



FVV-Newsletter 02/2022

The EU plans to be CO₂-neutral by 2050. By 2030, i.e. in eight years, net greenhouse gas emissions are to be reduced by 55% compared to 1990, according to a draft in the context of the -Green Deal-. The FVV Fuel Study IV published last year has shown that this will not be feasible if available climate-effective solutions are ruled out for the existing fleet (approx. 75% of the passenger cars registered at that time). Yet it would be important to focus on the transformation of the energy system and the complementary opportunities of sustainable energy carriers - electrons and molecules. For heavy road transport, shipping as well as air transport, battery-electric propulsion is in any case considered to be of limited applicability. With a technology-open approach, all sustainable powertrain and power generation systems, including available enabling technologies, could make their contribution to phasing out fossil fuels as quickly as possible and thus support effective climate protection. **#staytogether**

Zero-impact vehicles (ZIV)



How engines must perform to prevent a negative impact on air quality

A research project initiated by the FVV shows: If vehicles driven by combustion engines comply with very strict exhaust emissions limits, they no longer have a negative impact on air quality. However, the maximum permissible limit for individual vehicles depends on the respective driving and traffic situation. The conceptual study (1407) was presented at the FVV Spring Conference in Würzburg. Further projects of the research line 'Zero-impact Emissions (ZIV)' can be found by FVV members [here](#).

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Mastering Complexity – Pre-competitive Collective Research in Hybrid Powertrains

MTZ worldwide 06/2022 // The electrification of combustion engine powertrains enables emissions of both greenhouse gases and exhaust pollutants to be reduced significantly. However, the growing level of complexity that accompanies hybridization is posing new challenges for the development process and the simulation tools used. Through several projects, the FVV is aiming to provide its members with such tools and create a more comprehensive foundation for small and medium-sized industrial businesses.

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Without climate-neutral fuels, CO₂ targets will be missed



Renewable and alternative fuels are essential for climate protection in the mobility sector and support energy security // Open letter from Scientists to the European Commission, the Council and the Industry, Transport and Environment Committees of the EU Parliament

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New study by the University of Bayreuth on life-cycle assessment of metals shows: The lifetime of technology-critical metals is short



Worldwide, almost all technology-intensive industries depend on highly available metallic raw materials. Therefore, precise and reliable information is needed on how long these raw materials remain in the economic cycle // To obtain the necessary data, a research team from the Universities of Bayreuth, Augsburg and Bordeaux has now developed a new modelling method and applied it to 61 metals // The study published in 'Nature Sustainability' shows: The metals needed for specific high-tech applications, which in many cases are scarce worldwide, are used for only one decade on average // Raw material bottlenecks can have a decisive influence on the transformation to climate neutrality, even in a circular economy.

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Sustainable, carbon-neutral mobility: How quick could we get there?



If the same, tech-neutral sustainability criteria would be applied to electromobility and alternative fuels, Europe could move much faster towards a clean and sustainable mobility, especially with eMethanol // Since the speed of the ramp-up of new technologies in the EU determines how much CO₂ is released from the European transport sector into the atmosphere, a supplementary study to the FVV Fuel Study IV (published in 2021) is currently looking intensively at bottlenecks that could hinder a fast ramp-up of possible transformation paths // Diversification is key and it is important to consider options that reduce emissions in the existing and new vehicle fleet // There is much to be said for a mix, for example of electromobility, supplied with European green electricity, and classic powertrain technologies that are operated with sustainable synthetic fuels produced more efficiently in the sunny and windy regions of the world

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HIF Global launches e-fuels company in Germany



HIF Global continues its global expansion to produce highly innovative fuels with the launch of HIF EMEA // Armin Schnettler and Thorsten Herdan to lead the new branch company headquartered based in Berlin, Germany

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THEMIS News
Overview of the current research programme:
[FVV Project List](#)

THEMIS Calendar:
[FVV meetings in June/July](#)
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NEWS FROM THE AiF

BMW Innovation Day German Mittelstand: 23 June 2022 - Save the date!



On 23 June 2022, it's that time again: The Innovation Day for SMEs of the Federal Ministry for Economic Affairs and Climate Action (BMWK) will serve as a showcase for successful innovations and a communication platform for innovative SMEs, illustrating their wealth of ideas and the effectiveness of open-topic innovation funding // This year's Innovation Day for SMEs is planned as a face-to-face event on the open-air site of AiF Projekt GmbH in Berlin-Pankow

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AiF Senate welcomes new members from national politics



The Federation of Industrial Research Associations (AiF) appoints Dr Daniela Brönstrup from the Federal Ministry for Economic Affairs and Climate Action (BMWK) and MdB Dr Holger Becker (SPD) to the Senate of the AiF as of May 2022

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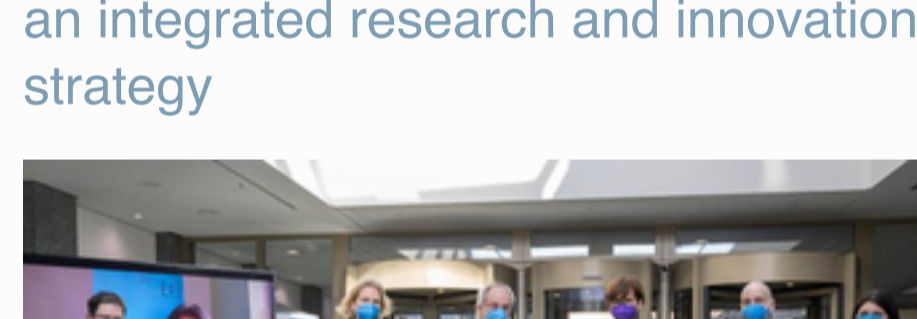
AiF Facts & Figures 2021/22 - now online



The German Federation of Industrial Research Associations (Arbeitsgemeinschaft industrieller Forschungsvereinigungen AiF) published current facts & figures // Distribution of funds in the Industrial Collective Research funding programme of the Federal Ministry for Economic Affairs and Climate Action (BMWK): North Rhine-Westphalia is the front-runner by federal state; in the technology areas, nanotechnologies & materials are the big winners

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EFI Annual Report: Germany needs an integrated research and innovation strategy



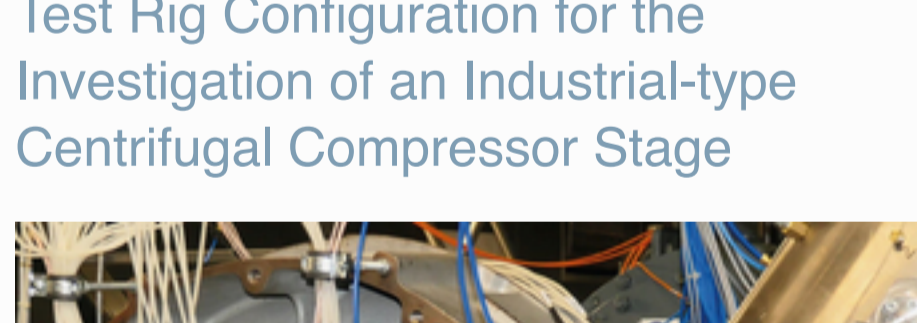
On 9 March, the EFI Annual Report 2022 was handed over to Bettina Stark-Watzinger, Federal Minister of Education and Research // Core Topics 2022: Position of Germany and the EU in key technologies / Motorised private transport on the way to sustainability

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JOURNALS

MTZ worldwide 05/2022

Test Rig Configuration for the Investigation of an Industrial-type Centrifugal Compressor Stage

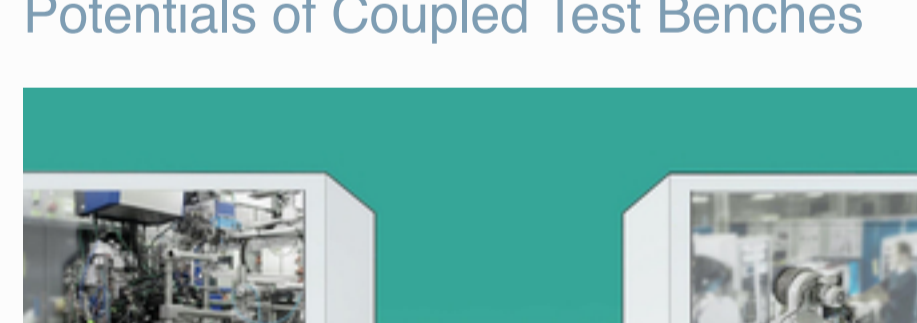


Centrifugal compressors are an essential part of the industrial environment and, as such, are subject to the most stringent requirements in respect of operational efficiency in large parts of the compressor map. As part of FVV research project no. 1279 "Design and implementation of the FVV industrial compressor", a new compressor stage was designed as a research platform at RWTH Aachen University to provide the basis for investigating the stability limit, as well as interaction phenomena, in part-load operation.

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MTZ worldwide 01/2022

Potentials of Modern Test Benches



Technological trends, such as electrification and automated driving, result in increasingly complex vehicle development processes. Hereby, distributed development tools can assist in a wide range of applications. In the FVV project "Method Hybrid Testing" (no. 1363) a methodology for a virtual test bench network for hybrid electric drives was developed at the Karlsruhe Institute of Technology accompanied by APL. This allows investigations at system level to be carried out as early as at the component development stage.

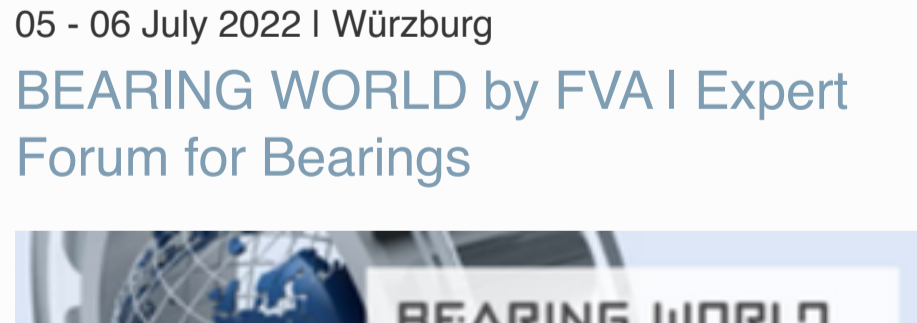
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You will find further technical publications on our website: [FVV Research Priorities](#) | [MTZ Project Reports](#)

EVENTS

05 - 06 July 2022 | Würzburg

BEARING WORLD by FVA | Expert Forum for Bearings

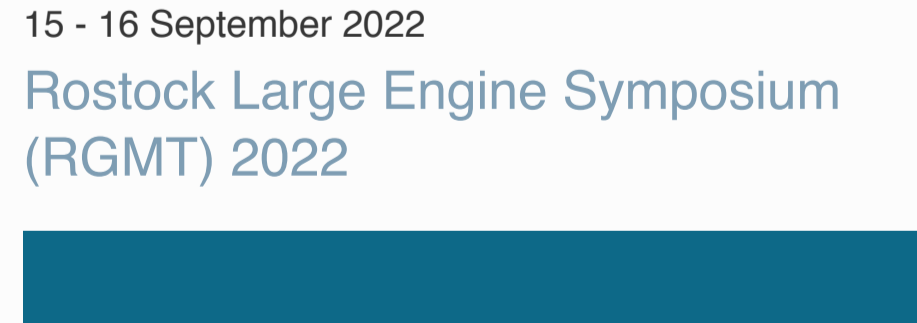


The BEARING WORLD forum on "Industrial Research and Science in Dialog with Practical Application" will take place in Würzburg from July 5-6, 2022. It focuses on all aspects of bearings in theory and application and promotes exchange of knowledge between universities and industry. Secure your ticket and join the dialog with 20 exhibitors from industry and research and more than 40 top speakers from the automotive and supplier industry as well as leading research institutes.

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15 - 16 September 2022

Rostock Large Engine Symposium (RGMT) 2022

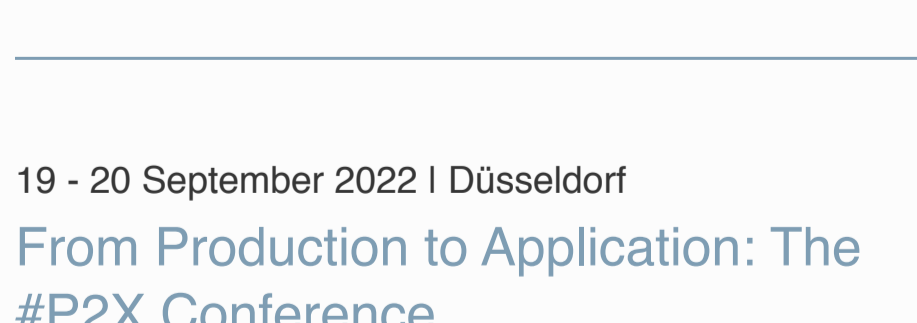


More stringent emission legislation and an increasing public interest for environmentally friendly propulsion concepts are dominating the research and development activities of engine manufacturers and suppliers. With the introduction of IMO TIER III emission limits for marine diesel engines there will be drastically reduced. At the same time, substantial regulations on the fuel sector are to be respected. To meet these challenges new technological concepts and control strategies are required. The conference focusses on recent research and development results to comply with future emission limits as well as the discussion of current and prospective boundary conditions. In this context, researchers and engineers from engine manufacturers and suppliers as well as representatives from shipping companies, ship building industry, power plant operators and legislation are addressed by the symposium.

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19 - 20 September 2022 | Düsseldorf

From Production to Application: The #P2X Conference

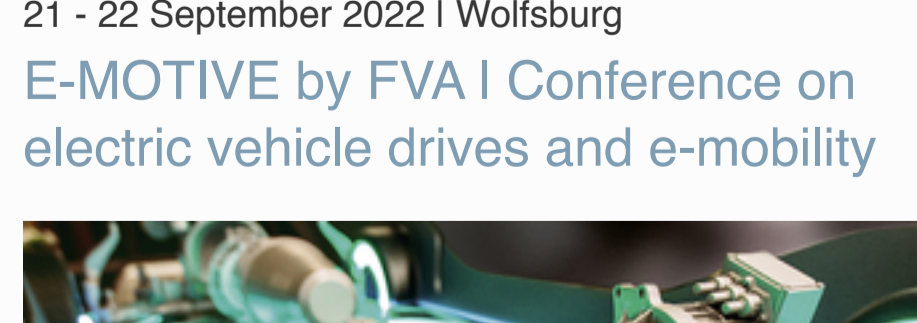


Real-life challenges along the complete value chain of hydrogen and its downstream products will be the focus of the **From Production to Application: The #P2X Conference**. Key topics: electrolysis and other production processes for hydrogen, synthesis for e-fuels and power-to-liquid products such as ammonia and methanol, the application in heavy-duty transport, shipping and aviation or in the process industries steel & chemicals, safety-related issues, transport and logistics as well as the technical-economic evaluation of entire supply chains and their business cases in a national and international context.

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21 - 22 September 2022 | Wolfsburg

E-MOTIVE by FVA | Conference on electric vehicle drives and e-mobility



Industry and research are already working diligently on the mobility of tomorrow. Powertrains will have an increasing amount of electric and electronic components, and the technology requirements are rising quickly. Exchange ideas with international experts from leading companies and institutes – and catch up on the latest research results and gain insights into industrial practice. Take advantage of this opportunity to be a part of the E-MOTIVE Expert Forum with your presentation: **21 - 22 September 2022 | Wolfsburg**

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For questions regarding your newsletter subscription, please contact Petra Tutsch or Stephanie Smieja at newsletter@fvv-net.de