**Rolls-Royce Electrical - Singapore, Rolls-Royce Singapore Pte. Ltd.**

**Job Description for Senior/Staff Engineer – Embedded Control Battery Management Systems (BMS)**

Rolls-Royce Electrical (RRE) is responsible for developing world class electrical technologies and products, as well as the associated integrated power generation and propulsion turnkey systems. RRE is rapidly extending the company's capability in the electrical domain and plays an increasingly important role in all our businesses as we move forward. Rolls-Royce Electrical-Singapore (RRE-SG) is developing electrical technologies, products and systems to drive the electrification in our aerospace, marine and land power system businesses. RRE-SG is seeking experienced and enthusiastic domain experts who are willing to join us and lead/contribute this unique technology and product development journey.

As a Senior/Staff Engineer – Embedded Control in RRE-SG, you will primarily be responsible for delivering applied research and development (R&D) and product development projects on Battery Management Systems (BMS) Control and V&V for Rolls-Royce businesses (aerospace, marine and power systems etc.). You will have opportunities to work with different Rolls-Royce businesses and support the overall management of R&D programs led by RRE-SG. Your role will involve working on novel engineering concepts and developing approaches for introducing new technologies to Rolls-Royce as well as associated commercialization and product introduction strategies. Your technical contributions will include but are not limited to putting forward innovative ideas, designs and topologies for potential development and leading/contributing to their actual implementation and validation along with others. This position offers exciting challenges and opportunities for an ambitious individual with relevant qualifications, and forms part of the exciting and rapid expansion of the company-wide electrical engineering activities. At Rolls-Royce, we focus on the future in every sense. We continually break new ground with integrated power solutions that are technologically advanced and create better power for a changing world, while also leading the charge toward the commercialization of such solutions and products.

**Key Accountabilities**

* Provide technical expertise into the development, Verification and Validation of Embedded Control in Battery Management Systems for different Rolls-Royce businesses.
* Develop BMS control fulfilling requirements for safety critical applications.
* Work on Verification and Validation of proposed control algorithms and implementation into embedded systems.
* Define requirements for safety critical applications.
* Maintain a good understanding of ‘state-of-the-art’ in Embedded Systems (hardware and firmware) to optimize control strategy based on hardware resources.
* Actively work with suppliers to acquire the new technologies as required.
* Work towards becoming a subject matter expert (SME) for Embedded Control and V&V process and represent the RRE-SG on Embedded Control matters.
* Lead R&D projects and manage cross-functional activities to deliver committed milestones, on time and within budget while meeting technical, business and customer requirements.
* Engage senior management, different Rolls-Royce businesses and functions in developing strategic R&D activities on behalf of RRE-SG.
* Co-ordinate strategic collaboration with key research partners in R&D initiatives
* Lead internal and external research programs to ensure business opportunities are pursued and the Group's R&D requirements are satisfied.
* Maintain good customer and stakeholder engagement throughout the project cycle.
* Support the achievement of department objectives aligned with global objectives.

**Qualifications & Experience**

* BS/MS/PhD degree in Control/Electrical/Electronics/Computer/Software Engineering. Candidates with significant industrial and technology commercialization experience will be preferred.
* Good understanding of BMS control for safety critical applications
* Experience in Matlab, Simulink and other key control design software is a must.
* Good understanding on generic control methodologies (algorithms, modelling & simulation, HIL testing, MATLAB scripting, model based design) is advantageous.
* Good understanding of control design, Verification & Validation process for functional safety, preferably within the aerospace/automotive/other industry (IEC61508 SIL-3, ISO26262 ASIL-D, EC61508, ISO26262, DO254 and DO178C)
* Experience in commercial solutions development i.e. from concept to final product.
* Strong technical knowledge and hands-on experience in embedded hardware and control algorithms testing and verification.
* Experience in developing testing firmware and application software in embedded ModelSim, QuestaSim, C/C++, Matlab/Simulink, HDL coder and/or Verilog/ VHDL for embedded systems is useful.
* Familiarity with user interface development using C# and/or LabVIEW is useful.
* Knowledge of MISRA C, C++ coding standards is useful.
* Advanced understanding on trouble shooting of embedded systems and embedded firmware.
* Experience in creating formal Requirements Documentation, Verification and Validation (VnV) Unit, Integration testing process and documentation. Usage of tools like DOORS, Clearquest, Clearcase is a plus.
* Experience in working with different embedded controllers like ARM, DSP and/ or FPGA is a plus.
* Experience with configuration management and software revision control such as TeamCenter, GIT, PTC Integrity etc. is useful
* Experience working in multi-domain team (Electrical, Mechanical, Control and Thermal) with broad interests across engineering disciplines and a sound understanding of interactions with other engineering disciplines.
* Ability to work effectively in a multidisciplinary, global team environment
* Effective oral and written communication skills
* An ability to achieve targets while working on multiple projects simultaneously.
* An ability to monitor social, industrial and academic developments of technology and develop technology development plans.

Create the next generation of innovation. Join us and you’ll develop your skills and expertise to the very highest levels, working in an international environment for a company known the world over for its excellence and innovation.

Trusted to deliver excellence.

We are an equal opportunities employer.

Please apply via LinkedIn Rolls-Royce Senior/Staff Engineer Embedded Control (BMS)