

## Press Release

Vienna, 01/12/2021

### AIT OPENS HIGH PERFORMANCE DC LAB

- AIT expands its laboratory infrastructure with a pioneering direct current laboratory which is unique in Europe
- DC lab services available to industry and research
- Investment volume of EUR 3 million

On 1 December, the AIT Austrian Institute of Technology opened its new DC (direct current) lab at the Center for Energy. The state-of-the-art direct current laboratory marks a significant expansion of the current facilities at Austria's largest research and technology organisation. The laboratory is primarily designed for customers in industry and research partners. "This marks a further milestone in the development of the research infrastructure at the AIT Austrian Institute of Technology. The DC Lab is thus a unique facility in Europe. We are providing industry with extensive testing facilities for new developments in the field of direct current technologies," explains **AIT Managing Director Anton Plimon**.

Today, direct current technologies are used in fields such as renewable energy systems, for combining photovoltaics with batteries or hydrogen, in electrical systems of electric cars, and for the industrial-scale supply of power to facilities such as data centres. **Wolfgang Hribernik, Head of the Center for Energy**: "At the Center for Energy we are developing solutions for future innovative energy supply. We offer our customers and partners high quality, specialised laboratory infrastructure for electric energy systems. For years, the research infrastructure for electrical engineering components provided by the High Power Laboratory and SmartEST lab has been the only one of its kind in Europe. Now the new DC lab offers a development and validation platform for DC components."

**Friederich Kupzog, Head of the Competence Unit for Electric Energy Systems at the Center for Energy**: "There are very few comparable labs in Europe, and the new DC Lab enables us to assume a key role in significantly advancing DC innovations. We can support the development of new high performance switching devices for DC grids, for example, and technically characterise such new products under real conditions."

#### The DC Lab services

The DC Lab is a development and validation platform for DC components for manufacturers and operators of DC systems. The lab supports each stage in the entire development process, from concept through to startup. Typical applications include the testing of breaking capacity under operating conditions and short circuits, and short-time and surge current testing.

#### Facts, figures & dates

The DC lab was completed in October 2021, after only eleven weeks of construction. The design and construction were hugely demanding due to the absence of similar facilities. AIT worked together with its committed partners to install 30 tonnes of steel and more than 50 tonnes of

copper. The switchgear houses four special transformers which can be connected to create different testing scenarios. The total investment volume was EUR 3 million. The laboratory will start work in December 2021.

### Images



Image caption: At the heart of the DC lab is the switchgear, consisting of two parts: four transformers at the top level, and rectifiers which convert alternating current to direct current at the bottom level. Both levels are designed for very high currents of up to 80 kA and 75 MW test performance. © AIT/Krischanz



Image caption: (from left): Friederich Kupzog (Head of Competence Unit Electric Energy Systems) and Wolfgang Hribernik (Head of Center for Energy) in the new DC Lab, which significantly expands the high quality, specialised laboratory infrastructure at the AIT Center for Energy © AIT/Krischanz



Image caption: The DC Lab supports each stage in the entire development process, from concept through to startup. © AIT/Krischanz

### Video material

On 1 December, the AIT Center for Energy opens the DC Lab, which forms a key part of its state-of-the-art laboratory infrastructure. <https://youtu.be/3sJaQkLER5w>

### AIT Center for Energy

More information about the lab infrastructure at the Center for Energy can be found at: <https://www.ait.ac.at/loesungen/power-system-technologies-development-validation>

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