

FutureHorizons



The Global Semiconductor Industry Analysts

FH MONDAY

3 April 2023

Achieving Battery Intelligence in EVs via Software

The electrification of transport is accelerating at an exponential rate. Major auto manufacturers are launching more than 50 battery-electric-vehicle models in 2023, and governments around the globe have introduced regulations to phase out internal-combustion engines in favor of battery EVs, some by 2035.

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ST Provides Full STM32 Support for Microsoft Visual Studio Code

STMicroelectronics has developed tool extensions to bring the advantages of Microsoft Visual Studio Code (VS Code) to STM32 microcontrollers. VS Code is a popular Integrated Development Environment (IDE), acclaimed for its ease of use and flexible features such as IntelliSense that simplifies and accelerates code editing.

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Lumissil Microsystems, NXP, and CarMedialab Partner

Lumissil Microsystems, NXP Semiconductors, and CarMedialab are collaborating to develop a complete reference development platform based on the Lumissil Microsystems IS32CG5317 Green PHY and the NXP i.MX 93 applications processor.

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TALK TO US



Infineon and UMC Extend Automotive Partnership

Infineon Technologies AG and United Microelectronics Corp. (UMC) recently announced a long-term strategic cooperation agreement to multiply capacity for the production of Infineon automotive microcontroller in order to serve the rapidly expanding automotive market.

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ST's Industrial-grade MOSFET Devices Improve FoM by 40%

STMicroelectronics' STL120N10F8 N-channel 100V power MOSFETs combine extremely low gate-drain charge (QGD) and on-resistance RDS(on), giving 40% better figure of merit (FoM) than comparable devices of the preceding generation.

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Future Horizons Ltd 3UE • England

Tel: +44 1732 740440 • Fax: +44 1732 740442

e-mail: mail@futurehorizons.com • <http://www.futurehorizons.com/>

Affiliates in Europe, India, Israel, Japan, Russian, San Jose California, USA

Achieving Battery Intelligence in EVs via Software

The electrification of transport is accelerating at an exponential rate. Major auto manufacturers are launching more than 50 battery-electric-vehicle models in 2023, and governments around the globe have introduced regulations to phase out internal-combustion engines in favor of battery EVs, some by 2035.

There are also governmental incentives to accelerate the transition, such as the U.S. Inflation Reduction Act of 2022, which offers a \$7,500 tax credit against the purchase of new EVs. Additionally, in 2023, the U.S. EPA aims to finalize its rules to phase out greenhouse emissions from heavy-duty vehicles and trucks under the Clean Truck Plan.

Charging capacity needs to keep up with this incoming tidal wave of battery EVs, but infrastructure and sheer logistics are major headaches. For instance, suburban consumers often charge their vehicles at home in their garage, but in cities, where the majority of charging needs to happen and people live in apartment buildings stacked on top of one another, overnight charging may not be possible.

ST Provides Full STM32 Support for Microsoft Visual Studio Code

STMicroelectronics has developed tool extensions to bring the advantages of Microsoft Visual Studio Code (VS Code) to STM32 microcontrollers. VS Code is a popular Integrated Development Environment (IDE), acclaimed for its ease of use and flexible features such as IntelliSense that simplifies and accelerates code editing. Access to the STM32 ecosystem, from within VS Code, now makes these features available to even more embedded developers of the wide STM32 community. It also lets developers accustomed to working on high-level and consumer applications easily create embedded solutions that are power-efficient, compact, and economical.

“Connecting VS Code with our STM32 ecosystem makes the power of the industry-leading STM32 family of microcontrollers more accessible than ever,” said Daniel Colonna, Marketing Director Microcontrollers, STMicroelectronics. “Communities for whom VS Code is the preferred environment, including high-level software developers, academics, and enthusiasts and makers, can now choose to make their ideas real using STM32 MCUs without leaving their preferred development environment.”

Lumissil Microsystems, NXP, and CarMedialab Partner on EV Charging Reference Design Platform

Lumissil Microsystems, NXP Semiconductors, and CarMedialab are collaborating to develop a complete reference development platform based on the Lumissil Microsystems IS32CG5317 Green PHY and the NXP i.MX 93 applications processor. CarMedialab provides their very latest software stacks for ISO 15118 and OCPP, resulting in a fully integrated solution for ISO 15118 compliant communication between the EV and the charging station. Lumissil Microsystems is a division of Integrated Silicon Solution Inc. (ISSI).

IS32CG5317 is a Green PHY modem chip designed with stringent automotive and industrial requirements in mind, from chip design to manufacturing. IS32CG5317 complies with HomePlug Green PHY and ISO/IEC 15118 specifications. The IS32CG5317 brings new capabilities of collecting statistics not available thus far with other products. This product development follows the automotive industry’s standards to meet AEC-Q100 grade 2 specification and is available in industrial grade as well.

Infineon and UMC Extend Automotive Partnership

Infineon Technologies AG and United Microelectronics Corp. (UMC) recently announced a long-term strategic cooperation agreement to multiply capacity for the production of Infineon automotive microcontroller in order to serve the rapidly expanding automotive market. The high-performance microcontroller product leverages Infineon’s proprietary eNVM (embedded non-volatile memories) technology and will be manufactured at UMC’s Singapore fab on its 40nm process.

Microcontroller are key components controlling a wide range of functions in vehicles, and demand is increasing as cars evolve to become ever greener, safer, and smarter. Already this year, Infineon is ramping the selling rate of automotive microcontroller to close to one million per day.

ST’s Industrial-grade MOSFET Devices Improve FoM by 40%

STMicroelectronics’ STL120N10F8 N-channel 100V power MOSFETs combine extremely low gate-drain charge (QGD) and on-resistance RDS(on), giving 40% better figure of merit (FoM) than comparable devices of the preceding generation.

The new MOSFETs leverage ST’s advanced STPOWER STripFET F8 technology, which introduces an oxide-filled trench that permits very low conduction losses combined with low gate charge for efficient switching performance. As a result, the STL120N10F8 has 4.6mΩ maximum RDS(on) (at VGS = 10V) and can operate efficiently at switching frequencies up to 600kHz..