

# News Release

## **BASF, General Motors and Lear win SPE Automotive Innovation Award for the Battery Disconnect Unit in the 2022 GMC HUMMER EV**

WYANDOTTE, MI, November 9, 2023 – [BASF](#), [General Motors](#) and [Lear Corporation](#) have won the Society of Plastics Engineers (SPE) Automotive Innovation Award in the electric and autonomous vehicle systems category for the battery disconnect unit (BDU) in the 2022 GMC HUMMER EV. This innovation optimizes the battery pack design from two units into one system, resulting in a twenty percent weight reduction while achieving a 135 percent gain in current-carrying capacity, which provides an additional 100 miles of operation during a ten-minute charge.

“As an all-electric supertruck, the GMC HUMMER EV delivers unprecedented off-road capability and premium on-road driving experiences,” said Al Oppenheiser, Chief Engineer, GMC HUMMER EV. “A particularly groundbreaking feature of its battery is its ability to switch between native 400-volts to 800-volts to take advantage of Level 2 charges, 400-volt DC fast chargers and faster 800-volt DC fast chargers.”

The BDU, which consists of several primary components in every EV, transfers power from the vehicle’s battery pack or cells to the electrical system. Lear’s design optimization and injection molding combine two units into one which supports two 400-volt systems for a safe, rapid charge. To achieve an overall weight reduction of the unit by eight percent and its size by ten percent, Lear’s BDU utilizes BASF’s Ultramid® PA66 polyamide and Ultradur® polybutylene terephthalate (PBT).

“Through close collaboration with GM and our unique electrification solution of the BDU, Lear is excited to provide this streamlined component on the GMC HUMMER EV platform,” said Carl Esposito, Senior Vice President and President of E-Systems, Lear Corporation. “Based on the size of the BDU and its location within the vehicle, we knew plastic was the ideal material for the BDU’s extremely dense packaging.”

The key to the success of electromobility will be how quickly EV performance, driving range, safety and reliability of EV’s continue to improve. BASF innovations and expertise in EV applications will help to make electric vehicles a practical reality for everyone.

“Co-collaboration with our customers and their customers enables them to deliver lightweight, cost-effective solutions in EV applications,” said Shane Tupper, Senior Technical Development Engineer, Performance Materials, BASF Corporation. “From expert design and engineering support to material selection, simulation, testing and serial development, we provide the advantage of unique co-creation partnerships.”

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### **About BASF**

BASF Corporation, headquartered in Florham Park, New Jersey, is the North American affiliate of BASF SE, Ludwigshafen, Germany. BASF has approximately 16,000 employees in North America and had sales of \$25.7 billion in 2022. For more information about BASF’s North American operations, visit [www.basf.com/us](http://www.basf.com/us).

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