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Ampere and STMicroelectronics collaborate on powerbox with long term supply for silicon carbide

- *Multi-year agreement between STMicroelectronics and Renault Group secures Ampere's supply of Silicon Carbide power modules*
- *Collaboration on powerbox and cooling systems for the inverter to get the best efficiency for Ampere's new generation electric motors*
- *Agreement aligned with Ampere's strategy of working upstream with its partners to design the best solutions for each one of its EV technologies*

Boulogne-Billancourt (France) and Geneva (Switzerland) – December 3, 2024 – Ampere, the intelligent electric EV pure player born from Renault Group and **STMicroelectronics (NYSE: STM)**, a global semiconductor leader serving customers across the spectrum of electronics applications, today announced the next step in their strategic co-operation, starting in 2026, with a multi-year agreement between STMicroelectronics and Renault Group on the supply of Silicon Carbide (SiC) power modules, as part of their collaboration on a powerbox for the inverter for Ampere's ultra-efficient electric powertrain. Ampere and STMicroelectronics worked together on the optimization of the power module, the key element in the powerbox, to get the highest performance and best competitiveness in the e-powertrain, leveraging Ampere's expertise in EV technology and STMicroelectronics' expertise in advanced power electronics.

"This agreement is the result of the intensive work carried out with STMicroelectronics. By working upstream together, we were able to optimize and secure the supply of key components for our electric powertrains, to offer high performance EVs with increased range and optimized charging time. It perfectly aligns with Ampere's strategy to master the entire value chain of power electronics for its e-powertrain, leveraging STMicroelectronics' expertise in power modules," said Philippe Brunet, SVP Powertrain & EV engineering, Ampere.

"ST is at the cutting edge of the development of advanced power electronics enabling the mobility industry to improve the performance of electrified platforms. With the optimization of these higher-efficient products and solutions to meet Ampere's performance requirements, and our vertically integrated silicon carbide supply chain, we are supporting Ampere's strategy for its next generation of electric powertrain," said Michael Anfang, Executive Vice President Sales & Marketing, Europe, Middle East and Africa Region, STMicroelectronics. *"ST and Ampere share a common vision for more sustainable mobility and this agreement marks another step forward in improved power performance to further contribute to concrete improvements to carbon emissions reduction by the mobility industry and its supply chain."*

Power modules, composed of numerous silicon carbide chips, manage and convert electrical power from the battery to drive the electric motor. They play a crucial role in the efficiency of the electric powertrain and battery range, as well as energy regeneration features, making them a key element of the efficiency of an electric car. They also contribute to the smoothness and responsiveness of driving.

STMicroelectronics and Ampere have collaborated on a powerbox for the supply of energy to Ampere's new generation of electric motors. The powerbox is designed for optimum performance-size ratio across Ampere's line-up, on 400 Volt battery EV vehicles and for Segment C-EVs with 800 Volt batteries, enabling greater autonomy and faster charging. 800 Volts is one of the key levers to achieve the 10%-80% quick charge in 15 minutes or less. This agreement is fully aligned with Ampere's strategy to master the entire value chain of the electric vehicle, particularly by working further upstream with its partners and ensuring the best efficiency at each step.

As an integrated device manufacturer (IDM), STMicroelectronics ensures quality and security of supply to serve carmakers' strategies for electrification. The collaboration with Ampere on the silicon carbide power modules and powerbox demonstrates STMicroelectronics' leadership and system level experience of advanced power electronics, including its packaging expertise.

Additional Technical Information

The powerbox combines three SiC-based power modules, an excitation module, which provides the necessary electrical excitation to the motor or generator for controlling the magnetic field within the motor, and a cooling baseplate designed to dissipate heat from the back side of the power module, simplifying the thermal management and cooling process.

About STMicroelectronics

At ST, we are over 50,000 creators and makers of semiconductor technologies mastering the semiconductor supply chain with state-of-the-art manufacturing facilities. An integrated device manufacturer, we work with more than 200,000 customers and thousands of partners to design and build products, solutions, and ecosystems that address their challenges and opportunities, and the need to support a more sustainable world. Our technologies enable smarter mobility, more efficient power and energy management, and the wide-scale deployment of cloud-connected autonomous things. We are committed to achieving our goal to become carbon neutral on scope 1 and 2 and partially scope 3 by 2027. Further information can be found at www.st.com.

About Ampere

Ampere is the first European intelligent EV pure player. Born from Renault Group, Ampere designs, develops, manufactures and markets full electric vehicles featuring cutting-edge software technology, accessible to all. The customer experience, as well as social and environmental impacts, are embedded throughout the vehicle development process to ensure they align with the brand's commitment to its customers, the planet and those living on it. For more information, please visit www.ampere.cars or follow Ampere on [LinkedIn](#) or [X](#).

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