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Press

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Siemens deploys artificial intelligence at Baltics' newest, most energy efficient data center

- **New data center in Tallinn, Estonia, targets Power Usage Effectiveness (PUE) value of 1.2, against industry average of around 1.6**
- **Siemens' AI-powered software optimizes cooling for energy efficiency and reliable operation of critical infrastructure**
- **Customized power distribution systems from Siemens ensure reliable, safe power supply to the data center**
- **Data center is powered by renewable energy, with ability to sell waste heat**

Siemens has deployed integrated data center management software at the largest and most energy efficient data center in the Baltic region. The building management software (BMS), the energy and power management software (EPMS) and the White Space Cooling Optimization (WSCO) help Greenergy Data Centers to lower energy usage, ensure thermal protection and manage reliable operation of the critical infrastructure.

The new 14,500 m^2 data center in Tallinn, Estonia, runs on renewable energy and is the first of three such facilities, contributing to boosting the Baltic region's e-commerce and digital societies. Providing the operational technology control platform of the new data center is Desigo CC, an integrated building management platform from Siemens Smart Infrastructure which connects and controls critical and non-critical building systems. Desigo CC gives operators at the data center a single pane of glass from which to visualize, monitor, control and optimize critical building management systems, energy performance and the WSCO. Siemens building automation technologies also control the data center's ability to distribute excess heat to a district heating company, if required.

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“This new complex conforms to all of the highest international security standards, and aims to operate at 25 percent higher energy efficiency than the market’s average,” said Kert Evert, Chief Development Officer, Greenergy Data Centers. “Working with Siemens we are able to have a single-vendor concept from A-Z, and together we have created the region’s most advanced and efficient data center, creating more favorable conditions for both foreign and local companies to offer their services on the Estonian or Baltic markets. Technologically speaking, we are at the absolute top of the world.”

Thermal optimization has improved by combining Desigo CC building management with Siemens’ AI-powered White Space Cooling Optimization, increasing the building’s energy efficiency and contributing to its target Power Usage Effectiveness (PUE) value of 1.2, against an industry average of around 1.6. Crucially, the software also ensures thermal protection of server rooms by automatically adjusting the operation of the cooling systems.

A dense mesh of sensors across the center’s white spaces provides the WSCO software with detailed temperature data. The system then uses an advanced machine-learning model to analyze the effect of cooling on specific areas, creating an influence map to optimize cooling distribution at rack-level, and limiting energy use to only what is necessary. The solution responds automatically to events such as temperature fluctuations, minimizing the risk of malfunction, mitigating overconsumption issues and ensuring the availability of equipment without interruption. This solution is implemented in both greenfield and brownfield data centers.

“As demand for data center services continues to rise globally, digital tools will play a key role in mitigating the environmental impact of data, while maintaining the high levels of security, resilience and redundancy required of critical infrastructure,” said Dave Hopping, CEO, Solutions and Services, Siemens Smart Infrastructure. “Greenergy Data Centers’ new facility in Tallinn is an excellent example of how digital building technology and services can combine to create a benchmark in smart, energy-efficient data centers.”

To ensure a reliable and safe power supply to the data center, Siemens provided from concept to delivery, customized power distribution systems natively integrated

into Desigo CC for energy performance monitoring from a single pane of glass. This includes low-voltage Sivacon S8 switchgears and Sivacon 8PS busbars, Simosec medium voltage switchgears for the entire data center, and a high-voltage system from Siemens Energy.

This press release is available at: https://sie.ag/3FuRX7L

For more information about Siemens Smart Infrastructure, see www.siemens.com/smartinfrastructure

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Siemens Smart Infrastructure (SI) is shaping the market for intelligent, adaptive infrastructure for today and the future. It addresses the pressing challenges of urbanization and climate change by connecting energy systems, buildings and industries. SI provides customers with a comprehensive end-to-end portfolio from a single source – with products, systems, solutions and services from the point of power generation all the way to consumption. With an increasingly digitalized ecosystem, it helps customers thrive and communities progress while contributing toward protecting the planet. Siemens Smart Infrastructure has its global headquarters in Zug, Switzerland. As of September 30, 2021, the business had around 70,400 employees worldwide.

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 2021, which ended on September 30, 2021, the Siemens Group generated revenue of €62.3 billion and net income of €6.7 billion. As of September 30, 2021, the company had around 303,000 employees worldwide. Further information is available on the Internet at www.siemens.com.