Location: Sophia-Antipolis, France

Employment type: Full-time employment

Contract type: permanent contract

Ref: SSW_HIL_TEST_EXP

HARDWARE IN THE LOOP TEST BENCH EXPERT

The Automotive industry is living a revolution. Electrification, autonomous driving, diverse mobility, connectivity are trends that are drastically changing the industry's rules. Among all decisive topics revolutionizing cars in the next future, Silicon Mobility is committed to support the rapid advent of electric and hybrid cars.

Silicon Mobility, an Intel company, is a technology leader for cleaner, safer, and smarter mobility. The company designs, develops and sells flexible, real-time, safe, and open semiconductor solutions named FPCU (Field Programmable Control Unit) for the automotive industry used to increase energy efficiency and reduce pollutant emissions while keeping passengers safe.

The Company is opening a **Hardware in the Loop (HiL) Test bench Expert** position in its main Research and Development center ideally located in the Sophia-Antipolis Technology Park on the French Riviera.

Are you a brilliant engineer and passionate by power converters control for Automotive Applications? Do you want to contribute to the validation of innovative and disruptive products that accelerate the electrification of the automotive powertrain? At Silicon Mobility, we would like to light up our employees' potential. Are you up for the challenge? Contact us**:** send your resume and cover letter to hr@silicon-mobility.com

ROLE & MISSIONS

Silicon Mobility's System and Software Engineering department is responsible for developing embedded software solutions such as electrical motor control, Inverters, DCDC converters and on-board Chargers for hybrid and electric vehicles. This department needs to validate the functionality and performance of their solutions on dSPACE HiL test benches.

As an expert in HiL test bench within the System and Software Engineering team, you will be responsible for the modeling of the test environment on the HiL FPGA and processor (e.g.: electrical machine, inverter, etc..) and for the automated development of functional, safety and qualification tests.

You may be required to technically lead HiL test engineers.

An understanding of electrical machines (PMSM, WRSM, ASM), position and current sensors, power inverters and DCDC converters is essential to carry out daily activities. A good knowledge of automatic test programming with dSPACE Control Desk and Automation Desk environment will be an important asset to our team. In addition, experience in Matlab/Simulink in both continuous and discrete time domains is also necessary for the development and validation of dSPACE FPGA and processor models.

Main responsibilities of the position include:
- Adaptation of existing models (FPGA and processor) of the test environment.
- Development and validation of new models.
- Hardware and software configuration of the HiL bench.
- Test plan definition and specification of tests to cover the software requirements and ensure a 100% test coverage.
- Development of automated tests for the qualification and validation of the embedded software on the target board under Control Desk and/or Automation Desk.
- Analysis of test results and debugging of reported problems.
- Documentation: definition of test plan and test reports.

- Lead technically a team of tests engineers.
- Work closely with System and Software engineers.
- Remotely support engineers on electrical Motor test benches for electrical powertrain system validation.
- Apply AGILE and A-SPICE development flow, and ISO26262 guidelines.

The position requires pro-active involvement with all departments of the Company.

REQUIRED SKILLS AND EXPERIENCE

EDUCATION:
- Master's degree in electrical engineering and/or Power electronics control.

TECHNICAL SKILLS & EXPERIENCE:

- Minimum of 7 years of experience in dSPACE HiL test bench.
- Experience in the development on dSPACE HiL bench with Real time constraints of
  - Electrical machine (PMSM, WRSM, ASM)
  - Inverters
  - On board Charger
  - DC/DC converters
  - Position (resolver, inductive, hall sensors) and current sensors.
- Good knowledge of:
  - Matlab/Simulink simulation tool
  - Tests automation with dSPACE Control Desk and Automation Desk
  - CAN DBC, CAN XCP
  - CANape, INCA calibration tool
- Good Experience of the automotive environment and constraints.
- Familiar with Laboratory tools and environment (scope, waveform generators, power supply, debug tools such as Lauterbach, etc.).
- Quality handling (ASPICE process, V cycle, ISO 9001).

LANGUAGE SKILLS:
- Fluent in English and French

BEHAVIORAL SKILLS:
- Team spirit in an international environment.
- Autonomous, rigorous with a strong team spirit.
- Be self-motivated, pro-active, flexible, and capable of accepting new challenges.
- Effective communication skills, being able to work efficiently across different teams within Silicon Mobility, considering their individual needs and constraints.
- Strong problem-solving skills, being able to identify issues, obstacles, and opportunities and then develop and implement effective solutions.