

Press release

Vienna, 02.05.2023

AIT PRESENTS THE LATEST TECHNOLOGIES AND SOLUTIONS IN THE FIELD OF POWER ELECTRONICS AND SMART GRIDS

From 09 to 11 May 2023, the AIT Austrian Institute of Technology will present the latest developments and services in the fields of power electronics and smart grids at the international PCIM trade fair in Nuremberg.

The AIT Austrian Institute of Technology, Austria's largest non-university research institution, will be represented again this year at PCIM, the leading international trade fair and conference for power electronics, intelligent drive technology, renewable energies and energy management.

PCIM will take place in Nuremberg from May 09 to May 11, 2023. The AIT exhibition will be located at booth 407 in hall 7. AIT experts will present their latest research results and developments in the field of power electronics and energy efficiency. Innovative solutions for the integration of renewable energies into the power grid will also be presented.

"Power electronics is a central building block of the energy transition. It enables efficient and flexible control of energy conversion processes and is crucial for the integration of renewable energies into the power grid. The AIT Center for Energy has years of experience and outstanding expert know-how in this field. We are very pleased to be represented at PCIM again and to demonstrate our expertise in the fields of power electronics, energy efficiency, smart grid and renewable energies," says Dr. Wolfgang Hribernik, Head of the Center for Energy at AIT.

Dr. Christian Chimani, Head of Center for Low-Emission Transport: "We are researching solutions for sustainable and thus future-proof mobility. PCIM offers us an optimal opportunity to showcase our latest developments and research results in the field of high-efficiency power electronics for electromobility."

Visitors:inside the PCIM are cordially invited to visit the AIT booth in Hall 7, Stand 407.

We will present our current research projects as well as development services in the field of power electronics/smart grids

- Latest silicon carbide (SiC) and gallium nitride (GaN) prototypes (4kW GaN inverter, GaN PFC)
- Hardware in the loop simulations for grid connected power electronics (grid forming modes/grid support modes/off-grid application)
- Presentation of the new AIT DC laboratory (100 kA / 75MW)

Highly efficient power electronics with novel semiconductor materials

Researchers at AIT are working intensively on the development and optimization of power electronics for electromobility and electrical power supply. By making the best possible use of the special properties of new semiconductor materials such as silicon carbide (SiC) and gallium nitride (GaN), the AIT develops components with the highest efficiency and power density and thus lower costs. This also includes software programming with innovative control algorithms.

At the AIT Center for Low-Emission Transport, the focus is on traction converters, on-board chargers and DC/DC converters. These have a significant impact on efficiency in battery-electric and hydrogen-powered vehicles, but can also contribute to cost savings. The expertise of the research group extends from design to vehicle integration and commissioning.

<https://www.ait.ac.at/en/solutions/e-mobility>

The AIT Center for Energy focuses on energy conversion for renewable energies, hydrogen systems and megawatt charging infrastructure. The researchers develop powerful and efficient power electronics solutions for the energy transition, using new semiconductor technologies such as GaN and SiC with high dielectric strength, which facilitate direct connection to medium-voltage grids. With a comprehensive range of test benches and model-based development methods, AIT offers added value in the design and testing of power system components.

<https://www.ait.ac.at/en/solutions/power-system-technologies-development-validation>

AIT Austrian Institute of Technology GmbH

The AIT Austrian Institute of Technology is Austria's largest research and technology organization (RTO) and plays in the top league worldwide in many infrastructure topics. With its seven centers, the AIT deals with the central infrastructure topics of the future and sees itself as a highly specialized research and development partner for industry. AIT's research and technological developments realize fundamental innovations for the next generation of infrastructure technologies in the fields of Energy, Low-Emission Transport, Health & Bioresources, Digital Safety & Security, Vision, Automation & Control and Technology Experience. These scientific research areas are complemented by expertise in Innovation Systems & Policy.

As a national and international hub at the interface between science and industry, AIT makes innovation possible thanks to its scientific and technological expertise, experience in the markets, close customer ties and an outstanding research infrastructure.

Enquiry note

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