Wind Power
SCADA
Flexible SCADA system for Wind Power
Wind Power in View.

TARGET-ORIENTED ANALYSIS.
Graphs, graphics and tables enable precise data analysis.

IMMEDIATE USE.
Object-oriented structures shorten engineering, testing and commissioning.

FREELY SCALABLE.
Perfect graphic results can be achieved thanks to HTML5 and scalable vector graphics (SVG).

MAXIMUM USABILITY.
User management is implemented transparently, seamlessly and ergonomically for the user.

TARGET-ORIENTED ANALYSIS.
Graphs, graphics and tables enable precise data analysis.
OPC UA.
Communication standard enables object-oriented engineering across all levels and all manufacturers.

PURE WEB HMI.
All kinds of visualization devices can be connected at the same time.

IEC61400-25.
Process variables are standardized using IEC61400-25 compliant data structures.
We supply automation solutions with a high degree of availability for wind power plants all over the world. State-of-the-art technologies, open systems and highly-efficient development tools impress operators, manufacturers and developers alike.

With »Wind Power SCADA« (WPS) we bundle our sector know-how with a future-proof and flexible SCADA solution in pure web technology. Regardless of the terminal devices used, plant operators can gain a fast and comprehensive overview of the entire wind farm – right through to the detail of each single turbine.

»Wind Power SCADA« (WPS), the latest system solution from Bachmann, is based on the functions of Bachmann’s »Wind Turbine Template« (WTT) controller software package, which contains the most important structures, components and functions for the operational control of a wind power plant, and makes these available in the form of IEC61400-25 data structures. This not only considerably reduces the development and commissioning times required for the control software (operational control program) but also for the creation of the necessary visualization.

Bachmann WPS is based on atvise® scada – a field-proven product from Certec, a company of the Bachmann Group, and also a visualization that is built with pure web technology: All types of visualization devices – smartphones, tablets as well as PCs and powerful operator terminals – can be connected at the same time.

For every operation level – from the control center to the farm management right through to the individual turbine – Bachmann WPS provides the basis for an ergonomic solution. Provided the necessary authorizations are in place, the application of the wind power plant can now be accessed securely from almost anywhere in the world with virtually any display device.

▼ Cascadable server network and parallel client operation
Visualization – Comprehensive and Detailed.

Hierarchical structures across regions, farms and turbines enable efficient navigation.

A clear structuring of »Wind Power SCADA« (WPS) is ensured thanks to simple and clear navigation in the form of a tree structure on the one hand, and interactive map views on the other. A tabular overview on all levels provides information on important values, such as the actual and maximum output of overall energy production (kWh). WPS servers can also be cascaded in order to ensure seamless data retention.

Different farm overview maps simplify plant comparisons.

The graphical map view shows each turbine with a status symbol and a characteristic value. The characteristic value displayed can be changed by the user directly in order to compare turbines with each other. The integrated geographical map shows the exact coordinates of the plant’s location. The turbine status and the most important data can also be viewed here at a glance.

The display of the turbine components in accordance with IEC61400-25 allow a fast overview of process variables using standard communication protocols.

Starting from the farm overviews, it is possible to move to the turbine component view by simply clicking. This graphically highlights different subsections of the turbine that are specified to IEC61400-25. The characteristic values prescribed by the standard are already shown; the user can likewise add all optional values to the project easily. The connection of »Wind Power SCADA« to the individual turbines is implemented via the standard OPC UA communication protocol.
Analysis – Precise and Targeted.

The latest and most important data can be analyzed in WPS in graphics and tables.

The power curve, the central element of the analysis, can be selected via a menu and shown as a graph or table. The graph component is provided with standard zoom functions as well as a tooltip cursor and key. An interactive menu enables graph curves to be shown or hidden. Groups of curves make it possible to compare the different power curves of a turbine. Both the graph and the table can be stored or printed out with the print function integrated in WPS.

Event-triggered data logging is an important tool for fault analysis. The data configurations are shown transparently in WPS and the fault logs are displayed as a graph or table.

The recording of data before and after an event helps the detection and location of faults. These fault logs are sorted in WPS according to your configuration, made available and displayed in the graph. The monitor view can be split if a complete overview of the wind farm is still required during the analysis. The subareas produced can be filled easily with any of the WPS views.

WPS also offers alarm handling and history, as well as statistics. A user management function with integrated access management and logging function ensures the required level of operator security.

Alarms present are managed in an up-to-date alarm table. This shows the user the level of the alarm, as well as status and value. A button can switch directly to the turbine display of the plant triggering the alarm. Another button enables the active alarm to be processed/acknowledged. The user management function is integrated in the WPS server. This assigns the users created with the rights to the respective visualization level and controller. A login process in WPS is all that’s needed to check the turbine with the appropriate number of rights.
Responsive Design – Autoscaling.

One project, one visualization – on different devices, at any time, at any location.

The use of the latest web technologies provides the basis for maximum scalability. HTML5 and scalable vector graphics (SVG) enables display on virtually any browser-enabled terminal device – without the need for additional plug-ins. The visualization is adjusted automatically to the display device to ensure ergonomic operation even on mobile devices such as tablet PCs or mobile phones.

WPS »Wind Power SCADA«
- SCADA system for wind power plants
- Use of the OPC UA standard communication protocol
- Standardized data structure acc. to IEC61400-25
- High, seamless scalability
- Live process data on all visualization levels
- All visualization levels are available on a wide range of state-of-the-art hardware such as smartphone, tablet or PC
- Standard user management for SCADA and turbine, location dependent priorities and active status request
- Online/offline trending
- Online language selection
- Alarm and data history
- Reporting
- Presentation feature – manual and automatic with configurable display and interval
Bachmann – Brings Fresh Wind.

We automate wind energy: Safely, flexibly and in a modular system

Bachmann electronic offers worldwide customers in the wind onshore and offshore sector the most advanced automation solutions.

All our activities are focused on the benefit of our customers: We deliver tailored solutions and set ourselves the highest standards. Meeting highly specialized market and customer requirements has long become standard practice for us.