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ABB to enable world's largest digital substation in Belarus

ABB Ability™ based technology will improve efficiency, safety, security and reliability in the world's largest digital substation

ABB will enable the world's largest digital substation with the upgrade of one of the biggest air insulated substations (AIS) ever built for the Belarus Ministry of Energy and its transmission utility Mogilevenergo.

As part of the upgrade, the substation will be equipped with digital technology that enhances controllability and reliability while optimizing operating costs. ABB will supply protection and control equipment, an ABB Ability™ MicroSCADA (Supervisory Control and Data Acquisition) system and a digital process bus, which enables interoperable communication between vendors through Ethernet cables instead of copper wires, saving cost and space. As part of the project, ABB will also supply digitally enabled high-voltage products like Fiber Optics Current Sensors (FOCS-FS) and Disconnecting Circuit Breakers (DCBs) to the Engineering and Procurement Company RIKO.

Belarus, a country with more than nine million people, sharing borders with five countries, is experiencing growing electricity demand and its power grid is evolving to meet this need. Digital technology is considered to be a key pillar in coping with future changes related to both power generation and demand.

Digitalization enables unprecedented visibility of a customer's assets and systems and the efficient harnessing of extensive volumes of data. Digitalization also enables the easy integration of IT (Information Technology) and OT (Operational Technology) systems enabling operators in control centers to interpret key insights in real time and as a result prevent critical failures. With increasing numbers of smart sensors in the field, the amount of process data being collected and analyzed within the substation is increasing correspondingly, allowing for protection and control, or for condition monitoring where the data is run against predictive models and machine learning in the cloud.

"ABB continues to be at the forefront of digital grid technology development with a range of digital products and software, substation automation, control and protection solutions, from the field to the board room," said Massimo Danieli, head of ABB's Grid Automation business within the company's Power Grids division. "We are pleased to support Belarus' digital substation, reinforcing our position as a partner of choice for a stronger, smarter and greener grid."

Another key component of ABB's scope of supply includes Fiber Optics Current Sensors – Free Standing (FOCS-FS), and a non-conventional instrument transformer that facilitates open standards based IEC 61850 communication in the digital substation. The digital substation also collects real-time data on primary equipment and converts this into actionable intelligence to help the utility to monitor, control and maintain assets, as well derive cost efficiencies. This critical asset data can then be sent to ABB Ability Ellipse APM (Asset Performance Management) software that will enable predictive and preventive maintenance as well. ABB's Disconnecting Circuit Breakers (DCB) will provide the functionality of a circuit breaker and a disconnecter combined in a single unit, making the substation even more compact

ABB (ABBN: SIX Swiss Ex) is a pioneering technology leader in power grids, electrification products, industrial automation and robotics and motion, serving customers in utilities, industry and transport & infrastructure globally. Continuing a history of innovation spanning more than 130 years, ABB today is writing the future of industrial digitalization with two clear value propositions: bringing electricity from any power plant to any plug and automating industries from natural resources to finished products. As title partner in ABB Formula E, the fully electric international FIA motorsport class, ABB is pushing the boundaries of e-mobility to contribute to a sustainable future. ABB operates in more than 100 countries with about 147,000 employees. www.abb.com

At CIGRE, Paris, August 26-31, 2018, ABB is showcasing a connected digital substation demo, in the ABB booth no. 146, 1st floor.

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