

Honda Racing Development UK Ltd

PERMANENT VACANCY

JOB TITLE:	ESS Engineer
REPORTING TO:	Electronics Engineering Group Leader
DEPARTMENT:	ERS Development – Electronics Engineering
APPLY TO:	hondaracingjobs@uk.hrdeu.com

ROLE:

The role of ESS Engineer is based within the Electronics Engineering Group. The main purpose of the role is to take responsibility for the design and development of the primary the BMS (Battery Management System) unit (VTBM board: the board monitor and report cell voltage and temperature and have balancing function, and Battery management System unit) and high voltage safety components (Fuse, Contactor) development

ESS Engineer define the requirement and specification of BMS unit and high voltage safety components from ESS requirement. .If the development is worked with supplier or outsourcing, ESS Engineer take the responsibility for managing and leading the project.

ESS Engineer define the interface of Battery monitoring and management system with software team to ESS and the other unit.

ESS Engineer make the test procedure of proof of concept, performance, and durability for R&D test engineer and technician, and analyse the data from test result and make the report of the test. Additionally, ESS Engineer have responsibility for research program of future development.

MAIN RESPONSIBILITIES:

- Lead the development of BMS unit (cell voltage and temperature monitoring and balancing function board, and Battery management System unit) and high voltage safety components (Fuse, Contactor) development for ESS pack
- Define the requirement and specification of the unit and component
- Main interface of supplier (liaison)
- Manage the suppliers and their activity within the project scope of high voltage system by leading meetings, keep open issues list, and publish meeting agendas/minutes
- Regular and proactive communication to management of project issues, delays, risks with potential solutions and needed resources
- Plan, build and coordinate prototypes parts development (up to ESS integration) by developing detailed technical specifications, test plans and test reports
- Execute test plans, analyse and resolve development issues and field implementation issues
- Gather and analyse information of Advanced Research on power electronic components
- Make the document of test procedure for test engineer and make the report of the test
- Organization of ESS pack system test from the point of BMS unit and high voltage safety component
- Make the safety report of ESS pack for chassis and project
- Investigate any fault on ESS pack at development, production, sign-off process, and used on the race car with team members.
- Address the countermeasure for the faults and conduct following process.
 - Analyse the battery or power electronics test data on ESS pack with supplier and sub-contractor. - Feedback the test data to ESS development team to improve the performance and reliability of ESS pack.
- Organize and overseeing of equipment for ESS production

- Analysing the technology, and trends of current/post power electronics and create technical reports
- Provide evaluation and recommendation of screened companies
- Document, report, prepare presentations on findings, evaluation, recommendation, and on-going project updates
- Facilitate, support meetings, and collaborations with companies and suppliers
- Responsible for 3rd party project deliverables (testing, research milestones, etc) and reporting
- Facilitate technology evaluation including contactor, fuse, etc at 3rd party labs as needed
- Attend conferences to report trends and technology updates
- Support other ESS pack related projects where a power electronics expert is needed, examples include EMC test
- Any other tasks as reasonably required by the Company

KNOWLEDGE, SKILLS AND EXPERIENCE:

- Development experience of high voltage battery (200 — 1000V DC) monitoring unit
- Development experience of high voltage safety components (Fuse, contactor, relay)
- A minimum of 5 years demonstrable experience in an automotive or similar engineering environment, with a focus on EV and hybrid vehicle technologies
- Experience of design and test by yourself for automotive project
- ESS / high voltage circuit analysis, monitor and development experience
- Power Electronics units (inverter or converter) development experience
- Project management experience with supplier
- Coordination skill of the development and test schedule with members and supplier
- EMC analysis experience for high voltage system
- Knowledge of ISO-SPI, CAN, Flex Ray communication
- Knowledge of high voltage switching noise principal and analysis
- Knowledge of latest BMS chip
- Experience of making the specification based on requirement from the user point of view ● Strong fault finding and diagnostic abilities
- Design and specify production tools and equipment of ERS / high voltage battery
- ERS testing methodologies
- Excellent document presentational skills
- An adept communicator, be able to build good relationships across all cultures both internally and externally
- Fluency in spoken & written English is essential. Competence in Japanese or another European language is desirable
- Domestic Travel and Travel overseas will be required
- Full Driving license and competence to drive in the UK
- PC literate

PERSONAL COMPETENCIES:

- Strong technical ability and problem solving skills
- High level of attention to detail
- Enthusiastic and self-motivated with high levels of initiative
- Excellent communication and teamwork skills
- Ability to plan and manage own workload/projects
- Able to work autonomously under pressure and meet tight deadlines

All employees must ensure compliance with the Company Health and Safety Policy, and all relevant other statutory Health and Safety legislation.

Please note that shift working and weekend working may feature as part of this role. Domestic Travel and Travel overseas may be required.

This job description may not detail some less major duties allocated to the post holder, nor cover duties of a similar nature, commensurate with the role, which may from time to time be reasonably required by the relevant manager.