

# PRESS RELEASE



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## **Lower weight, reduced cost and improved energy storage, as TorqStor takes to the rails**

**Ricardo has today announced the delivery of the latest generation of its award-winning TorqStor high speed flywheel energy storage technology to digital hydraulics specialist Artemis Intelligent Power Ltd for use on the DDflyTrain research project – aiming to demonstrate the effectiveness of flywheel energy storage on diesel multiple unit trains**

The application of advanced high speed flywheel technology to save fuel on the railway took a step closer today with the delivery of a Ricardo TorqStor evaluation prototype unit to Artemis Intelligent Power, which is collaborating with world-leading rail technology expert Bombardier Transportation and Ricardo on the Innovate UK funded DDflyTrain project.

“This latest generation of Ricardo’s TorqStor high speed flywheel energy storage technology is a breakthrough in terms of cost reduction and light-weighting as well as in energy storage efficiency,” commented Ricardo VP of Innovation David Rollafson. “It can be integrated into mechanical, electrical or – as in the case of this first rail unit – an advanced hydraulic transmission system, providing a modular energy storage solution that scales seamlessly from 250KJ to 4MJ to support a wide variety of applications without the cost of multiple variants.”

TorqStor differentiates itself from other flywheel designs with its unique permanent vacuum, saving both cost and weight. This is made possible by its advanced magnetic gear system that enables the transmission of torque across a vacuum without the



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limitation of rotating seals or necessity for vacuum pumps. It provides an industrial design for deployment in real-world applications where durability and ease of serviceability are of paramount importance. With the value attaching to this potentially disruptive technology, the key aspects of Ricardo's TorqStor are understandably the subject of protection by a family of patents.

In April of this year TorqStor was recognized with a prestigious 'Tech Award', as one of the top five technologies – demonstrating engineering innovation, uniqueness, potential for real-world production application and potential benefit for industry customers and end users – amongst the extremely large number displayed at the SAE World Congress. This was followed in late November by the award to the DDflyTrain project for its application of TorqStor on diesel powered rolling stock, of 'Most Interesting initiative in safety and sustainability' at the annual Rail Exec gala dinner.

"The delivery of the first TorqStor to be deployed for a railway application is a significant milestone," continues Rollafson. "This game-changing technology offers transformative potential to reduce costs and save fuel across a range of applications from commercial on-highway trucks to mining and construction equipment. We are actively seeking further opportunities to realize the benefits of TorqStor in new sectors. In each case we believe that the technology can offer manufacturers a pathway to accelerated market introduction of high speed flywheel energy storage based on the development of our evaluation prototype units such as the one delivered today to Artemis Intelligent Power."

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**NOTES TO EDITORS:**

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