

REFERENCE CASE STORY

ABB state-of-the-art power distribution technology to keep Hospital Nova operating safely 24/7



ABB's uninterrupted power supply (UPS) systems ensure electricity to critical parts of the hospital. The contract for Hospital Nova consists of 113 DPA frames (DPA S4 and DPA UPScale ST) and 262 modules.

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When it comes to designing electricity distribution systems for hospitals, patient safety comes before all else. ABB's uninterrupted power supply (UPS) systems supply electricity to critical parts of the hospital. The genuinely modular UPS architecture used in the hospital accelerates fault repair and enables flexible power transfer from one area to another.

In the Hospital Nova, currently being built in the Kukkumäki district of Jyväskylä, central Finland, undisrupted electricity supply to the most critical areas in the hospital will be guaranteed by ABB's modular uninterrupted power supply (UPS) systems.

"UPS systems supply power to areas that cannot tolerate any kind of power disruption. These include operating rooms and hospital pharmacy devices, as well as safety systems such as smoke extraction and emergency announcement systems," explains Kyösti Koskela, who is in charge of electricity usage at the new hospital.

In designing the hospital's electricity network, patient safety is the fundamental starting point for all the design work. ABB's UPS systems ensure uninterrupted power distribution during sudden power outages until the emergency generators kick in.

"UPS systems are an essential part of the reliability of operation of a hospital's power network, and are therefore a crucial part of patient safety," says Koskela.

The contract for Hospital Nova consists of 113 of ABB's decentralized parallel architecture (DPA) frames DPA UPScale ST and DPA 250 S4 and 262 UPS modules. The UPS modules will be situated in the most critical sites in the hospital's low-voltage network, providing a total of about 5 megawatts of uninterrupted power if an outage occurs.

Modularity seals the deal

ABB's unique UPS architecture is based on independent modules that include all the hardware and software required for autonomous operation. When all the intelligence of the system is located in modules, then in the event of a fault in one UPS module, only that module will fall out of the system—the rest of the modules will be unaffected. “The 20 kW and 50 kW UPS modules are fully compatible with each other, and they can be changed on the fly without shutting down the system. The customer can change the module themselves if a fault occurs, or can add more UPS power to different areas as needed,” says ABB product marketing director Henri Kapp. “The modularity of ABB's system was the decisive factor in our choice of supplier,” says Koskela. The availability of the hospital Nova UPS system will be excellent, as the hospital's 24/7 emergency maintenance service can maintain the system on its own. The delivery also includes additional 20 kW and 50 kW spare parts modules.

The UPS systems will be integrated into the MicroSCADA Pro control and monitoring system that ABB is also delivering to Nova. “In this way, power management for the entire hospital can be taken care of with the same software, from the 20 kV medium-voltage network to the 400 V low-voltage network and its UPS systems,” Koskela continues. According to Kapp, the UPS system for Nova is already under construction. This UPS contract is significant. In 2017, ABB delivered a system in the same size class to Telia's data center in Helsinki. “The Nova delivery is an all-inclusive package: the UPS devices, batteries provided by a third party, installation, fitting accessories, including cables, as well as commissioning and testing of the systems,” Kapp says. ABB will deliver the systems as fully operational by the end of 2019.