PRESS RELEASE

60 Years of Research on Clean Engines and Turbomachinery

Frankfurt/Main, 4 October 2016. **The Forschungsvereinigung Verbrennungskraftmaschinen (FVV) is celebrating its 60th anniversary. Since the association was founded in Germany in 1956, industry and science have been working on clean engines and turbines. The progress achieved in decreasing the use of fossile fuels and reducing exhaust emissions has been huge. To mark this anniversary, the FVV opens its research agenda for new topical issues.**

In 1956 the German Economic Miracle had taken off. Industrial production and transport grew rapidly, as well as the associated energy demand. This was the background scenario for the 27 founding members to establish the FVV as a spin-off of the Verband Deutscher Maschinen- und Anlagenbau (VDMA, German Engineering Federation) with a view to professionally organise their cooperation in industrial collective research. The basic research for low-emission and fuel-efficient combustion engines is one of the association's main objectives. Over the years, about 1,200 research projects have continously prepared the ground for innovations that have nowadays found widespread use. These include the direct fuel injection for gasoline engines, which allows fuel savings of up to 15 percent, or the SCR catalysis, which almost completely eliminates nitrogen oxide emissions of modern diesel engines. In the field of gas turbines and aero engines industrial collective research projects initiated by the FVV have enabled the evolution of high temperature resistant materials, which significantly enhance their efficiency.

The FVV research network has considerably grown since it was founded. It currently comprises 170 German and international member companies. FVV's President, Dr Georg Pachta-Reyhofen, explains the model for success as follows: "Companies set aside competition and research key issues together on a precompetitive basis to optimise their products with the support of universities and other research institutes." Precompetitive collective research is, according to the Chief Executive of the Arbeitsgemeinschaft industrieller Forschungsvereinigungen (AiF, Federation of Industrial Research Associations), Dr Thomas Kathöfer, an important pillar of public research funding: "Industrial collective research (IGF) encourages on the one hand the transfer of research results to business in order to innovate products; on the other hand, it facilitates the supply of skilled workers, since young engineers who participate in IGF projects at the scientific institutes may qualify for professional tasks at company level." Actually, one PhD and another four theses at final year, bachelor or master level originate from each research project. In addition, every two years the FVV presents the Hans Dinger Award to young talented people who have made an important contribution to the success of an FVV project.

To mark its 60th anniversary, the FVV took a look into the future. As part of the 2016 Autumn Conference in Magdeburg, a high-level panel dealt with the question „What is driving the future? Combustion engines for the world of tomorrow".

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“Even if about 25 percent of all cars will be completely electrified in 2025, it means that 75 percent of all new cars still will have an internal combustion engine on board," explained Dr Tobias Lösche-ter Horst, Chairman of the Scientific Committee of the FVV and Head of Powertrain Research at Volkswagen AG. Prof. Dr. Thomas Koch from the Karlsruhe Institute of Technology, who himself holds a PhD originating from an FVV project, added: “The combustion engine continues to be the essential prime mover for a large part of our mobility needs, such as freight transport or air travel, as well as for a secure energy supply. We therefore must continue our research efforts in order to make today as in the future substantial progress in greenhouse gas and air emissions.” The same applies to stationary turbomachinery used in gas-fueled power plants. “Further increasing the electrical efficiency continues to be a key priority for international competitiveness” said Christopher Steinwachs, Head of Engineering of Gas Turbines and Generators at Siemens Power & Gas. In the opinion of FVV Board Member and Chief Executive of APL Group, Professor Dr Jens Hadler, ‘zero impact emissions’ can only be achieved by a completely new generation of combustion engines: “It is technically feasible to produce e-fuels of solar or wind power. The key to success and for any management decision, however, is the security of our investments. This tasks requires support from the legislator.”

In future, the FVV will open its research agenda to issues that master society’s ever growing demands on clean energy and mobility. Dr Pachta-Reyhofen announced: “Apart from continuously optimising highly advanced combustion engine technologies, we will address at a precompetitive level issues such as novel/alternative fuels, hybrid powertrains, digitisation, sensors and artificial intelligence as well as alternative engine concepts. Brand new to our portfolio is the fuel cell where the focus will be on system integration and auxiliary equipment.”

About the FVV

The FVV was established in 1956 and has become a globally unique network for engine and turbomachinery research. The FVV promotes pre-competitive collective research in the sector and brings together industry experts and researchers with the goal to improve the efficiency ratios and emissions of engines and turbomachinery – for the benefit of the economy, the environment and society in general. The FVV also actively supports young researchers. FVV members are small, medium-sized and large companies in the manufacturing sector: automotive, engine and turbomachinery manufacturers and their suppliers.

The FVV is a member of the German Federation of Industrial Research Associations (AiF), which is a research network for small and medium-sized companies in Germany.

Additional information is available at **http://www.fvv-net.de**

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