**Innovations and Proven Products for the Mobility of the Future**

**Freudenberg Sealing Technologies Is Presenting a Comprehensive Portfolio at the Vienna Motor Symposium**

**Weinheim (Germany), April 25, 2018 – The auto industry is going through a fundamental technological transformation, moving from the internal combustion engine to emission-free mobility. The interplay of new powertrain concepts is the theme of the 39th International Vienna Motor Symposium, which attracts more than 1,000 technical experts from around the world. Auto suppliers are also addressing this theme. At the event, Freudenberg Sealing Technologies is highlighting new, original solutions for the electrified powertrains of the future and for the optimization of internal combustion engines.**

 “On one hand, our challenge is to increase the efficiency of classic internal combustion engines since they will be with us for many years,” said Claus Möhlenkamp, CEO of Freudenberg Sealing Technologies. “At the same time, we are developing components at full speed for new powertrain technologies and are shaping the mobility of the future.” That is why Freudenberg Sealing Technologies is working hard to develop sealing innovations for electric vehicles. The focus is especially on battery systems, fuel cells and thermal management, which will be the heart of the new powertrains, whether they are all-electric or plug-in hybrids.

**Energy – The Decisive Factor for the Successful Development of Electric Mobility**

“Energy is the core issue determining electric mobility’s successful development in the market and as a technology – whether for hybrids, vehicles with battery-powered electric motors or those that use fuel cells as energy sources,” Möhlenkamp said. “Within the Freudenberg Group, we already have years of research experience in this field. If we can make a contribution to it with our components and improve critical battery factors such as energy density and load capacity, I see very good opportunities in the market.”

The company is now building up more technical expertise in fuel cells and lithium ion batteries so it can provide specific product and system solutions for cars and industrial applications in the future. The portfolio expansion has been accompanied by organizational changes: “We are establishing a new business unit that will focus on energy storage systems in mobile applications, among other issues. In this way, we can use the company’s resources as effectively as possible for these products, to expand and further develop the business quickly.”

Freudenberg’s sealing experts are already developing a wide range of new solutions. For example, they have devised a new housing seal that optimizes the battery pressure compensation that is important for electric mobility: the smart pressure compensation element DIAvent. With another innovative seal for the housings of traction batteries, Freudenberg Sealing Technologies is making it possible to build electric vehicles more economically in small volumes. The patented “Profile-to-Gasket” (P2G) approach was especially developed for volumes up to 5,000 batteries per year. Batteries with substantial power densities and the resulting cooling requirements create a need for flat seals or the so-called Plug & Seals that Freudenberg Sealing Technologies manufactures as well.

The company is also focusing on electric-mobility products for thermal management as well as two-component housings for sensors and other electronic parts. Another promising area is lightweight design for electric motors, using plastics that conduct electricity or heat or insulate against them. Mechanical seals can also be used for electric motors, and Simmerrings remain indispensable in the transmissions of electrically powered vehicles. Finally, the housings for sophisticated control electronics must be sealed.

**More Innovations for Internal Combustion Engines**

But Freudenberg Sealing Technologies still sees potential for improvement in internal combustion engines. In its “LESS” (Low Emission Sealing Solutions) portfolio, the company is bundling innovative sealing solutions that help to minimize friction, optimize combustion and reduce weight, which in turn decreases a vehicle’s energy consumption and emissions. The political pressure to cut emissions is still a reality and is taken very seriously, Möhlenkamp said. “With our LESS products, we are helping our customers to achieve their emissions goals – for conventional engines as well as electrified powertrains.”

The LESS portfolio includes products such as the gas-lubricated mechanical face seal Levitex, which reduces CO2 emissions during driving by up to 1 gram of CO2 per kilometer. Or the transmission seal ring Levitas, which “floats” on a hydrodynamic oil film that it generates on its own, keeping friction and wear to an absolute minimum. This leads to a considerable decline in CO2 emissions. Seals, including Freudenberg’s radial shaft seal rings and diaphragms, are also used in vehicles’ exhaust treatment systems, providing a significant reduction in CO2 and nitrogen emissions.

During the Vienna Motor Symposium, Freudenberg Sealing Technologies is showcasing a wide selection of products for internal combustion engines, such as POP radial shaft seals with and without sensors, Curve Gaskets, Press-in-Place seals; as well as parts for electric vehicles, such as Simmerrings with electrically conductive nonwovens, seals for pouch cells and the pressure compensation element DIAvent; along with lithium ion battery separators and gas diffusion layers for fuel cells. The Freudenberg Group’s sealing experts are looking forward to strong attendance and exciting discussions with experts visiting the symposium.

***Image:*** *FST\_product\_images.zip + FST\_ClausMoehlenkamp2018.jpg*

**About Freudenberg Sealing Technologies**

Freudenberg Sealing Technologies is a longstanding technology expert and market leader in sealing technology and electric mobility solutions worldwide. With its unique materials and technology expertise, the company is a proven supplier for demanding products and applications, as well as a development and service partner to customers in the automotive industries and in general industries. In 2017, Freudenberg Sealing Technologies generated sales of about €2.3 billion and employed approximately 15,000 people. More information at [www.fst.com](http://www.fst.com)

The company is part to the global Freudenberg Group which, with its Business Areas Seals and Vibration Control Technology, Nonwovens and Filtration, Household Products as well as Specialities and Others. In 2017, the Group generated sales of approximately €9.3 billion and employed more than 48,000 associates in around 60 countries. More information is available at [www.freudenberg.com](http://www.freudenberg.com).

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