

## Hydrogen for light commercial vehicles too **Bosch tests fuel cell vans**

September 13, 2022  
PI166

- ▶ Two demonstrator vehicles are providing comprehensive data for the further development of this alternative drive system.
- ▶ Bosch is using its own fuel cell components for the tests.
- ▶ Initial findings on range and refueling times are impressive.
- ▶ Anyone can experience the test vehicles with driving tests at IAA Transportation in Hanover.

Stuttgart – Vans get goods to their destination quickly, ideally using a powertrain with zero local emissions. But the longer the journey and heavier the vehicle, the more a battery-based electric drive reaches its limits. And that is where the strengths of the fuel cell come into play. Bosch has now equipped two vans with this technology and started test operation on the road. “The fuel cell enables long ranges and short refueling times, which makes long journeys more economical,” says Dr. Markus Heyn, member of the Bosch board of management and chairman of the Mobility Solutions business sector. “With the two fuel cell vans, we are expanding our understanding of the system and showing that the fuel cell can also be a suitable drive solution for light commercial vehicles.” The partner in the project is ABT eLine GmbH, which designed and converted the vehicles together with Bosch Engineering GmbH. At IAA Transportation in Hanover, Bosch is offering interested visitors the opportunity to experience the test vehicles and Bosch fuel cell technology in action on a track.

### **Largely Bosch components in use**

The developers were able to use Bosch components almost throughout for the fuel cell system. A fuel cell kit is used, which comprises the stack, anode supply module including hydrogen gas injector and recirculation blower, electronic control unit, electric air compressor and components for the hydrogen storage system, and even a large number of sensors. The technical basis for both vehicles is commercially available vans that run on electric power alone. The batteries including peripherals were now replaced by the fuel cell, five storage tanks for a total of over 22 pounds of hydrogen, and a smaller lithium-ion battery. “Accommodating the fuel cell components in the available installation space was

a major challenge,” says Dr. Uwe Gackstatter, president of the Bosch Powertrain Solutions division. The partner ABT eLine adapted the cooling system, the vehicle control system, and the electrical system. Bosch designed the fuel cell system, integrated it into the vehicle together with the hydrogen storage system, and developed the associated control system. After the required technical tests, the vehicles were granted official approval for road use.

The project is already providing important insights: even loaded, the vehicles can travel up to 335 miles and are fully refueled again in six minutes. The fuel cell can therefore be a good addition to the battery-electric drive in future for fleet operators whose vans cover particularly long distances during the day and return to the maintenance and storage facility in the evening.

### **Fuel cell and hydrogen ready for the next step**

The first Bosch components for fuel cells are already in volume production. But the work is far from over. “We need as much data as possible from real driving operations to develop the system further,” explains Gackstatter. Thanks to cloud connectivity, the two test vehicles now deliver these in real time to the developers’ computers, supplementing the measured values from the test benches. With this knowledge, Bosch can offer customers components that have been tried and tested even earlier, as well as comprehensive support in system design.

However, further steps are still necessary for fuel technology to make a breakthrough. “Industry and politics must work together to remove obstacles to hydrogen technologies,” Gackstatter warns. For example, the development of a tank infrastructure and the production of green hydrogen in larger quantities remain tasks that can only be solved together.

**Press photos:** #07b401cb, #c69b5414, #d4c44f66

**BOSCH PRESS CONFERENCE:** Monday, September 19, 2022, from 11:10 to 11:30 CEST: with [Dr. Markus Heyn, member of the Bosch board of management and chairman of the Mobility Solutions business sector](#), at the Bosch booth B22 in hall 20 and via livestream on the Bosch Media Service.

### **Panels with Bosch experts at the IAA Conference:**

- **Tuesday, September 20, 14:15 – 15:15 CEST in the Industry Forum:**  
Presentation: “How to manage the operational challenges of multi-brand commercial EV fleets” by Michael Köhler, Senior Vice President Business Unit Battery, at Robert Bosch GmbH
- **Tuesday, September 20, 17:30 – 17:45 CEST on the Main Stage:**  
Keynote: “Powertrain solutions for future transportation” by Jürgen Häusser, Vice President Product Management Commercial Vehicle & Off-Road at Robert Bosch GmbH
- **Wednesday, September 21, 17:00 – 19:00 CEST at the Cummins booth (hall 20, booth A12):**  
“Open dialog on the hydrogen engine” with Dr. Andreas Kufferath, Engineering System Diesel Powertrain at Robert Bosch GmbH
- **Thursday, September 22, 11:30 – 12:00 CEST on the Main Stage:**  
Presentation: “Global digitization in logistics” by Mariella Minutolo, Executive VP Progressive Mobility Players at Robert Bosch GmbH

**FOLLOW the Bosch IAA 2022 highlights at [www.bosch-iaa.com](http://www.bosch-iaa.com) and on Twitter: @BoschPress, #BoschIAA**

### **Contact person for press inquiries**

Tim Wieland

Phone: +1 248 876 7708

[Tim.wieland@us.bosch.com](mailto:Tim.wieland@us.bosch.com)

Twitter: @timwieland

### **About Bosch**

Having established a regional presence in 1906 in North America, the Bosch Group employs 35,300 associates in more than 100 locations, as of December 31, 2021. According to preliminary figures, Bosch generated consolidated sales of \$13.6 billion in the U.S., Canada and Mexico. For more information, visit [www.bosch.us](http://www.bosch.us), [www.bosch.ca](http://www.bosch.ca) and [www.bosch.mx](http://www.bosch.mx).

*The Bosch Group is a leading global supplier of technology and services. It employs roughly 402,600 associates worldwide (as of December 31, 2021). The company generated sales of \$93.1 billion in 2021. Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT provider, Bosch offers innovative solutions for smart homes, Industry 4.0, and connected mobility. Bosch is pursuing a vision of mobility that is sustainable, safe, and exciting. It uses its expertise in sensor technology, software, and services, as well as its own IoT cloud, to offer its customers connected, cross-domain solutions from a single source. The Bosch Group's strategic objective is to facilitate connected living with products and solutions that either contain artificial intelligence (AI) or have been developed or manufactured with its help. Bosch improves quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is “Invented for life.” The Bosch Group comprises Robert Bosch GmbH and its roughly 440 subsidiary and regional companies in some 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. With its more than 400 locations worldwide, the Bosch Group has been carbon neutral since the first quarter of 2020. The basis for the company's future growth is its innovative strength. At 128 locations across the globe, Bosch employs some 76,100 associates in research and development, of which more than 38,000 are software engineers.*

*The company was set up in Stuttgart in 1886 by Robert Bosch (1861–1942) as “Workshop for Precision Mechanics and Electrical Engineering.” The special ownership structure of Robert Bosch GmbH guarantees the entrepreneurial freedom of the Bosch Group, making it possible for the company to plan over the long term and to undertake significant upfront investments in the safeguarding of its future. Ninety-four percent of the share capital of Robert Bosch GmbH is held by Robert Bosch Stiftung GmbH, a charitable foundation. The remaining shares are held by Robert Bosch GmbH and by a corporation owned by the Bosch family. The majority of voting rights are held by Robert Bosch Industrietreuhand KG, an industrial trust. The entrepreneurial ownership functions are carried out by the trust.*

Additional information is available online at [www.bosch.com](http://www.bosch.com), [www.iot.bosch.com](http://www.iot.bosch.com), [www.bosch-press.com](http://www.bosch-press.com), [www.twitter.com/BoschPress](https://twitter.com/BoschPress)

Exchange rate: 1 EUR = 1.1830