Envision Energy Leverages MEMS Sensor Technology by Analog Devices to Build Smarter and Safer Wind Turbines

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WILMINGTON, Mass. & BEIJING--(BUSINESS WIRE)--Mar. 8, 2023-- Analog Devices, Inc. (Nasdaq: ADI), a global semiconductor leader, today announced that Envision Energy, the subsidiary of Envision Group providing world-leading green technology, is adopting ADI's MEMS sensor technology in the company's new generation of smart wind turbines. Initial goals for the collaboration include enabling new levels of wind turbine safety through enhanced real-time monitoring of vibration, tilt, and other information that can be used to inform safer windmill operation and design. Leveraging new capabilities offered by advanced MEMS sensors adds intelligence at the edge for real-time monitoring, further advancing the green energy revolution.

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Envision Energy leverages MEMS sensor technology by Analog Devices to build smarter and safer wind turbines. (Graphic: Business Wire)

As one of the most mature renewable energy sources, wind power has achieved rapid growth in China in recent years. According to China's National Energy Administration, by the end of 2022, the cumulative installed capacity of wind power in China reached approximately 370 million kilowatts, ranking first in the world. With the gradual expansion of wind power scale, wind turbine components are undergoing rapid iteration. Higher tower barrels, longer blades, and heavier engine rooms bring great challenges for the safe and reliable operation of wind power systems.

Among the challenges, the tower barrel is one of the key windmill components requiring monitoring to ensure the safety and reliability of wind power turbines. The tower barrel extends from the ground up to the windmill generator and blades. To promote safety, as well as to help prevent tower collapse and other extreme accidents, Envision Energy joins forces with ADI to introduce predictive maintenance technology into the core control of smart wind turbines. This is done by deploying ADI's precision inertial measurement unit (IMU) and low-noise, low-drift accelerometers on different positions of the tower barrel to monitor the key states of tower barrel in real-time. Information gathered by monitoring tower barrel conditions is used to inform danger prevention measures.

"In the long-term, wind power and energy storage will become the energy of the future for the world. While we move toward that goal, safety remains the first factor in the process of value mining," said Haipeng Chen, Director of Intelligent Control Division at Envision Energy. "We are pleased to work with ADI to add its predictive, precision, high-reliability MEMS sensors to our wind turbines. This increases the safety of the tower barrel as well as brings the blade diameter and tower barrel height to the next level, continuing to lead the progress of the industry."

"ADI has decades of experience in the field of MEMS sensors," said Neil Zhao, Director of MEMS Technology Group Asia at ADI. "We are committed to helping customers solve challenges in different scenarios through high-performance solutions and all-around support. This collaboration with Envision Energy supports the promotion of smart distributed wind turbines."

About Envision

Envision Group is a world-leading green technology company. With the mission of "solving the challenges for a sustainable future", Envision designs, sells, and operates smart wind turbines, energy storage system and green hydrogen solution through Envision Energy; AIoT-powered batteries through Envision AESC; and the world's largest AIoT operating system through Envision Digital. It also manages Envision-Sequoia Capital Net Zero Fund and owns the Envision Racing Formula E team. In 2022, Envision was ranked among the Top 10 of the "2022 Forbes China's Best Employers". In 2021, Envision was ranked second in the world on the Fortune "Change the World" list. In 2019, Envision was ranked among the Top 10 of the "2019 World's 50 Smartest Companies" by the MIT Technology Review. As an innovation powerhouse, it leverages global network of R&D and engineering centers across China, United States, Germany, Denmark, Singapore, Japan and etc., leading global green technology development. For more information, please visit: www.envision-group.com.

About Analog Devices

Analog Devices, Inc. (NASDAQ: ADI) is a global semiconductor leader that bridges the physical and digital worlds to enable breakthroughs at the Intelligent Edge. ADI combines analog, digital, and software technologies into solutions that help drive advancements in digitized factories, mobility, and digital healthcare, combat climate change, and reliably connect humans and the world. With revenue of more than $12 billion in FY22 and approximately 25,000 people globally working alongside 125,000 global customers, ADI ensures today's innovators stay Ahead of What's Possible. Learn more at www.analog.com and on LinkedIn and Twitter.

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