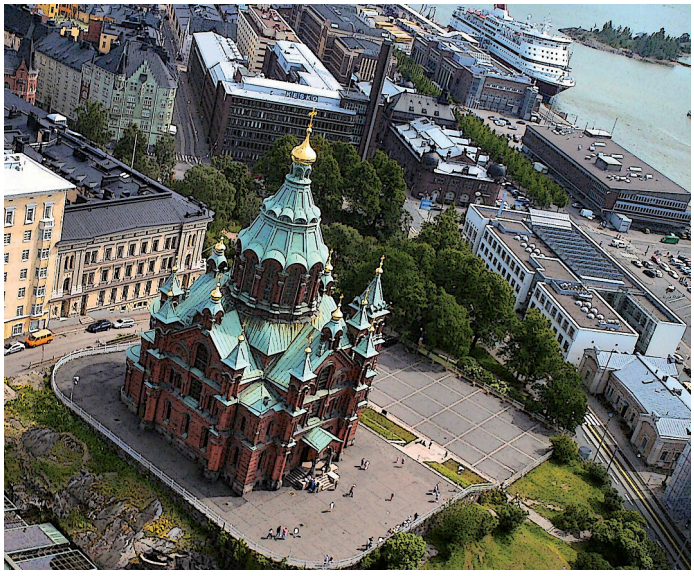
Case Study

An intelligent Power Distribution Unit (MNS PDUPro) improves the data center's energy consumption management and the reliability of electricity distribution

ABB has delivered the Power Distribution Unit solution for the backed-up electricity distribution in the Academica service company's new energy-efficient data center located in Katajanokka, Helsinki. The IT service company Academica runs their data center in the cave owned by Helsingin Energia company.

Helsingin Energia won the first price at the Uptime Institute's Green Enterprise IT Award 2010 competition with their innovative energy-efficient data center cooling system in the Beyond the Data Center category. The award was granted at the Uptime Institute's annual conference on May 17th 2010 in New York.



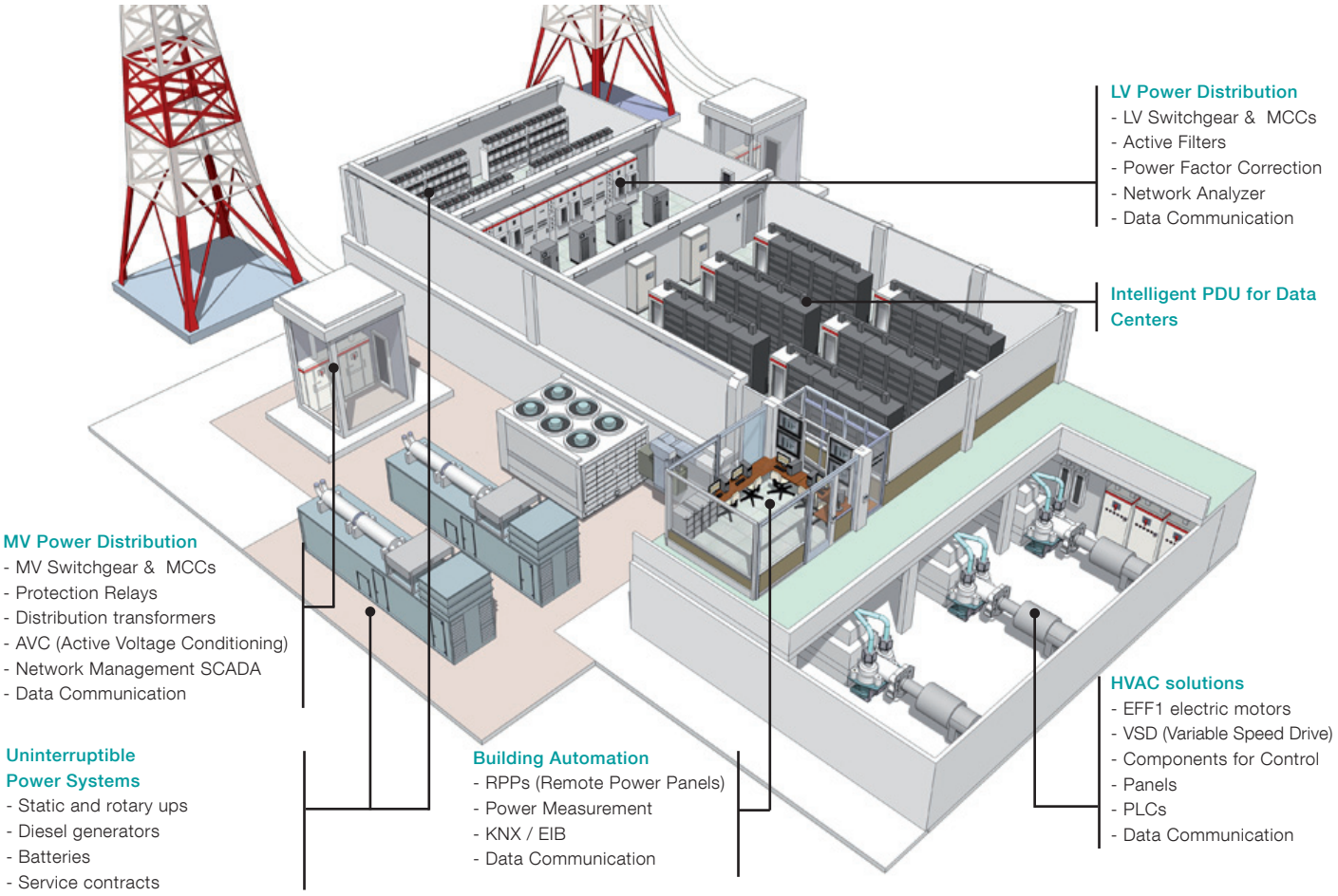
The Uspenski Cathedral in Helsinki, Finland. The ICT Company Academica's data center is located in the cave beneath the Cathedral.

ABB's Power Distribution Unit solution enables effective management of the data center servers' energy consumption. The Power Distribution Unit, particularly designed for data centers, meets strict safety requirements. The Unit improves the reliability of electricity distribution in the control room and ensures the functionality of the servers.

The solution can be integrated with most energy and real estate management systems. This also enables remote monitoring and control. The Power Distribution Unit solution has been manufactured by ABB's Vaasa factories in Finland.

The cooling of Academica's data center is taken care of by means of remote cooling with cold sea water and heat exchangers, absorption and heat pump technologies. Over 50% of the energy consumed by traditional method cooled data centers is for cooling compared to Helsinki Energia's and Academica's new innovative cooling system which reduces the consumed energy used for cooling by 80%.

Maximized Critical Power Supply in all situations
ABB's products and systems for DC



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The heat produced by the servers is utilized to the municipal heating network of Helsingin Energia. In this way, it is simultaneously possible to reduce the energy taken up by server cooling, and to utilize waste heat. The recovered heat is sufficient to heat 500 detached houses.

"The data center in Katajanokka is the most energy-efficient in the world. ABB's Power Distribution Unit solution helps to more effectively manage the data centers capacity and the energy consumption of the servers and the cooling system. With the solution, the data center operator can allocate energy costs to individual customers," says Jarmo Tuovinen, CEO of Academica.

"Our international experience in critical power distribution is based on decades of active development related to products, systems and services promoting energy efficiency. ABB's Power Distribution Units are used in data centers all around the world. The solution has been developed in cooperation with world-leading ICT companies," says Timo Kontturi at ABB.

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