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### DEUTZ joins consortium to develop hydrogen engines for off-highway applications

- Germany's Federal Ministry for Economic Affairs and Climate Protection provides funding of €5.1 million
- Objective is to develop hydrogen-based drive concepts for construction and agricultural applications

Cologne, November 26, 2024 – As the transport sector looks to decarbonize, attention is increasingly shifting to heavy commercial vehicles and non-road mobile machinery (NRMM).

As part of these efforts, vehicle and engine manufacturers, suppliers, and researchers have joined forces in the PoWer project, which aims to fully explore how hydrogen drives can be used across the full spectrum of applications in construction and agriculture. The project is being led by MAHLE, with partners including DEUTZ, Pures, Claas, Liebherr, Nagel, Umicore, NGK and Castrol, as well as Karlsruhe Institute of Technology (KIT), Braunschweig University of Technology, and the German Aerospace Centre (DLR). The project is set to run for three years and is being backed by €5.1 million of funding from Germany's Federal Ministry for Economic Affairs and Climate Protection. The product standards authority TÜV Rheinland is also providing support.

The inherent properties of hydrogen engines – such as efficiency, robustness, and low levels of untreated emissions – mean that they offer numerous benefits that make them particularly suitable for applications in construction and agriculture. “At DEUTZ, we have already developed and unveiled a production-ready hydrogen engine – the TCG 7.8 H2. So we are delighted to be able to contribute our expertise to this joint project and work with strong partners in driving forward the development of hydrogen engines for the off-highway sector,” says Dr. Paul Grzeschik, Head of Design and Preliminary Development at DEUTZ. “Each project participant, whether from research or industry, is a proven expert in their field. The intensive collaboration will allow us to

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utilize the potential for innovation for the transport sector and to significantly improve the technologies.”

The partners will use vehicle concept studies and analysis of fleet and infrastructure systems to demonstrate and evaluate off-highway applications. They will also develop exhaust gas aftertreatment concepts and test them comprehensively on the test rig. By investigating how hydrogen affects materials as well as friction and wear characteristics, and by validating these properties in a running engine, all of the building blocks will be put in place to meet the stringent requirements in terms of engine robustness, taking into account future NRMM emission standards.

DEUTZ firmly believes that drive systems can only be transformed through an open approach to new technologies and through innovation. Using hydrogen to make the combustion engine more climate-friendly unlocks the potential of all available technologies.



Caption: PoWer project: DEUTZ, represented here by Preliminary Development Project Coordinator Georg Töpfer (center), is working with strong partners to develop hydrogen engines for off-highway applications.

Picture credit: MAHLE GmbH

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For further information on this press release, please contact:

Mark Schneider  
Head of Investor Relations, Communications & Marketing  
Tel: +49 (0)221 822 3600  
Email: [Mark.Schneider@deutz.com](mailto:Mark.Schneider@deutz.com)

## **About DEUTZ AG**

*DEUTZ AG, a publicly traded company headquartered in Cologne, Germany, is one of the world's leading manufacturers of innovative drive systems. Its core competencies are the development, production, distribution, and servicing of drive solutions in the power range up to 620 kW for off-highway applications. The current portfolio extends from diesel, gas, and hydrogen engines to all-electric drives. DEUTZ drives are used in a wide range of applications including construction equipment, agricultural machinery, material handling equipment such as forklift trucks and lifting platforms, stationary equipment such as generator sets (gensets) as well as commercial and rail vehicles. With over 5,000 employees worldwide and around 1,000 sales and service partners in more than 120 countries, DEUTZ generated revenue of around €2.1 billion in the 2023 financial year. Further information is available at [www.deutz.com](http://www.deutz.com).*

## **About MAHLE**

*MAHLE is a leading international development partner and supplier to the automotive industry with customers in both passenger car and commercial vehicle sectors. Founded in 1920, the technology group is working on the climate-neutral mobility of tomorrow, with a focus on the strategic areas of electrification and thermal management as well as further technologies to reduce carbon emissions, such as fuel cells or highly efficient, clean combustion engines that also run on renewable fuels, such as hydrogen. Today, one in every two vehicles globally is equipped with MAHLE components. MAHLE generated sales of almost EUR 13 billion in 2023. Employing more than 72,000 people at 148 production locations and 11 technology centers, the company is represented in 29 countries. (Last revised: 12/31/2023)*