Internship

Development of a Use Case Demonstrating the Control of an Electric Vehicle On-Board Charger (SM-STC007 / 2025)

What we offer

Company	**SILICON MOBILITY SAS, an Intel Company** 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 looking for a motivated candidate to join our Customer Application Engineering (CAE) team based in Sophia-Antipolis on the Riviera. If you are interested, please send us directly your application and CV on the Intel Website careers or send them to recruitment@silicon-mobility.com .
Offer ref.	SM-STC 007-2024
Subject – Offer title	Development of an Electric Vehicle On-Board Charger Use Case Demonstration
Duration	5-6 months– between February/March/April and September 2025
Work hours	35 hours per week, job location at Silicon Mobility office
Education	Last year of Master (BAC+5 or equivalent)
Content/ mission	As part of the Customer Application Engineering team, the intern will contribute to a proof of concept by developing the control software of an On-Board Charger (OBC) using the latest Silicon Mobility's Adaptative Control Solution. The Adaptative Control Solution includes the Adaptive Control Unit (ACU) System-on-Chip dedicated to the control of real-time automotive applications, the Adaptive Control Composer (AC Composer) software design flow, and the Adaptive Control Lib (AC Lib), control model libraries toolbox for model-based design. During the internship period, several tasks will be addressed: - Study current state of art, - Define a target OBC topology, - Define a features list, the control architecture according to the performance targets, - Get familiar with OBC control algorithms, the architecture of the ACU control chip and the development tools. A particular attention will be paid to the interface and resources to be used by the control application and the relevant safety concepts. - Develop, configure, calibrate the control software using Silicon Mobility model-based development flow and the existing software building blocks - Develop and validate a use case on a targeted hardware board - Measure the achieved performance - Write an application note describing the use case, the implement control strategy, the software development and the achieved performance
Profile required	Engineer in power electronics or embedded WS or control systems
Expected Skills/knowledge	Embedded software development in C code Control algorithm development in MATLAB Simulink Power electronic system Inverter and motor control application CAN communication Electric Vehicles architecture
Remuneration	€1400/month + Tickets Restaurant + Public transport