**Position Title: Hybrid Controls & Application SW Engineer**

**Grade:** C

**Status:** Open position

**Location:** Shanghai or Hangzhou, China

**Department:** Engineering – Controls & SW Team

**Position Reports to:** Team Leader – Controls & SW Team

**Vacancy Reference no.** *N/A*

Ricardo is a global world-class, multi-industry consultancy for engineering, technology, project innovation and strategy.  With a century of delivering value, we employ over 2900 professional consultants, engineers and staff world-wide.

Our people are committed to providing outstanding value through quality engineering solutions focused on high efficiency, low emission, class-leading product innovation and robust strategic implementation.

**THE ROLE**

Joining a World Class team of Control and Electronics engineers working on Hardware, Software and Controls solutions in **Automotive** **Hybridization** applications. The hybrid application engineer in this position will be responsible to develop, simulate and verify hybrid control models/software for our hybrid projects. Using desktop simulation, the application engineer will support the hybrid calibration team with the project targets regarding fuel economy, emissions and drivability. With the current Chinese market strategy, focus is mainly on mild hybrids (P0), PHEV’s (P0P4, P1P3, P2) and full electric vehicles (BEV).

**Key Responsibilities**

* Focus on transforming hybrid SW requirements into detailed software design
* Development and implementation of advanced hybrid control system strategies
* Design test cases and test vectors for control strategy verification using UT/MiL/HiL
* Support the calibration/test team to commission and calibrate the control strategy

*Everyday tasks will include:*

* Software requirements review and analysis
* Hybrid control strategy design and implementation
* MiL/HiL plant model design, calibration and correlation verification
* UT/MiL/HiL test cases and test vectors design and execution
* Hybrid control system verification and calibration
* ASW configuration for code generation and integration with BSW for target ECU HW

**PERSONAL SPECIFICATION**

**Skills**

* Experience of hybrid control software requirements capturing and managing
* ECU **Application SW development** and calibration experience for Engine/Hybrid/Transmission management systems (EMS/HCU/VCU/TCU/BMS)
* Good knowledge of powertrain architectures and fundamental control strategies (torque management, energy management, hybrid system management, diagnostics and safety) is beneficial
* Strong analytical approach to develop controls systems in an automotive environment
* Strong experience in use of model-based design tools (Matlab/Simulink/Stateflow, Ascet, etc.)
* Experience of automotive rapid prototype control system development
* Experience in use of real-time calibration tools (ETAS INCA, Vector CANape, etc.) is a plus
* Experience in test-bed and vehicle based calibration is a plus
* Languages:
* Very fluent in English (written and spoken) for intra-company communication with EU/US project teams
* Chinese is a plus

**Personal Attributes**

* Robust character with strong self-drive and motivation.
* Organized and rigorous with personal target of high quality delivery
* Methodical approach to issue investigation and resolution
* Strong information transfer and inter-personal skills
* Focused on delivering results and working as an integral part of a programme team
* Being able to work under pressure and self-manage own time deadlines
* Willingness to undertake some travel (within China and possibly abroad)
* Proven ability for technical guidance of less experienced engineers
* *Project attitude: the* ***right*** *people, doing the* ***right*** *thing, at the* ***right*** *time,* ***right***

**Knowledge**

* Experience with Mathworks **Matlab/Simulink/Stateflow** is mandatory.
* Experience with **control strategies development** and implementation is mandatory.
* Qualified to degree level with technical background in hybrid system design and development
* Good knowledge of rapid prototyping control systems
* Detailed understanding of the overall vehicle powertrain system is beneficial
* Experience with ETAS INCA/MDA, Vector CANape/CANalyzer/CANoe is a plus
* Knowledge of SW development process and related standards (including A-Spice) is beneficial
* Knowledge of system level safety requirements and related standards (including ISO 26262) is beneficial
* Literate in IT systems (MS Word, Excel, and PowerPoint)

**Closing date: N/A**