FVA/VDMA electromobility forum: E-MOTIVE

Changing drive systems – The future is electric
Record number of delegates at the 10th E-MOTIVE expert forum for electric vehicle drives

- **Over 270 delegates from 11 countries attend anniversary event with 40 presentations**
- **Mayor of Stuttgart Fritz Kuhn calls upon German manufacturers to produce suitable electrical vehicles for municipalities**
- **German car manufacturers and suppliers accept the challenge of electromobility**

Frankfurt, September 19, 2018. The evolution of the drivetrain is in full swing as drives become increasingly electrified. Car manufacturers in Germany and around the world are investing heavily in electric drives and greatly expanding their range of electric and hybrid vehicles. This drive towards electromobility is revolutionizing the automotive sector. It is therefore no surprise that the E-MOTIVE expert forum for electric vehicle drives welcomed a record number of delegates on its 10th anniversary. Over 270 delegates (2017: 200) from 11 countries, representing the worlds of science and industry, attended the congress of the German Research Association for Drive Technology (FVA) in Stuttgart on September 12 and 13. The event provided the opportunity to present and discuss the latest trends and technologies for the development of electric vehicle drives. This year's event was also the first to welcome international delegates.

Increasing competition calls for more research and collaboration
It is undeniable that the shift towards electrification of the drivetrain has picked up speed. All over the world, the technological competition is becoming ever more intense. This is forcing the continued development and integration of new technologies. Digitalization and networked connection in vehicles and production, along with new mobility services and autonomous vehicles, present both opportunities and challenges for German industry. New players are moving into the market, while value creation among products is shifting or is distributed differently. These changes require greater collaboration among industry players, along with a massive expansion of research and development activities: "We need to establish and expand intensive R&D activities and long-term innovation networks if German car manufacturers and their suppliers are to defend their leading position and achieve market leadership in electromobility too. Success against global competition will be built on collaboration across disciplines and borders. The E-MOTIVE expert forum encourages this international dialog between science and industry, and combines expertise from different sectors," says Dr. Tobias Böhm, Head of Electrified Drivetrain, Group Research Volkswagen AG and Chairman of the E-MOTIVE board responsible for the content of the congress.

Mayor of Stuttgart Fritz Kuhn sees onus on German industry
At the start of the event, the Mayor of Stuttgart, Fritz Kuhn, spoke about the city's plans for sustainable mobility and called upon German car manufacturers to quickly bring fully electric vehicles onto the roads. "Cities gain nothing from announcements. They need products that are suitable for everyday use," he said. As an example, he pointed to fully electric buses that "actually do the job in a hilly city like Stuttgart." According to Kuhn, people's mobility habits are changing. He claimed that this could for example be seen in the growing popularity of electric vehicles: "The people of Stuttgart like electric vehicles because they are fast and maneuverable." He therefore advised the industry to respond to the impatience of citizens and cities. "I can only advise the automotive sector to act quickly. Not only will this secure the region's economic future, but it will also help us protect the environment and fight climate change," concluded Kuhn.

Manufacturers and suppliers push drive electrification forward

"Changing" certainly describes the current mood in the automotive sector and its entire value creation chain. Against this backdrop, keynote speakers from **Bosch**, **Daimler** and **Mahle** provided insights into their strategies and expectations for the market:

"We see excellent potential in electric drives. We are experiencing very strong demand for components such as the electric motor and performance electronics. This is also the case for systems such as the eAxle. This allows us to respond to demand from both established OEMs and start-ups," explained Ralf Schmid, Senior Vice President Business Unit Electric Axles and Motors, Robert Bosch GmbH.

Daimler is massively expanding its range of electric vehicles and making further improvements to its hybrid range: "By 2022, we will have introduced ten battery-powered vehicles that will give our customers electrical options from the smart to large SUVs. We are convinced that the future is electric. That is why we will also continue to expand our plug-in hybrid range with EQ Power technology. Cooperation, including across borders, is becoming ever more important. Collaborations and partnerships promote innovations and therefore support change," said Wilko A. Stark, Vice President Daimler and Mercedes-Benz Cars Strategy & Head of CASE, Daimler AG, at the E-MOTIVE expert forum.

Supplier Mahle is also implementing a dual strategy: "We are currently in the age of the electric drive. At MAHLE, we pursue a dual strategy. On the one hand, we are continuing to develop our combustion engines and will maintain our excellent position here. On the other hand, we have developed a focus strategy for electromobility in which we have singled out individual issues. These include system-related areas like the electric rear axle, so that we can successfully enter the market as quickly as possible," explained Dr. Otmar Scharrer, Vice President Corporate Research and Advanced Engineering, MAHLE International GmbH.

Joint industrial research and networks as the key to success in a changing world

The growing momentum behind the electrification of vehicles and in power transmission engineering is bringing about radical changes throughout the whole German mobility and automotive industries, as well as in important areas of mechanical engineering. Additionally, research and cross-sector networks play a decisive role. Hartmut Rauen, Deputy Executive Director of the VDMA, CEO of the FVA and co-initiator of E-MOTIVE explained the idea behind the network in a conversation at the congress: "The E-MOTIVE initiative was founded 10 years ago by the FVA, the world's leading innovation network for drive technology. Back then, we wanted to become, and had to become, a leading network for innovation in electromobility too, in particular for electrical drivetrains. This event shows that we have achieved that goal. We have welcomed a record number of delegates to our event in the heart of the German car industry, with top sponsors like Bosch, Daimler and Mahle supporting us. The process of transformation toward electromobility requires a complete reorganization of expertise networks across the entire value creation chain. This also applies to the skills of individual workers. In a disruptive process such as this, networks are an essential success factor. The E-MOTIVE network, featuring the best minds from industry and science and the tools of collaborative industrial research, make it an ideal platform. That is what the FVA's E-MOTIVE network stands for."

VDMA "Transformation of Powertrain" study shows potential for value creation and the need for action

After two days and 40 presentations by representatives of science and industry, Thomas Lüdiger from FEV Consulting GmbH presented the results of the VDMA's "Transformation of Powertrain" study. According to the study, the shift toward electrical drives is opening up new opportunities for mechanical engineering firms for additional value creation. The ZEV index developed in the study clearly shows, however, that the transformation of mobility is proceeding at a dynamic pace. This means that companies in the mobility sector must address the transformation process in order to successfully shape this evolution and remain competitive in future. The full study is available free of charge for members of the FVA, FVV and VDMA. A summary of the study can be downloaded from the website of the VDMA electromobility forum (German only):
https://elektromobilitaet.vdma.org/antrieb-im-wandel

About the 10th E-MOTIVE expert forum on electric vehicle drives

Over 270 industrial and scientific experts from mechanical and plant engineering, electrical engineering and the supplier and automotive industries came to the annual event to gather information on the current state of the art of research and practical applications. 2018 saw the event welcome international delegates for the first time. The conference was organized by the Research Association for Drive Technology (FVA), the Research Association for Combustion Engines (FVV) and the VDMA electromobility forum E-MOTIVE. Over a series of 40 lectures, leading industry and science experts gave delegates an overview of pioneering trends, key technologies and current research results from the E-MOTIVE network, while industry representatives provided an insight into their practical experiences with electromobility projects. The conference program was divided into seven topic areas: drive systems, battery, electric motor, production technologies, performance electronics, mechanical and mechatronic systems, electromobility in practice. The expert forum has established itself as the most important platform for technical and scientific dialog on electromobile power transmission engineering. This year's congress was sponsored by Robert Bosch GmbH, Daimler AG and Mahle International GmbH.
www.e-motive.net

About E-MOTIVE

The VDMA's electromobility forum E-MOTIVE pools the expertise of over 20 industry associations, forums and research associations of the VDMA. This enables them to comprehensively cover the future-oriented field of electromobility from the standpoint of the mechanical and plant engineering sector. The forum is the central point of contact for all activities in and around electromobility and highlights the key role of mechanical engineering in the development of this field. Some 28 research projects from the FVV and FVA are currently being conducted as part of the E-MOTIVE initiative.
elektromobilitaet.vdma.org

About the FVA

The Research Association for Drive Technology (FVA) is the world's largest and most successful global research and innovation network for drive technology. Industrial developers and researchers have been working together to tackle fundamental questions relating to power transmission engineering in a pre-competitive environment since 1967. This form of collective industrial research provides the basis for the product innovations of more than 200 FVA members. Over the last 50 years, the FVA has conducted over 1,700 projects with more than 230 million euros of funding.
www.fva-net.de

About the FVV

The FVV has been supporting research and development in the area of combustion engines since 1956. Its main goal is the continuous optimization of the degree of efficiency and emission values of engines and turbines – to the benefit of the economy, the environment and society as a whole. The FVV's members are small, medium and large companies within the sector, made up of automobile companies, engine and turbine manufacturers and their suppliers. **www.fvv-net.de**

Enclosed photos

- E-MOTIVE expert forum 2018 at the Stuttgart Congress Center (M. Brunner © FVA)
- Dr. Tobias Böhm, Head of Electrified Drivetrain, Group Research Volkswagen AG and Chairman of the E-MOTIVE board (M. Brunner © FVA)
- Mayor of Stuttgart Fritz Kuhn (M. Brunner © FVA)
- Ralf Schmid, Senior Vice President Business Unit Electric Axles and Motors, Robert Bosch GmbH
- Wilko A. Stark, Vice President Daimler and Mercedes-Benz Cars Strategy & Head of CASE, Daimler AG (M. Brunner © FVA)

- Dr. Otmar Scharrer, Vice President Corporate Research and Advanced Engineering, MAHLE International GmbH (M. Brunner © FVA)
- Hartmut Rauen, Deputy Executive Director of the VDMA; Fritz Kuhn, Mayor of Stuttgart; Christian Kunze, Deputy CEO of the FVA; Dr. Dietrich Birk, Managing Director of the VDMA Baden-Württemberg (M. Brunner © FVA)

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https://fva-net.de/fileadmin/content/Veranstaltungen/E-Motive/2018/E-MOTIVE_2018_Impressionen.zip
More photos and higher resolutions available upon request

Should you have any questions or require additional material, please contact:

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