<b>X</b>	
• Yocto built Linux / Unix environment		<b>X</b>	
• Raspberry Pi			
• Unit and Hardware-in-the-loop testing		<b>X</b>	
• Unified Modelling Language (UML)		<b>X</b>	
• Enterprise Architect – UML tool		<b>X</b>	
• Avionics background		<b>X</b>	
• Scrum and Agile		<b>X</b>	
• JIRA - Application Lifecycle Management tool		<b>X</b>	
<b>Personal/Behavioural Attributes</b>			
<i>Essential:</i>			
• Ability to work to tight deadlines		<b>X</b>	
• Creative and innovative thinker and planner		<b>X</b>	
• Excellent problem-solving skills		<b>X</b>	
• Team player		<b>X</b>	
• Good analytical and communication skills		<b>X</b>	
• Passion for innovation		<b>X</b>	
• Excellent writing and speaking skills		<b>X</b>	
<b>Other Requirements</b>			
<b>Subject to security vetting to a minimum BPSS level</b>	<b>X</b>		

**S/L = Short Listing      I= Interview      A=Assessment**