

The background features a dark blue gradient with faint, light blue circular patterns and a scale. The scale is a semi-circular arc with tick marks and numbers ranging from 140 to 260. The circular patterns consist of concentric circles, some solid and some dashed, with arrows indicating a clockwise direction. The overall aesthetic is technical and futuristic.

TRENDION

sensing the vibes

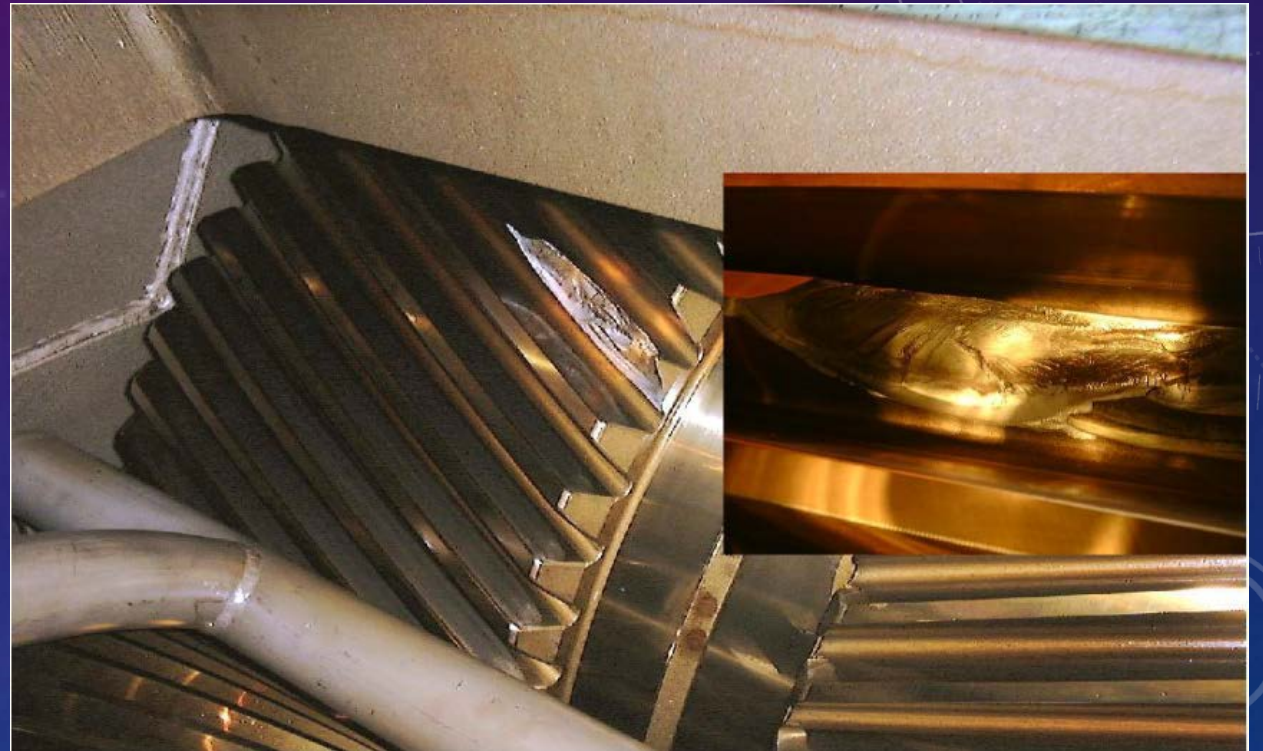
CONDITION MONITORING OF ROTATING MACHINERY, WEB-BASED MEASUREMENTS AND ANALYSIS

- Short introduction of Trendion Oy
- General properties of measurement unit Trendion TADC-4, generation 5
- General properties of Trendion Online System
- General view of Trendion Online ICT architecture
- Working with Trendion Online: configurations, views
- Trendion Online, compatibility for ARTeMIS Modal[®] -software
- Trendion Online live demonstration
- Q&A



TRENDION OY

- Trendion was founded on 2014 to further develop and commercialise the Online vibration monitoring system, already started several years earlier
- Long experience on condition monitoring of industry, especially in Nuclear Power and Oil/Gas
- The history in vibration based condition monitoring of Trendion staff carries all the way to the beginning of 1970'



GENERAL PROPERTIES OF MEASUREMENT UNIT TRENDION TADC-4, GENERATION 5

Trendion 5th generation solution designed for improved:

- Scalability and cost-effectiveness
- Measurement flexibility, good dynamics (24-bit.) and good accuracy
- New applications with synchronized and simultaneous sampling
- Compatibility with ARTeMIS Modal[®] -software

Characteristic	5 th generation	Customer benefit
Amount of channels	Modular; 4 – 32 pcs	cost-effectiveness, scalability
Sample frequency	Configurable; 52 / 26 / 13 / 6.25 / 3.25 / 1.625 kHz	data optimization, diversity for various purposes
Frequency band	0 – 26 kHz	enables demanding condition monitoring
Measuring range	±30 V	improved reliability
Measuring resolution	0,004 mV	higher dynamics
Noise level (p-p)	0,1 mV	improved performance
Measuring synchronization	Yes	enables monitoring of machine balance and balancings can be made remotely; automatization of key figures calculation
Simultaneous sampling	Within a 4-ch. Module	enables monitoring of structure movement
Separate AC/DC measuring	No need	improved performance

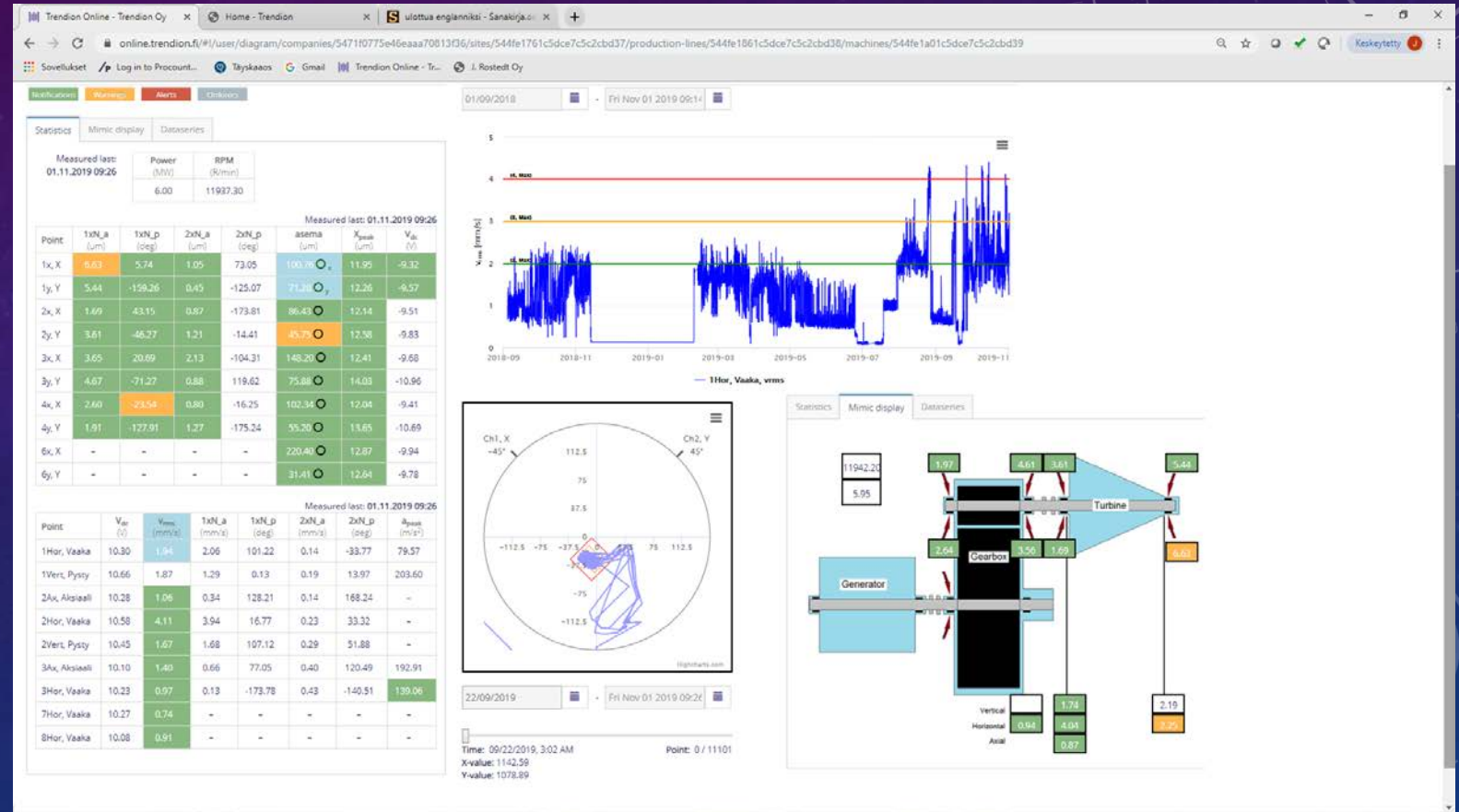


GENERAL PROPERTIES OF TRENDION ONLINE SYSTEM

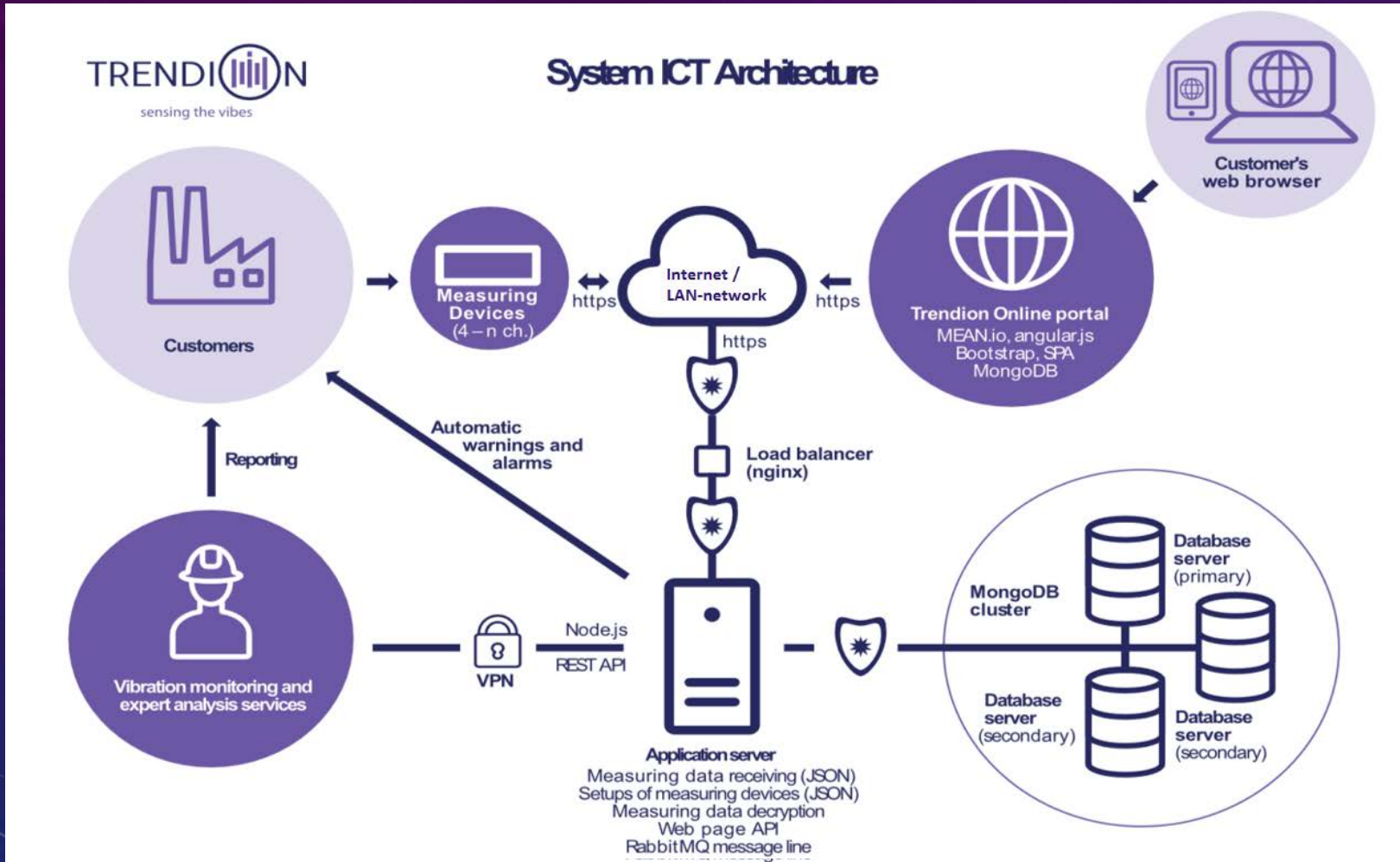
Flexible and scalable IoT solution supported by expertise and professional services.

Properties of Trendion Online Solution:

- Web-GUI and algorithms
 - Web-GUI developed to work with all browsers, tablets and smart phones (traffic light app under development)
- Trending of key-parameters: ie. vibration overall values, order tracking parameters
- Raw time-signals and spectras visible also via portal
- Cloud platform for scalable 24/7 vibration monitoring service, possibility to "inhouse" solutions and "white-labeling"
- More detailed analysis with Trendion Studio – analysis software



GENERAL VIEW OF TRENDION ONLINE ICT ARCHITECTURE



- SSL-secured web-portal and data traffic
- Data packets encrypted/decrypted with in-house algorithm
- Tripled and mirrored database cluster
- Watchdog for system malfunctions
- Interface for data export
- System running on IBM power 9 (collaboration with IBM)



WORKING WITH TRENDION ONLINE - CONFIGURATIONS

- All system configurations done via web-portal
- Everything can be pre-configured in advance in the web-portal
- Changes in configurations have immediate affect on measuring unit

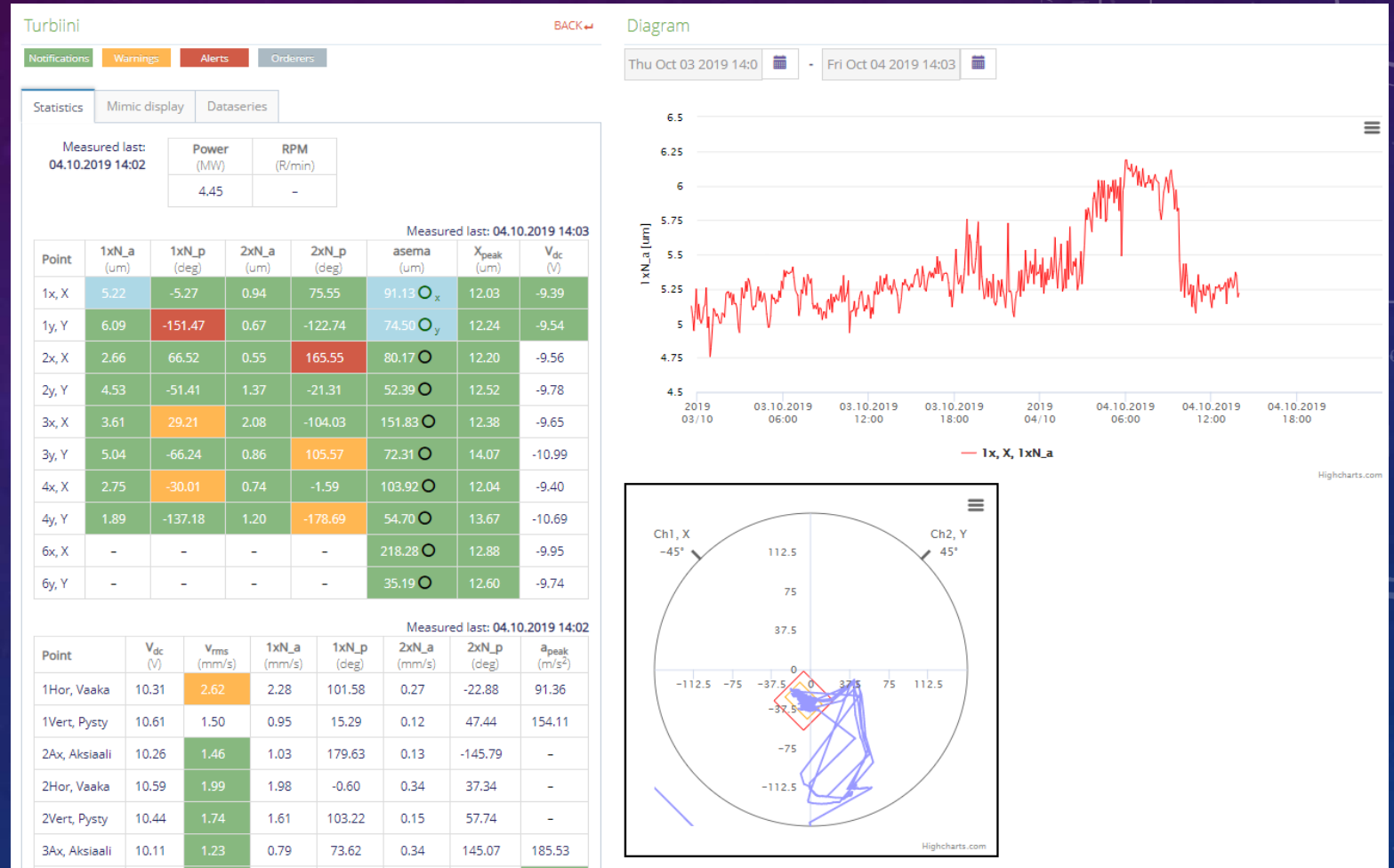
The screenshot displays the Trendion Online web-portal interface. The main window is titled "Measure settings" and "Measure devices". It features a table with columns for Name, Sample frequency, Sample length, ADC, Mod, and Parameter. The table lists various parameters such as "100a cfp", "100a vel", "100a eps", "100a vel", "100a cfp", and "100a vel" with their respective sample frequencies and lengths.

Below the table, there is a section titled "Trendion Online" with a sidebar menu containing "Dashboard", "Company details", "Upkeep view", and "Users". The main content area shows a tree view of "Wind turbines" and a list of "Measuring devices". The "Measuring devices" list includes channels 1 through 12, each associated with a specific module.

An "Edit channel" dialog box is open, showing a dropdown menu for "Displacement" and a text input field with the value "0.00787". Other fields include "Unit" (set to "m"), "Offset" (set to "-10.11"), and "Scale" (set to "1"). The dialog has "Save" and "Cancel" buttons.

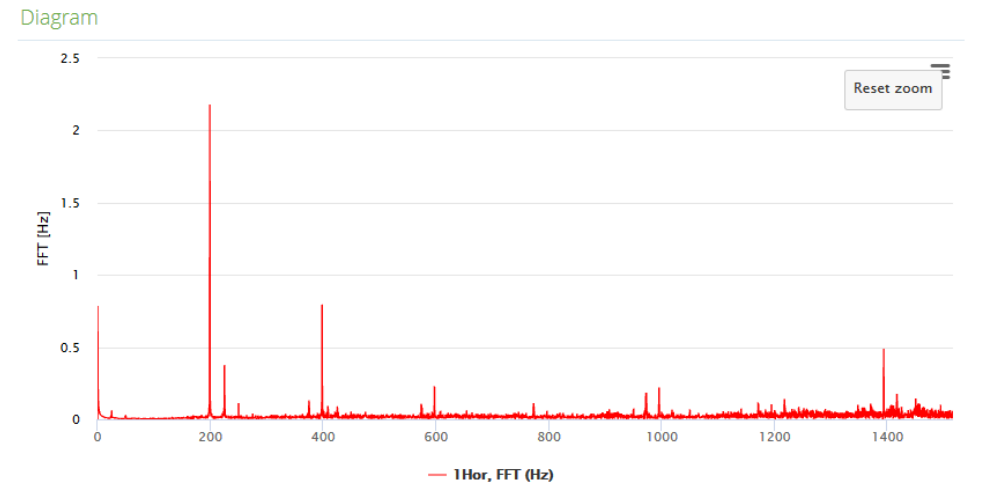
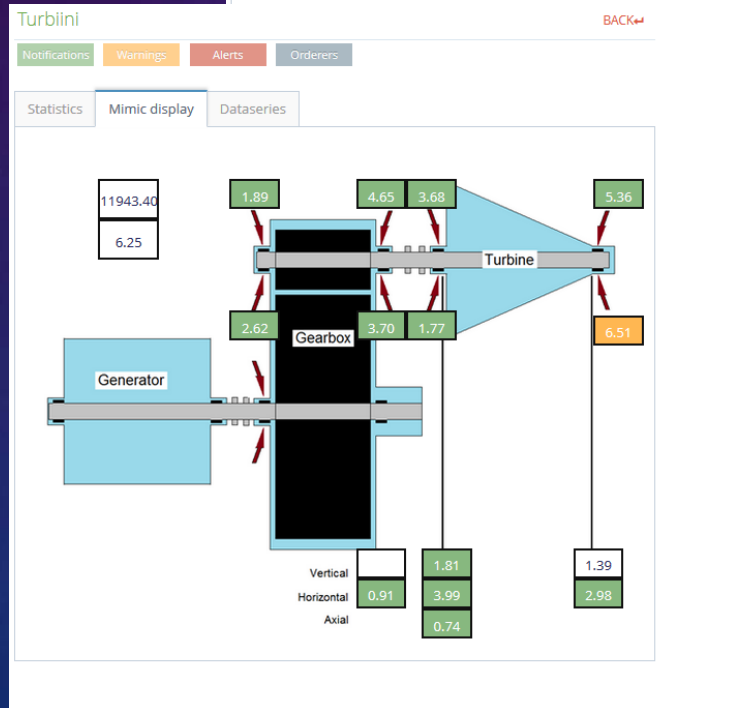
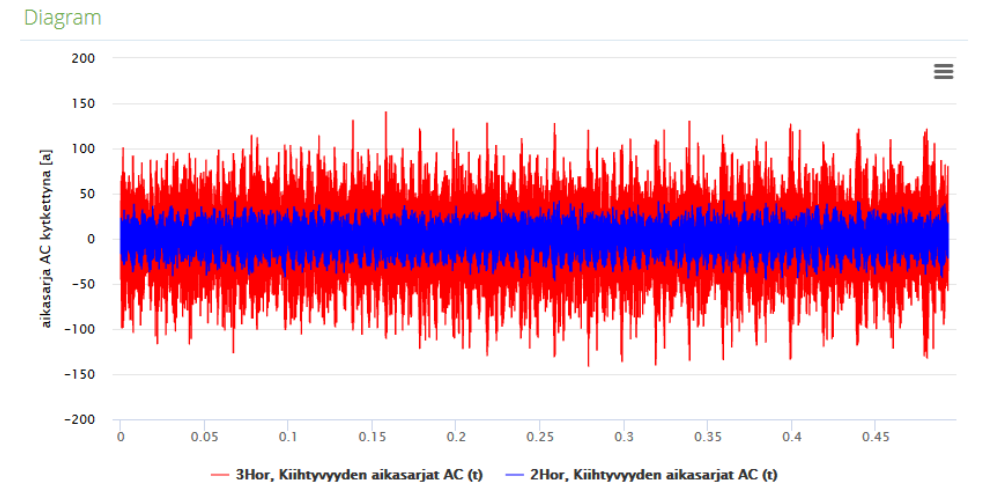
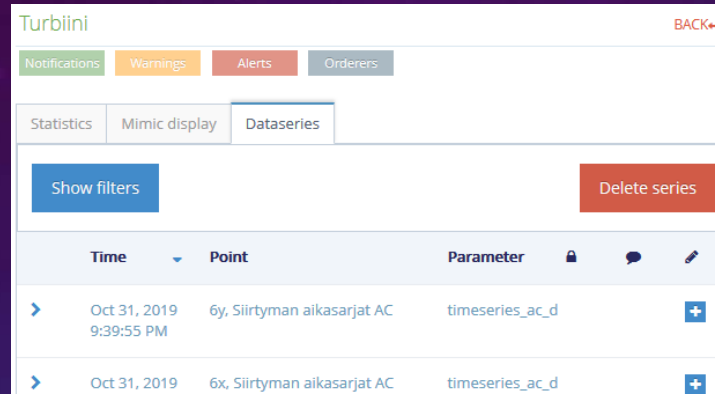
WORKING WITH TRENDION ONLINE, ANALYSIS AND VIEWS

- Colored "normal list" for proximity probes and other type of transducers
- Machine related / process parameters
- Trending of all parameters
- Diagram for static position of the shaft centerline, orbits and polar plots under development



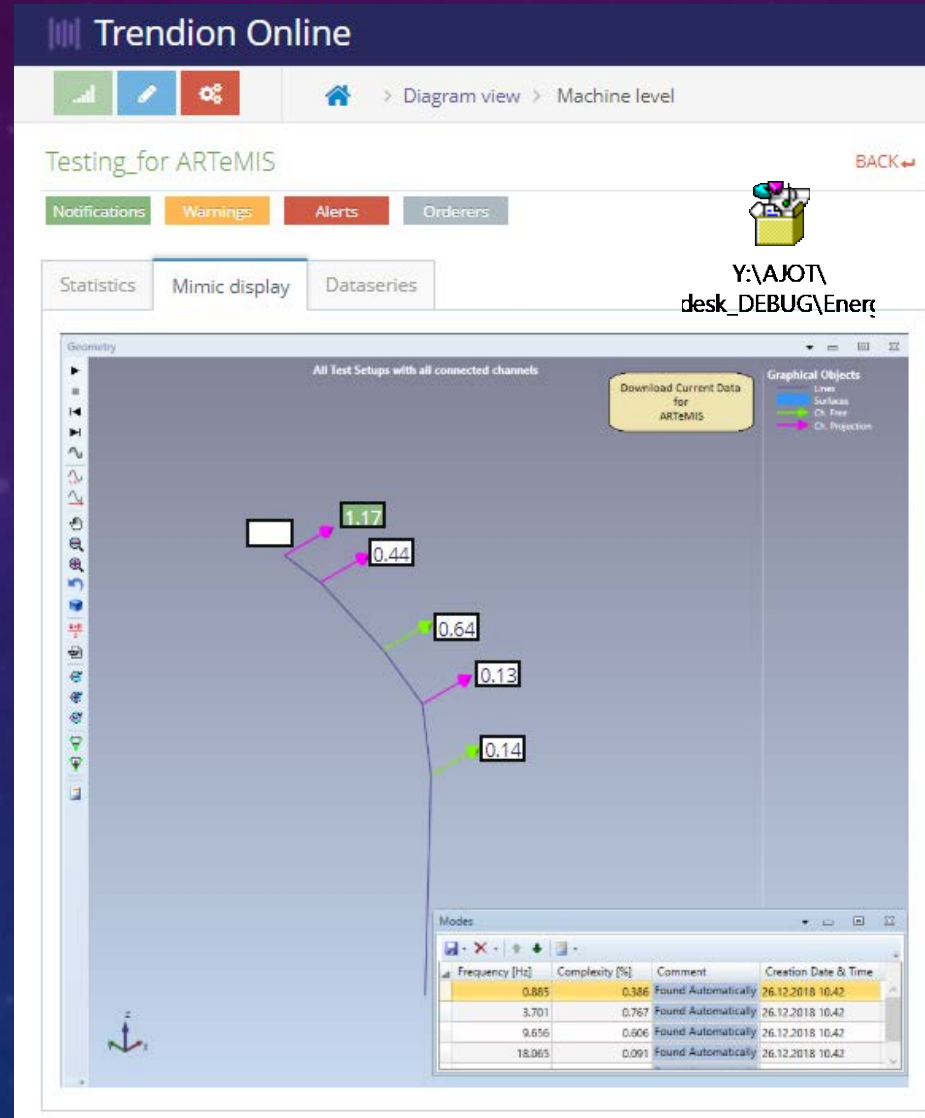
WORKING WITH TRENDION ONLINE, ANALYSIS AND VIEWS

- Simultaneously sampled timeseries and spectras available on web-portal
- Fully configurable mimic displays



TRENDION ONLINE, COMPATIBILITY FOR ARTEMIS MODAL[®] - SOFTWARE

- Special functionality to export simultaneous timeseries from TADC-4 –modules to ARTEMIS Modal[®] -software
- A great tool for monitoring of structural properties and boundary conditions

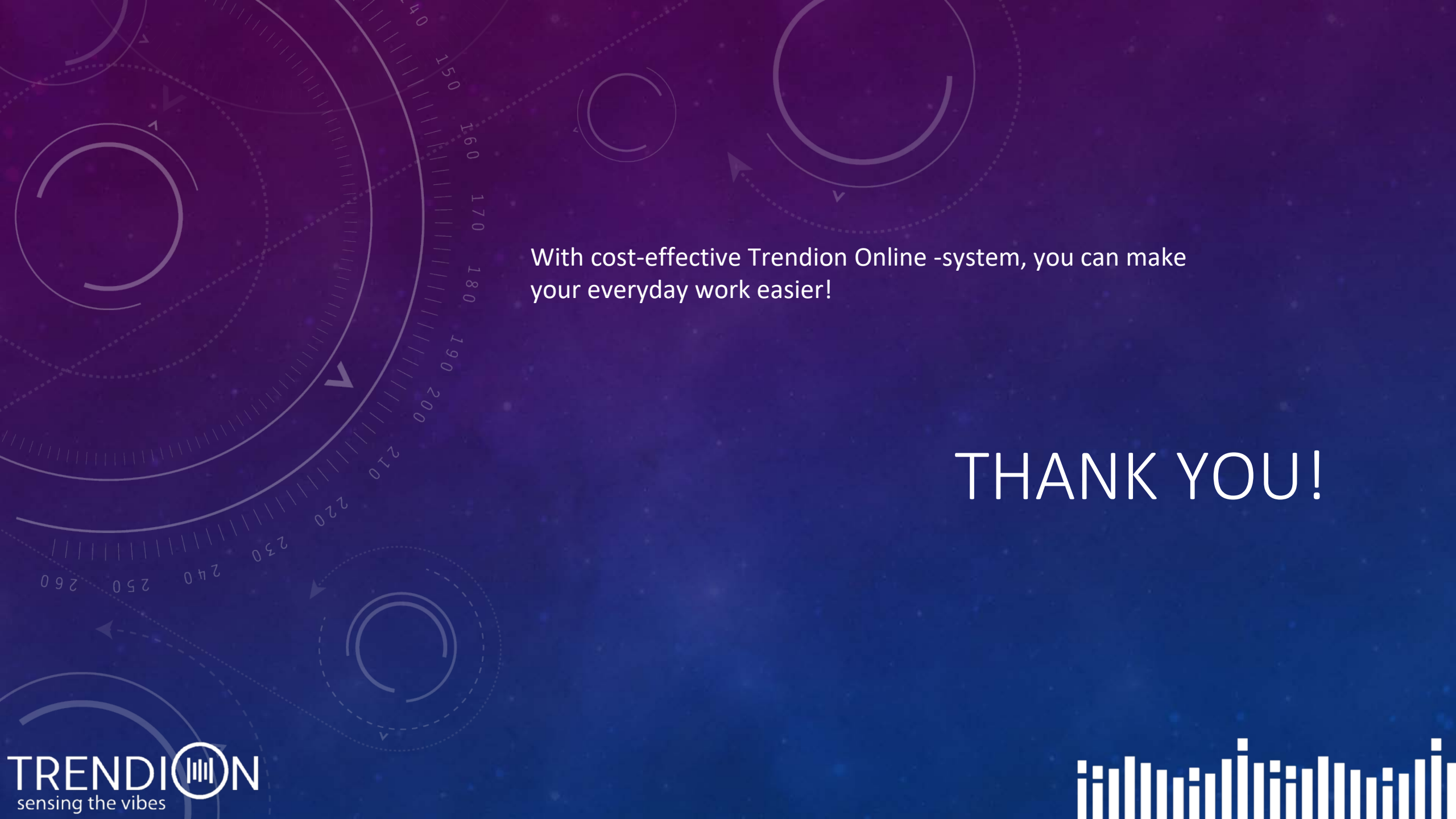




LIVE DEMONSTRATION

QUESTIONS
&
ANSWERS



The background features a dark blue gradient with a starry space pattern. On the left side, there are several technical diagrams, including circular gauges with numerical scales (140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260) and various circular arrows indicating motion or flow. The text is centered in the upper right quadrant.

With cost-effective Trendion Online -system, you can make your everyday work easier!

THANK YOU!

