

Requisition Number:

Job Description.

MIRA is a world-class, independent engineering consultancy, operating in multiple locations around the world, to support vehicle manufacturers and their supply chain with cutting-edge engineering and testing expertise.

We offer full-system design, test and integration expertise to automotive, defence, rail and transport industries and also specialise in developing low carbon and autonomous and co-operative driving technologies.

At our headquarters in the Midlands, we have access to one of the most comprehensive vehicle proving grounds which boasts 93km of test tracks and over 35 world-class test facilities and laboratories. Our facilities, combined with the engineering expertise of our 600 strong team makes MIRA Technology Park Europe's number one location for transport sector R&D.

Title of Job:	Hybrid and Electric Vehicle Software Engineer		
Department:	Software and Controls – D443		
Grade:	Up to 4Y		
Date Required:	Feb 2018		
Salary Range:	Competitive		
Number Required:	1		
Location:	HORIBA MIRA, Nuneaton, UK		
Reason for Vacancy:	Strategic Growth		
Contract Type:	Permanent:	<input checked="" type="checkbox"/>	Contractor:
Responsible To:	Software Function Lead		
Subordinates:	None		

Main Purpose of Job
<p>Modelling vehicle electric/ hybrid propulsion systems including hybrid control and battery management strategies.</p> <p>Developing complex control strategies.</p> <p>Supporting the generation of system and sub-system (component) requirements.</p>

Key Functions
<ul style="list-style-type: none"> • Modelling electric/hybrid vehicle propulsion systems including hybrid powertrain control, ancillary system control and battery management strategies. • Developing complex control strategies utilising Matlab / Simulink / Stateflow. • Developing safety related control systems utilising ISO26262 methodologies. • Supporting the generation of system and software level requirements. • Realising control strategies onto rapid prototyping hardware and design proving using Hardware in the Loop (HIL) facilities. • Conducting prototype integration and testing on full scale prototype vehicles. • Producing technical documentation, reports and specifications to support project needs. • Delivering technical assistance and proposal content into the business development team in support of proposals and new business development.

Essential Qualifications	Preferred Qualifications
<ul style="list-style-type: none"> • Relevant engineering degree with a minimum of 2:1 (e.g. Electrical / Electronic engineering, systems engineering, automotive engineering, applied mathematics or similar) 	<ul style="list-style-type: none"> • Higher degree (relevant M.Sc., Eng D or Ph.D.)

Essential Experience	Preferred Experience
<ul style="list-style-type: none"> • Matlab/Simulink/Stateflow for development of software control strategies and plant models. • Demonstrable experience in working to full software V-Cycle. • Producing documentation to a high standard (e.g. design, analysis, results). • Working with requirements and contributing to requirements capture at system and software level. • Appreciation of Functional Safety. • Broad understanding of Electrical and Electronic systems. • Technical knowledge of main elements for electric/ hybrid vehicle powertrains. 	<ul style="list-style-type: none"> • Development of electric vehicle control strategies in Simulink. • MIL, SIL and HIL validation methods. • Specific exposure to automotive functional safety (ISO26262). • Domain knowledge of vehicle propulsion systems and batteries (including modelling of cells and battery management strategies). • Working with configuration management and change management systems. • Proficiency in C or C++ programming. • Understanding of vehicle control architectures. • Understanding of vehicle network protocols (CAN, LIN).

What is the candidate likely to be doing now?
<ul style="list-style-type: none"> • Performing a key role at an automotive OEM, Tier 1 supplier or other related industry developing control strategies for automotive or hybrid electric vehicle applications.

Other information
<p>The candidate should:</p> <ul style="list-style-type: none"> • Have excellent communication skills, both written and verbal, able to convey deeply technical content to team members with differing technical ability • Be a self-starter and able to execute designated tasks accurately and within timing and budget constraints • Have well-developed analytical skills – rigorous but pragmatic • Used to working in a team – adopts a collaborative and open working ethos and also demonstrates the ability to perform critical reviews • Be willing to travel and work flexibly: The job may involve periods of 1 week at a time spent overseas approximately 2 or 3 times per year. • Be willing to engage in the security clearance process for UK MoD contracts. • Have a full UK driving license.