



Ansys Enables Complex Safety Design for Vestas Wind Turbine Controllers in the Race to Net Zero

March 22, 2022

World's leading renewable energy company relies on Ansys to deliver safer and more sustainable power management solutions

/ Key Highlights

- Vestas selected Ansys SCADE to help develop its wind turbine controllers, contributing to more sustainable energy sources
- Ansys solutions helped to improve and advance Vestas' safety system engineering, demonstrating compliance with safety standards

PITTSBURGH, March 22, 2022 /PRNewswire/ -- Long-term Ansys customer Vestas extended its use of [Ansys](#) (NASDAQ: ANSS) simulation across its entire product chain to help it create safer wind turbine control solutions. Ansys solutions enabled a more complex wind turbine control system design that delivers additional value and numerous competitive advantages to Vestas customers in the race to net zero.



Wind turbine controllers are responsible for optimizing power performance and preventing component damage across the range of wind conditions. Instead of relying on third-party programmable logic controllers (PLCs), Vestas wanted to integrate more safety capabilities into a unique system design, with the flexibility to execute safety functions in more distributed, complex ways. To be successful, the Vestas team needed to address complex sensor fusion (merging data from multiple sensors) and create control algorithms requiring more system power.

Vestas used [Ansys SCADE's](#) Model-Based Software Development Environment to implement wind turbine controllers that successfully met its unique system design and certification requirements. SCADE supports product-agnostic variant builds with very few parameters which can be changed from one turbine to another. This activity drives better turbine designs at lower price-performance ratios for customers.

"SCADE continues to be our go-to for addressing complexities inherent in our wind turbine components," said Keld Hammerum, senior specialist, functional safety business unit power solutions at Vestas. "We're pleased with the recent improvements to SCADE Test we've seen in the past three years, and the support we've received from Ansys. Reusing Ansys SCADE application software models within our own simulation framework helps drive more reliable, better simulations that ultimately produce more competitive turbine designs for us."

"Ansys SCADE helps Vestas to develop the advanced and complex software customers are asking for in a wind turbine design, making it easier to demonstrate compliance with relevant safety standards such as IEC 61508," said Shane Emswiler, senior vice president of products at Ansys. "Running specialized SCADE models in various simulation environments leads to improved simulation results. We will continue to support Vestas' commitment to developing safe, sustainable energy solutions."

/ About Ansys

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