

Press release

January 31, 2024

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Kick-off for ground-breaking research project to develop a climate-neutral drive concept for specialist foundation equipment based on a fuel cell system

Schrobenhausen, Germany – On October 16, 2023, the headquarter of BAUER Maschinen GmbH in Schrobenhausen, Bavaria hosted the kick-off event for a research project with the potential to catapult the carbon footprint of specialist foundation equipment to a whole new level. The goal: climate-neutral operation based on a fuel cell system. The consortium partners are BAUER Maschinen GmbH along with the Professorship for Fluid Systems Technology and the Chair for Fluid Mechanics at the Friedrich-Alexander University of Erlangen-Nuremberg.

A machine from Bauer as a basis

Over the next three years, the project partners will work together to develop a concept for operating construction equipment in specialist foundation with zero CO₂ emissions. The plan is to integrate a drive system comprising a hydrogen fuel cell, along with all necessary peripheral components (“balance of plant”), into a special foundation machine from BAUER Maschinen GmbH. The fuel cell system along with other required components such as H₂ storage unit and cooling unit are designed as a plug-in module for universal use.

Reducing noise emissions

Within the project, operating strategies for fuel cells and backup batteries are evaluated with regard to the technical requirements. Another focus of research is the targeted influencing of noise emissions, which negatively impact both equipment operators and the environment during the operation of construction equipment. With the aid of aeroacoustics simulations and resulting measures to reduce noise, the aim is to significantly reduce emissions compared to conventional, diesel-powered equipment. At the end of the project, the plug-in module will be installed on a Bauer machine and tested in practical application.

Logical further development

The research project planned for three years, with its official title “Modular drive system with fuel cells for applications in specialist foundation engineering” (MABAS), has received funding from the Federal Ministry for Economic and Climate Action as part of the 7th Energy Research Program, a grant of approximately 2.5 million euros. The project represents another logical step towards the goal of sustainability: Following Bauer’s previous contributions to sustainable construction with the cable-bound eBG 33 and battery-powered eBG 33 H all electric, the use of hydrogen technology in the form of a fuel cell is a logical enhancement. A hydrogen-powered machine can be used anywhere a cable connection is impossible or specific services are required that cannot be provided to the necessary extent using only batteries.

Images:



pressebild-press-image-forschungsprojekt-research-project-klimaneutraler-antrieb-climate-neutral-drive-bauer-maschinen

Kick-off event in October 2023 – The consortium is made up of BAUER Maschinen GmbH along with the Professorship for Fluid Systems Technology and the Chair for Fluid Mechanics at the FAU Erlangen–Nuremberg. © BAUER Group

Supported by:



Federal Ministry
for Economic Affairs
and Climate Action

on the basis of a decision
by the German Bundestag

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The project is funded by a 2.5 million euro grant from the federal government. © BMWK

About BAUER Maschinen Group

For almost 60 years, equipment from Bauer has represented the highest performance and quality and constant innovation. The BAUER Maschinen Group is the world market leader in the development and manufacture of specialist foundation engineering equipment. BAUER Maschinen GmbH, which is also the holding company for a number of subsidiaries, designs and builds large-diameter drilling rigs, duty-cycle cranes, trench cutters, grabs and vibrators as well as the related tooling at its plants in Schrobenhausen, Aresing and Edelshausen. The subsidiaries manufacture state-of-the-art mixing and separation equipment as well as rotary drive systems and equipment for drilling small-diameter boreholes and wells. The BAUER Maschinen Group also operates manufacturing facilities in the USA, China, Malaysia, Italy, Singapore and Turkey. A component supplier within the Group is Schachtbau Nordhausen. The company operates a global sales and service network. More at <https://equipment.bauer.de/en>.

About Bauer

The BAUER Group is a leading provider of services, equipment and products dealing with ground and groundwater. The Group can rely on a worldwide network on all continents. The Group's operations are divided into three forward-looking segments with high synergy potential: Geotechnical Solutions, Equipment and Resources. Bauer profits enormously from the collaboration of its three business segments, enabling the Group to position itself as an innovative, highly specialized provider of products and services for demanding projects in specialist foundation engineering and related markets. Bauer therefore offers suitable solutions to the world's greatest challenges, such as urbanization, the growing infrastructure needs, the environment, as well as water. The BAUER Group was founded in 1790 and is based in Schrobenhausen, Bavaria. In 2022, it employed about 12,000 people and achieved total Group revenues of EUR 1.7 billion worldwide. More information can be found at <https://www.bauer.de/en>. Follow us on [Facebook](#), [LinkedIn](#) and [YouTube](#)!