Silicon Mobility

Internship Description

Inverter Software Application Development

(SM-STC008 / 2024)

Company	**SILICON MOBILITY SAS** *(immatriculée 815 085 659 000 28 RCS Grasse)* Siege social : Les Aqueducs – Bât 2 – 535, route des Lucioles – 06560 Valbonne Sophia-Antipolis 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 supporting the rapid advent of electric and hybrid cars. Silicon Mobility is a technology leader for cleaner, safer and smarter mobility. The company designs, develops and sells flexible, real-time, safe and open semiconductor solutions for the automotive industry used to increase energy efficiency and reduce pollutant emissions while keeping passengers safe. We are looking for a motivated candidate to join our R&D team based in Sophia-Antipolis on the Riviera. If you are interested, please contact us and send us your application and CV to: **internship2024@silicon-mobility.com**
Offer ref.	SM-STC008-2024
Subject – Offer title	Inverter Software Application Development
Duration	5-6 months– between February/March/April and September 2024
Work hours	35 hours per week
Work place	Silicon Mobility office
Education	Last year of Master (BAC+5 or equivalent)
Content/ Mission	As part of the R&D System and Software team, the apprentice will participate in the development of the software for the electric motor control application. The apprentice will contribute to the development, integration and configuration of the software modules from specification down to verification using dedicated software testing tools, covering the AGILE development flow with the project team. The Silicon Mobility solution is based on the OLEA® FPCU System-on-Chip dedicated to automotive applications. The purpose of this apprenticeship is to analyse, define, develop, configure, and test the software solution. During the apprenticeship period, several tasks will be addressed: 1. Requirements analysis As part of this task, the apprentice will be familiar with the Inverter control algorithms, the architecture of OLEA® FPCU, the development tools. A particular attention will be paid to the interface and resources to be used by the Inverter application and the relevant safety concepts. 2. Software specification Based on the previous analysis, the apprentice will have to write a detailed specification of the solution in collaboration with other R&D team members as well as the customer support team. This specification shall cover following aspects: • Software design, configuration, and integration principles

	• Embedded software design for code generation • User guide and engineering documentation compliant with the ISO 26262 standard. 3. Software development During this task, the apprentice will have to develop, integrate, and verify the different components of the embedded software.
Profile required	We are looking for a candidate with good knowledge of embedded C programming, and high-level programming language. Good skills in hardware design for embedded systems would be appreciated. The candidate shall be autonomous, rigorous with a strong team spirit. English speaking is required.
Expected Skills/ Knowledge	• General knowledge of microcontroller development • Development of embedded software on ARM processor • Critical real-time embedded software on ARM processor • Requirements analysis and specifications writing • Notions of planning and project management • Quality management skills
Remuneration	1400€/month + Lunch tickets + Public transport