Requisition Number:

Job Description.

HORIBA MIRA is a global provider of pioneering engineering, research and test services to the automotive, defence, aerospace and rail sectors. We work in close collaboration with vehicle manufacturers and suppliers around the world, providing comprehensive support ranging from individual product tests to turnkey engineering design, development and build programmes.

With over 70 years' experience in developing some of the world's most iconic vehicles, our engineers utilise the latest test facilities and simulation tools to make vehicles and journeys safer, cleaner, more efficient and rewarding. Our suite of 37 major test facilities, 100km of specialised proving ground and wealth of engineering experience, combined with our expanding international presence, means we are confident that we can achieve our vision – that by 2020 every journey in the world will be positively influenced by us.

Progress towards achieving our vision has been significantly accelerated through the creation of MIRA Technology Park, Europe's largest transport technology R&D cluster. By applying our advanced engineering, test and validation capabilities to our customers' challenging programmes, we are already shaping journeys of the future

Title of Job:	Senior Electrical/Mechanical Engineer – Battery Test			
Department:	D456 – Electrification & Battery Testing			
Grade:	4W			
Date Required:	ASAP			
Salary Range:				
Number Required:	1			
Location:	HORIBA MIRA Nuneaton			
Contract Type:	**Permanent:**	X	**Contractor:**	
Responsible To:	Facilities Operations Leader, Electrification & Battery Testing			
Subordinates:	3			

Main Purpose of Job

HORIBA MIRA – a world-leader in advanced engineering, research and product testing provides an extensive range of testing for EV battery traction systems and products.

The Advanced Battery Development Suite (ABDS) is a £2m investment by the HORIBA Group into HORIBA MIRA's engineering capabilities and provides test and development services for battery packs and other components for hybrid and electric vehicles.
The facility enables HORIBA MIRA to complete cell, module and battery pack testing, simulated battery pack testing, integration testing and development of powertrain and battery packs at system level including EMC characterisation.

The Battery Abuse Test facility conducts tests on EV battery traction systems to determine their ability to perform beyond normal operating conditions. Most testing is defined by regulations, but bespoke testing is often requested by the customer.

We are looking for a Senior Engineer to co-ordinate activities and resources across both facilities whilst providing direct hands-on support in the day-to-day set up and testing of customer products.

The main responsibilities of the role are: -

- Develop test scripts, set up, supervise, monitor, and control battery and cell exercisers to deliver customer and engineering test and development programmes.
- Set up and perform battery abuse tests.
- Establish control systems to monitor and control the performance and safety of the EV battery products under test.
- Instrument test properties, prepare and analyse data on completion of tests.
- Set up power supplies, battery exercisers & load banks to create charge/discharge cycles.
- Oversee E H & S activities for ABDS and BAT. Coordinate maintenance and calibration for the facility and equipment.
- Supervise resources across both facilities and schedule customer tests.
- Produce technical reports and test summaries for internal and external customers.
- Collaborate with MIRA Engineering teams to guide R & D activities and to further develop integrated battery test and engineering services for MIRA's extensive customer base.

Key Functions

- Deliver customer projects through ABDS and BAT, manage resources, project timescales, cost, and quality, and provide clear communications with the customer.
- Design, program, and run test scripts for the ABDS Test Automation System.
- Instrument units in preparation for test at ABDS and BAT (thermal and electrical instrumentation).
- Set up and operate data acquisition equipment and high-speed cameras.
- Set up and perform tests using ABDS equipment (pack exerciser, thermal chamber, thermal management, test automation software).
- Set up and perform battery abuse tests to international standards (R100, UN38.3 etc.)
- Post-process test data utilising tools such as MATLAB/Simulink, dSPACE Control Desk, CANalyzer and PCAN explorer.
- Test support of HiL testing on a dSPACE SCALEXIO.
- Provide technical input to proposals for ABDS and BAT prospects.
- Provide technical support to the wider electromobility and propulsion team as required.

Essential Qualifications	Preferred Qualifications
• Relevant engineering degree with a minimum of 2:1 (e.g. Electrical / Electronic Engineering or related)	• First Aid trained • Fire Marshall trained • HV Safety trained

Essential Experience	Preferred Experience
Electrical test engineer or development engineer ideally with a minimum of 3 years' experience across the following areas: • Electrical and electronic developmental testing of automotive systems / Battery systems. • Working knowledge of Li-ion battery systems • Working knowledge of CAN systems and associated analysis tools such as Vector CANalyzer. • Programming and scripting of control systems and exposure to MATLAB. • Working knowledge of a wide array of test equipment and instrumentation such as DMMs, signal generators, oscilloscopes, thermal imaging & high-speed cameras etc. • Experience of data acquisition, monitoring systems etc and subsequent analysis. • Understanding of health & safety and compliance requirements for safe operation of test equipment/facilities. • Working knowledge of the ISO 9000 group of standards. • Leading teams.	• Production of documentation for local HS&E control • Working knowledge of MATLAB toolsets for post-processing and report generation. • Working knowledge of test automation systems such as Kratzer PAtools, Bitrode or similar. • Working knowledge of UNECE Regulation 100 and UNECE 38.3. • 3D CAD design using Solidworks. • Experience of design, set up and operation of test rigs for abuse tests such as mechanical integrity, nail penetration and drop, utilising hydraulic or electric actuators and controllers to provide load or displacement. • Demonstrable practical knowledge of automotive battery traction systems and electrical circuits.

What is the candidate likely to be doing now?
• Working as an engineer in an electrically related test delivery area or an electrically biased development engineer, with responsibilities for leading a team. • Working for a test house or manufacturer developing and implementing test activities, including abuse, on development programmes for EV battery products. • Developing and implementing end of line/conformity of product tests for battery products, either within a tier 1 or OEM organisation.

Other information
• Must have excellent communication skills, both written and verbal, able to convey deeply technical content to team members with differing technical abilities. • Must have an aptitude for scripting & programming with a solid understanding of control flow. • Be capable of delivering a high standard of technical writing. • Have well-developed analytical skills – rigorous but pragmatic.

- Have good interpersonal skills – a consensus-builder not confrontational.
- Good team working ethic, working alongside Customer engineers, MIRA engineers but also able to work independently when required.
- Must be a self-starter and able to execute designated tasks accurately and within timing and budgetary constraints.
- Able to diagnose and resolve a problem to root cause.
- Ability to work on shifts (although this is likely to be minimal).
- Manual handling – must be able to lift up to 25kg independently (lifting aids are available but not always practical).
- MS Office with Excel at Intermediate level as a minimum.
- Security clearance will be required.
- Full UK driving licence.