

ENGINIUS PRESS RELEASE

ENGINIUS delivers hydrogen truck with EU type approval in series production

ENGINIUS is the first vehicle manufacturer to receive EU type approval for electric trucks with hydrogen fuel cells.

Frankfurt, 28.06.2022. ENGINIUS, a member of the FAUN Group, will be exhibiting for the first time at the IAA transportation from 20 - 25 September 2022 in Hanover.

ENGINIUS is a manufacturer of battery and hydrogen commercial trucks. The company was spun off from the FAUN Group in November 2021 and entered the market in May 2022 under the name ENGINIUS. "Freight transport contributes around ten percent of global CO2 emissions. Our vision is carbon-neutral freight transport, and with ENGINIUS we want to become the European market leader for hydrogen-powered trucks on short- and medium-haul routes by 2030," says Patrick Hermanspann, CEO of the FAUN Group.

FAUN, specialised in the production of municipal vehicles, can look back on 16 years of experience in the development of alternative drives. A refuse collection vehicle stops up to 800 times a day, producing fine dust and wasting valuable braking energy. Especially in densely populated areas, this is a problem for the citizens. That is why ENGINIUS uses this energy to optimally drive the vehicles. BLUEPOWER refuse collection vehicles have been in use since 2019. In numerous cities such as Berlin, Duisburg, Bochum and Brussels, hydrogen-powered waste collection vehicles are already on the road, which not only remove waste and residual materials, but at the same time help to keep the air in the cities clean and noise pollution low. Patrick Hermanspann: "Our trucks are on the road where children play and families live. We want to help create a better and cleaner world. For this reason, it is important for us to minimise the emissions of our vehicles and implement climate-neutral truck transport."

The BLUEPOWER product range uses the Econic chassis from Daimler Trucks and produces state-of-the-art technology in the Bremen production halls: Hydrogen is converted into electricity from the high-pressure tanks by means of fuel cells, thus powering an electric motor and charging onboard buffer batteries. Depending on the equipment, the vehicles have a range of up to 250 kilometres (WLTP) with a payload of 17 tonnes. Filling the 16-kilogram hydrogen tanks at 700 bar takes less than 15 minutes. Another milestone is the EU type approval that ENGINIOUS was the first vehicle manufacturer to receive for its electric trucks with hydrogen fuel cells.

For the first time at the IAA, ENGINIOUS presents CITYPOWER in September - a truck for goods and freight transport. Based on the Atego chassis from Daimler Trucks, the two-axle truck offers a lot of potential for quiet and emission-free traffic. With a payload of nine tonnes, a range of 500 km (WLTP) and a refuelling time of 30 minutes, the CITYPOWER is an emission-free and low-noise replacement for diesel vehicles. The first CITYPOWERs are scheduled to enter the market in 2023. "We see immense potential for the CITYPOWER in particular due to its versatility and flexibility," says FAUN CEO Patrick Hermanspann. This also means that production capacities at the Bremen site will be successively expanded. "Transport and logistics play a central role in all economic sectors. Climate-neutral load transport based on renewable energies is therefore an important step on the way to the Circular Economy." There are already over 150 hydrogen filling stations in the EU, 95 of which are in Germany alone, and the trend is rising.

Patrick Hermanspann: "We want to deliver 12,000 vehicles by 2023 and thus offer solutions in the early phase of the market ramp-up. Our focus is on hydrogen. Hydrogen is an energy carrier that we can circulate without harm. It can be easily transported, stored and distributed in various forms. That is why, together with the battery, it is the ideal fuel for the future of commercial transport. The course has been set and with ENGINIOUS we are making a contribution."



ABOUT ENGINIUS

ENGINIUS is a subsidiary of the FAUN Group, which produces trucks with alternative drive systems and has set itself the goal of carbon-neutral freight transport. A team of 80 specialists currently works at the Bremen plant. The FAUN Group employs more than 2,000 people worldwide. The body manufacturer is one of the leading suppliers of refuse collection vehicles and sweepers in Europe and now operates twelve plants in seven countries. The group's headquarters are in Osterholz-Scharmbeck, Lower Saxony. FAUN is part of KIRCHHOFF Ecotec, the environmental division of the globally active KIRCHHOFF Group. In 2021, the KIRCHHOFF group of companies generated sales of 2.2 billion euros with 12,200 employees in the four business divisions Automotive, Tools, Vehicle Conversion and Municipal Technology. The group includes 56 plants in 22 countries on five continents. www.enginius.de

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FACTSHEET – ENGINIOUS

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Note: The information shared here about the ENGINIOUS brand and its products represents a snapshot. In particular, data and figures are subject to change. Status of the document: June 2022

Brief description

ENGINIUS is a subsidiary of the FAUN Group. It manufactures commercial and special vehicles with alternative drives and has set itself the goal of climate-neutral load transport. The company initially offers the products BLUEPOWER (municipal vehicles) and CITYPOWER (vehicles for inner-city distribution traffic).

Currently, 80 employees work in Bremen and by 2027, 900 people are to be employed in the alternative drive division. ENGINIOUS is involved in regional and European hydrogen projects and clusters.

The most important key figures / data

- Brand launch May 2022 as part of the FAUN Group
- Operating site: Bremen
- Company headquarters: Iserlohn

THE ENGINIOUS PRODUCTS



BLUEPOWER

stands for **hydrogen-powered vehicles in municipal applications.**



CITYPOWER

stands for **hydrogen and battery-powered vehicles for goods and freight distribution.**

Based on the Econic chassis from Daimler Trucks, ENGINIUS offers the three-axle BLUEPOWER as a chassis for refuse collection or as a two-axle for sweeper bodies.

21 refuse collection vehicles have been in operation since 2021

Areas of application: Refuse collection vehicle / sweeper / hook lift / roll-off tipper / box body / refrigerated vehicle.

Production volume: 1,000 per year (until 2027)

Brief description BLUEPOWER

Payload: 17 tonnes

Range: depending on the area 250 km WLTP

Fuel cell output: 90kW (30kW x 3 EA)

Tank size: max. 16 kg

Refuelling time (H2): 15 minutes @700 bar

Battery capacity: 85 kWh (usable energy after 8 years End Of Life)

Storage type: Pressure tank 700 bar

Max. E-motor power: 240 kW

Max. torque Torque: 4,050 Nm

CO2 emission values: 0 g/k

The carrier vehicle is a two-axle chassis Atego from Daimler Trucks.

Prototype: From 2023

Areas of application: Inner-city goods distribution traffic

Production volume: 4,000 per year (until 2027)

Applications: Box body / Refrigerated vehicle / Kipper / Flatbed / Hook lift / Roll-off tipper

Brief description CITYPOWER

FCEV max. H2

Payload: 9 tonnes

Range H2: ~ 500 km WLTP

Tank size: max. 32 kg

Refuelling: ~ 0.5 h @700 bar

Battery: ~ 85 kWh (usable energy after 8 years End Of Life)



FACTSHEET – FAUN GROUP

Brief description

FAUN was founded in 1845 and has been developing and producing bodies for refuse collection vehicles as well as sweepers and special trucks for several decades. Due to the challenges with regard to climate and environmental protection, the company has been involved in the production of alternative drive systems for municipal vehicles for 15 years.

The first steps were taken with the DUALPOWER refuse collection vehicles in 2006 and FUELCELL in 2010.

Under the new ENGINIOUS brand, FAUN is now putting hydrogen and battery-powered trucks on the road. The company initially offers the products BLUEPOWER (carrier vehicle is an Econic chassis from Daimler Trucks) for municipal applications and CITYPOWER (carrier vehicle is an Atego chassis from Daimler Trucks), among others, also for distribution transport.

Key figures / data

- More than 2,000 employees worldwide
- one of the leading suppliers of refuse collection vehicles & sweepers in Europe
- twelve plants in seven countries
- Headquarters: Osterholz-Scharmbeck, Lower Saxony, Germany
- 2021: 500 million euros turnover
- FAUN is part of KIRCHHOFF Ecotec, the environmental division of the globally active KIRCHHOFF Group. In 2021, the KIRCHHOFF group of companies generated a turnover of 2.2 billion euros with 12,200 employees in the four business divisions Automotive, Tools, Vehicle Conversion and Municipal Technology. The Group has 56 plants in 22 countries on five continents.

Voices from the H2 value chain

"We are very pleased about the ambitious plans of ENGINIUS to bring various hydrogen-powered trucks to the market in the short term. Shell plans to offer a pay-per-use concept for market activation within the framework of a mobility platform and, subject to funding and final investment decision, to put up to 50 hydrogen filling stations for trucks into operation in Europe by 2025. In order to be able to offer customers a holistic refuelling concept, we rely on close cooperation with the automotive industry and appreciate the trusting collaboration with ENGINIUS."

Andreas Janssen, Head of Hydrogen Mobility Europe - Shell

"H2 MOBILITY Germany focuses the further hydrogen filling station network expansion on several highly frequented regions and transport corridors and thus assumes a leading role in the future mobility system of the European Union. Against the background of growing vehicle demand, new locations are being developed together with major customers, authorities and fleet operators. This guarantees the basic demand at the individual stations and is an important step towards a profitable, self-sufficient hydrogen filling station network."

Nicolas Iwan, CEO H2 Mobility

"A secure and large-scale supply of green hydrogen will significantly support Germany's and Europe's ambitious climate protection goals. Already today, the first applications in the transport sector are being supplied via decentralised solutions. With the current project pipeline, significant cost reductions for use in the industrial and transport sectors can be achieved through large-scale storage and pipeline connections. With Clean Hydrogen Coastline, such an approach is to be established in the Northwest for the first time by the end of 2026."

Dr. Geert Tjarks, Head of Business Area Development - EWE