

Press Information

17 July 2024

BMW Startup Garage to road-test revolutionary e-drive by DeepDrive

+++ BMW Startup Garage accelerates drive innovation +++
Powerful, super-efficient electric drives with extensive range
+++ Road-test after promising results on test rig +++

Munich. The BMW Startup Garage and the Munich-based company DeepDrive are set to road-test a revolutionary electric motor. The concept features dual rotor technology and is expected to enable super-efficient, powerful drives that offer plenty of range. After a successful pilot project with promising results on the test rig, the BMW Group and DeepDrive are now planning their first field test. Various versions of the new drive will be installed into BMW Group models and their handling tested out on the road.

DeepDrive's innovative concept more or less melds two electric motors into a single unit, creating an extremely compact drive that's energy-efficient and has a high torque density. In a conventional electric motor, the stator moves either an internal or an external rotor; with DeepDrive's dual rotor concept, the stator drives both rotors simultaneously. The compact design and light weight of the unit allow for an in-wheel drive system, in which each wheel hub has its own electric motor. The technology can also be used in a traditional, centralised drive system, where a central motor block powers the vehicle.

BMW values the maturity level and scalability potential of the DeepDrive innovation.

BMW was the first major manufacturer to discover DeepDrive and has been intensifying collaborations with them since the IAA 2021. Their technology is already remarkably mature: "DeepDrive's prototype parts largely exceeded our specifications," says Karol Virsik, Head of Research Vehicle Concepts and Technologies at the BMW Group. "That's really unusual at such an early stage and with a completely new technology."

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After a stint on the test rig, the proof of concept was deemed successful, delivering top results. The next step is to perform a real-world validation out on the road. The in-wheel motors will require less space and be more energy-efficient, lighter and less costly, making them an attractive option for a wide range of vehicle models and potentially highly scalable. "DeepDrive has developed an exciting vision for the electric drive of the future," said Virsik. "The Startup Garage allows us to experiment with DeepDrive and work out what drives might look like in the generation after next."

DeepDrive is now collaborating with other manufacturers and major suppliers as well, such as Continental. In 2024, their motor concept was honoured with the German Innovation Award. "Collaborating with BMW gave us a springboard really early on," said Felix Pörnbacher, co-founder and co-CEO of DeepDrive. "It helped us navigate the complex corporate world and meet and exceed the rigorous standards of the automotive industry. Our goal now is to get it integrated into a production model."

Collaborating with startups accelerates innovations at the BMW Group.

The BMW Startup Garage operates as a venture client, implementing groundbreaking technologies developed by startups and enhancing the BMW Group's capabilities in innovation, sustainability and operational performance. The venture client model was established in 2015, with BMW acting as a customer and working closely with young companies to develop their technologies. "The BMW Startup Garage is an excellent opportunity to connect with startups. We then carry on working with the best of them," said Virsik. "Startups are really important to us because they think unconventionally and out-of-the-box. They give us new perspectives."

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About DeepDive

DeepDrive is a high-tech company based in Munich, specializing in electric motor technology. It focuses on electric wheel hub drives and modular electric vehicle platforms for the automotive industry. DeepDrive's patented dual-rotor motor topology aims to enable electric vehicles with a range of over 800 km and reduce EV carbon emissions by one-fifth. The company is supported by significant investments from companies such as BMW i Ventures and Continental, and benefits from leadership by industry veterans like Dr. Peter Mertens and Jonas Rieke.

The BMW Startup Garage

The BMW Startup Garage is the venture client unit of the BMW Group. It engages annually with over 1,000 startups across approximately 30 countries, seeking innovations that provide significant benefits to BMW Group's products, services, systems, and processes. This ensures early access to innovations, allowing BMW to shape them before they reach market readiness. Simultaneously, startups gain valuable insights into automotive processes, build networks within the company, and receive support in developing their business plans. The program aims to evaluate startups and enable them as long-term partners for the BMW Group, thereby strengthening the company's leadership in innovation. The Startup Garage is represented worldwide at all BMW Tech Office locations: Munich, Mountain View, Shanghai, Seoul, Tokyo, and since 2020, Tel Aviv.

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The BMW Group

The BMW Group, with its brands BMW, MINI, Rolls-Royce, and BMW Motorrad, is the world's leading premium manufacturer of automobiles and motorcycles, and provider of premium financial and mobility services. The BMW Group's production network spans over 30 production sites worldwide, and the company operates a global sales network with representations in over 140 countries.

In 2023, the BMW Group achieved global sales of over 2.55 million automobiles and over 209,000 motorcycles. The pre-tax profit for the fiscal year 2023 amounted to €17.1 billion, with revenue totaling €155.5 billion. As of December 31, 2023, the company employed 154,950 people worldwide.

Long-term thinking and responsible action have always been the foundation of BMW Group's economic success. The company has early on set the course for the future, placing sustainability and resource conservation at the center of its strategy, from the supply chain through production to the end of the product lifecycle.

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