



# Remote Condition Monitoring

*Harness our knowledge!*

Wind Power Solutions

# Remote Service World Wide

***“Service, a comprehensive solution!”***

## Remote Service Via Internet

Remote service is a key feature of condition orientated maintenance scheduling. Online monitoring via a protected Internet connection is a fundamental element of a modern remote service for decentralised applications, allowing access for authorized personnel from anywhere in the world.

This is especially important for medium sized companies who are responsible for the continuous productivity of the wind turbines. This allows access to expert knowledge without the need for additional personnel, representing considerable cost savings.

## Professional Support

In addition to the First Level Support (data storage and password protected WebLog access) we offer Second Level Support whereby Schenck assumes the responsibility for the monitoring of your wind turbines. In the case of an alert a file is created and sent as a PDF document. The document contains trend and signal analysis including a recommended course of action and assessment of operational relevance (pattern / example case study). Particularly helpful in certain cases is the conversion of the sensor signals into playable audio files, which can also be remotely accessed via WebLog.

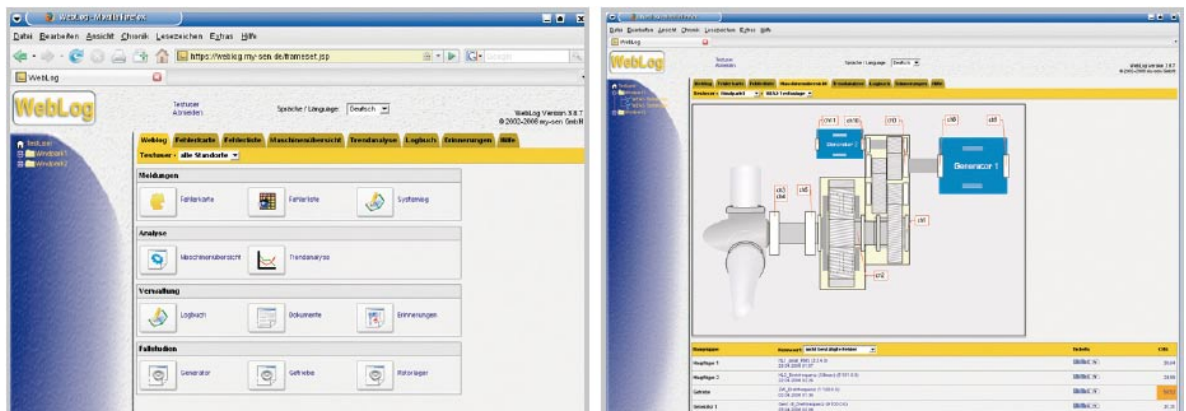
## Internet Portal “WebLog”

The Portable “WebLog” serves as an interface for the diagnostic system  $\Omega$ -Guard™ enables worldwide access to the condition data of the wind turbines being monitored. Alarm messages are sent to the user via a status window. At the same time, the integrated database creates a trend analysis for the individual turbine.

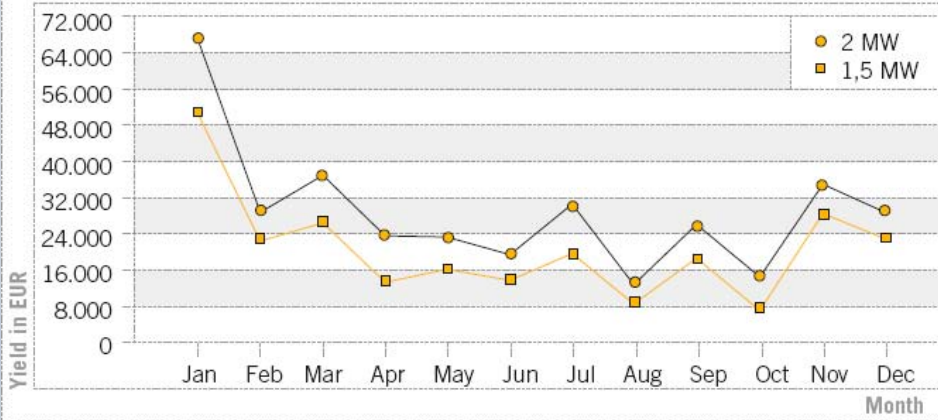
Our remote service team currently monitor over 1,000 wind turbines via the Internet. The power outputs of the wind turbines being monitored range from 250 kW to 5 MW.

- Password protected access
- The start page displays all current failure warnings.
- Detailed diagnostic results for every measurement position are shown.
- Expert tools for failure diagnosis and reporting.

WebLog screen shots. Main menu (left). Component view with current values and failure warnings (right).



**AVERAGE MONTHLY YIELD 2007 FOR A WIND TURBINE WITH A POWER OUTPUT OF (1,5 -2) MW**



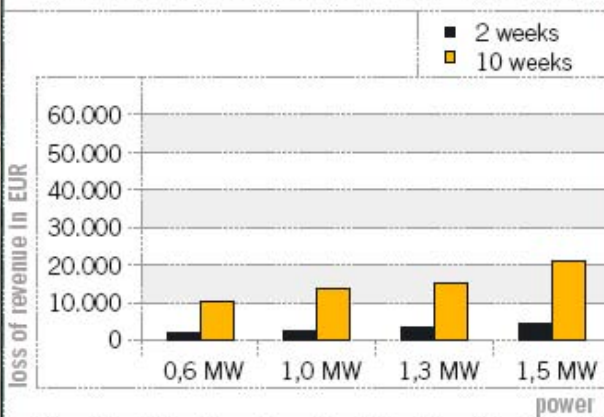
Average in %	19,3	8,3	10,6	6,8	6,7	5,6	8,8	3,8	7,4	4,2	10,0	8,3
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## *“Ensuring maximum profit”*

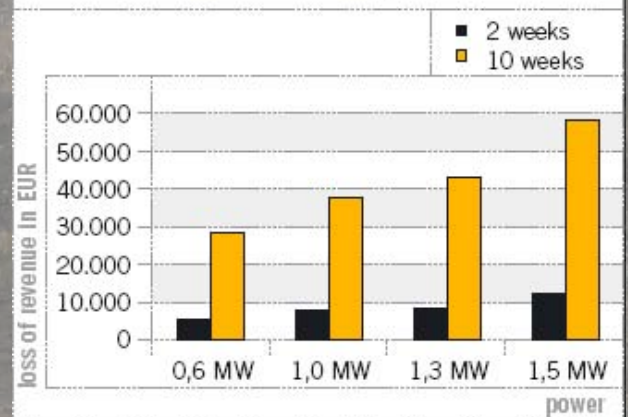
### **Online Condition Monitoring - A Wise Investment**

Planned maintenance is critical for economical turbine uptime. This can be illustrated when comparing the loss of income for an unplanned gearbox repair in March '07 (downtime approx. 4 weeks) and a planned gearbox repair in August '07 (downtime approx. 1-2 weeks). A difference of 8.7% for a 1.5 MW wind turbine means a loss of income of nearly \$25,000, this figure only accounts for the lost production alone!

**REPAIRS PLANNED/ UNPLANNED, LOW WIND LEVELS**



**REPAIRS PLANNED/ UNPLANNED, HIGH WIND LEVELS'**





# SCHENCK

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The  Group

With over 30 years of experience in Vibration Analysis and 10 years of experience in Wind Turbine Monitoring, Schenck is well qualified to monitor the operational condition of your wind turbines.

Our vast exposure to various alarm conditions on turbines from different Original Equipment Manufacturers in Europe allows us to bring you a state of the art Remote Condition Monitoring Solution specifically optimized for reliable and predictive fault detection.

Approved by  


Certified by  
  
OPERATING 24/7