Apprenticeship Description

Low-level software (Drivers) development on automotive controller chip
(SM-STA004 / 2023)

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 support 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 good candidate to join our R&D team working in Sophia-Antipolis on the Côte d'Azur. Please contact us: **internship2023@silicon-mobility.com**
Offer Ref.	SM-STA004-2023
Subject – Offer title	Low-level software (Drivers) development on automotive controller chip
Duration	3 months internship + 12 months from September 2023 to September 2024
Work hours	35 hours a week at Silicon Mobility office
Education	Last year of Master (BAC+5 or equivalent)
Content / Mission	As part of its product roadmap, Silicon-Mobility is developing its new generation of FPCU System-on-Chip. This innovative architectural component is based on a multi-core architecture combined with a patented real-time subsystem including an embedded programmable logic structure. This apprenticeship consists in defining and developing several device drivers within the Low-level Software layer. It is a collection of embedded software modules which offer services needed to run the functional part of the upper software layer (system/application). The project contains: Introduction • Analyze and understand the FPCU System-on-Chip and its components. Development steps • Study and understand the module functionalities • Define the software requirements. • Describe the driver software architecture and refine it into a more precise description of the functions to be developed. • Code implementation in embedded C. • Functional and integration tests: definition, development, and execution. This implies SW and HW debug on the target.
Profile required	For this apprenticeship, we are looking for a candidate with good knowledge of embedded systems and embedded C programming. RTL simulation and FPGA prototyping will be also an advantage.

	Good skills in hardware design for embedded system would be appreciated. The good candidate will be autonomous, rigorous with a strong team spirit. English speaking is required. 3 | 3
Expected skills / Knowledge	- Embedded C coding - Embedded systems knowledge - Real-time software constraints - RTL simulation and FPGA debug - Quality management skills
Remuneration	From 1400€/month + Lunch tickets + 50% of public transport