

PRESS RELEASE

ElringKlinger and VDL conclude fuel cell partnership

Dettingen/Erms (Germany), Eindhoven (Netherlands), November 12, 2020 +++ ElringKlinger AG and the Dutch vehicle manufacturer VDL Bus & Coach BV have agreed on a strategic partnership within the area of fuel cell technology. The cooperation agreement provides for the development and industrialization of fuel cell stacks and systems for mobile and stationary applications.

Within this partnership, ElringKlinger AG will focus on the customer-specific development and production of fuel cell stacks. VDL will be primarily responsible for system integration and testing under real conditions. Another cooperation partner is ElringKlinger Fuelcell Systems Austria GmbH (EKAT), which has expertise within the area of complete fuel cell systems. Plastic Omnium will also bundle its know-how, once EKPO Fuel Cell Technologies, the joint venture in fuell cell stacks between ElringKlinger and Plastic Omnium, is created and the acquisition of ElringKlinger's Austrian subsidiary EKAT is completed in early 2021.

The declared aim of the partnership is to bring the developed fuel cell systems to production maturity in the coming year. These will be used in mobile and stationary applications such as gensets, hybrid vehicles or vehicles with range extender. The cooperation agreement is therefore initially limited until 2021. Subsequently, concrete customer projects are already planned and under negotiation, which are to be signed before the cooperation agreement expires.

"With this cooperation, we are not only intensifying our collaboration with VDL in fuel cell technology, but also creating the basis for further developing hydrogen-based drive technologies for heavy duty mobility. Together with our contractual partner, we are working towards establishing the fuel cell as a pioneering drive technology within the commercial vehicle sector over the coming years," commented Armin Diez, Vice President Fuel Cell at ElringKlinger AG.

Henk Coppens, CEO of VDL Bus & Coach BV, said: "As a frontrunner in the field of sustainable mobility solutions, VDL Bus & Coach strongly believes that hydrogen will become an important and strategic part of our portfolio. VDL's motto is 'strength through cooperation' and I am pleased that we can fulfill this motto for the subject of hydrogen with this cooperation with ElringKlinger."

Fuel cell technology at ElringKlinger

ElringKlinger has been active within the area of fuel cell technology for around 20 years and serves the market as both a component and a system supplier. The Group's focus is on low-temperature fuel cells (PEMFC). Combining the benefits of high power density



and highly dynamic power supply, PEMFC stacks are the perfect choice for mobile applications and – in conjunction with a decentralized supply of hydrogen – they are already a viable option for today's mobility needs.

ElringKlinger PEMFC stacks designed for integration into customer systems are available with an electrical output of 10 to over 200 kW $_{\rm el}$. Stacks with peripheral components and system functionalities integrated into the end plate module are also available as an option. These features enable considerable simplification and cost reduction with regard to the fuel cell system. They are suitable for use in both passenger cars and light commercial vehicles such as forklifts as well as buses and trucks.

Alongside its proprietary fuel cell stacks, ElringKlinger is acknowledged in particular for its innovative fuel cell components, including patented designs for metallic bipolar plates and plastic media modules that complement the product range.



Representatives of ElringKlinger and VDL at the signing of the cooperation agreement in Eindhoven.

From left to right:

- Armin Diez, Vice President Fuel Cell (ElringKlinger)
- Henk Coppens, CEO (VDL Bus & Coach)
- Peter Schweizer, Vice President Product Line Sales (ElringKlinger)



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From left to right:

- Henk Coppens, CEO (VDL Bus & Coach)
- Philipp Ruez, Director Sales Global Account (ElringKlinger)
- Peter Schweizer, Vice President Product Line Sales (ElringKlinger)
- Ruud Bouwman, New Technology Specialist (VDL ETS)
- Armin Diez, Vice President Fuel Cell (ElringKlinger)
- Jos van de Ven, Strategic Purchaser (VDL ETS)
- Menno Kleingeld, Managing Director (VDL ETS)]

The press photos for this release can be found on our website at: https://www.elringklinger.de/en/press/press-photos



About ElringKlinger

As an independent and globally positioned supplier, ElringKlinger is a powerful and reliable partner to the automotive industry. Be it passenger car or commercial vehicle, equipped with an optimized combustion engine, with hybrid technology, or with an all-electric motor – we offer innovative solutions for all types of drive system. In doing so, we are making a committed contribution to sustainable mobility. Our lightweighting concepts help to reduce the overall weight of vehicles. As a result, vehicles powered by combustion engines consume less fuel and emit less CO_2 , while those equipped with alternative propulsion systems benefit from an extended range. Developing cutting-edge battery and fuel cell technology as well as electric drive units, we were among the frontrunners when it came to positioning ourselves as a specialist in the field of e-mobility. At the same time, we are committed to evolving our sealing technology for a wide range of applications. Our shielding systems are designed to ensure high-end temperature and acoustics management throughout the vehicle. Dynamic precision parts developed by ElringKlinger can be used in all types of drive system. Additionally, the Group's portfolio includes engineering services, tooling technology, and products made of high-performance plastics, which are also marketed to industries beyond the automotive sector. These efforts are supported by a dedicated workforce of around 10,000 people at 45 ElringKlinger Group locations around the globe.

www.elringklinger.com

About VDL Bus & Coach

The core activities of VDL Bus & Coach consist of the development, manufacturing, sales and after-sales of a wide range of buses, coaches and chassis modules, the conversion or extension of mini & midi buses and the purchase and sales of used buses. VDL Bus & Coach consists of multiple bus companies that operate cooperatively in the global market. Manufacturing takes place in Western Europe. VDL Bus & Coach places high value on quality, safety, durability, the environment, low fuel consumption, comfort and low maintenance costs. In the transition to zero emission transport, VDL Bus & Coach offers turnkey solutions and is not only bus supplier but also system supplier.

Sales of VDL Bus & Coach products take place through a worldwide network consisting of corporate-owned sales offices, importers and agents in more than 30 countries. For after-sales and maintenance, the client can count on rapid, hassle-free assistance from VDL Bus & Coach employees in any of the many service locations. An extensive distribution network ensures that spare parts and accessories are delivered to the requested destination as quickly as possible. VDL Bus & Coach is one of the largest bus and coach producers in Europe.

About VDL Groep

VDL Bus & Coach is part of VDL Groep. This international industrial company focuses on the development, production and sales of semi-finished products, buses & coaches and other finished products and the assembly of cars. The headquarters are in Eindhoven, The Netherlands. Since the founding in 1953 this family-owned company has grown to include 106 operating companies, spread over 20 countries with approximately 15,000 employees and an annual turnover of 5.780 billion euros in 2019. The strength of VDL Groep lies in the cooperation between the companies.