

Press release

Hanover, April 14, 2021

Siemens Energy launches first-of-its-kind edge transmission products to shape Internet of Energy

- Siemens Energy extends digital transmission portfolio with edge-enabled transformers and switchgear
- Highly cybersecure system with data storage and processing onsite facilitates efficient transmission operation
- Digitalization of transmission grid is fundamental for successful energy transformation

Siemens Energy extends its switchgear and transformer portfolio with Edgeformer™ and Edgegear™, thus presenting the world's first high-voltage devices with edge computing at Hannover Fair 2021. The new generation of digitally enabled transmission products and systems opens new possibilities for grid operators to benefit from data driven applications by deploying them within the local substation network.

The shift to an increasingly decarbonized energy landscape poses tremendous challenges to grid operators that require a new way of managing the energy system. The digitalization of power transmission assets in the substation, the heart of any electrical power distribution system, plays an important role to manage the increased feed-ins of renewable energy and the exponential increase of complexity. While most digital solutions for substation assets rely solely on equipment with cloud connectivity, edge-enabled transmission products like Edgegear and Edgeformer offer new possibilities to connect equipment directly within the substation without having to forego the benefits of cloud-based solutions like app-based data analytics. Edge computing technology enables faster computing capabilities for quicker decision-making as well as data storage and processing onsite.

With edge computing the data is kept offline in the substation without compromising a seamless, secure and easy integration into the existing customer IT-landscape. The result is a highly cyber

secure system. Siemens Energy's edge-enabled transformers and switchgear will come with app-based data analytics and asset management.

Beatrix Natter, Executive Vice President Transmission at Siemens Energy, said: "The Internet of Energy offers tremendous opportunities to meet today's challenges in an increasingly complex energy landscape. In 2018, we initiated a real paradigm shift in the industry with the launch of Sensformer, the world's first digital transformer. With the launch of our edge products we can proudly present another technological breakthrough that will facilitate highly efficient transmission operations."

With Edgeformer and Edgegear every transmission system operator will have access to value added applications, enabling them to respond faster to changes in the system and increase asset transparency, productivity, and reliability. Edgegear, for example, provides operators with real-time partial discharge analyses as well as gas and oil leakage prediction supported by artificial intelligence and machine learning allowing grid operators to manage their networks more effectively.

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This press release and a press picture is available at

<https://press.siemens-energy.com/global/en/feature/siemens-energy-hannover-messe-2021>

For further information on Siemens Energy Transmission, please visit

<https://www.siemens-energy.com/global/en/offerings/power-transmission.html>

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Siemens Energy is one of the world's leading energy technology companies. The company works with its customers and partners on energy systems for the future, thus supporting the transition to a more sustainable world. With its portfolio of products, solutions and services, Siemens Energy covers almost the entire energy value chain – from power generation and transmission to storage. The portfolio includes conventional and renewable energy technology, such as gas and steam turbines, hybrid power plants operated with hydrogen, and power generators and transformers. More than 50 percent of the portfolio has already been decarbonized. A majority stake in the listed company Siemens

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Gamesa Renewable Energy (SGRE) makes Siemens Energy a global market leader for renewable energies. An estimated one-sixth of the electricity generated worldwide is based on technologies from Siemens Energy. Siemens Energy employs more than 90,000 people worldwide in more than 90 countries and generated revenue of around €27.5 billion in fiscal year 2020. www.siemens-energy.com.