Sono Motors Technology Used for Munich’s First Solar Bus — MVG to Put Solar Bus Trailer Into Operation

March 31, 2022

- **Sono Motors Innovative Solar Technology for Buses Is Used in Real Conditions in Munich for the First Time**
- **Solar Bus Trailer for the Münchner Verkehrsgesellschaft (Munich Transport Company, MVG) to Reduce Local CO2 Emissions by Over 6.5 Metric Tonnes per Year per Vehicle, Thus Supporting the City of Munich’s Clean Air Targets**
- **Further Benefits Include Fuel Savings of up to 2,500 Liters of Diesel per Year, Stabilization of Energy Supply and Extension of the 24V Battery Life, as Well as Reduced Maintenance Costs**
- **20 Semi-Flexible Special Solar Panels Provide a Total Output of Over 2,000 Watts**
- **Sono Motors and the MVG Present the Novel Solar Bus Trailer Alongside Munich’s Vice Mayor Katrin Habenschaden**

Sono Motors Technology Used for Munich’s First Solar Bus — MVG to Put Solar Bus Trailer Into Operation

Sono Motors Technology Used for Munich’s First Solar Bus — MVG to Put Solar Bus Trailer Into Operation

MUNICH, Germany, March 31, 2022 (GLOBE NEWSWIRE) -- Sono Motors, the company that aims to revolutionize the future of solar-powered transport, is launching its proprietary solar technology to public transport for the first time in partnership with the Münchner Verkehrsgesellschaft (Munich Transport Company, MVG). The novel solar bus trailer will hit the roads in the Munich metropolitan area in the near future, testing the energy yields as well as the potential of the technology in daily operation. Offering possible savings of up to 2,500 liters of diesel per year and an annual local CO2 saving potential of more than 6.5 metric tonnes per bus, Sono Solar Technology contributes to climate protection and the reduction of inner-city greenhouse gas emissions. 20 semi-flexible special photovoltaic (PV) modules provide over 2,000 watts of energy to power the vehicle’s battery and electrical loads such as heating, ventilation, and air conditioning, as well as the trailer’s steering system.

“The partnership with MVG illustrates the enormous potential of our unique solar technology, which is now being used for the first time in the company's history on public transport. This is a milestone in Sono Motors’ mission to make every vehicle solar,” says Laurin Hahn, Sono Motors co-founder and CEO. “Especially in times of rising energy prices and increasing urban area emission regulations, our solar technology offers great added value for public transport operators. City buses and coaches, whether electric or diesel-powered, offer a lot of space and are out on the road every day. The first solar bus trailer for MVG will hit the streets of Munich in the future and allow MVG passengers to experience solar mobility in daily use,” Hahn continues.

High CO2 Saving Potential Thanks to Powerful Solar Technology
The CO2 saving potential of solar-powered vehicles and their contribution to urban air pollution control and climate protections are promising. For a medium-sized fleet of around 300 buses, calculations show the possibility of savings of up to 2,000 metric tonnes of CO2 per year. Further increases are conceivable in the future, as both the solar cells and the power electronics are expected to become more efficient. This solar solution’s so-called ‘CO2 backpack’, i.e., emissions caused in production, amounts to a one-off of approximately 1.5 metric tonnes of CO2 per bus or bus trailer and could be offset after a short runtime of just less than one year.

Over 2,000 Watts of Power to Improve the Energy Balance
The solar technology was developed and tested specifically for use on buses. The concept for the customized solar bus trailer was developed in collaboration with MVG to ensure maximum space utilization and efficiency. In addition to the robust solar installation, which is optimized for vehicle integration, this also includes electrical integration by means of the power electronics developed by Sono Motors (MPPT central unit), called MCU. The solar charge controller has an intelligent algorithm that optimizes the PV modules’ energy yields. Due to the ultra-fast optimization in the millisecond range and the multi-channel system, the PV yields can be transferred to the battery of the bus in the best possible way. The modules cover a total area of twelve square meters and supply the 24 V battery with over 2,000 watts. In this case, the solar energy generated in this way is used to operate the HVAC system (heating, ventilation, air conditioning) and to support the trailer steering system. In addition to saving diesel, the additional electricity ensures the stabilization of the battery's energy supply, thus extending its service life and reducing maintenance costs. The energy generated can be monitored online using the integrated software.

Veit Bodenschatz, Managing Director and Head of Bus Division of the MVG says, “The photovoltaic system on our bus trailer now allows us to test under real conditions how well the power generation works and whether there are perhaps routes in our network that are better suited than others for this type of power generation. The question of what energy savings can be achieved by using solar energy are, of course, particularly exciting against the background of current fuel and energy prices.”

Range Extension for E-Buses Possible
Sono Motors' patented solar technology has been developed so that it can be integrated and licensed into a wide range of vehicles. “When e-buses are factory-equipped with our solar technology, additional range can immediately be generated through solar energy on the roof and sides. This not only reduces the standstill times for charging processes, but also protects the battery through a constant charging process. As a result, the e-bus can be operated longer,” explains Hahn.

Presentation of the Solar Bus Alongside Munich Vice Mayor Katrin Habenschaden

Munich's vice mayor, Katrin Habenschaden, was a guest at the presentation and press conference on 31 March at MVG's west depot in Munich Laim.

Katrin Habenschaden, “We need a change of course in the transport sector. Transport still misses the climate protection targets by a very wide margin, and this also has a direct impact on air quality in Munich. The solar buses can be a cornerstone in this urgently needed change towards climate-friendly mobility. I am convinced by the idea, as a lot of fuel can be saved here, and CO2 emissions can be significantly reduced. We are already working with MVG to completely convert our bus fleet to electric drives. Harnessing the power of the sun is of course even more sustainable and I hope that this pilot project will show that we can also extend the range of the e-buses using solar energy. I am particularly pleased about this cooperation with our MVG that such an innovative idea comes from a Munich-based company.”

After technical approval by supervisory authorities, the bus trailer will go into regular service and be experienced by all Munich residents.

Sono Motors has already signed more than ten LOIs and contracts with companies such as MAN, easymile or ARI Motors since the beginning of 2021. The Sono Solar complete solution includes a customized concept including solar modules, power electronics, telematics and data, mechanical and electrical integration as well as after-sales and service. The technology is suitable for integration into existing vehicles as well as production-ready development and integration into new vehicles during the production phase.

ABOUT SONO MOTORS

Sono Motors is on a pioneering mission to accelerate the revolution of mobility by making every vehicle solar. Its disruptive solar technology has been developed to enable seamless integration into all types of vehicles to reduce the impact of CO2 emissions and pave the way for climate-friendly mobility.

Sono Motors is developing the world’s first solar electric vehicle (SEV) for the masses, the Sion. Empowered by a strong community, Sono Motors has amassed more than 16,800 reservations with advance payments for the Sion. These vehicles will be produced through contract manufacturing.

Sono Motors' proprietary solar technology has been engineered to enable integration and licensing for a wide range of vehicle architectures that go far beyond the Sion, such as buses, trailers, trucks, camper vans, trains and boats.

PRESS CONTACT

Christian Scheckenbach | Mobile: +49(0)17618050132
E-Mail: press@sonomotors.com | Website: www.sonomotors.com/press

FORWARD-LOOKING STATEMENTS

This press release includes forward-looking statements. The words "expect", "anticipate", "intends", "plan", "estimate", "aim", "forecast", "project", "target", “will” and similar expressions (or their negative) identify certain of these forward-looking statements. These forward-looking statements are statements regarding the Company's intentions, beliefs, or current expectations. Forward-looking statements involve inherent known and unknown risks, uncertainties, and contingencies because they relate to events and depend on circumstances that may or may not occur in the future and may cause the actual results, performance, or achievements of the Company to be materially different from those expressed or implied by such forward looking statements. These risks, uncertainties and assumptions include, but are not limited to (i) the impact of the global COVID-19 pandemic on the global economy, our industry and markets as well as our business, (ii) risks related to our limited operating history, the rollout of our business and the timing of expected business milestones including our ability to complete the engineering of our vehicles and start of production on time and budget and risks related to future results of operation, (iii) risks related to our unproven ability to develop and produce vehicles and with expected or advertised specifications including range, and risks relating to required funding, (iv) risks related to our ability to monetize our solar technology, (v) risks relating to the uncertainty of the projected financial information with respect to our business including the conversion of reservations into binding orders, (vi) effects of competition and the pace and depth of electric vehicle adoption generally and our vehicles in particular on our future business and (vii) changes in regulatory requirements, governmental incentives and fuel and energy prices. For additional information concerning some of the risks, uncertainties and assumptions that could affect our forward-looking statements, please refer to factors discussed under the caption “Risk Factors” in our final prospectus under Rule 424(b) filed with the U.S. Securities and Exchange Commission (“SEC”) on November 18, 2021 in connection with our initial public offering as such factors may be updated from time to time in our other filings with the SEC, which are accessible on the SEC’s website at www.sec.gov and on our website at ir.sonomotors.com. Many of these risks and uncertainties relate to factors that are beyond the Company's ability to control or estimate precisely, such as the actions of regulators and other factors. Readers should therefore not place undue reliance on these statements, particularly not in connection with any contract or investment decision. Except as required by law, the company assumes no obligation to update any such forward-looking statements.

A photo accompanying this announcement is available at https://www.globenewswire.com/NewsRoom/AttachmentNg/38fa6bdb-b0a0-4a7d-a40e-40ef0ef74530