MCE5
BEYOND STANDARDS

EMS control law design graduate engineer

◤ THE COMPANY

MCE-5 DEVELOPMENT is an independent technology incubator whose purpose is to transfer innovative powertrain technology from research to industry, to make motor vehicles automobiles more energy efficient and environmentally friendlier. To do so, MCE5 implements four key processes: identifying and qualifying innovative concepts; developing them to the intermediate levels of industrial maturity; commercializing them through cooperation, intellectual property and know-how transfer agreements; financing research and development investments.

MCE5 research focuses on two strategic directions: on the one hand, ultra-efficient internal combustion engine; on the other hand, ultra-clean hybrid powertrain.

MCE5 has thus developed the VCRi technology, becoming a world reference in the field of compression ratio variation for automotive engines. This technology is currently being developed in cooperation with a major Chinese car manufacturer to equip engines of its brand.

Founded in Lyon in 2000, the Company is supported by more than 700 private investors and numerous French and European public institutions.

◤ JOB DESCRIPTION

The EMS control law design engineer will be part of MCE5 EMS development team, with the following main missions:

- Designing and developing Simulink and multi-physical numerical models; translating them into control laws including the specifics of microcontrollers used by MCE5
- Contributing to software validation using test rigs, engine test benches, engine mechatronics and assisting in software debugging
- Capitalizing on know-how acquired during the development of co-simulation methods
- Contributing to research and development activities
- Improving simulation quality and establishing operational relationships with simulation department;
- Supporting internal and customer validation process
- Contributing to the specification of tests, their execution and related results analysis

◤ CANDIDATE'S PROFILE

- Ideally master's-level technical qualification
- A minimum of 5 years of experience in numerical simulation and co-simulation
- In-depth knowledge of control laws (spark ignition preferred)
- Knowledge of automotive technologies and production concepts
- Knowledge of, and experience in engine technology and automotive components appreciated
- Fluency in oral and written French and English communication
- Ability to write technical documentation

Tools and methodologies

- Matlab, Simulink
- AMESim, GT Power
- MS Office suite

◤ SKILLS FOR THE JOB

- Self-reliance
- Methodical, thorough
- Adaptable
- Critical sense
- Interpersonal relationship skills