

45th International Vienna Motor Symposium

**Green and economic: Vitesco Technologies and Sanden cooperate on Thermal Management**

**PRESS RELEASE**

Contact

Simone Geldhäuser

+49 (0) 941 2031 61302

- › **Vitesco Technologies and Sanden International join forces in the pre-development of an Integrated Thermal Management System for Battery Electric Vehicles**
- › **A new architecture with higher integration level takes complexity out of vehicle manufacturing and manages it in an integrated module**
- › **The technology supports a seamless transition to propane as a natural refrigerant**

Regensburg (Germany), Bad Nauheim (Germany), April 25, 2024.

Vitesco Technologies, a leading international supplier of modern drive technologies and electrification solutions, and Sanden International (Europe), a leading global supplier of automotive thermal management technology, have joined forces to develop an Integrated Thermal Management System for Battery Electric Vehicles (BEVs). Within the future-oriented pre-development project, Sanden develops the compact refrigerant unit with the natural refrigerant propane (R290), while Vitesco Technologies develops the heat energy distribution system realized by a coolant distribution unit with water/glycol. The building blocks of the coolant unit are the coolant pumps and Coolant Flow Control Valves (CFCV) plus sensors. Depending on the application, the coolant valve can have between 5 and 13 ports to connect heat sinks and heat sources.

By integrating the entire thermal management functions and features into one indirect system, several advantages such as flexible adaptation, reduced complexity, reduced effort in the vehicle manufacturing process, system cost reduction for the OEM, and conformity to regulations, including the upcoming per- and polyfluoroalkyl substances (PFAS) ban in Europe, can be achieved. Furthermore, the new technology will increase driving range in cold conditions, enable fast charging, and provide thermal comfort inside the cabin.

“The new thermal management system makes BEV heating and cooling more sustainable. It also helps to maximize vehicle range under cold conditions. At the same time, we intend to achieve significant cost benefits to increase the economy of thermal

management,” says Dr. Gerd Rösel, Head of Innovations Electrification Solutions at Vitesco Technologies.

For the vehicle manufacturers the Integrated Thermal Management System will offer simplified assembly because a lot of the current complexity of heating and cooling will be integrated in the pre-assembled module.

“Holistic thermal management is the more sustainable approach. That is why we prepare ‘green’ technology for a system solution together with Sanden that will be ready for the natural refrigerant propane,” Rösel adds.

The new Integrated Thermal Management concept is presented to a technical audience for the first time at the 45<sup>th</sup> International Vienna Motor Symposium.

**Vitesco Technologies** is a leading international developer and manufacturer of cutting-edge drive systems for sustainable mobility. With intelligent system solutions and components for electric, hybrid, and internal combustion drive systems, Vitesco Technologies is making mobility clean, efficient, and affordable. The product portfolio includes electric drives, electronic controls, sensors and actuators, and exhaust gas treatment solutions. In 2023, Vitesco Technologies generated sales of around €9.23 billion and employs a workforce of around 35,500 employees at 50 locations. Vitesco Technologies is headquartered in Regensburg, Germany.

#### **Contact for Journalists**

Simone Geldhäuser  
Head of Media Relations  
Phone: +49 (0) 941 2031 61302  
simone.geldhaeuser@vitesco.com

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