

Empa | Methanation Method

As part of the mobility demonstrator “Move,” researchers at the Swiss Federal Laboratories for Materials Testing and Research Empa are investigating the production of synthetic methane from an energy, technical and economic perspective. A process developed at Empa is being used for this purpose: sorption-enhanced methanation. In contrast to the usual process, this runs in a single

stage and does not require hydrogen separation in the product gas. The reaction water is adsorbed on a porous catalyst support during the process. This shifts the reaction equilibrium toward an almost 100 % methane yield. This simplifies process control and increases efficiency. The gaseous product can also be fed directly into the gas network without additional purification.



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Empa has developed a single-stage methanation process

Acatech | Development of a Mobility Data Space

The German Federal Ministry of Transport has commissioned Acatech to develop and establish a mobility data room. This is to be ensured by the now founded supporting company DRM Datenraum Mobilität as a non-profit organization. The task of the new institution is to provide data from vehicles, from public transport, from transport infrastructures such as traffic lights or parking garages, from the field of logistics, and also from weather data, which is becoming increasingly important. The Mobility Data Space will thus ensure that such data can be exchanged in a secure, standardized manner that is fair to all in order to improve traffic safety, but also to develop optimized or new mobility services.



© Acatech

The exchange of traffic data is becoming increasingly important

Continental | Mabire to Lead Automotive Technologies



Gilles Mabire

Continental is appointing Gilles Mabire as Chief Technology Officer (CTO) of the Automotive Technologies division. Mabire, who is currently in charge of the Commercial Vehicles and Services business unit at Continental, will take on the new role by January 1, 2022 at the latest. He will succeed Dirk Abendroth, who has left the company at his own request. Pending Mabire's assump-

tion of office, Michael Hülsewies, Head of Architecture and Software, will assume the management of the CTO organization on an interim basis. In the meantime, Mabire is to complete central projects as part of the transformation process he has initiated in the Commercial Vehicles and Services and Smart Mobility business units.

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RWTH Aachen | Eckstein Appointed to BMVI Advisory Council

Prof. Lutz Eckstein, Head of the Institute of Automotive Engineering (ika) at RWTH Aachen University, has been nominated to the Scientific Advisory Board of the German Federal Ministry of Transport and Digital Infrastructure (BMVI). Eckstein will initially support the ministry's work with this body for six years by providing scientific expertise. The activities of the interdisciplinary advisory

board focus on the transport sector. The topic of digitization, which has been part of the ministry's portfolio since 2013, is said to pose new challenges to transportation policy and is taking on an increasingly important role. The scientists on the advisory board also address this issue, providing impetus for a modern transportation policy. Eckstein has led the ika since 2010.



Lutz Eckstein

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Fortum | Recycling Plant for Lithium-ion Batteries

Energy company Fortum is building a lithium-ion traction battery recycling plant in Harjavalta (Finland), which is scheduled to start operations in 2023. The company is using a combination of mechanical and low-CO₂ hydrometallurgical processes. First, the batteries are disassembled and treated in a mechanical process at the plant in Ikaalinen (Finland). The so-called black mass of the battery, which contains rare metals, is then collected and transported to Harjavalta for hydrometallurgical processing. The plant is expected to be able to recycle other valuable materials in addition to rare metals. Fortum is currently already operating a hydrometallurgical plant as an industrial-scale pilot project at the Harjavalta site.



© Fortum

Rendering of the new plant in Harjavalta

Renault | Plug-Power | Hydrogen Solutions

Renault Group and Plug Power Inc. have established a new joint venture, Hyvia. At its core is the development and launch of turnkey hydrogen mobility solutions in the sense of a complete ecosystem: light commercial vehicles powered by fuel cells, charging stations, the supply of renewably produced hydrogen, and fleet maintenance and management. The first three fuel cell vehicles based on the Renault Master are scheduled to launch in Europe at the end of 2021. The joint venture is owned equally by the two partners. Hyvia will be headed by Frenchman David Holderbach, who has around 20 years of experience in strategy, product and international sales at Renault Group.



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The name Hyvia is a combination of “Hy” for hydrogen and the Latin word “via” for road, and is intended to represent a new path toward low-carbon mobility



IMPULSES



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A Function-oriented Future

After last year's setbacks, there are now clear signs of recovery in the automotive industry. The decisive factors in the future will be the electrification and digitalization of the vehicles. While the design and the functions that add value for customers will become increasingly important sales arguments, the vehicle's mechanical structures will be taken for granted.

The first companies are already beginning to transform their component-oriented development departments into organizations with a focus on functions. This type of collaboration breaks down communication barriers and promotes an understanding of functional interactions. It allows unconventional ideas to be transformed into innovative solutions for systems and components. Virtual functional vehicles and system simulations are crucial to the success of this approach, because they make it possible to take ground-breaking decisions as early as the concept phase of the development process without the need to go through the time-consuming and costly procedure of building the hardware. Other crucial elements in this transformation include the development of software and electronics expertise and the adoption of networked, agile working methods.

Focusing on functions can enable companies to develop their innovative abilities even further. But the transformation will only be successful if companies support their employees during the change process and also understand that their successful component-oriented way of working, together with the processes which have been perfected over decades and the clearly defined responsibilities, will have to change too. The new culture of collaboration will become a key success factor and managers will have to play a very special role. They must take a function-oriented approach and act as role models during the transformation process in order to ensure that their companies retain their leading positions, otherwise new players will take their place.