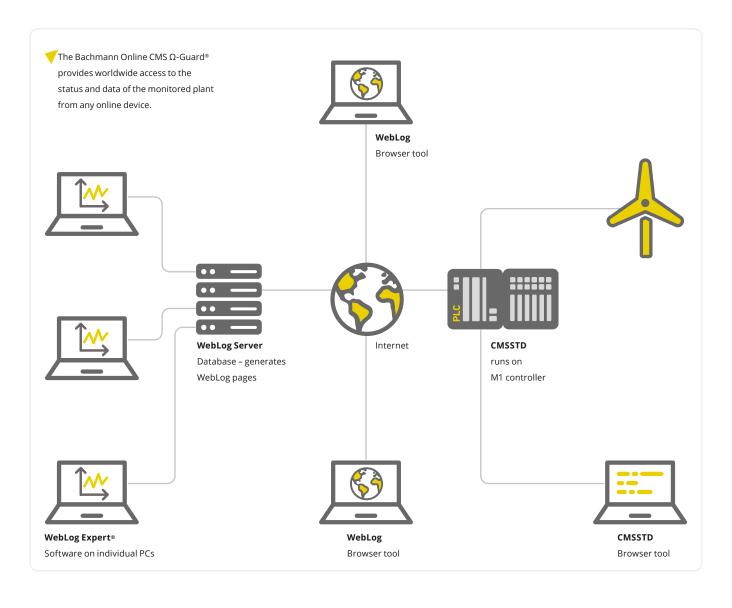
Condition Monitoring Software Solutions

Complete package for accurate analysis.



Complete Package for Accurate Analysis

Condition Monitoring Software Solutions





Your CMS hardware alone will not help you to detect or prevent failure. This can only be achieved with the appropriate software to enable expert analysis of the results. One aspect is the software that runs within the system itself to carry out the advanced signal processing and generate the appropriate characteristic values; another part is the display options, which deliver the information to the customer to drive the appropriate maintenance actions.

As well as providing the hardware for the CM systems, Bachmann have also developed the software to support the systems and the packages for data analysis which allow our own teams to provide you with expert advice.

Condition Monitoring System Standard Software (CMSSTD)

- Browser-based tools make installation and troubleshooting straightforward
- Initiates communication to the data-base to upload data and download configuration secure and streamlined data handling
- Drives data analysis and stores results locally

WebLog

- · Web-based alerting tool
- · Available worldwide on any device
- User access levels configurable individually
- Data at your fingertips
- Information stored for future reference

WebLog Expert®

- Advanced analysis and diagnostics
- Allows you to access the full power of the condition monitoring system
- · Configuration of all the data collection and analysis parameters
- Powerful alerting and trending options
- Fully integrated with Weblog
- Cloud compatible

Together these software tools deliver a complete package of monitoring software, that helps you get the most from your monitoring and, in turn, from your machines.

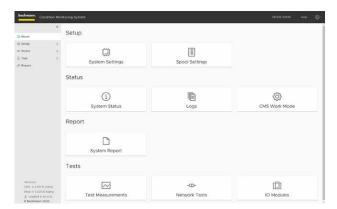
Controller Configuration Support

Condition Monitoring System Standard Software (CMSSTD)

CMSSTD is our controller software which runs on your hardware system. CMSSTD supports the system from maintenance through to commissioning, through a web based interface used by the installers on site, and also carries out the advanced signal processing using our own order tracking algorithms to enhance the accuracy and repeatability of our results. We are currently developing a range of add-ons to CMSSTD which will provide enhanced monitoring capabilities, through which the Bachmann CMS will become a truly holistic system.



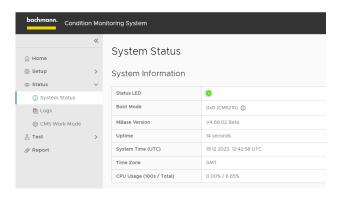
CMSSTD provides a web-based interface to assist with the commissioning of the system.



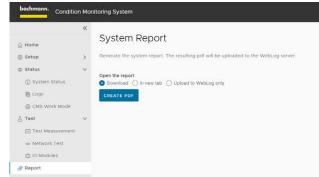
During set up one page gives live updates of the current vibration levels mapped on each channel. This can also be displayed as a graph.



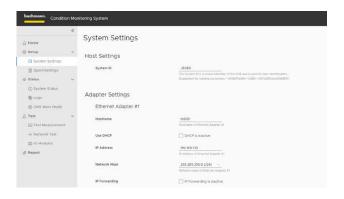
The basic hardware configuration is displayed, and functionality provided for testing communications, system function and making changes.



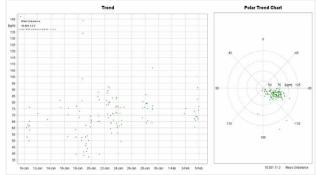
On completion of the on site works a full report can be generated giving full details of the "as left" status of the system.



This includes all the configuration required to establish the network connections.



CMSSTD provides for plug ins, such as our Blade Unbalance Calculator, which provide extensions to standard CMS funcionality.

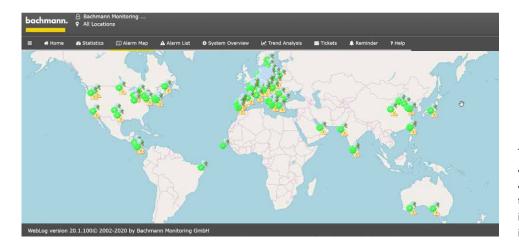


The CMSSTD software also performs the data collection and signal analysis routines based on configurations it uploads from the WebLog Server. It also enables the transfer of data offsite to our WebLog databases, from which we provide you with full access to your data.

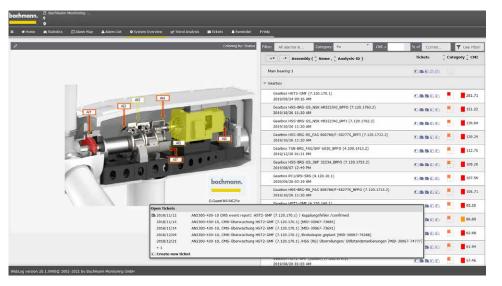
Your Results, Delivered Worldwide

WebLog

WebLog is provided free of charge to customers of our condition monitoring service. It provides a simple interface to the latest results and tickets generated from the monitoring service. Access can be customised to the specific turbines of interest to a user, which may be a fleet view or a site view, or maybe even a turbine view.



The user interface shows a map based list of current alarms or tickets, which the user can use to zoom in to the turbine of most interest to them.



The next level gives a turbine mimic with the parts of the turbine coloured according to the severity of current outstanding messages and a list of the relevant tickets.

The list of tickets allows you to interrogate the current maintenance actions still outstanding and access the history of the ticket, comments and visualise the trends behind the ticket.

Alternatively, for a fleet overview, you can view simply a list of all outstanding tickets, with a choice of filters and search options to help you manage your portfolio.

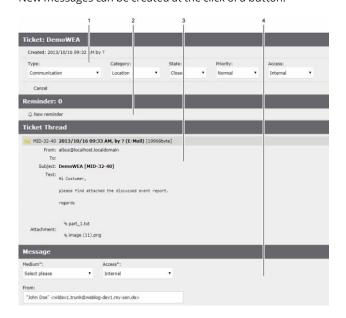
| Committee | Comm

The Visualisation tool provides a simple trending tool for turbines currently showing alarms or with outstanding tickets.

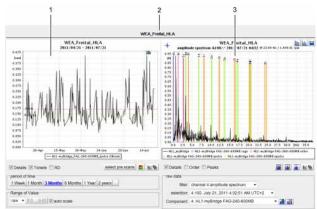




Each individual ticket contains the thread of all the communications linked with that event. The entire history of warnings received, maintenance actions and findings can be accessed. New messages can be created at the click of a button.



Limited access to more detailed visualisations is provided via clicking on the trend plot.



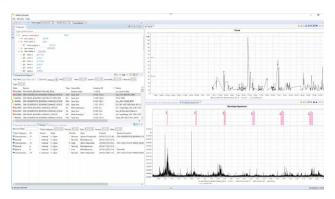
The intention with WebLog is to deliver the information needed to drive the maintenance. It is not intended as the platform for bulk analysis of many turbines, or enhanced analysis of individual spectra, although it does deliver plenty of graphical capabilities to allow the ticket diagnoses to be confirmed by your own experts. Customers looking to carry out their own monitoring and analysis, should use WebLog Expert.

Expert Analysis and Diagnosis

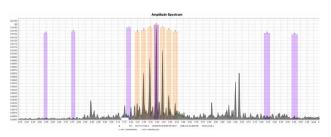
WebLog Expert®

WebLog Expert® is a client based software tool, which allows much more detailed analysis of the data and gives access to configuration of the system parameters. As a client software it must be installed on the users PC, and as such is licensed software. This is same software package as our remote monitoring team use for their work, including commissioning and investigations as well as routine monitoring. The database server(s) used are those which drive WebLog, so customers who wish to have greater access to diagnostics need not host data themselves, although Bachmann will support those who prefer to host the data themselves.

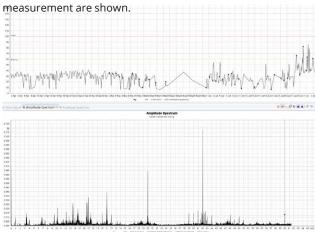
The turbines are accessed via a tree structure – although the WebLog map may also be used if preferred. On selecting a specific turbine the user can choose to work only with those CVs in alarm or alternatively download all of them.



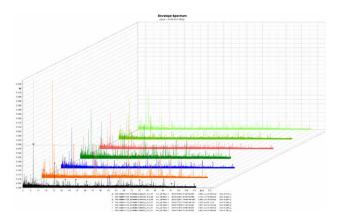
The kinematic frequencies associated with the CVs can be overlaid on the plots, or alternative kinematic frequencies associated with other parts of the machine selected.



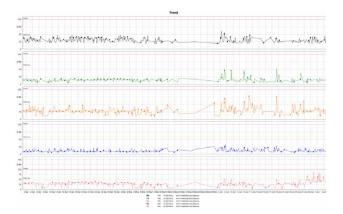
As soon as a CV is selected the trend and the lastest individual measurement are shown.



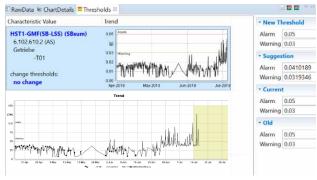
When examining a trend a waterfall display can be produced, and rotated to the optimum display angle to show the required part of the spectrum. A specific frequency on the waterfall can be selected and a trend back-calculated on a temporary basis.



All the usual display facilities of zoom, cursors, overlays of multiple turbines or channels are available.

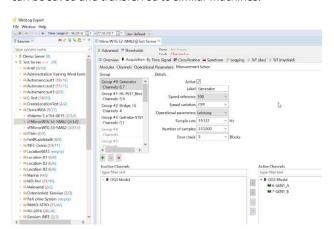


The system can also generated suggested values for thresholds, to speed up the commissioning process and ease the setting of deadbands when alarms have fired.

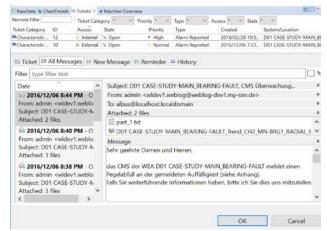


Deadbands are a mechanism to ensure that any alarms which are currently under surveillance do not proceed too much further before a reminder is sent.

As an integral part of our monitoring process WebLog Expert® gives full access to our commission tools. This is supported by a template system whereby the settings for a single turbine can be saved and transferred to similar machines.



The software also provides full access to the ticket system, into which graphics can be directly copied, and supports automated report generation onto user specified templates.



WebLog Expert® therefore delivers all the capabilities expected of a modern condition monitoring system and more. With a highly integrated display layout the system is designed to support our monitoring processes, and can also help you to optimise your own.

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