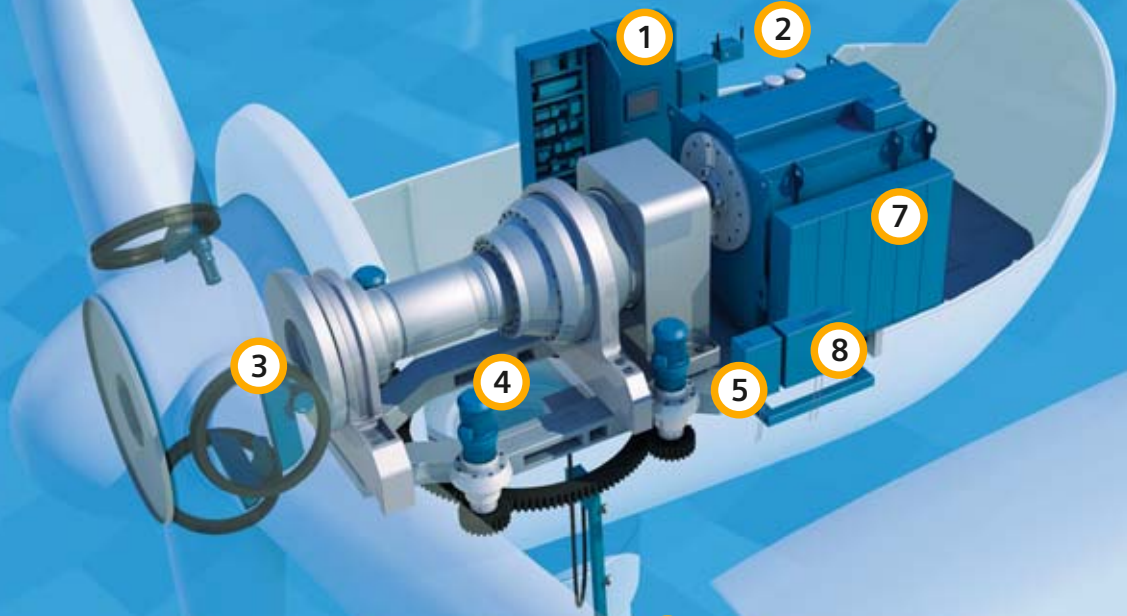


Getting the most out of wind energy

At Hannover Messe, Siemens presents itself as a complete supplier of electrotechnical equipment for wind power plants in "Wind Hall" 27, booth F38. The exhibition focuses on the completeness of the wind equipment portfolio, the reliability of the wind turbines, and the company's serial production.



- 1 Automation and turbine control with Simatic
- 2 Windpark management with Simatic WinCC Open Architecture and communication with Scalance
- 3 Pitch systems based on Sinamics, Simatic, and Sirius components
- 4 Yaw systems with the Sinamics and Sirius product lines
- 5 Low-voltage power distribution with Sentron, Sivacon, and Sitor
- 6 Medium-voltage power distribution with NXPlus C Wind and 8DJH 36
- 7 Loher Dynavert XL wind generators and wind converters
- 8 Auxiliary systems with Sirius and Siplus

Visitors entering the Siemens booth feel a bit like they are taking a tour of a wind power plant, as the entire booth architecture has been designed to reflect the shape of a wind turbine nacelle as realistically as possible. The booth shows the complete electrotechnical interior as Siemens offers it from a single source. Not only the exhibits but also the interaction of the components and systems reflect the set-up of the nacelle. The majority of the models and exhibits are linked with each other and with the control room via Profinet. Use cases, that is, possible programmed scenarios, initiated from iPads, enable visitors to see how quickly and precisely drives, switching devices, and communication devices as well as the overall system react to unexpected events, thus preventing downtimes.

In addition to the completeness of the wind equipment, the booth also highlights how Siemens resolves the critical technological challenges of the wind industry. These challenges include the change from single-piece production to serial production as well as the steadily increasing reliability requirements for the wind turbines, which are becoming more exacting with the growing number of offshore wind farms.

Using modular design for serial production

Siemens' comprehensive portfolio for wind equipment reveals its strengths in serial production. For example, coordinated hardware and software products support wind power plant manufacturers during the transition to optimized serial production using standardized modular designs for platform strategies, reduced component variation, and logistics and support processes tailored to the industry. This means that no custom production is necessary, even for special wind- and manufacturer-specific specifications. The platforms are based on components and coordinated sys-

tems that have proven themselves in harsh industrial environments and that can be combined to perfectly meet the relevant specifications. The equipment also consistently complies with industry standards, machine directives, and safety regulations.

To eliminate the need for wind plant manufacturers to perform expensive system tests, both hardware and software undergo comprehensive system tests beforehand, ensuring the perfect interaction of the standardized products and systems. Using uniform engineering tools reduces the programming and commissioning effort and minimizes the risk of failures. One example is the Industry Library, which contains wind-specific modules that store 80% of the wind power plant's functions.

Reliability through perfect interaction

When it comes to increasing reliability and availability requirements for wind power plants, trade fair visitors can see the strengths of the wind equipment even more clearly. Here, the perfect interaction of all the electrotechnical components and systems pays off. They communicate integratively across all levels – from the individual terminal to the higher-level control room. This allows operators to fully monitor and optimally control all system components, enabling quick and precise reactions even in extreme situations in order to prevent damage to the wind power plant. The greater plant transparency also enables preventive and proactive service and maintenance concepts that minimize or completely prevent downtime due to repairs. ■

INFO AND CONTACT

www.siemens.com/wind-equipment
wind-equipment.industry@siemens.com