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**Lighthouse project for climate research at ETH Zurich**

## Siemens tech enables successful research at Zero Carbon Building Systems Lab

- **ETH Zurich runs unique research project on automation and energy supply for buildings in different climate zones**
- **Project includes one-of-a-kind artificial sun**
- **Siemens supplies digital building technologies, part of Siemens Xcelerator, for lab**

ETH Zurich, one of the world's most renowned universities, has just opened a unique research facility: the Zero Carbon Building Systems (ZCBS) Lab. It allows research into the behavior of building components and systems in different climate zones. The new building, located on the university campus in Zurich, comprises two floors with different test cells, climate chambers, and experimentation rooms. As part of its existing industrial partnership with ETH Zurich, Siemens has equipped the new research facility with state-of-the-art digital building technologies, including for building operations and management. The technologies are part of the Siemens Xcelerator portfolio.

The lab allows experimental research and system testing to be carried out on a 1:1 scale. Research is conducted into active and passive technologies for energy supply, automation, and climate control in buildings under a wide range of environmental conditions. It was established by the Chair of Architecture and Building Systems at ETH Zurich headed by Prof. Dr. Arno Schlueter, who has been working with Siemens for many years. "Flexibly deployable digital systems and the corresponding industry expertise are essential, both in a research environment and to put research findings into practice," explained Schlueter.

The ZCBS Lab uses comprehensive automation solutions from Siemens Smart Infrastructure. Its digital building management system Desigo CC controls and monitors all disciplines and enables efficient building operation as well as specific research tests that can be performed under optimal conditions. The design of the Siemens solution allows the climate and building technology requirements to be adapted quickly and flexibly to the various research projects and the desired test parameters. Siemens' system collects all important data generated by the installed sensors and field devices and transmits it to the higher-level ETH control system.

Matthias Rebellius, CEO of Siemens Smart Infrastructure, is pleased that this lighthouse project uses Siemens technology: "Our building management system lays the foundation for enhancing the existing ETH systems as needed and potentially connecting them in the future to the open digital building platform Building X, which is part of the Siemens Xcelerator portfolio."

Siemens Xcelerator is an open digital business platform, enabling customers' digital transformation in industry and infrastructure faster and at scale. Launched in June 2022, the platform has grown and developed continuously ever since. Together with a powerful partner ecosystem and a marketplace, Siemens Xcelerator supports companies in their digital transformation.

### **Proven cooperation between Siemens and ETH Zurich**

The ZCBS Lab is designed to be extremely flexible not only in terms of building technology, but also in terms of layout. Individual rooms can be connected or separated as needed. This allows comparative or isolated tests of components and building systems, e. g. for efficient cooling or integrated power production using solar technology. User acceptance studies can be conducted in individual test cells. In their experiments, researchers can independently control the entire building automation down to the field level and switch from operating mode to research mode at the push of a button.

The highlight of the new ETH facility is a room with a solar emulator. This test facility makes it possible to simulate not only temperature and humidity, but also the solar effects during the course of the day. This artificial sun is based on energy-efficient LED technology and is unique in the world.

The strategic partnership between ETH Zurich and Siemens has a long tradition. Siemens has helped provide financing for the chair in Sustainable Building Technologies since 2009. This funding has enabled ETH Zurich to further expand research and teaching in the field of sustainability and energy. In addition to sustainable and digital construction, Siemens and ETH Zurich are collaborating closely on research into future mobility.

This press release and a press picture are available at

<https://sie.ag/41Hnn4x>

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For further information on Siemens Smart Infrastructure, please see

[www.siemens.com/smart-infrastructure](http://www.siemens.com/smart-infrastructure)

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**Siemens AG** (Berlin and Munich) is a technology company focused on industry, infrastructure, transport, and healthcare. From more resource-efficient factories, resilient supply chains, and smarter buildings and grids, to cleaner and more comfortable transportation as well as advanced healthcare, the company creates technology with purpose adding real value for customers. By combining the real and the digital worlds, Siemens empowers its customers to transform their industries and markets, helping them to transform the everyday for billions of people.

Siemens also owns a majority stake in the publicly listed company Siemens Healthineers, a globally leading medical technology provider shaping the future of healthcare. In addition, Siemens holds a minority stake in Siemens Energy, a global leader in the transmission and generation of electrical power.

In fiscal 2022, which ended on September 30, 2022, the Siemens Group generated revenue of €72.0 billion and net income of €4.4 billion. As of September 30, 2022, the company had around 311,000 employees worldwide. Further information is available on the Internet at [www.siemens.com](http://www.siemens.com).