

MAGNA TO DEVELOP AND ‘AUTO QUALIFY’ A MORE POWERFUL AND AFFORDABLE ELECTRIC MOTOR

- Project partners include the Illinois Institute of Technology, the University of Wisconsin-Madison and the U.S. Department of Energy
- Objective is to develop an automotive-grade, non-permanent magnet electric motor for next-gen vehicle propulsion systems
- Project targets an electric motor that is half the cost and eight times the power density of currently available e-motors

TROY, Mich., October 30, 2019 – Magna has been awarded a grant by the U.S. Department of Energy (U.S. DOE) to develop and ‘auto-qualify’ advanced electric motor technologies for next-generation vehicle propulsion systems. In partnership with the Illinois Institute of Technology and University of Wisconsin-Madison, Magna is applying its powertrain, electronics and full-vehicle expertise to deliver an automotive-grade, high-performance electric motor that aims to achieve increased power density and reduced cost compared to current e-motors.

The project objective is to develop an electric motor that is half the cost and eight times the power density, while delivering 125 kW of peak power – similar to packing a gallon of milk into a pint-size container. The reduction in cost is the result of eliminating the use of rare-earth permanent magnets, which make up a significant portion of electric-motor cost.

“Magna’s mission is to make the impossible possible by solving some of the auto industry’s most complex problems,” said Swamy Kotagiri, Chief Technology Officer, Magna. “Reducing dependency on rare-earth magnets solves two key issues for accelerating access to electrification – supply chain sourcing and cost.”



An integrated electric drive axle from Magna’s portfolio of electrified drivetrain products.

The project will integrate the exclusive electric motor technologies with a transmission and inverter as part of an overall e-drive system. The project scope includes development and use of innovative materials, cooling technologies, winding technologies, simulation models, as well as control and optimization techniques. Designing for automotive standards and low-cost manufacturing using Magna's comprehensive design framework is another key element of the project. The electric motor technologies will be presented to U.S. DOE for evaluation in 2021.

TAGS

Electrification, motors, awards, partnerships

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ABOUT MAGNA

We are a mobility technology company. We have more than 168,000 entrepreneurial-minded employees and 347 manufacturing operations and 92 product development, engineering and sales centres in 28 countries. We have complete vehicle engineering and contract manufacturing expertise, as well as product capabilities which include body, chassis, exterior, seating, powertrain, active driver assistance, electronics, mirrors & lighting, mechatronics and roof systems. Magna also has electronic and software capabilities across many of these areas. Our common shares trade on the Toronto Stock Exchange (MG) and the New York Stock Exchange (MGA). For further information about Magna, visit www.magna.com.

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