

INTELLIGENCE WITHOUT COMPROMISE

Mastering challenges in the wind sector with the new Sany SE905

The Sany SE905 new weak wind turbine embodied the ambitious aims of the international developer team. The key requirement of the plant was intelligence with regard to dynamic optimization, load reduction and control. Together with the controller experts at Bachmann electronic, the company was successful in developing a smart main control system. OPC UA, Modbus, SCADA, Condition Monitoring and the main operator interface were redesigned and integrated.



Founded in 1989, Sany Heavy Industry Co., Ltd is a mechanical engineering company and is now China's leading supplier of wind energy solutions. The company is striving to be one of the top 5 of global turbine manufacturers. With global development and manufacturing centers in the USA, Germany, India and Brazil, Sany is a leader in the area of big data and smart manufacturing.

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Thanks to the optimized plant technology, wind power is successfully being used in regions located away from windy coastal areas and vast plateaus. For example, the wind turbine manufacturer Sany has developed a turbine that transforms projects situated in less windy locations into a business model. The turbine, which is tailored to the requirements of the Chinese market, makes full use of its intelligence. This also

applies to the controller: »The controller is the brain of the generating plant, and so you have to look very carefully for the right partner if you want a highly intelligent plant. Due to its extensive technological expertise in wind turbines, the decision to engage Bachmann was easy to make. The experts at both companies jointly developed one of the most advanced models for a perfectly matched combination of main con-



▲ Insight in realtime: Important values clearly arranged in an interface.



trol system, SCADA, Condition Monitoring and operator interface. In order to effectively control the turbine even at high wind speeds, OPC and Modbus protocols create a high speed network and process the information from thousands of data points virtually in real time. The combination of SCADA and Condition Monitoring integrated in the M1 controller module clearly enables the operating data to be intelligently monitored in real time. The updated main interface provides a user-friendly display of important values of the generator, the wind conditions and the grid measurements. The »Group operation« function was also added to the operator interface. It enables authorized persons to start, regulate,

restrict and stop the wind farm at the same time. Bachmann has been a proven technology supplier of Sany since 2007 and has established a particularly close relationship with the company. For Chinese customers it is important to maintain a good reputation with its partners and suppliers. Challenges are often handled discretely and indirectly. However, over the years Bachmann has developed a good ability to identify the needs of the customer, which makes it possible to discuss solutions openly and respectfully. This trusting relationship is particularly valuable here in Asia and ensures that projects can be implemented efficiently and focused, to the satisfaction of both parties.