

# Job Specification

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## Drone Avionics-Electronics Engineer

**Responsible to:** Principal Engineer

**Grade of post:** Senior

**Salary:** To be agreed

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

**Work location:** Oakley, Bedford

### Role Purpose

Primarily the role will involve the design and development of embedded electronics for unmanned air vehicles as part of a multidisciplinary team. Schematic design and PCB layout of low voltage embedded circuits, taking a design from requirements capture through to manufacture and test. Overseeing and assisting with system integration, evaluation and testing.

### Key Responsibilities and Skills

- To develop requirements and specifications for electronic and embedded firmware systems.
- Requirements capture and review.
- Circuit design and schematic capture.
- Multi-layer PCB layout design.
- Good understanding and experience of using OrCAD or equivalent package for schematic capture and PCB layouts.
- Interfacing with subcontractors/external design houses.
- Interfacing with external board manufacturer from quote through to board delivery.
- Schematic and PCB layout review.
- Basic firmware developer skills (embedded software). Experience of embedded programming in C would be advantageous
- Assembly and testing of prototype designs.
- Understanding of avionic sub-systems, e.g., navigation aids, RF COMMs, GPS-denied navigation systems (e.g., Laser Gyro / MEM augmented IMU), state estimation sensors and algorithms.
- Exposure to previous 'sensor fusion' implementations.
- Basic understanding of imagery/signal processing techniques.

- Participate and where necessary lead on design reviews with internal and external clients.
- Writing and executing/overseeing PCB test plans.
- Writing and executing/overseeing system test plans and analysis of results.
- Confident communicator with proven inter-personal skills, able to adapt, manage potential ambiguity and deliver effectively in challenging situations.
- Knowledge of the assurance processes for Certifiable avionics systems would be of advantage.

### **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.

The above is not an exhaustive list of duties. 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.

### **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>			
<i>Essential:</i>	<b>S/L</b>	<b>I</b>	<b>A</b>
• Strong industrial experience.	<b>x</b>		
• Degree/Masters qualification in Electronic engineering or equivalent industrial training/experience	<b>x</b>		
<b>Knowledge and Experience</b>			
<i>Essential:</i>			
• Good understanding and experience of embedded circuit design, schematic capture and PCB layouts	<b>x</b>	<b>x</b>	
• Good experience in multi-layer PCB design and review (minimum 4 layers)	<b>x</b>	<b>x</b>	
• Test and development experience	<b>x</b>	<b>x</b>	
• Understanding of avionic sub-systems, e.g., navigation aids, RF COMMs, GPS-denied navigation systems (e.g., Laser Gyro / MEM augmented IMU), state estimation sensors and algorithms.	<b>x</b>	<b>x</b>	
• Basic understanding of imagery/signal processing techniques.	<b>X</b>	<b>X</b>	
<i>Desirable:</i>			
• Experience of embedded C	<b>X</b>	<b>X</b>	
• Experience of working with controlled impedances and EMC design requirement	<b>X</b>	<b>X</b>	
• SMD soldering experience	<b>X</b>	<b>X</b>	
• Experience of interfacing with subcontractors/external design houses	<b>X</b>	<b>X</b>	
• Use of embedded Linux	<b>X</b>	<b>X</b>	
• Some RF/datalink experience would be beneficial but not essential	<b>X</b>	<b>X</b>	
• Some knowledge in using network monitoring tools including Wireshark and Iperf would be useful but not essential	<b>X</b>	<b>X</b>	
• Use of embedded Linux would be desirable	<b>X</b>	<b>X</b>	
• Some knowledge of programming in Python and Bash would be helpful but not essential	<b>X</b>	<b>X</b>	
• Exposure to previous 'sensor fusion' implementations	<b>X</b>	<b>X</b>	
<b>Personal/Behavioural Attributes</b>			
<i>Essential:</i>			
• Good time management/prioritisation skills	<b>X</b>	<b>X</b>	
• Highly organised and able to work multi projects in fast paced environment	<b>X</b>	<b>X</b>	
• Adaptable personality with professional approach	<b>X</b>	<b>X</b>	
• Working as part of a team	<b>X</b>	<b>X</b>	
• Good verbal and written communication skills	<b>X</b>	<b>X</b>	
• Excellent organization skills	<b>X</b>	<b>X</b>	
• Conscientious, with a proactive work ethic	<b>X</b>	<b>X</b>	
<b>Other Requirements</b>			
Subject to UK MoD security clearance vetting to a minimum SC level		<b>x</b>	

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