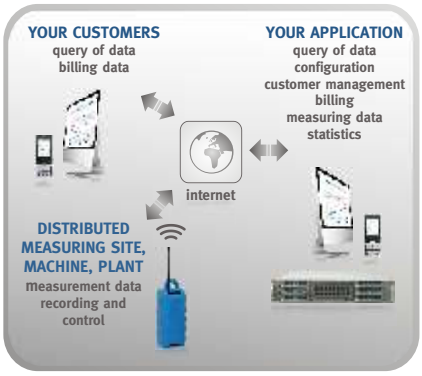
Spandlhof: Wind Power Station



Background

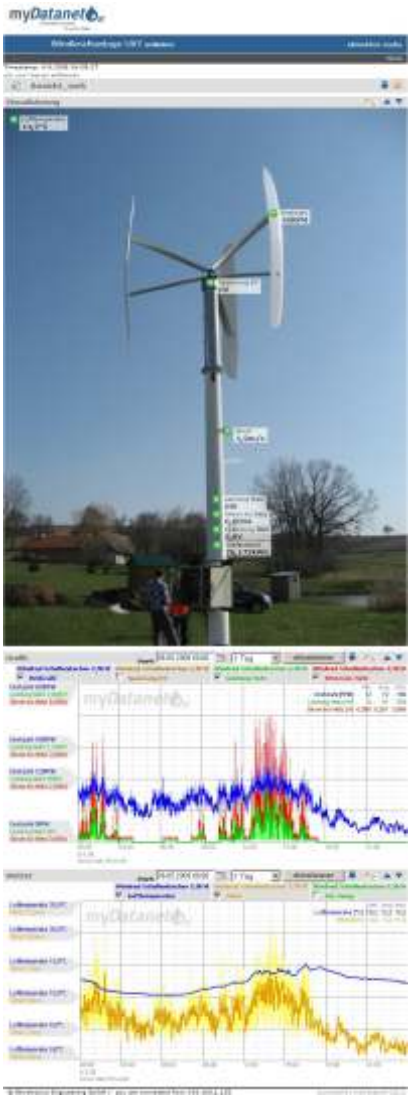
With myDatanet Microtronics Engineering GmbH has developed an innovative wireless measurement acquisition system which is suitable for a wide range of applications. Due to wireless measuring instruments and data transfer via GPRS the collected data is available via the internet in real time at any time.

Problem

IBS Umwelt- und Verkehrstechnik GmbH and Silent Future Tec GMBH have placed a 3.5 kw-windmill in St. Leonhard am Forst (Lower Austria). As this is a test system, calculating the efficiency is of particular importance. Therefore detailed information about coherence of wind speed, rotor speed and amount of power fed in the public grid is needed.
Also in normal use information for service and maintenance and data for validation of the location are necessary in addition to reports.

Solution

On the main page on the internet all measuring channels are illustrated by green lamps. The transfer interval has been configured at 30 minutes and the measuring interval at 1 minute. Therefore the measuring data indicated beside the green lamps is in nearly real-time. Due to the clear diagrams the technicians are informed about the happenings at the measurement site at a glance. For more detailed analyses data can be downloaded as TSV-file.
All acquired data is stored at the measurement instrument itself until the next transfer to the non-commercial- server where it is stored for 20 years. In case of missing transfer notifictation via SMS or e-mail is sent.



Measuring Points

For this application a myDatalogMICORmbs has been installed, using only 8 of 16 available measuring channels. Data as ambient temperature, wind speed, rotor speed, power DC, power fed in the public grid, line voltage and meter reading is collected. Additionally information about the instrument itself is acquired (voltage, GSM-field strength, temperature of the device). Due to MircoPowerTechnology which grants extremely low power consumption, the back-up-battery of the windmill provides sufficiently power for the myDatalogMICROmbs.