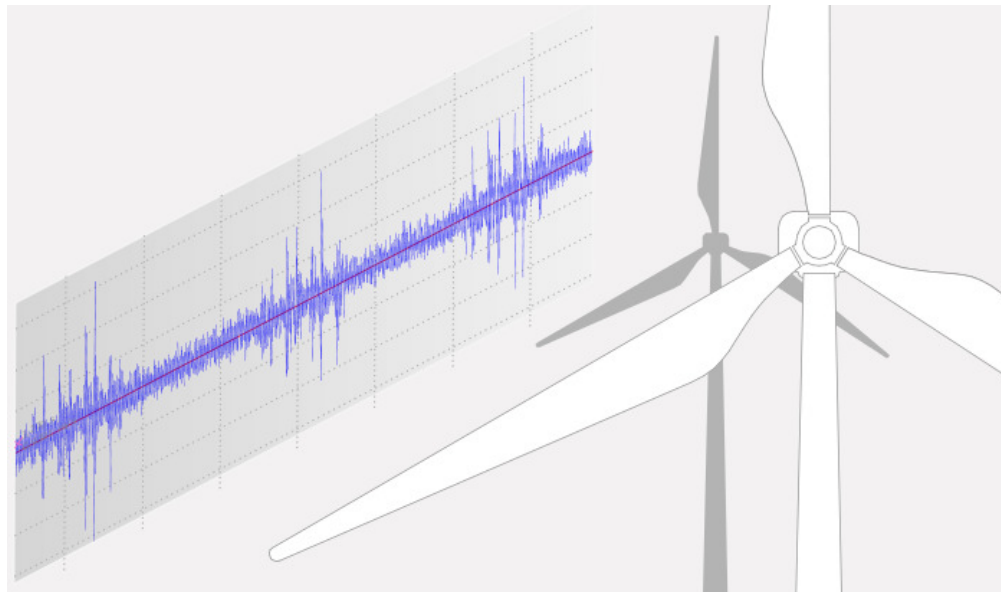


Condition Monitoring Independent Analysis-Software



The 8.2 Condition Monitoring Experts

8.2

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Renewable Energies*

TITAI

- Condition monitoring experience since 1986
- More than 2,000 vibration measurements
- Member of standard committees (VDI, IEC)
- CMS installed at Dong Hai Bridge, Shanghai



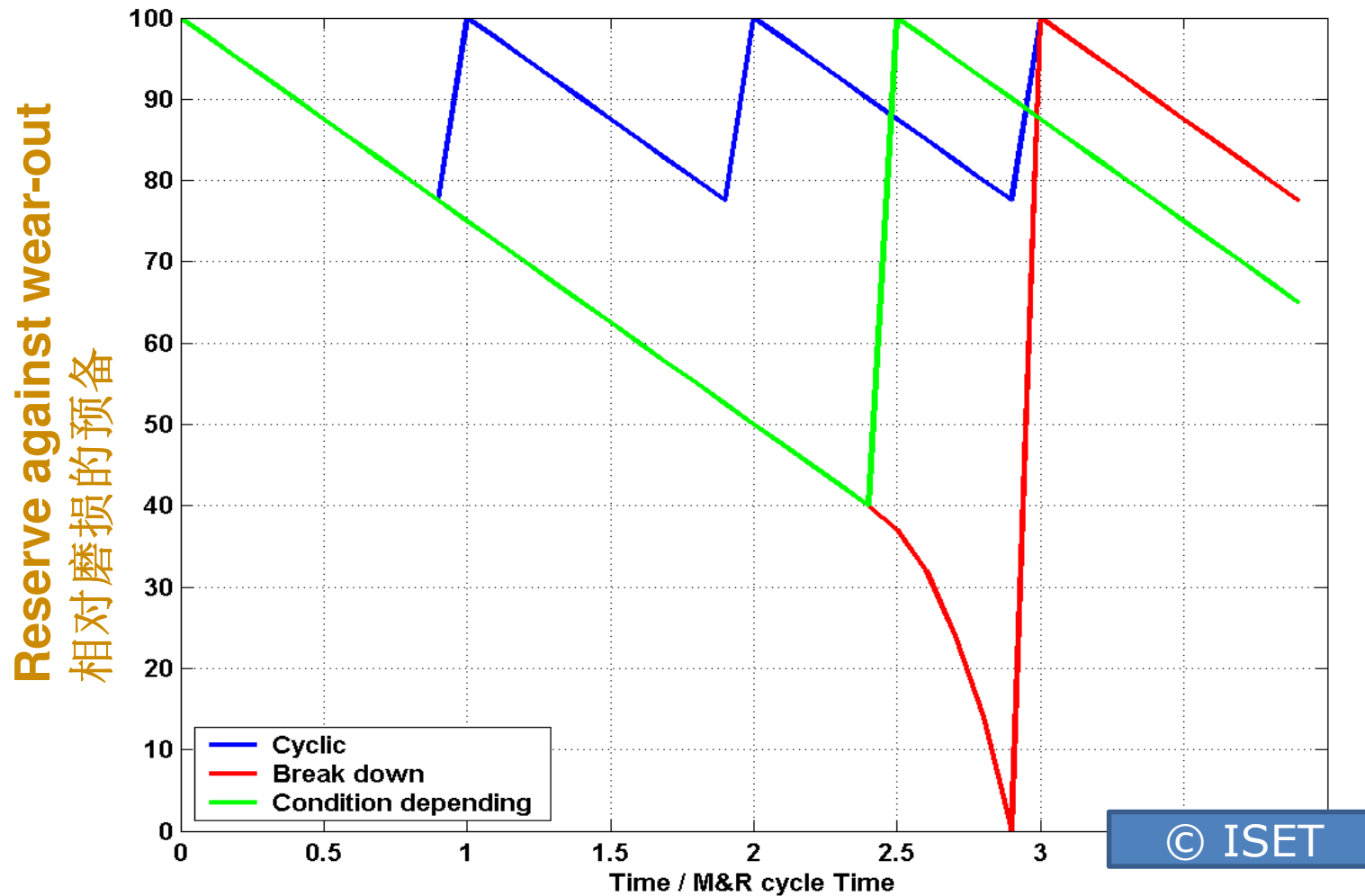
Maintenance strategies

维修策略

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TITAI



- Break down strategy 故障维修策略
 - Long and unplanned down time 长期和无计划的停工期
- Cyclic strategy 定期检修策略
 - High costs for spare parts 备件的高成本
- Condition based strategy 状态维修策略
 - Optimum live cycle cost 最优的生命周期成本

- Effective monitoring of several hundreds of wind turbines
- Simple configuration
- Highly automated analysis tools
- In-depth analysis
- Auto supervision
- Automatic report generation
- Multilingual

Hardware used by 8.2

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USEN
Sensors Systems Solutions



bachmann.



db PRÜFTECHNIK



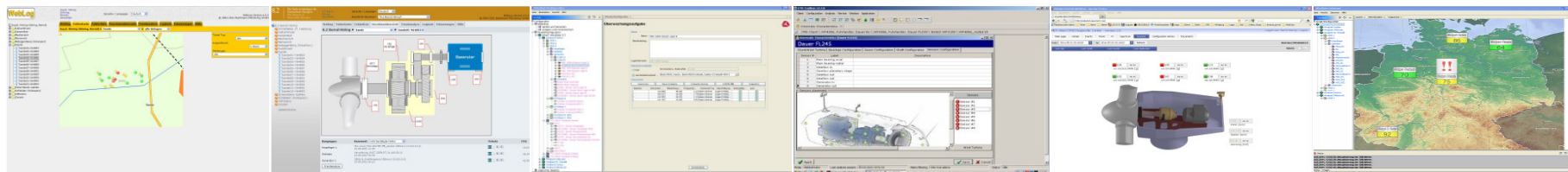
Mita-Teknik
Experience at Work



**VULKAN
SEACOM**



DMT



Software independent of Hardware^{8.2}

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TITAI



USEN
Sensors Systems Solutions



bachmann.



db PRÜFTECHNIK



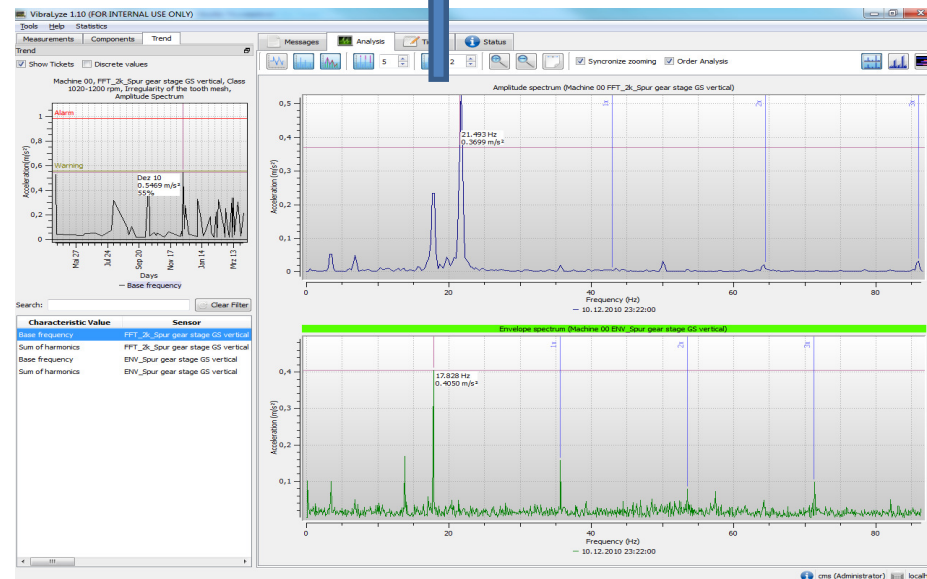
Mita-Teknik
Experience at Work



**VULKAN
SEACOM**



DMT



Integrated Systems

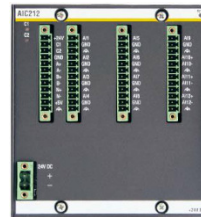
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TITAI



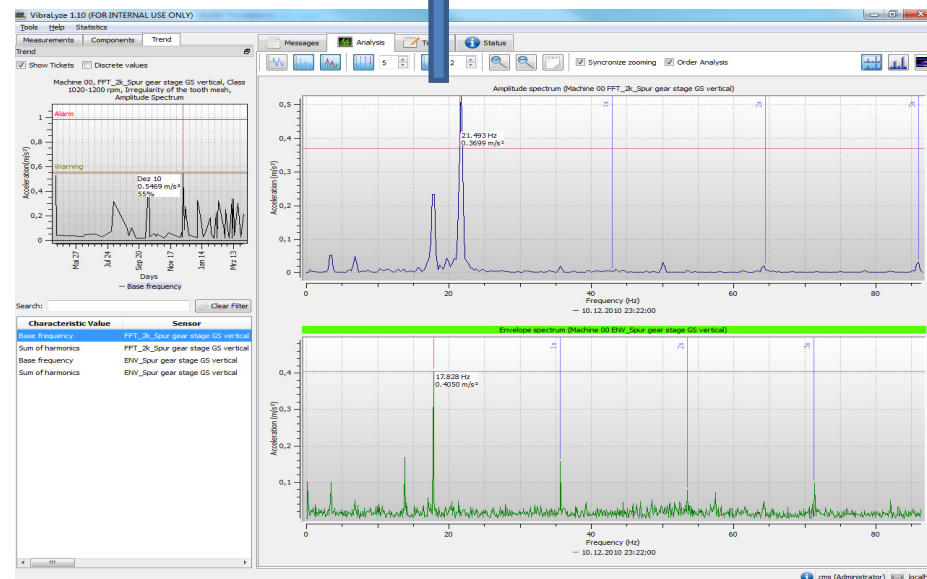
BECKHOFF



bachmann.



SIEMENS



28.06.2013

Easy Configuration

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The screenshot displays the 'Configuration Wizard' software interface. The main window is titled 'Configuration Wizard' and shows the 'Sites' configuration step. Below the title, there is a search bar and a table with columns 'Site', 'Company', and 'CMS Type'. The table lists five sites, all with '8.2 Monitoring GmbH' as the company and 'CMS 1' as the CMS type. A smaller, overlapping window titled 'Configuration Wizard' shows the 'Machines' configuration step. This window also has a search bar and a table with columns 'Machine', 'Site', 'Kinematic', and 'Machine Type'. The table lists six machines, all with 'Site 001' as the site, 'Gearbox 1' as the kinematic, and 'Type 1' as the machine type. The 'Next' button is visible at the bottom of the 'Machines' window.

Sites
Enter the details of the sites where your machines

Search:

Site	Company	CMS Type
Site 01	8.2 Monitoring GmbH	CMS 1
Site 02	8.2 Monitoring GmbH	CMS 1
Site 03	8.2 Monitoring GmbH	CMS 1
Site 04	8.2 Monitoring GmbH	CMS 1
Site 05	8.2 Monitoring GmbH	CMS 1

Machines
Enter the details of your machines.

Search:

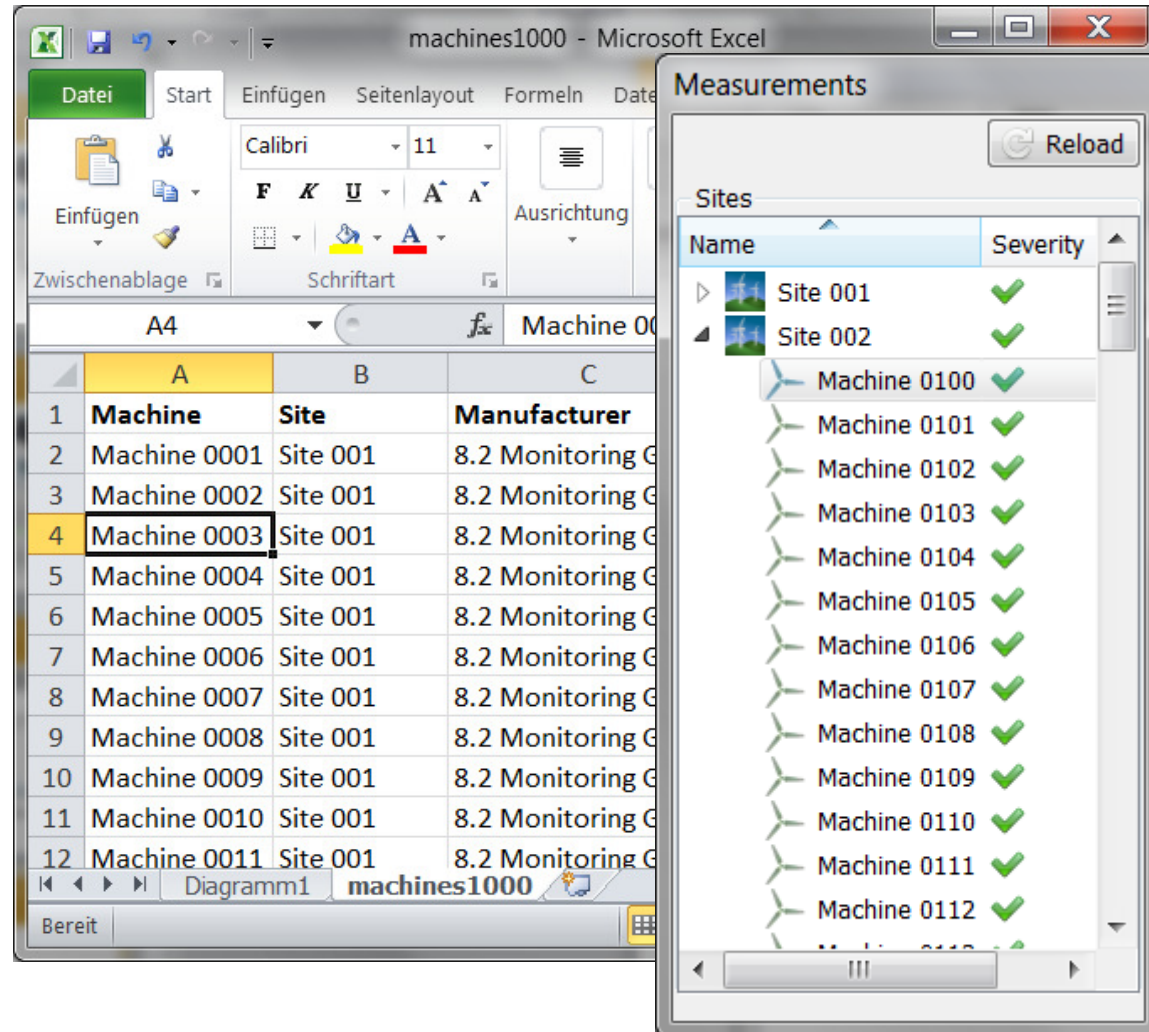
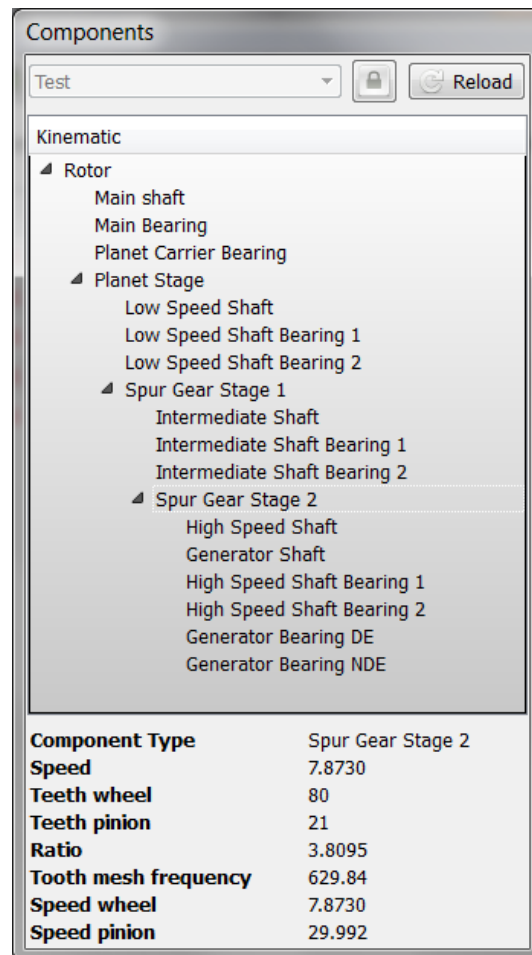
Machine	Site	Kinematic	Machine Type
Machine 0001	Site 001	Gearbox 1	Type 1
Machine 0002	Site 001	Gearbox 1	Type 1
Machine 0003	Site 001	Gearbox 1	Type 1
Machine 0004	Site 001	Gearbox 1	Type 1
Machine 0005	Site 001	Gearbox 1	Type 1
Machine 0006	Site 001	Gearbox 1	Type 1

Component Editor / Bulk Import

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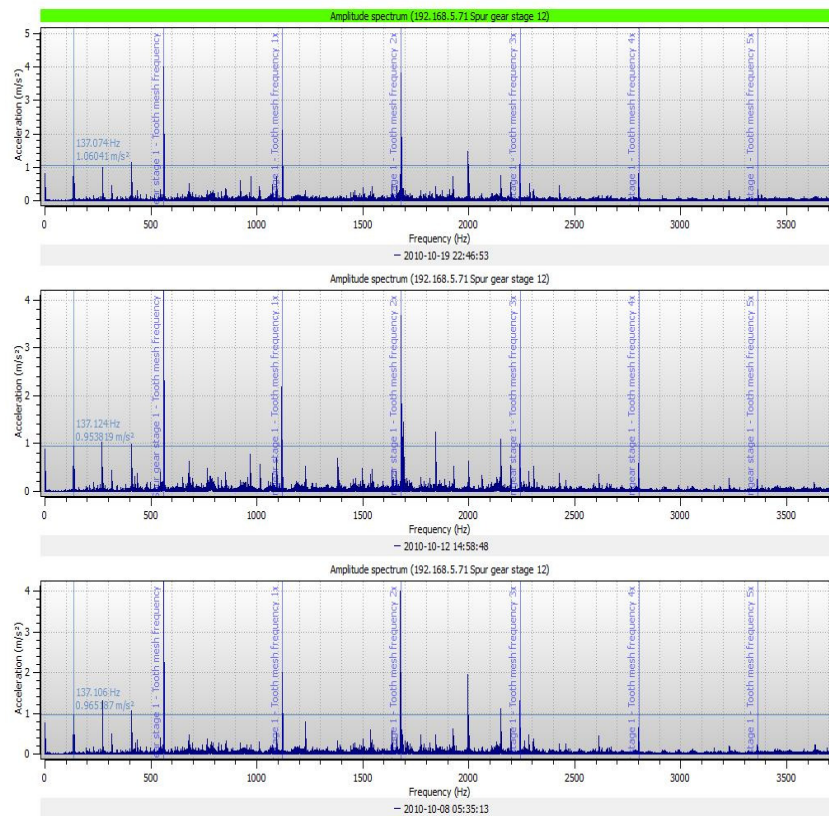
Effective Analysis Tools

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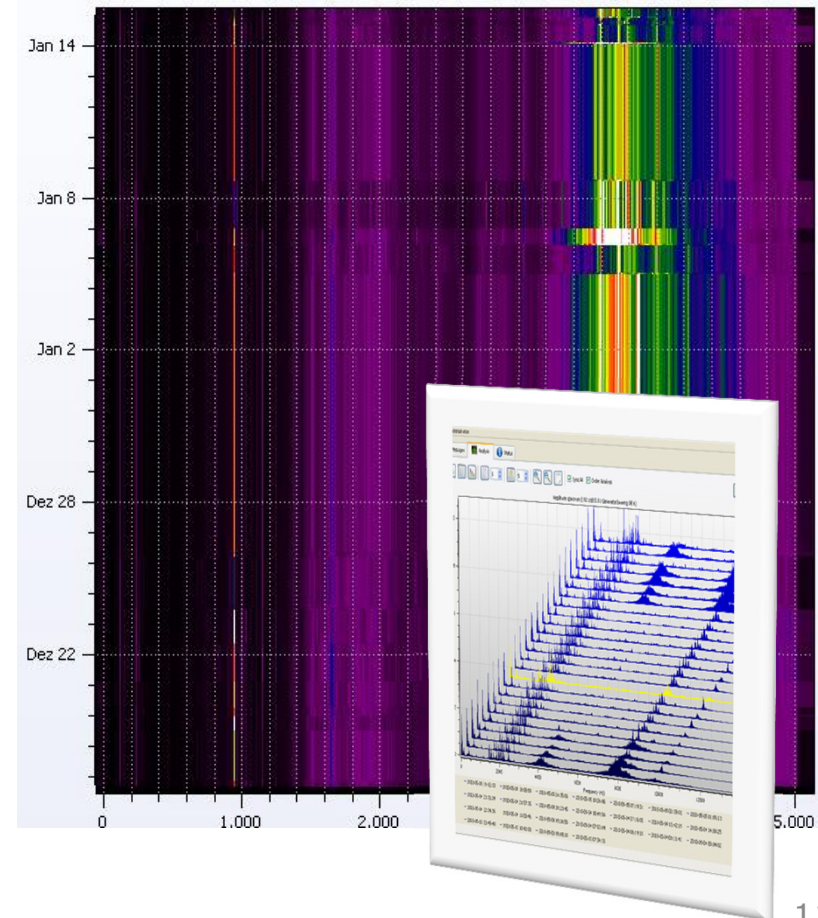
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Synchronous Spectra



Spectrogramm / Waterfall



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11

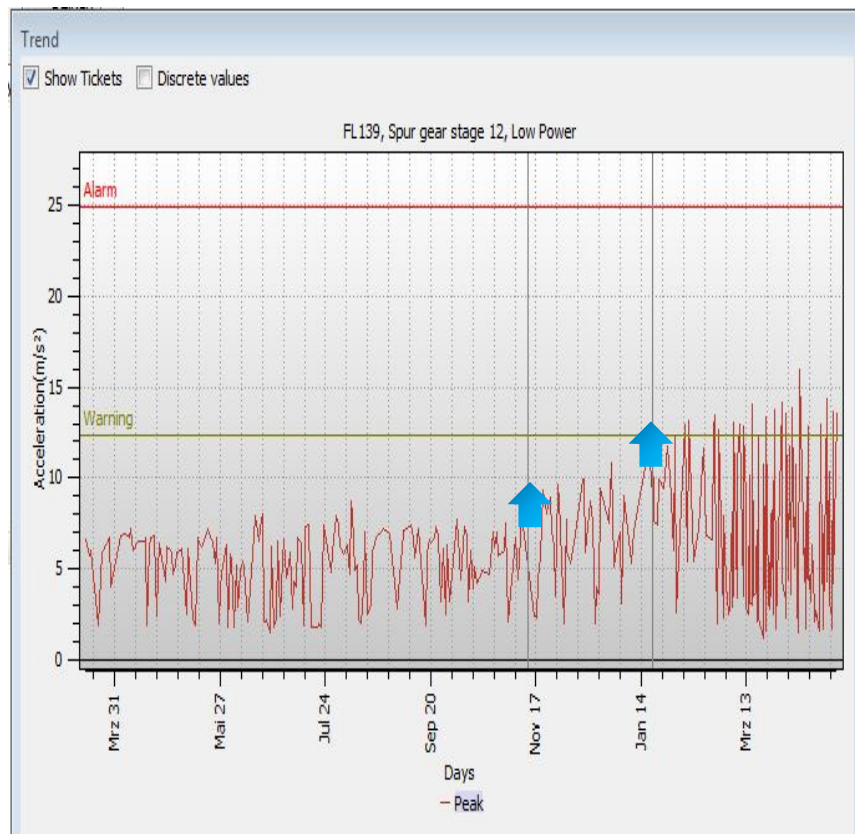
Effective Analysis Tools

8.2

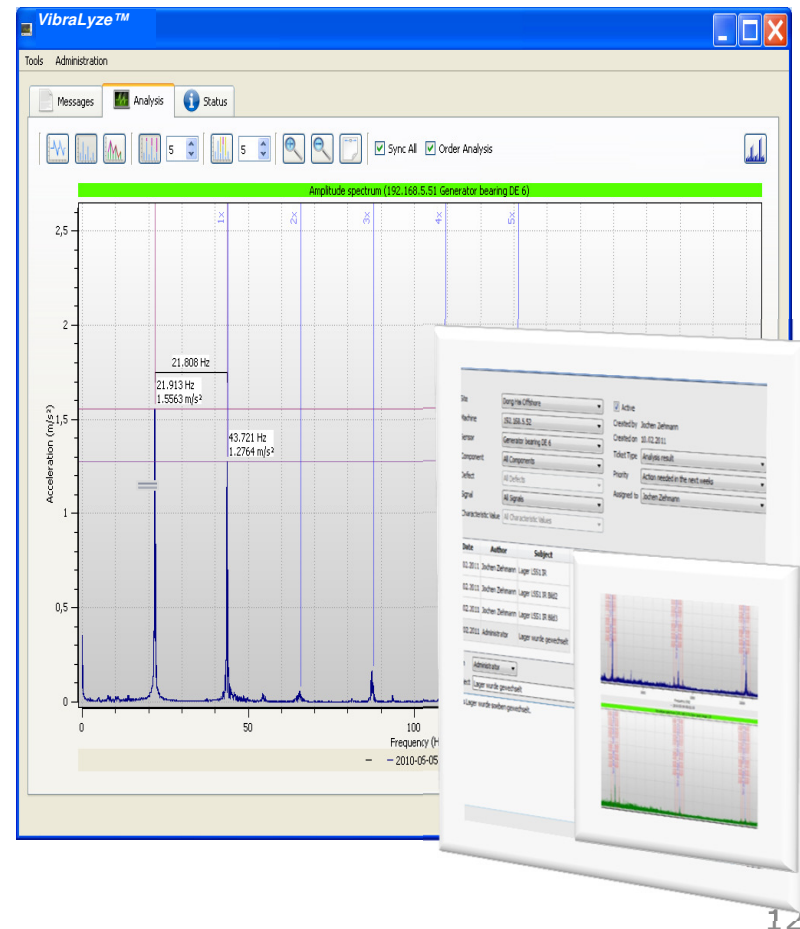
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Trend with Events



Spectrum / Ticket



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Defect wizard

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Test

Reload

Kinematic

▲ Rotor

Main shaft

Main Bearing

Planet Carrier Bearing

▲ Planet Stage

Low Speed Shaft

Low Speed Shaft Bearing 1

Low Speed Shaft Bearing 2

▲ Spur Gear Stage 1

Intermediate Shaft

Intermediate Shaft Bearing 1

Intermediate Shaft Bearing 2

▲ Spur Gear Stage 2

High Speed Shaft

Generator Shaft

High Speed Shaft Bearing 1

High Speed Shaft Bearing 2

Generator Bearing DE

Generator Bearing NDE

Component Type

Spur Gear Stage 2

Speed

7.8730

Teeth wheel

80

Teeth pinion

21

Ratio

3.8095

Tooth mesh frequency

629.84

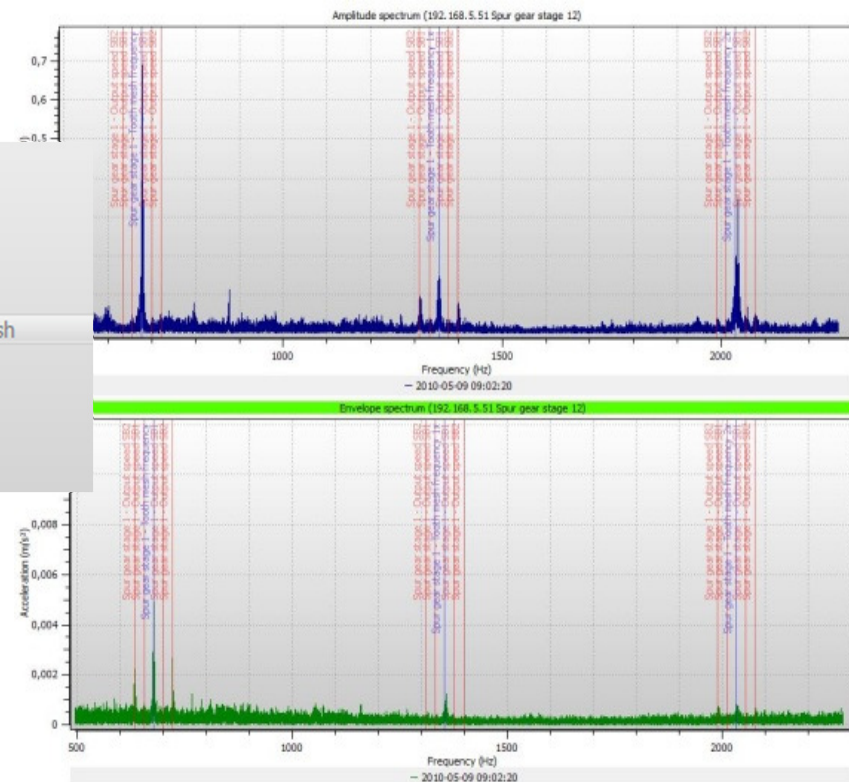
Speed wheel

7.8730

Speed pinion

29.992

Automatic Cursors



Thank you

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