

Press Release

Hydrogen Expert KEYOU and HOERBIGER Sign Contract for Joint Development and Distribution Partnership

Munich, 2. February 2022,

Successful start to the new year. KEYOU, a Munich-based company specializing in hydrogen technologies, and HOERBIGER, one of the world's leading automotive suppliers, are pooling their expertise in the field of injection technology for hydrogen engines. Both companies recently signed a cooperation agreement aimed at the joint development, production, and commercialization of injectors for hydrogen engines. The focus is on the development of PFI injectors for the high-performance heavy-duty segment.

Accelerate market introduction of hydrogen engines

Both companies are united by the vision of bringing innovative hydrogen technologies to mobility with the aim of accelerating the market launch of hydrogen engines. On the one hand, there is KEYOU, a young company that has already won several awards. Since 2015, it has been developing H₂-specific technologies, components and combustion processes that can be used to transform conventional engines into emission-free hydrogen engines. In the process, KEYOU has succeeded in developing the world's most efficient H₂ engine to date from a diesel engine platform. On the other hand, HOERBIGER, one of the leading manufacturers of valve technology in the gas industry, which has made decarbonization a central goal of its product developments.

Development focus PFI injectors

The question of how the hydrogen enters the engine or combustion chamber is of central importance for the quality of hydrogen combustion. Injection technology and the durability of the injectors are therefore key success factors for the development of highly efficient hydrogen engines. And this is precisely where the cooperation comes in: both companies are pooling their design and engineering know-how in the field of hydrogen and injection technology. The focus is on the development of PFI injectors for heavy-duty applications.

"The injector", explains Thomas Korn, co-founder and CEO of KEYOU GmbH, "is one of the key components of our 'KEYOU-inside system', which can be integrated into new and existing engines. If, in addition to the development of new engines, the conversion of existing diesel vehicles for hydrogen is also taken into account, decarbonization in the commercial vehicle sector can be achieved quickly and cost-effectively. With HOERBIGER, we have a competent development partner with many years of experience in the development, production, and commercialization of gas valves at our side. For us as an innovation driver in the field of hydrogen engines, this perfectly complements our knowledge and expertise in the field of hydrogen technologies," Thomas Korn continues.

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HOERBIGER also sees the partnership extremely positively: "HOERBIGER Engine Technology is fully committed to leading innovation in zero-emission hydrogen-based fuel injection technology and is now looking forward to making this journey even more successful with KEYOU for the benefit of our customers", explains Bernhard Zemann, Head of HOERBIGER Engine Technology.

HOERBIGER part of the KEYOU component network

KEYOU and HOERBIGER have been, individually, active in the field of hydrogen combustion engines for some time. With the cooperation agreement, the companies combine their competencies and "formalize" their already successful cooperation. "We are always open to new partnerships in connection to the development of modern and new components for hydrogen engines. With HOERBIGER, we are expanding our current network with another strong partner with whom we can develop the most efficient hydrogen engines for the heavy-duty market," adds Thomas Korn.

First injectors in pre-series readiness planned for 2023

The power spectrum of the injectors developed specifically for hydrogen engines extends up to 90 kW per cylinder. In a six-cylinder engine, this corresponds to an engine output of up to 540 kW. The application possibilities are correspondingly diverse: From pure road transport to industrial engines and off-road applications. However, the initial focus is clearly on the commercial vehicle sector. As part of the "KEYOU-inside system", the jointly developed PFI injectors can be used in almost any hydrogen engine.

At present, the injectors are still so-called B sample parts. The first industrialized injectors are expected to be available to customers in 2023. The injectors will also be used in the first new and retrofitted vehicles as part of the KEYOU-inside system in the engines.

About KEYOU

KEYOU is a successful high-tech company in the Clean Mobility sector that develops innovative hydrogen technologies, specific H₂ components and combustion processes for the automotive industry, which can be used to transform conventional engines into emission-free hydrogen engines, cost-effectively and without major modifications to the basic engine.

The new "green" combustion engine with KEYOU-inside technology means zero emissions, efficiency, and economy at the same time - without compromising on performance, capacity, or range. Vehicles with such engines are considered zero emission vehicles according to EU standards. The technology is engine and manufacturer independent, scalable and can be used both on-road and off-road. The focus is currently on commercial vehicle engines. With KEYOU, "Sustainable Zero Emission" becomes a reality.

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About HOERBIGER

HOERBIGER Engine Technology supports customers to reduce green-house gas emissions by applying advanced technology in areas of combustion and controls. Inter alia, HOERBIGER develops, manufactures, and commercializes injection technology for combustion engines using traditional fuels, with focus gas fuels like LNG and CNG as well as Hydrogen. Especially for hydrogen HOERBIGER was the pioneer in developing the first worldwide hydrogen PFI injector for passenger car engine in 2003.

HOERBIGER covers the whole automotive product creation process from prototype to SOP. Further state of the art innovation leader for gas fuel-based material science, tribology, fluid dynamics (CFD), thermodynamics, gas mixing principles as well as outstanding flexibility on mass production.

Sounds interesting?

Do you want to learn more about KEYOU hydrogen technology? Get in touch with us. We will be happy to keep you up to date on the exciting developments!

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Images and Photos



Thomas Korn, co-founder, and CEO of KEYOU GmbH



Bernhard Zemann, Head of HOERBIGER Engine Technology



Model of the jointly developed PFI injector.



Hydrogen engine with KEYOU-inside technology