MAHLE Powertrain expands dedicated hydrogen powertrain testing capabilities at Northampton

01/07/2024

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- **Facility to support light and heavy-duty hydrogen powertrain testing**
- **Dual tube-trailer capacity with rapid switch-over enables extended testing**
- **Upgraded engine dyno specifications will support up to 4,000Nm and 900kW**

MAHLE Powertrain, the specialist engineering subsidiary of the MAHLE Group, is expanding its Northampton facility to include a dedicated hydrogen powertrain testing capability. The capacity to hold two tube-trailers on-site with rapid switch-over functionality between them will ensure a near-continuous supply of hydrogen. In addition, upgraded engine dynamometers with a 900kW, 4,000Nm nominal capacity mean the center will be ideally placed to support the growing demand for hydrogen powertrain development as well as testing of both light and heavy-duty applications.

“Off-highway, heavy-duty and marine sectors are increasingly looking to hydrogen combustion engines as a way of decarbonizing their emissions in areas where electrification isn’t suitable,” said Simon Reader, Director - Global Engineering Services, MAHLE Powertrain. “This expansion is in response to strong demand from our customers for this type of work. It equips our test cells with a dedicated hydrogen supply to create a facility that can perform rigorous testing on even the most heavy-duty engines and their increased weight and torque characteristics.”

The facility is already being used in the development of hydrogen fuel cell systems, hydrogen combustion engines and testing of hydrogen fuelled vehicles. It will also soon begin work on the development of an H2-ICE concept that converts existing heavy-duty diesel engines to hydrogen combustion – thereby negating the need for wholesale replacement and capitalizing on existing infrastructure to accelerate the transition towards net-zero mobility.

The facility’s supply side meticulously follows the BCGA (British Compressed Gases Association) guidance on the storage and handling of hydrogen. In addition, the individual test cells each feature a unique MAHLE Powertrain-designed system for the monitoring and safe handling of any potential gas escape. The company also has knowledge and experience in the development of engines adapted to run on renewable alcohol fuels, such as methanol.

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 technology fields to reduce CO_2 emissions, such as fuel cells or highly efficient combustion engines that also run on hydrogen or synthetic fuels. Today, one in every two vehicles globally is equipped with MAHLE components.

MAHLE generated sales just under EUR 13 billion in 2023. The company is represented with approx. 72,500 employees at 148 production locations and 11 major research and development centers in 29 countries. (as of 31.12.2023)

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About MAHLE Powertrain
MAHLE Powertrain is a specialist in providing engineering services for the design, development and integration of advanced internal combustion engines and electrified powertrain systems. As a recognized expert in these fields, MAHLE Powertrain is engaged in the extensive research, development and application of new traditional and advanced drivelines into cost-effective,

production feasible solutions for enhanced efficiency, improved fuel economy and lower emissions.

As a services subsidiary of the MAHLE Group, MAHLE Powertrain has six technical centers strategically located in the UK, Germany, USA, and China with approx. 400 employees in total and is well-placed to provide solutions around the globe. It operates independently of the main group when considering choice of components or technologies.

Additional information
MAHLE Powertrain's Northampton, UK, facility also includes a Vehicle Development Centre that supports the testing and verification of next-generation electric and hydrogen-fueled vehicles. The facility's test chambers can accommodate both two- and four-wheel-drive vehicles tested at speeds up to 155mph. Climatic conditions can be simulated from -40°C to +60°C with humidity ranging from 10% to 80%, while pressure control allows altitudes up to 5,000m (16,400ft) to be simulated. In addition, the site includes their Battery Development Centre, with its own substation and dedicated National Grid connection, which has the capability to test battery packs of up to 1MW with full fire protection in the event of a thermal runaway. A prototype and low volume battery build area also supports customers with complete end to end battery development. The Battery Development Centre and expertise is also replicated in its Stuttgart facility for European based customers.