

INERATEC Wins First Lothar Späth Award

KIT's Spinoff Is Granted New Innovation Award for Decentralized Chemical Reactor Technology that Fits into a Ship Container



Winners and jury members of the 2018 Lothar Späth Award - with the INERATEC team in the middle. (The detailed figure caption is given at the end of this text; photo: Wolfgang List)

Inexpensive and climate-friendly production of fuels from renewable energy sources – this is the mission of INERATEC, a spinoff of Karlsruhe Institute of Technology (KIT). Conventionally, production of synthetic fuels, such as gasoline, requires very large facilities. INERATEC builds compact chemical reactors and fits them into a ship container so that they can be used at any location. For this idea, the young company has received the first Lothar Späth Award.

“Synthetic fuels are an important element of climate protection. The technologies developed by INERATEC might finally help to make these fuels widely available,” says the President of KIT, Professor Holger Hanselka. “I am particularly pleased that a KIT spin-off has received the first Lothar-Späth-Award. The award once again shows the highly innovative work of our scientists.”

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The principle behind synthetic fuels is production of gasoline, kerosene, diesel, or methane from greenhouse gases, such as so far unused CO₂ arising in biogas facilities or directly in the atmosphere – and regenerative hydrogen. So far, this has been a cumbersome and expensive process taking place in large chemical facilities. The founders of INERATEC managed to shrink this plant down to a miniaturized format that fits into a ship container. “We offer pre-mounted, compact plants of modular design, such that capacity can be extended any time, if necessary,” Tim Böltken, Managing Director of INERATEC and KIT alumnus, says. If the energy required for the manufacturing process is also produced from renewable sources such as solar, wind or water power, the result is a climate-friendly product.. “In our plants, renewable energy can be stored in chemical energy carriers,” Böltken adds.

Several plants have already been delivered and taken into operation: a power-to-liquid plant that produces renewable liquid fuels and is suited for mobile use was sold to Finland. In the city of Sabadell, Catalonia, a power-to-gas plant produces synthetic methane gas from sewage sludge-based carbon dioxide. This methane gas is planned to be fed directly into the Spanish grid. At KIT, where the Energy Lab 2.0, a complex of different plants, is presently being established to test the use of various technologies for the production and consumption of electrical, thermal, and chemical energy, INERATEC is setting up a pilot plant for the production of renewable kerosene from carbon dioxide and hydrogen.

For INERATEC, the Lothar Späth Award now tops off a very successful year: in September, the team received the German Entrepreneur Award and in November, the special award for innovative startups within the German Gas Industry Innovation Award. In addition, the team is ranked in the “Young Elite, Top 40 under 40” of the *Capital* journal.

Additional Awards for Innovative Coatings and Special Lasers

The second prize was granted by the jury to Nanoapta GmbH for the development of anti-reflection coatings for optical components and lenses. These coatings consist of special nanostructures modeled after the eyes of moths. The third prize went to Active Fiber Systems GmbH, Jena, for a novel ultrashort-pulsed laser system for processing materials, light-matter interaction in fundamental research, and cancer therapy.



The INERATEC managing directors Paolo Piermartini and Tim Böltken with Peter Pfeifer of KIT and jury member Hans-Jörg Vetter, Supervisory Board Chairman of Herrenknecht. (Photo: Wolfgang List)



The second prize went to Nanoapta GmbH, here with jury member Daniela Späth-Zöllner. (Photo: Wolfgang List)



The team of Active Fiber Systems GmbH with the chairman of the jury and President of KIT Holger Hanselka. (Photo: Wolfgang List)

The Lothar Späth Award

The Lothar Späth Award was granted this year for the first time and is named after Professor Dr. h.c. Lothar Späth. It supports outstanding and innovative collaborations in industry and science in Baden-Württemberg and Thuringia. The award is endowed with a total amount of EUR 40,000. The main award in the amount of EUR 25,000 and acknowledges the development of innovative pioneer products, processes, and services. A wide range of companies, persons, and institutions has agreed to fund the award and join the jury. Dr.-Ing. E.h. Martin Herrenknecht, founder and Chief Executive Officer of Herrenknecht AG, is the main initiator of this award and member of the jury. The jury is chaired by the President of Karlsruhe Institute of Technology (KIT), Professor Dr.-Ing. Holger Hanselka. Other jury members are EU Commissioner Günther H. Oettinger, the former Chancellor Dr. h. c. Gerhard Schröder, Rainer Neske, Chief Executive Officer of LBBW, Hans-Jörg Vetter, Chairman of the Supervisory Board of Herrenknecht AG, Dr. Stefan Traeger, Chief Executive Officer of Jenoptik AG, Dr. Daniela Späth-Zöllner, daughter of Lothar Späth and representative of the family, and Bizerba SE & Co. KG.

For more information on the Lothar Späth Award, click <https://www.lothar-spaeth-award.de> (in German only)

Detailed caption: Lothar Späth Award 2018: among the laudators were Daniela Späth-Zöllner (third person from the left), Hans-Jörg Vetter, Chairman of the Supervisory Board of Herrenknecht, former Chancellor Gerhard Schröder, the President of KIT and Chairman of the Jury, Holger Hanselka, Baden-Württemberg Science Minister Theresia Bauer, Herrenknecht's CEO Martin Herrenknecht, and EU Commissioner Günther Oettinger. (Photo: Wolfgang List)

Being “The Research University in the Helmholtz Association,” KIT creates and imparts knowledge for the society and the environment. It is the objective to make significant contributions to the global challenges in the fields of energy, mobility and information. For this, about 9,300 employees cooperate in a broad range of disciplines in natural sciences, engineering sciences, economics, and the humanities and social sciences. KIT prepares its 25,500 students for responsible tasks in society, industry, and science by offering research-based study programs. Innovation efforts at KIT build a bridge between important scientific findings and their application for the benefit of society, economic prosperity, and the preservation of our natural basis of life.

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