

Silicon Mobility

Internship Description

OLEA® COMPOSER Auto-Delay Balancing (SM-STC001 / 2022)

PUBLIC

REF: SM-HR-T14-02.1_Internship_Apprenticeship Offer

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What we offer

Company	<p>SILICON MOBILITY SAS (registration number 815 085 659 000 RCS Grasse) <u>Head office</u> : Les Aqueducs – Bât 2 – 535, route des Lucioles – 06560 Valbonne Sophia-Antipolis</p> <p>The Automotive industry is living a revolution. Electrification, autonomous driving, diverse mobility, and connectivity are trends that are 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.</p> <p>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.</p> <p>We are looking for a motivated candidate to join our company in Sophia-Antipolis on the French Riviera. Please contact us: internship2022@silicon-mobility.com</p>
Offer ref.	SM-STC001-2022
Subject – Offer title	OLEA® COMPOSER – Auto-Delay Balancing feature implementation
Duration	6 months – between February/March/April and September 2022
Work hours	35 hours a week at Silicon Mobility office
Education	<p>Last year of Master’s degree in software/Embedded System (BAC+5 or equivalent)</p> <p>Silicon Mobility has developed a toolchain (OLEA® COMPOSER Target FrameWork) to implement complex functions in a programmable area (called FLU - Flexible Logic Unit) of OLEA® FPCUs. This toolchain allows the design and automatic generation of application code from high-level modelling in Matlab® / Simulink.</p> <p>The algorithm implemented in Simulink will make use of shared resources available in the FPCU (communication interfaces, arithmetical computation unit...) which may lead to concurrent accesses to same resources. This implies the implementation of a sequencing of the operations, also called “delay balancing”.</p> <p>The purpose of this internship is to develop a tool in charge of:</p> <ul style="list-style-type: none"> • Listing all part of the algorithm which make use of shared resources • Finding the best sequencing to reduce the total algorithm duration <p>This project will be divided in 3 main phases:</p> <ol style="list-style-type: none"> 1. Exploration, the intern will have to acquire knowledge of: <ol style="list-style-type: none"> a. OLEA® COMPOSER toolchain b. OLEA® FPCU architecture 2. Specification, the intern within the AxEc/Tools team will: <ol style="list-style-type: none"> a. Specify the needs b. Define the major steps of the development c. Define the software architecture 3. Development, in this phase the intern will: <ol style="list-style-type: none"> a. Develop b. Check (using Simulink and Mentor® QuestaSim) c. Update the user guide
Content/ mission	
Profile required	<p>For this internship, we are looking for a candidate with:</p> <ul style="list-style-type: none"> • knowledge of Hardware design for embedded system (C and Verilog or VHDL language)

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Expected Skills/knowledge	<ul style="list-style-type: none"> • knowledge of Matlab Simulink (would be appreciated) • good English level • autonomy, rigor, strong team spirit, strong problem-solving skills
	<ul style="list-style-type: none"> • Application software development • MATLAB® language • General knowledge in microcontroller development • Quality approach
Remuneration	€1000/month + Tickets Restaurant + Public transportation

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