

# THE FACTOR FOR SUCCESS

## Bachmann M1 automation system

### as the core of wind turbines

Guodian United Power Technology Company Ltd (in short: GUP) is one of the leading Chinese manufacturers of onshore and offshore applications, and is one of the largest producers worldwide. Bachmann electronic's M1 automation system makes up the core of its systems.



GUP develops and builds 1.5 to 6 MW wind turbines for onshore and offshore use. The state-owned company also offers an extensive service portfolio ranging from the construction of wind turbines right through to their maintenance and repair. GUP is headquartered in Peking (China) and employs more than 4,000 people.

[www.gdupc.com.cn](http://www.gdupc.com.cn)

United Power has clearly formulated its aims: To be leading supplier of wind turbines in China whilst offering its customers added value and cutting down CO2 emissions in China. These plans are fully compatible with the 13th Five Year Plan passed by the Chinese government in 2015, and applicable from 2016 to 2020. In the renewable energy field, this plan aims at the production of at least 15 percent of the electricity consumed through non-fossil fuels by 2020 and at least 20 percent by 2030. This statement of intent has already led to China increasing its installed output of wind turbines in 2015 by a third to 30.5 GW.

### Wind turbines with more power

With such ambitious targets, large-scale wind turbines are becoming increasingly more important. However, this requires several challenges to be overcome, which GUP is working on intensively. Onshore wind turbines require the development of technologies that enable reliable power generation even in light winds. With offshore wind power the problem involves the large expansion of the wind farm and the high costs involved in their construction. Offset against this are the high yields involved as offshore wind is stronger and more constant.

### Bachmann M1 system: reliable and stable

United Power has been relying on Bachmann expertise since 2009 when they required a control system for their 2 MW, 3 MW and 6 MW wind turbines. »We regularly receive confirmation that our system is operating reliably and is offering an impressive level of stability,« explains Frank Mitzschke, general manager at Bachmann in China. »The availability of the systems is therefore high and maintenance costs remain low. Our customer GUP thus enjoys an excellent reputation.«

However, other criteria are important in the decision to use of the M1 automation system. »The fact that our controller understands different programming languages such as PLC, C/C++ and MATLAB®/Simulink®, the openness of the system and the advanced real-time control are additional benefits of the Bachmann system,« Frank Mitzschke says.

### ColdClimate: Perfect for offshore plants

The special ›ColdClimate‹ design of the Bachmann M1 modules is another plus point for GUP. It is the ultimate answer to extreme cli-



matic conditions. »These special modules are indispensable for anyone operating in the off-shore field or in ambient temperatures subject to severe fluctuations,« states Frank Mitzschke. The modules of the ColdClimate series are extremely robust, as they can withstand condensation as well as aggressive salt spray, thus preventing any corrosion that could damage them.

### **On the wave of success**

GUP has considerably grown in recent years. The company currently has the largest installed

capacity of 2 MW wind turbines in China. With Bachmann, United Power has found a partner that provides them with optimum technical support. »We are in close contact with United Power and offer them prompt support whenever they need it,« Frank Mitzschke confirms. United Power is therefore considering an expansion of the partnership. »Our Condition Monitoring solution in particular, as well as a grid measuring and monitoring modules have made a big impression.«