

Joint press release

Mülheim, March 16, 2021

Press release by Siemens Energy and Amprion

Siemens Energy and Amprion seal technology partnership for reliable and innovative grid management

- ARESS innovation project contributes to grid control and stabilization, paving the way for the energy transition in Germany
- Cooperation develops an asynchronous phase shifter

The German transmission system operator Amprion and Siemens Energy signed a cooperation agreement today in Mülheim an der Ruhr in North Rhine-Westphalia, Germany, on the close cooperation in the development of new technologies controlling electrical networks. Together, the two companies are developing the first asynchronous phase shifter called Asynchronous Rotating Energy System Stabilizer (ARESS) for a network frequency of 50 Hertz (Hz). Dr. Hendrik Neumann, Technical Director of Amprion, and Dr. Jochen Eickholt, member of the Managing Board of Siemens Energy, signed the agreement in the presence of North Rhine-Westphalia's Minister of Economic Affairs, Innovation, Digitalization and Energy, Prof. Dr. Andreas Pinkwart.

"The increased feed-in of renewable, volatile energy, for example from wind and sun, will lead to noticeable changes in the power grids in the future. We must take precautions by implementing stabilization mechanisms. I am pleased, that with this promising pilot project the two companies are making a significant contribution to the energy transition in Germany and are thus strengthening this location for innovative energy technology," said Minister Pinkwart.



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Due to the increase of renewable energy sources with fluctuating feed-in, the operational requirements of the transmission networks in Germany and Europe are changing. So-called reactive power is essential for maintaining voltage in the power grid.

"Until now, the reactive power was mainly provided by generators in large power plants. In the course of the energy transition many of them are going offline. Therefore, Amprion is now investing more and more in innovative alternative solutions for grid stabilization, such as ARESS," emphasized Dr. Neumann.

ARESS, the first rotating asynchronous phase shifter for a mains frequency of 50 Hz, is a holistic solution for grid stabilization. An essential technological component of the asynchronous phase shifter system ARESS is an innovative frequency converter and a new, double-fed asynchronous machine with an optional flywheel.

"Siemens Energy has extensive expertise in various technology areas, which is crucial for the development of this pioneering combination of converter technology and rotating machines," said Dr. Eickholt. "With today's signature, we and Amprion are sealing our joint project to further advance the energy transition in Germany".

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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 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.

AMPRION CONNECTS

Amprion GmbH is one of four transmission system operators in Germany. Our extra-high-voltage network is 11.000 kilometres long and transports electricity across an area that extends from Lower Saxony to the Alps. Around a third of Germany's economic output is generated there. Our power lines are lifelines of society: They secure jobs and quality of life for 29 million people. We keep the network stable and safe – and prepare the way for a climate-compatible energy system by expanding our network. Around 2.000 employees in Dortmund and at more than 30 other sites help make sure the lights never go out. We also perform overarching operations for integrated grid systems in Germany and Europe.



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