



## **Cooperation to optimize climate-neutral hydrogen engines with international scope**

*German gas engine specialist MAMotec and development service provider IAVF Antriebstechnik GmbH expect new impetus and groundbreaking research results from the participation of lubricant and component manufacturers.*

**Kuppenheim, July 26, 2022** - The manufacturer of hydrogen and gas engines MAMotec and the specialist for wear research, testing and engineering IAVF have concluded an exclusive cooperation in June 2022. The focus is on the further development of gas and hydrogen engines by the two partners. Development and testing work will be offered to third parties and carried out for them. The cooperation with MAMotec makes IAVF one of the few service providers worldwide that can offer wear research and thus the optimization of gas engines to this extent and analytical depth. The basis of the cooperation is a MAMotec gas engine, which is permanently installed at IAVF in Karlsruhe. The special feature of the joint project is that engine component or lubricant manufacturers, for example, can develop, test and check their products on the engine at IAVF and thus significantly improve the interaction of all individual components.

"The partnership we have entered into with MAMotec is unique. For the first time, manufacturers of components and operating materials for hydrogen engines can not only test their products solitarily and under theoretical conditions. Rather, products will be tested live in a real engine system and in interaction with all other components," explains Prof. Dr. Bernhard Kehrwald, one of IAVF's managing directors. "We expect to gain significant insights for all involved, for example with the help of RNT real-time wear analysis, where we can also perform long-term tests in a fraction of the required runtime with the help of our technologies."

### **Next evolutionary stage for sustainable drives**

The turbocharged MAMotec series engine (MAH 74.6 TI 211A) at IAVF is a 6-cylinder hydrogen engine with a displacement of 7.4 liters that can be operated switchably either with hydrogen or with other gases. The zero-emission hydrogen engine technology used combines today's best possible quality and efficiency with the latest engine technology. In the combustion process developed by MAMotec, hydrogen burns with atmospheric oxygen to form pure water with virtually no emissions. Complex exhaust gas aftertreatment is no longer necessary.

The research and tests with the engine at IAVF have the potential to further significantly improve components as well as operating materials for hydrogen engines. As a result, long-term use under a wide range of conditions can be optimized - both in terms of consumption, emissions and wear. The cooperation between IAVF and MAMotec is the basis for forward-looking technology developments of international scope in the field of hydrogen engines and components.

"By today's standards, our engines operate at the upper end of the possible efficiency and sustainability scale. Nevertheless, we know that despite great successes, the entire drive technology industry still has many evolutionary steps ahead of it. And as in many other industries, it is often the medium-sized and small companies that have the flexibility and innovative strength to break new ground. This is exactly what we are aiming for with our cooperation with IAVF," explains Nico Albrecht, Managing Director of MAMotec.

### **Research projects in preparation**

The MAMotec hydrogen engine will be fully installed in the test environment at IAVF from the end of September 2022 and will be ready to start operation for component and wear research. Various engine component manufacturers and suppliers have already requested tests with the hydrogen engine at IAVF. Within publicly funded joint research projects, IAVF is already working on hydrogen engines as well as hydrogen fuel cells and operates an electrolyzer.

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### **About MAMotec**

MAMotec is a developer and supplier of low-emission and robust gas engines for powering stationary and industrial applications. The product portfolio includes engines for hydrogen, natural gas, biomethane, biogas and wood gas from 26 kW to 200 kW. The gas engines, which have been specially developed for use with natural and special gas, are characterized by the greatest reliability, long maintenance intervals and maximum energy efficiency. MAMotec is a privately owned German company and is headquartered in Kuppenheim, Baden. Development, production and sales take place here in order to equip customers in Europe with innovative drive technology. Among other things, the company cooperates with one of the largest universities of applied sciences in Baden-Württemberg. [www.mamotec-online.de](http://www.mamotec-online.de)

### **PR Contact**

#### **MAMotec GmbH**

Ilona Braunagel  
Fritz-Minhardt-Straße 1  
76456 Kuppenheim  
Mail: [Ilona.Braunagel@mamotec-online.de](mailto:Ilona.Braunagel@mamotec-online.de)  
Webseite: [www.mamotec-online.de](http://www.mamotec-online.de)  
Telefon: +49(0)7222 / 50610 51

### **About IAVF Antriebstechnik GmbH**

IAVF Antriebstechnik GmbH, a company of the APL Group, has been operating for more than 40 years as a development service provider for customers in the automotive, raw materials and supplier industries. The company was founded in 1980 as a spin-off of the University of Karlsruhe with a focus on wear measurements using radionuclide technology (RNT). Today, the development, service life prediction and safeguarding of conventional and hybrid vehicle drives play a significant role. For this purpose, IAVF operates approx. 85 fully automated test benches in the Rhine harbor in Karlsruhe, approx. 60 of which are for drives of vehicle and off-road applications up to 2.8 MW and for H2 fuel cells, as well as vehicle roller test benches. In addition, IAVF has laboratories for extensive component and failure analysis.

### **PR Contact**

#### **IAVF Antriebstechnik GmbH**

Elisabeth Berwanger  
Im Schlehert 32  
76187 Karlsruhe  
Mail: [Elisabeth.Berwanger@iavf.de](mailto:Elisabeth.Berwanger@iavf.de)  
Webseite: [www.iavf.de](http://www.iavf.de)  
Telefon: +49(0)721 / 955 05 112

### **PR Agency Contact**

#### **Schmidt Kommunikation GmbH**

Alexandra Schmidt  
Mail: [alexandra.schmidt@schmidtkom.de](mailto:alexandra.schmidt@schmidtkom.de)  
Telefon: +49/89/ 60669222  
Mobil: +49/170/387106  
Thilo Christ  
Mail: [thilo.christ@schmidtkom.de](mailto:thilo.christ@schmidtkom.de)  
Telefon: +49/89/ 60669222  
Mobil: +49/171/6220610  
Schillerstrasse 8  
85521 Ottobrunn b. München