

# Thuringia Focus.



The high-temperature electrolysis stacks technology developed by Fraunhofer IKTS is about to reach industrial production and application together with thyssenkrupp nucera. Photo: © Fraunhofer IKTS

## Partnership for green hydrogen demonstrates innovative technology potential in Thuringia

**Technology from the Erfurter Kreuz industrial district will make an important contribution to the energy revolution of the future: Thuringia's Fraunhofer IKTS and Dortmund-based ThyssenKrupp Nucera, one of the world's leading suppliers of high-efficiency electrolysis plants, have entered into a partnership in the field of electrolysis for the production of green hydrogen. The partners are building a pilot plant that will produce high-temperature electrolysis stacks using SOE cells, a technology in which IKTS specializes.**

SOEC (solid oxide electrolyzer cell) technology enables higher-efficiency conversion of electricity into hydrogen and has the major advantage that CO<sub>2</sub> can be actively extracted from the environment and converted, together with green hydrogen, into green syngas and downstream products such as e-fuels. The process also offers long-term stability, robustness and low-cost mass production. As the

energy-efficient technology significantly reduces electricity consumption during electrolysis, it could be particularly beneficial to industries that generate large amounts of waste heat.

These activities are based at the Battery Innovation and Technology Center (BITC), which is making significant contributions to battery technology for e-mobility in addition to developments in hydrogen production. "The strategic partnership between IKTS and thyssenkrupp nucera is further proof that Thuringia has outstanding expertise in future technologies, particularly with regard to climate neutrality and the energy transition," said LEG Managing Director Andreas Krey. "Thuringia supports the development of this potential, one example being the establishment of the BITC three years ago in LEG's Erfurter Kreuz industrial district". (hw)

### News

#### Bringing research to market faster

Erfurt, the capital of Thuringia, is to become the headquarters of the **German Agency for Transfer and Innovation (DATI)**. As the German government's central innovation and funding agency, DATI will support the rapid transfer of technological and social research findings into economic and social applications. It will thus become a driving force and key contact point for research-based transfer and innovation in Germany. In particular, DATI aims to strengthen collaboration between industry players, research institutions and universities of applied science. The Thuringian Ministry of Economics had already submitted its own proposal for the DATI headquarters back in early 2022. Minister of Economics Wolfgang Tiefensee welcomed the decision: "Germany's economy thrives on innovation. Good ideas and research findings should be transformed into new products, processes and services as quickly as possible. That's why we need to speed up innovation even more in the future. DATI will drive this process for the whole of Germany from within Germany." Tiefensee also interpreted the establishment of the federal facility as an acknowledgment of Thuringia's success as an up-and-coming technology and business center. (hw)

### Further support for local business development agencies

By creating a centralised „local service point“, LEG aims at improving accessibility of their own service package all over Thuringia. The established services remain in place, among them the research databases for commercial sites and companies, support for commercial sites reporting or the furnishing of aerial images. Through the visiting program, LEG offers business promoters exclusive insights, while on-site visits are continued as well. An incessant focus on productive cooperation, tailored support and effective networking persists. The new central coordination of this service package helps to more smoothly guide to the right contact person. Further, the service point will be integrated into the website Invest in Thuringia. The head of the service point will be Anna Elisabeth Rinke, former contact person for commercial and industrial sites.

In addition, the annual event „Working group of local business promoters“ will be enhanced. Some conceptual adaptations and more interaction will refurbish the networking event. Thereby, LEG updates their service package addressing local business development agencies and further positions itself in the middle of economic action. More on the alterations will be announced shortly. (jp)

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## Modern Deutsche Bahn campus to be built in Erfurt

**It is a unique investment in the future for Deutsche Bahn. And it is being realized in Thuringia's state capital: Over the next few years, DB will be building its central training facility not far from Erfurt's main railway station and ICE hub. By 2028, Erfurt will house a DB Campus that offers attractive meeting and training facilities for up to 60,000 employees per year. DB is investing around 110 million euros in the project. It will include 7,600 square meters of space for seminars and events and 15,000 square meters of green and leisure areas.**

At the official project launch in Erfurt in March, Deutsche Bahn CEO Richard Lutz described the future campus as a “think tank for the future of rail in Germany” and the “emotional home” of all

Deutsche Bahn employees. The DB Campus will fulfill many functions – it will be a place for further education, open to business, industry and research, and thus promote innovation in the railway sector. Thuringia's Minister President Bodo Ramelow praised the triad formed by the future DB Campus, the Erfurt University of Applied Sciences and the University of Applied Sciences for Transportation Sciences in Gotha. He confirmed that rail is a key driver of urban and regional development. DB will use some existing buildings but will also build new ones. LEG is building a hotel nearby. “Once completed in 2028, it will be operated externally, offering overnight accommodations to DB employees as well as (on weekends) other guests,” explained LEG Managing Director Sabine Wosche. (hw)



Dr. Richard Lutz, CEO of Deutsche Bahn (2nd from right), Bodo Ramelow, Minister President of Thuringia (2nd from left) Andreas Bausewein, Mayor of Erfurt (right) and Martin Walden celebrate the launch of a DB Experience World together today. Photo: © Deutsche Bahn AG / Volker Emersleben

## Delegation trip brings Thuringia and Japan closer together

**A delegation trip to Japan at the end of April led by Thuringia's Minister of Economics, Wolfgang Tiefensee, offered a wide range of contacts and the best conditions for opening up new markets. From April 20 to 27, 25 companies and research institutions from Thuringia explored the great potential of the Tokyo metropolitan area, the industrial diversity of Osaka, the port industry in Kobe, and innovative trends in Kyoto. At the same time, they visited the Optics and Photonics International Exhibition (OPIE), where Thuringian companies were also present as exhibitors.**

Japan has traditionally been an attractive cooperation partner for Thuringia. The Land of the Rising Sun is strong in sectors and technologies in which Thuringian companies and research

ers are also very successful – optics/optoelectronics, sensor technology, micro/nanotechnology, medical technology, environmental technology and renewable energy. In addition, at a time when supply chains are becoming more fragile, Japan is gaining importance as a strategic sourcing location as it provides reliable access to innovative and highly specialized suppliers. Organized by LEG's Thuringia International team, the trip included visits to companies and research institutions such as Kawasaki Heavy Industries, Horiba, Nidec, Kyocera, Haneda Innovation City, and Kyoto University. The visit to the OPIE included participating in an industry-specific workshop, followed by a networking dinner with Japanese companies from the optics and photonics industry. (hw)

# Innovative holography from Zeiss revolutionizes the world we live in

Holograms are fascinating. They convey free-floating images or three-dimensional representations. The ZEISS Group, based in Thuringia, Germany, is one of the world's leading suppliers of holography technology. At the beginning of the year, the company successfully presented its highly innovative "Multifunctional Smart Glass" technology at the world's largest electronics trade fair, the CES in Las Vegas.

At the heart of the ZEISS application is a thin, transparent layer to which ultra-high-precision optics are attached in the smallest of spaces. This enables holographic technology to be used in applications previously limited by installation space, weight and cost. In addition, thanks to new ZEISS replication

technology, a master hologram can now be automatically duplicated in large quantities, making hologram production possible on an industrial scale for the first time ever.

Future applications include car windshields that display information so drivers can see it without taking their eyes off the road. Holographic applications on side and rear windows also support the car's digital communication with other vehicles, an important step toward autonomous driving. In a smart home, ZEISS technology can enable completely new forms of home lighting through integrated holographic elements in window panes. The CES in Las Vegas proved it: The new ZEISS technology revolutionizes the world we live in! (hw)



Holographic augmented reality head-up displays based on ZEISS „Multifunctional Smart Glass“ technology project important information without drivers having to take their eyes off the road. Photo: © ZEISS

## New home with state-of-the-art laboratories and modern draw tower

An extraordinary move culminated in the company settling in its own innovative headquarters. FBGS, a sensor specialist from Jena, recently opened the doors at a new location. The company previously operated out of rented space but now has a modern 2,000 square foot headquarters.

The new location offers sufficient space for the development and mass production of home-grown fiber optic sensors and components. The investment also included the installation of state-of-the-art equipment – the new site now houses physical and chemical laboratories, offices and meeting rooms, as well as its own fiber draw tower, with two more to follow. Today, about 20 employees work here under ideal condi-

tions; the company's products are widely used in the industrial, energy, construction and medical sectors, among others. The move itself was a major challenge. Sensitive laser and alignment systems had to be packed and unpacked, production lines had to be kept running or rebuilt in the clean room at the old and new locations and, of course, deliveries to customers worldwide had to be guaranteed at the same time. The move to the new site will enable the company, which was founded in 2005 as a spin-off from the Leibniz Institute of Photonic Technology (IPHT), to scale up production and continue growing. (hw)

### News

#### Strong funding for research into sustainability and innovative mobility

The state is providing a total of 6.4 million euros to the **Thuringian Innovation Center for Recyclable Materials (ThiWert)**, which is affiliated with the University of Applied Sciences in Nordhausen. Established in 2018, ThiWert develops new strategies for the use of secondary raw materials and conducts research in areas such as sustainable construction, geotechnics and bio-resource management. New research equipment will enable ThiWert to step up its activities and act as a test balloon for materials processing with a supra-regional impact. Its medium-term goal is the integration of circular economy principles into day-to-day business operations. The funding underscores Thuringia's active role in the transition to a more sustainable economy. Bauhaus University Weimar (BUW) and the Institute for Applied Building Research (IAB) in Weimar are also involved in the project. The partners' common goal is to "optimally prepare the next generation of experts in the circular economy and sustainable development," said Prof. Robert Wudtke, head of ThiWert.

"Digital Mobility Research Initiative": Thüringer Innovationszentrum Mobilität (ThiMo) will be receiving a state grant of 6.4 million euros. Established back in 2011 at TU Ilmenau, ThiMo helps to translate basic research into solutions for industry. Its expertise ranges from drive technology and plastics technology to power electronics, even including projects that involve electric and connected mobility. This latest injection of funds, provided under the "Digital Mobility Research Initiative", is specifically intended to incorporate digital methods into ThiMo's operations. ThiMo works with a wide range of stakeholders and – together with the Thuringian Centers for Mechanical Engineering and for Learning Systems and Robotics, the Thuringian Institute for Textile and Plastics Research and the Bauhaus University Weimar – is driving the "Digital Mobility Research Initiative". This is a prime example of how research and development in Thuringia is harnessing the potential of digital methods for more environmentally friendly transportation. (jp)

# Why Harry Kane is drawn to Thuringia during the European Championships

The UEFA European Football Championship will kick off soon in Germany – and Thuringia will be well represented. At the end of May, the German national team and coach Julian Nagelsmann will spend a week preparing for the tournament at the 5-star “Spa&GolfResort Weimarer Land” hotel south of Erfurt. The “Three Lions”, the English national team with striker Harry Kane, will stay in Blankenhain for the duration of the tournament in June.

The golf resort, which attracts the professional soccer players and their delegations, is a prime example of the high quality that Thuringia has to offer as a hotel and sports location. The hotel com-

plex, built and run by Thuringian entrepreneur Matthias Grafe, has everything you need for the perfect combination of (competitive) sports and a feel-good atmosphere. This includes a world-class sports field, a gym, a spa area and three golf courses. An alternative sports field and a media center are also being built in the town with support from Thuringia and LEG – investments that will boost Blankenhain’s attractiveness for tourists and its urban development. As the European championship shows, Thuringia is a location that has a lot to offer, and the state is pulling out all the stops to make Thuringia even more attractive for entrepreneurs and tourists. (hw)



The „Spa&GolfResort Weimarer Land“ in Blankenhain surrounded by stunning nature. Photo: Spa&GolfResort

# Preparing migrants for the job market – the German Professional School

It is a school unlike any other. The German Professional School (GPS) is an institution that specifically prepares refugees and, prospectively, young people from third countries for vocational training in Thuringia while focusing on integrating students into society. In early March, GPS opened its doors at four locations in Thuringia.

The official inauguration took place in Eisenach on March 4. The ceremony was



Start of the four GPS locations, Photo: © Drazen Zigic / Shutterstock

attended by Minister of Economic Affairs Wolfgang Tiefensee, State Secretary for Economic Affairs Dr. Katja Böhler and GPS President Dr. Katrin Langer. GPS has four main locations: Eisenach, Gotha, Mühlhausen and Jena. Sponsoring associations do the local work, while the central service unit is located at LEG in Erfurt.

Thuringian companies need skilled workers in order to keep growing. At the same time, the integration of immigrants is an important economic and social concern. GPS teaches language skills up to B2 level as well as knowledge about Germany and values such as democracy, the rule of law and equal rights. It also provides practical career guidance and promotes the social integration of its students by partnering with cultural and athletic clubs. (hw)

## Calendar

May 15  
InnoCON, Weimar

May 22 to 23  
Cloud Expo Europe Frankfurt  
(Booth: G090)

May 28 to 29  
PLMA - Private Label Manufacturers Association, Amsterdam  
(Booth: 8E52)

August 14 to 22  
Business trip „Pacific Northwest Region“, Seattle/Vancouver

September 01 to 06  
Business trip South Korea

May 17 to 20  
Brahmsfestival, Meiningen-Altenstein

August 31 to September 01  
Baroque Festival, Stiftung Friedenstein Gotha



### Publisher:

State Development Corporation of Thuringia (LEG Thüringen)

### Editorial Staff:

Dr. Holger Wiemers (V.i.S.d.P.),  
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Copy Deadline: 05/2024  
Layout: Franziska Gerlach  
Printed by: Mehgro

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