Car electrification calls for more standardization, says Silicon Mobility

January 27, 2017 // By Julien Happich

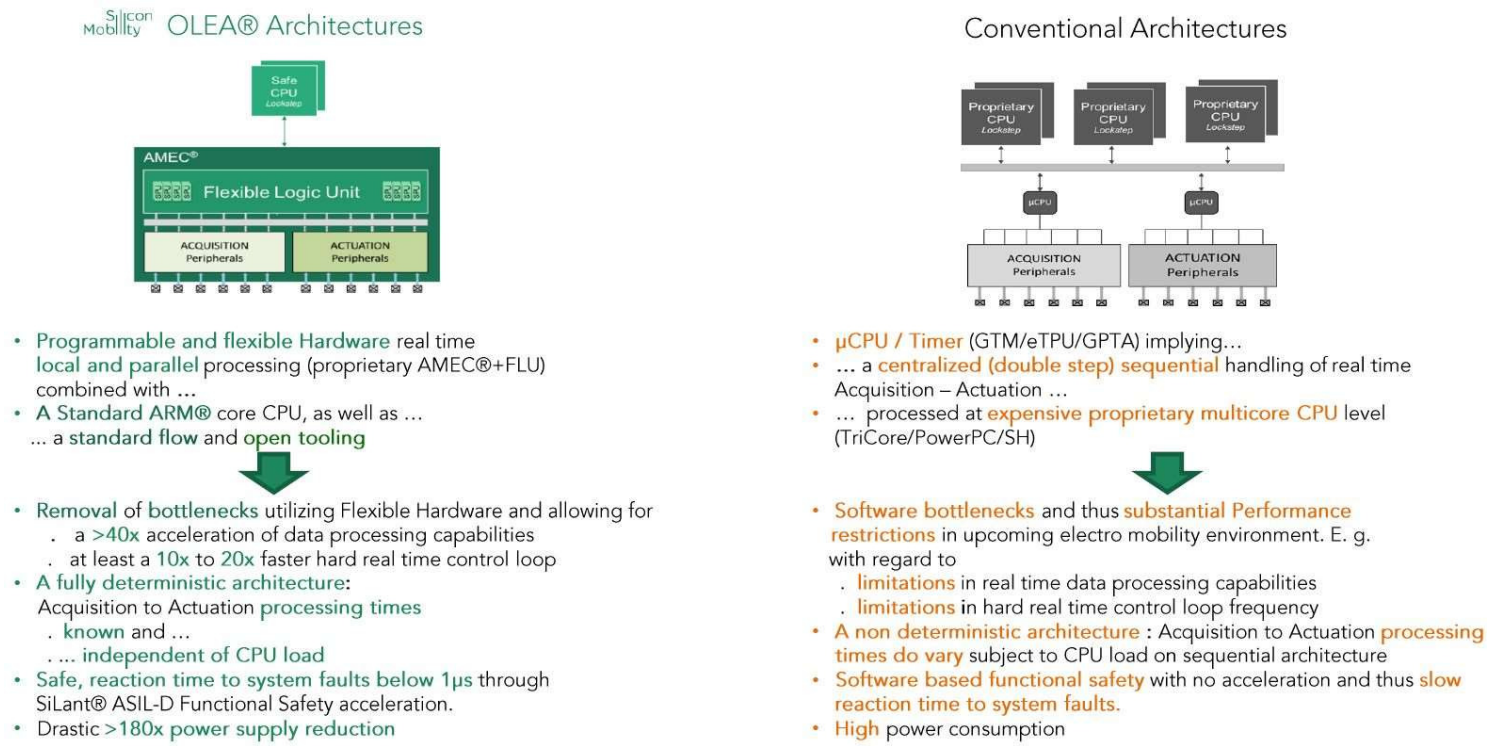
Founded in December 2015, French startup Silicon Mobility was born strong from all the assets it acquired from fabless semiconductor company Scaleo Chip liquidated the same year (originally founded in 1996 to develop ICs for automotive electronics).

Fresh with 10 million euros worth of new funding from Capital-E and Cipio Partners as well as from the French government, the company is now expanding on Scaleo Chip's original ARM-based re-configurable OLEA automotive MCU, hoping to announce its first design wins by the third quarter of 2017.

Announced back in 2014, the OLEA microcontroller family integrates the company's AMEC (Advanced Motor Events Control) technology, a hard real-time, deterministic and parallel signal processing unit directly controlling and interfacing actuators and sensors. Its core technology relies on the unique combination of a Flexible Logic Unit (FLU) and Powertrain-ready Peripherals set (PrP). The OLEA T222 promoted by Silicon Mobility also features Scaleo's SILant (Safety Integrity Level agent) technology incorporating hardware safety mechanisms built around a multi-core architecture. It boasts fully deterministic accelerated algorithms, guaranteeing faults detection and containment time under 1us.

Bruno Paucard, Silicon Mobility's President and CEO

"We are probably the only company who can claim this kind of performance and bring down functional safety at the level of realtime", told us Bruno Paucard, formerly Scaleo Chip's CEO and now Silicon Mobility's President and CEO during a phone interview.



Comparing Silicon Mobility's OLEA architecture with traditional solutions.

"If you look at the incumbent players, Infineon, NXP, Renesas are all trying to solve functional safety the same way, with bigger and faster processors. But they all do it sequentially taking the information and events from sensors around the car and processing it sequentially. We do it in parallel and 30 times faster. We are about four years in advance" he said, arguing that while one of the main reasons for Intel to buy Altera was to solve its software bottlenecks through hardware acceleration, the automotive industry would seek Silicon Mobility's embedded FPGA fabric for efficient hardware acceleration.

1 2 next

Car electrification calls for more standardization, says Silicon Mobility: Page 2 of 2

January 27, 2017 // By Julien Happich

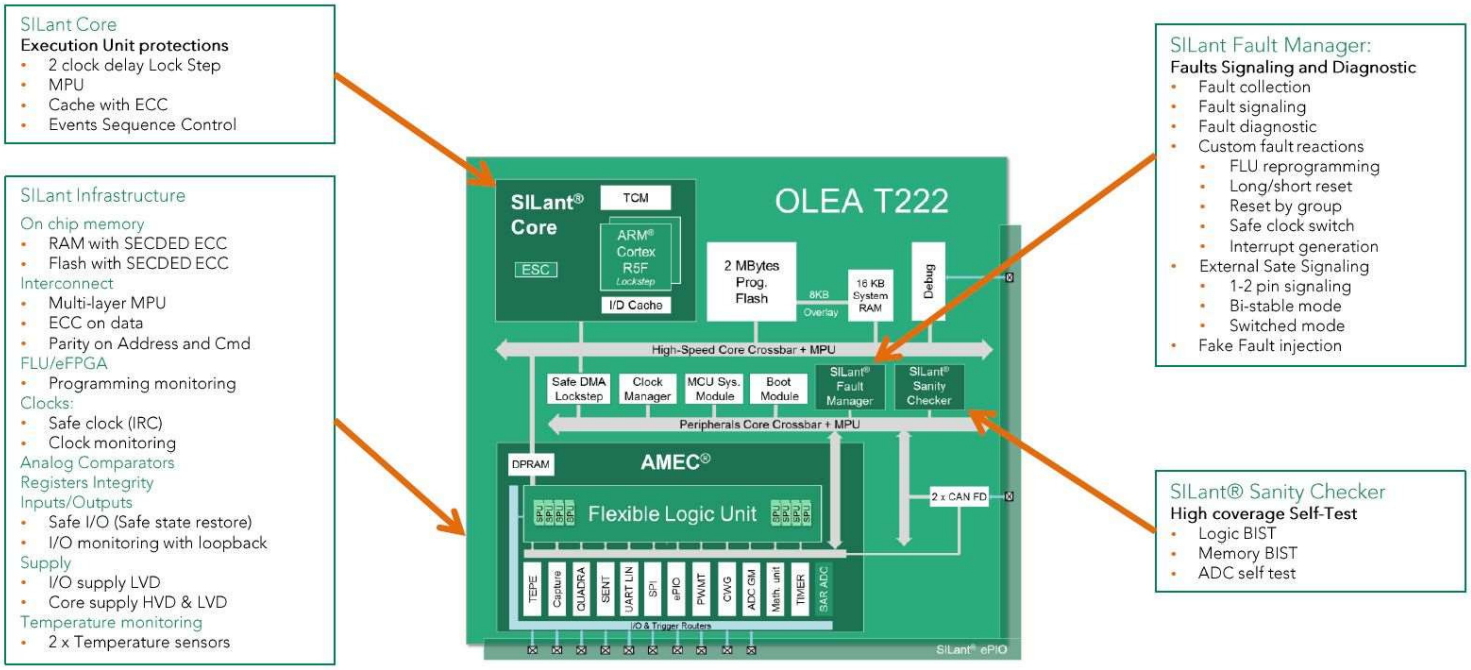
Founded in December 2015, French startup Silicon Mobility was born strong from all the assets it acquired from fabless semiconductor company Scaleo Chip liquidated the same year (originally founded in 1996 to develop ICs for automotive electronics).

"What's more, while our competitors all have excellent products, those are proprietary. We believe that what's happening to the EV and HEV market is very close to what happened 5 years ago to the cell phone market, there is a need to go open source. When we go to see tier-one customers, they want the choice and the benefits of a full open seamless design flow" Paucard said.

"We are on three continents at proof of concept stage and without making any announcements, our technology is under evaluation in Germany, France, Japan and in the U.S in Detroit", the CEO boasted.

"There is a lot of traction from OEMs, we see a need of ownership. If you look at the Nvidia, Mobileye or Qualcomm of this world, car OEMs seek their close collaboration to adapt solutions to their needs and once a concept car is done, the OEMs can use the technology under different flavours and different business models. Among our competition, STmicro will open its architecture with ARM, we suppose Renesas will start a program soon, Infineon we know they won't switch any time soon".

Paucard bets that what Qualcomm did to the mobile industry, it will do to the automotive industry, opening and standardizing architectures.



The OLEA T222 chip with its AMEC reconfigurable block and SILant implementation.

At Embedded World next March, the company will announce OLEA App, an application that will help designers make the most of Silicon Mobility's library of algorithms for powertrain electric control with energy consumption reduction and pollutant emission reduction in mind.

The OLEA App will include a customization service to adapt the control algorithms to e-motor, DC/DC converters and AC/DC chargers. The company is confident its solutions can extend an electric motor's operating range by a minimum of 30%.

Visit Silicon Mobility at www.silicon-mobility.com

Related articles:

Scaleo Chip first customer of Globalfoundries' 55nm automotive platform

Scaleo brings functional safety to the chip level - up to ASIL D

New kid on the powertrain controller block: Scaleo

previous 1 2