## NEST Dashboard: Remote Multi-site supervision tool

Synchronized automatically, data coming from different types of acquisition systems and from one or several databases are available on the NEST Dashboard server, from the company intranet or directly from the internet!

Absolutely no software or component is required to consult the information available from a PC, tablet, and mobile: a simple web browser is enough.

NEST Dashboard offers new capabilities, such as: **Multi-site centralized supervision, Remote diagnostic center…**

The machines monitored can be organized in a structure of its own to answer to the need of new users: Managers, Reliability experts…

Dashboard components: Synopsis

The dashboard relies on 3 main components:
- The database agents, pushing the historical data stored in the NEST database. There can be multiple database agents pushing data to the same dashboard server.
- The Modbus agents, pushing the real time data from the Online systems to the Dashboard server
- The dashboard server, receiving all data from the different agents.

DATABASE AGENT

Push the Historical data from the NEST Software to the NEST Dashboard Server

MODBUS AGENT

Push the Real Time data from MVX/KITE to the NEST Dashboard Server

DASHBOARD SERVER — *Receive all data from all active agents*

DASHBOARD CLIENT — *Display in Web browser all available data from the NEST Dashboard Server*
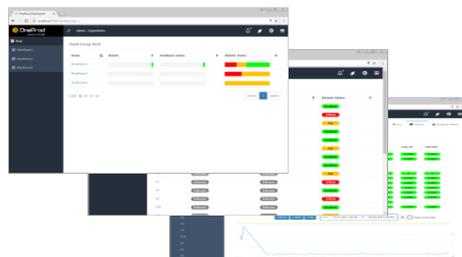
General specifications

Compatible acquisition systems	Portable data collection	ONEPROD FALCON
	Wireless monitoring	ONEPROD EAGLE
	Online monitoring	ONEPROD KITE, ONEPROD MVX
Connectivity	Network compatibility	Intranet, Internet
	Synchronization	Automatic
	Communication port	Customizable. One port must be opened and can be defined by the IT manager.
	Architecture	Compatible with multi database and multi systems architecture with Firewall restrictions
Accessibility	Support	Can be accessed from a computer, mobile or tablet through a web browser
	Access control	The access is protected by username / password. Different user profiles are available to assign different privileges according to the user profile.
Data mining	Type of information available	Historical Alarm status, Expert advice, Live Alarm status, Live instrument status
	Format	Machines lists with bargraph or data browsing in picture mode
	Search tool	Machine name filter; Sorting per type of information (historical alarm status, expert advice, live alarm status, live instrument status)
	Number of machines per page	10 – 50 – 100 - All
Data structure	Assets groups	Assets can be grouped according to a customized structure compared to the original databases of NEST condition monitoring software in order to provide efficient supervision interfaces. E.g. Grouping of assets per type of equipment, per area of responsibility…
	Synthetic view	The information is computed at the level of each asset group to represent the status of the machines contained
Machine data access	ONEPROD Health matrix	Full display of monitoring parameters in a matrix with values and alarm colors and allowing for trending capabilities
	Diagnostic	Access to the last expert diagnostic and maintenance recommendation per machine
	Events (online)	Tracking of events (alarms, hardware) is managed and displayed in the NEST Dashboard so that people in charge of the supervision can determine if further analysis is needed on that machine
Trending	Historical data	The trends display the values stored in the database of the NEST condition monitoring software
	Live data (online)	Live trend values are collected directly from online monitoring system. The trend starts at the time the page is prompted and is refreshed every time a new value is available
	Short term data (online)	A short term trend plots recent live data stored into a short term buffer (size customizable). It provides a detailed trend of recent history, e.g. over the last 3 months
Exception Monitoring (online)	Global event counter	An event counter is accessible from any view to notify the user of the total number of machines on which new events happened
	Types of events	Monitoring alarm, Hardware/communication problem, new diagnostic
	Events traceability	All events occurring on one machine are kept in the Events history of the machine until acknowledgement. Each event is tagged with its type and timestamp.
	Events management	Each machine appears only once in the list of the event counter. If multiple events occur on the same machine, all will be kept in the history available in the Events details view of that machine, until the next acknowledgment. This machine will still appears once in the event counter.
	Monitoring Events details	Based on the Live values collected from online monitoring systems, the following information is available: - the parameter(s) that trigged the alarm, - the counter of how many times this alarm occurred for this parameter - the % of time in alarm since the last acknowledgment - the trend of this parameter with display of the alarm thresholds
Languages	User preference	English, French, German, Spanish, Chinese simplified
Scalability	Number of machines / server	Several thousands to 10.000+ machines depending on the server capabilities
	Number of systems / server	Several hundreds to 1.000+ of online systems depending on the server capabilities
	Number of agents / server	Dozens of Modbus/database agents can be connected to the same server depending on the server capabilities
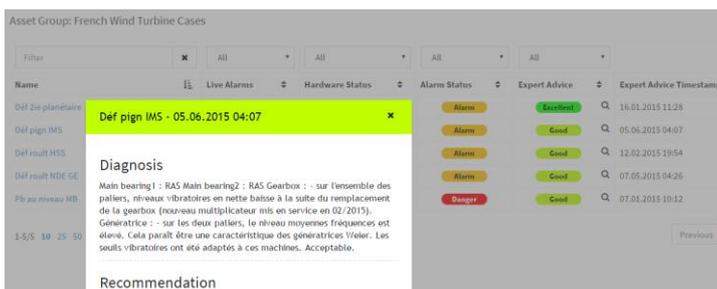
Example of Asset group view with alarm status and expert advice
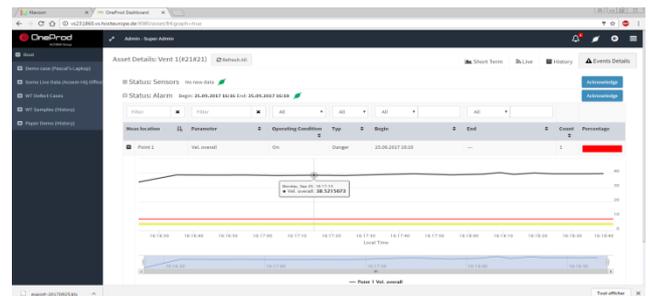
Example Event details view with trend, alarm thresholds and bargraph of the alarm status in % of time since last expert analysis

Graphic tool specifications (trending)

Trending	Single trend	Trending of one parameter
	Multiple trends	Superimposition of trends of several parameters on one or different measurement point
	Filter per operating condition	The trends can be filter depending on the operating status of the machine preset in NEST software, e.g. High power, low power…
	Alarm threshold display	Once filtered per operating condition, the alarm threshold of the active trend can also be displayed on the graph
Zoom	Static time range selection	1 day, 1 week, 1 month, All
	Dynamic timeline	The user can position left and right limits of the time range to display on the trend, based on the full history available
Size	Dynamic resizing	Automatic adjustment of the graph size depending on the size of the screen and on the size of the health matrix

Process Parameter Current Operating Condition: **LOW** Date: **14.04.2015 23:50**

Power 260 Wind Speed 5 Rotation Speed 18.55 Hz

	Unit	Main bearing	2le Main bearing	Planetary Gear Stage	Shaft2	Shaft3 AX	Shaft4 RO	GEN_DE	GEN NDE
OVL ACC	mm/s-2	0.0224	0.0205	0.2337	0.1271	0.2122	0.3987	1.0336	8.5779
OVL VEL	mm/s	0.1442	0.0741	0.2002	0.3626	0.3601	0.525	0.3748	2.1609
En-LF		0.0051	0.0025	0.0065	0.0079	0.0075	0.0107	0.0177	0.0302
En-MF		0.007	0.0046	0.0756	0.0625	0.0604	0.097	0.0521	0.2027
En-HF		0.0202	0.0194	0.2237	0.1099	0.2019	0.3787	1.0419	8.7632
Kurtosis		4	4	0	0	0	8	0	20
Shock Finder		191	279	0	0	0	1		
En-Env		37.1228	37.4909	36.8234	36.1061	36.3527	38.3826	39.0267	40.1015
FZ				0.1346	0.1623	0.2205	0.3566		
F0				0.2011	0.3096	0.1851	1.8916		

All 1 Month 1 Week From: --- To: --- Keep timerange

20. Mar 22. Mar 24. Mar 26. Mar 28. Mar 30. Mar 1. Apr 3. Apr 5. Apr 7. Apr 9. Apr 11. Apr 13. Apr 15. Apr 17. Apr 19. Apr 21. Apr 23. Apr 25. Apr 27. Apr 29. Apr 1. May 3. May 5. May 7. May
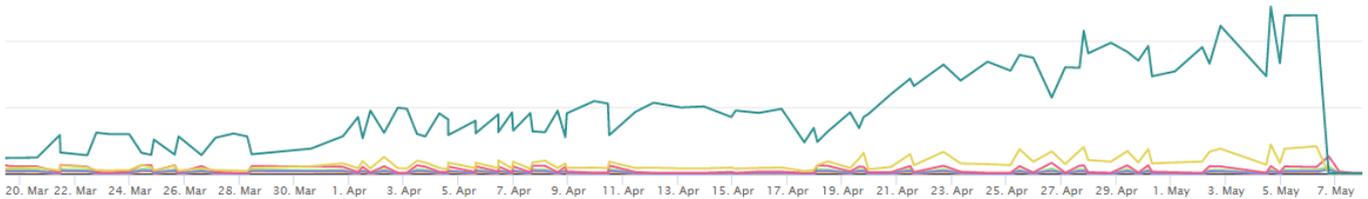
Example of detailed machine view on history with multiple trending from the health matrix

Requirements

Hardware	Dashboard Server	Please refer to NEST software specifications for server installation
	Modbus and Database agents hosts	Standard PC COU I5 or higher, at least 4 GByte RAM (8GByte recommended) For the Modbus Agents: Min. 50 GByte available space for short term database is recommended SSD is recommended OS System: Win7 or higher .NET framework version 4.62 or higher
	Client	From any internet navigator up to date
Communication	Between Server and agents	Minimal: 2MB (ADSL) is required
	Between Client and Server	Recommended: 2MB (ADSL) Minimal: 3G
Database compatibility	ONEPROD NESTi4.0	All versions. Desktop, Network
	ONEPROD NEST 3	Starting from NEST3.0.2 with NEST ANALYST 4.6.7. Desktop and network version
Online systems compatibility	ONEPROD MVX or KITE	Starting from version 5.4.0-16