WTE-WIND TURBINE ESSENTIALS
The WTE software package is tailored to the requirements of manufacturers and control system developers of wind energy plants, and helps to considerably reduce the time required for developing and commissioning the controller software and the visualization. Bachmann’s Wind Turbine Essentials cover many standard tasks required for the automation of wind turbines. This means that recurring functions no longer have to be implemented in the operational control program, but can be prepared in a configuration tool, executed on the controller CPU and monitored and operated in a visualization.

READY FOR USE – WITHOUT ANY PROGRAMMING
Apart from configuring the interfaces, no programming is required to use these functions. The WTE Configurator is installed as an additional plug-in for the Bachmann SolutionCenter and uses the devices and communication interfaces entered there. Most functions are also available in libraries, and can likewise be used in the other application programs of the turbine manufacturer. The package supports here IEC61131-3 and C/C++ programming languages.

Wind Turbine Essentials considerably reduce the time required for developing and commissioning wind energy plants.

FLEXIBLE VISUALIZATION WITH KNOW-HOW PROTECTION
The development tools are kept with the turbine manufacturer and are not required for operating the visualization, whilst access to the operating parameters and status indications is controlled by an access authorization system. As well
as the graphically-oriented visualization for large-format displays, a tabular and list-based layout is offered for small panels, such as those installed directly in the turbine.

COMPREHENSIVE STANDARD FUNCTIONS
The Bachmann WTEs feature an event system that determines the correct response of the plant on the basis of events resulting from the sensor data. These responses include for example the shutdown, yawing and the alarm generation of the plant.

The WTE power curve implements the specifications of IEC61400-12, and shows the energy yield of a wind turbine as a function of wind speed. The addresses of the required actual values can be selected in the Configurator, and the calculation of the output curve is automatic.

Other functions such as wind rose (statistical distribution of wind speed depending on wind direction), energy meter (measuring of generated and consumed active and reactive power), a universal events counter, such as for the status monitoring of plant sections, as well as different mean value calculations complete the extensive range.

FASTER ON THE GRID
The functions contained in the Wind Turbine Essentials are required in virtually every plant constellation. Depending on the complexity of the plant, the software modules therefore already cover as much as 60% to 80% of all functions.

WTE FUNCTIONS – READY-TO-USE

COMPLETE TOOLBOX
- Configurator in the SolutionCenter
- Ready-to-use software module for the PLC
- Library for user-defined implementations
- Visualization for the PC
- Visualization for small-format panels

EVENT SYSTEM
- Flexible configuration of events
- Flexible selection of plant responses
- Multi-lingual description texts in the visualization
- Complete and reliable logging

STATISTICAL EVALUATIONS
- Power curve
- Wind rose
- Event and energy meter
- Automatic interrogation of measuring points
- Standards compliant statistical handling
- Graphical display in the visualization out of the box
- Continuation of values also after software update

ACCESS CONTROL
- Definition of user roles
- Issuing of user rights to monitoring and parameter values in the configuration
- Logging of all write accesses

SOFTWARE UPDATE
- Reliable controller update from image
- Rollback mechanism for error states after update