VESKi

PRODUCT INTRODUCTION

Vibration Expert Systems | Consulting | System Design

Machine Condition Monitoring

AAnT
Asset
Analytics
Toolkit

What is AAnT?

AAnT (Asset Analytics Toolkit) is a software used to expand the capabilities of conventional diagnostic monitoring (CoDiS).
AAnT is using the data collected by CoDiS (or other monitoring systems) expanding the capabilities of machine analytics, data interpretation and data presentation.

- Configurable dashboards
- Long term history trends (from single point to years of data)
- Raw data analysis
- Histogram analysis
- Regression curve fitting
- Evaluation based on industry standards (ISO 20816-5, ISO 13373-7 and others)
- Data intepreatation report repository

Monitoring and analytics

Product + Service

Monitoring

+

Asset analyitcs

ADD ON (UPGRADE)

Prediction

(ML, AI...)

KEY FACTORS:

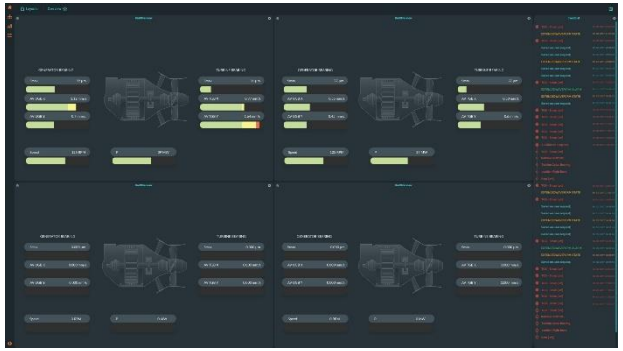
1. (THE RIGHT) DATA SET

2. SW TOOLS

3. DOMAIN EXPERTISE

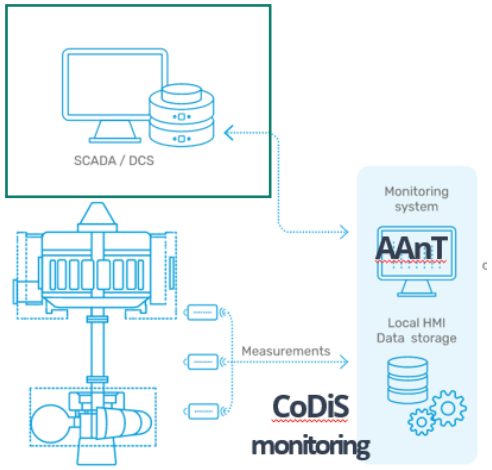
From Monitoring to Efficiency improvements

On-line Monitoring



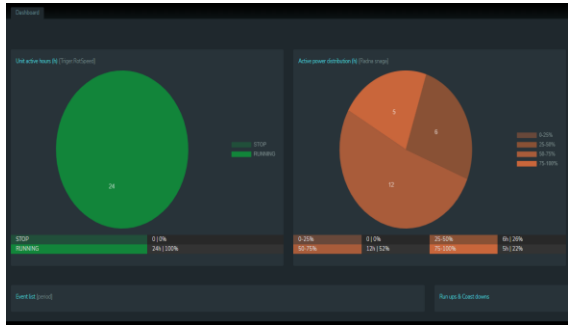
- Sensors
- On-line monitoring
- On-line data
- Monitoring and diagnostics tools

Integration with SCADA / DCS



- Integration of process values
- Data exchange
- Executive functions

Aset analyitcis and performance

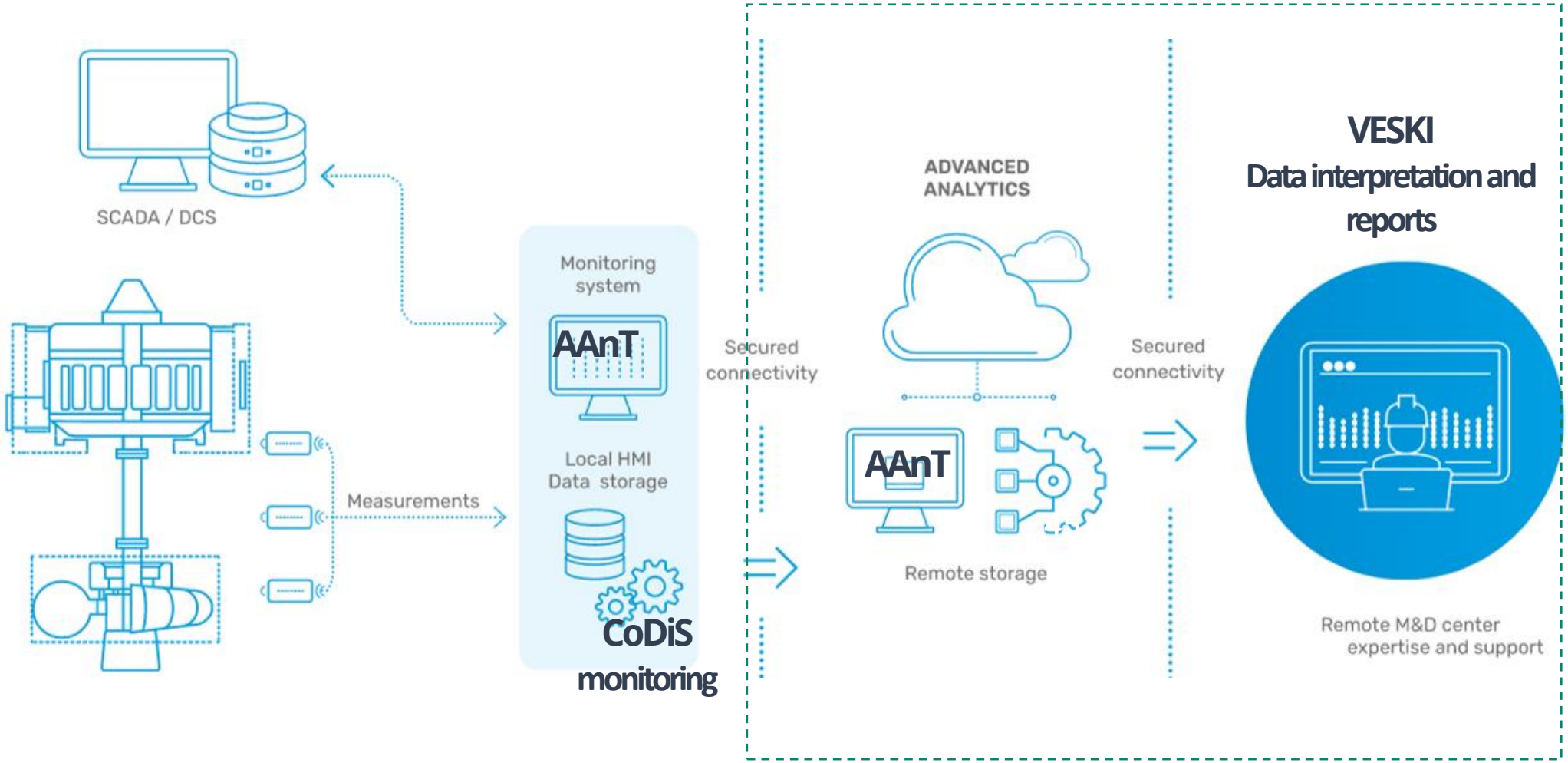


- KPIs on plant level
- Alarm analysis
- Plant Maintenance planning
- Plant Maintenance optimization

Process optimization

- KPIs on Fleet level
- Efficiency improvements
- Production optimsation
- Fleet Maintenance planning
- Fleet Maintenance optimization

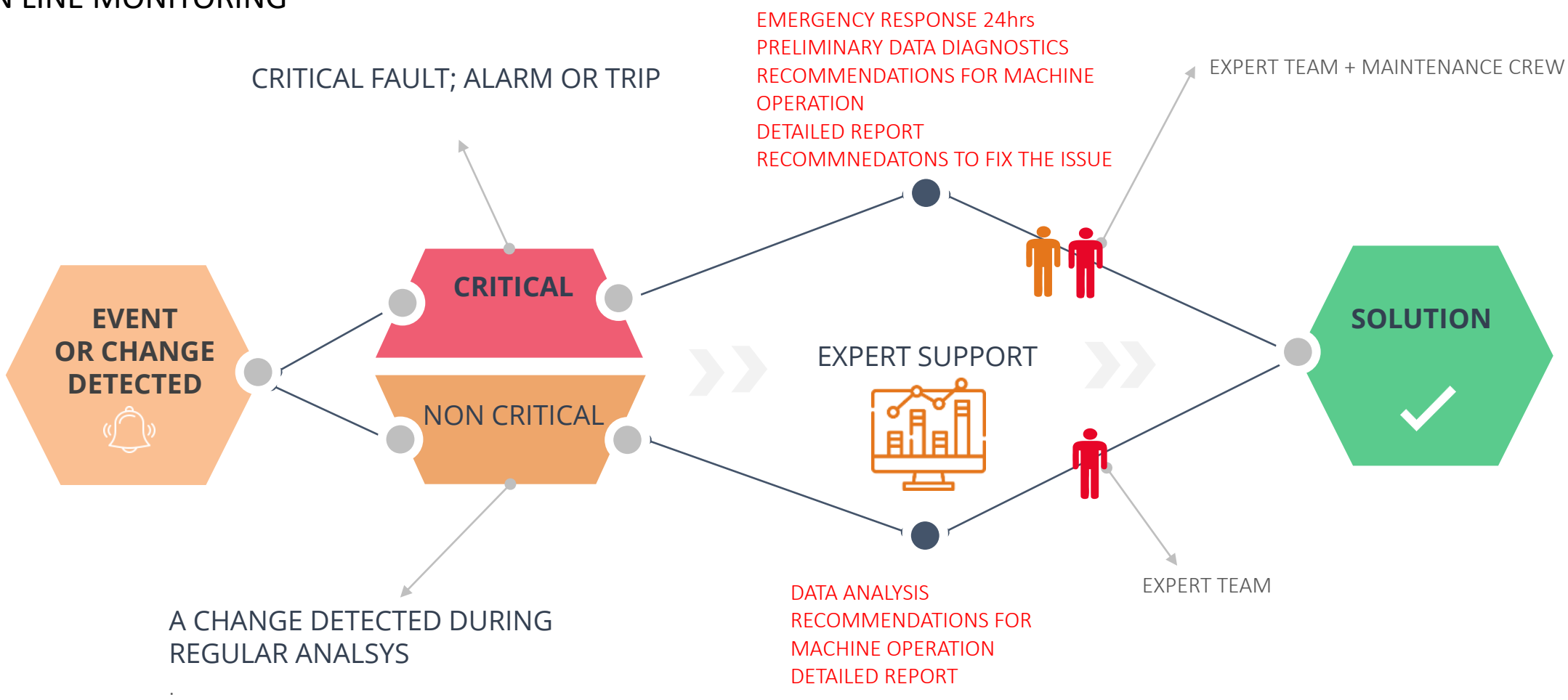
Cloud SaaS - AAnT



New business model / PRODUCT+SERVICE

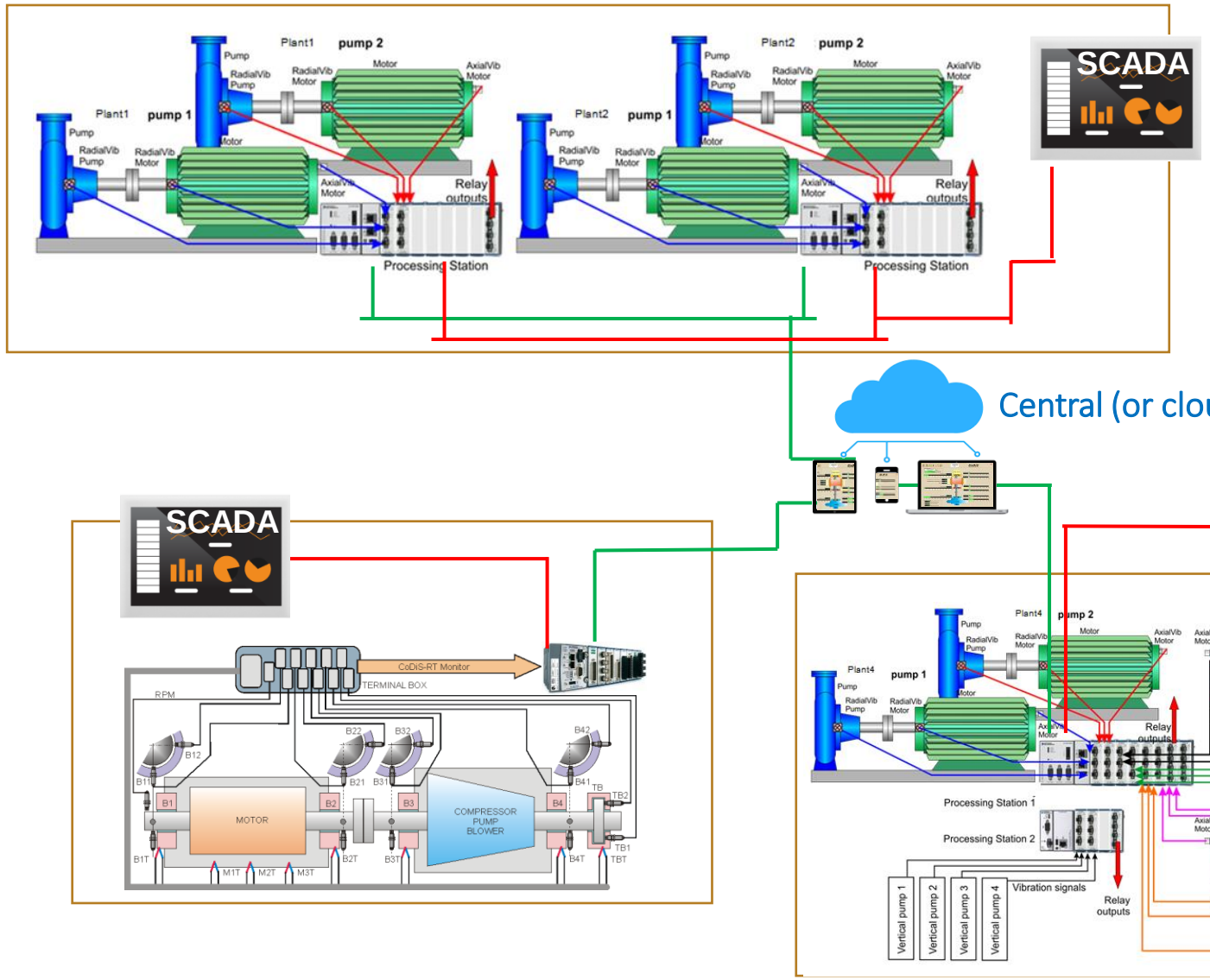
What kind of the Service is it?

ON LINE MONITORING



ASSET ANALYTICS TOOLKIT

On-line monitoring



AAnT On-line DASHBOARDS

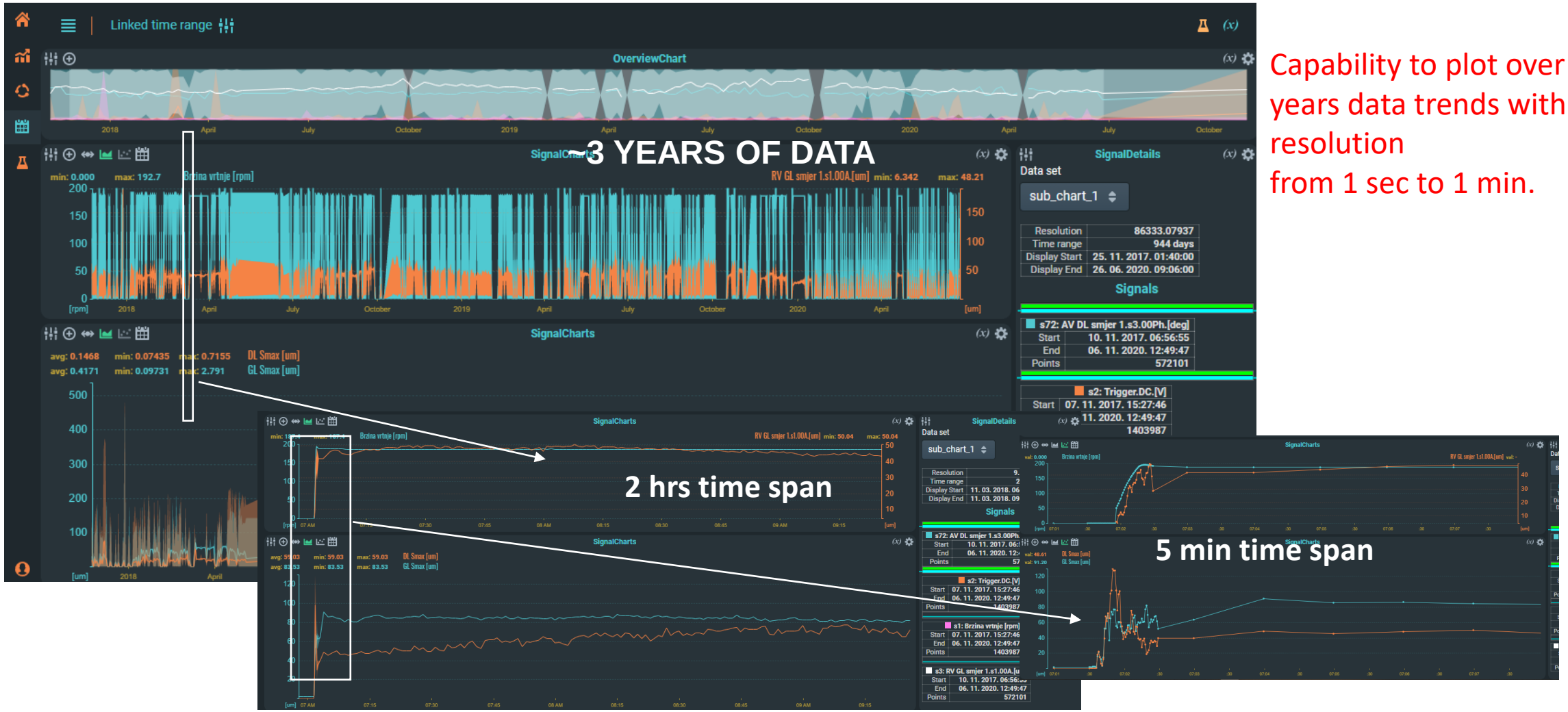
AFTER

New enhanced web based overview

BEFORE

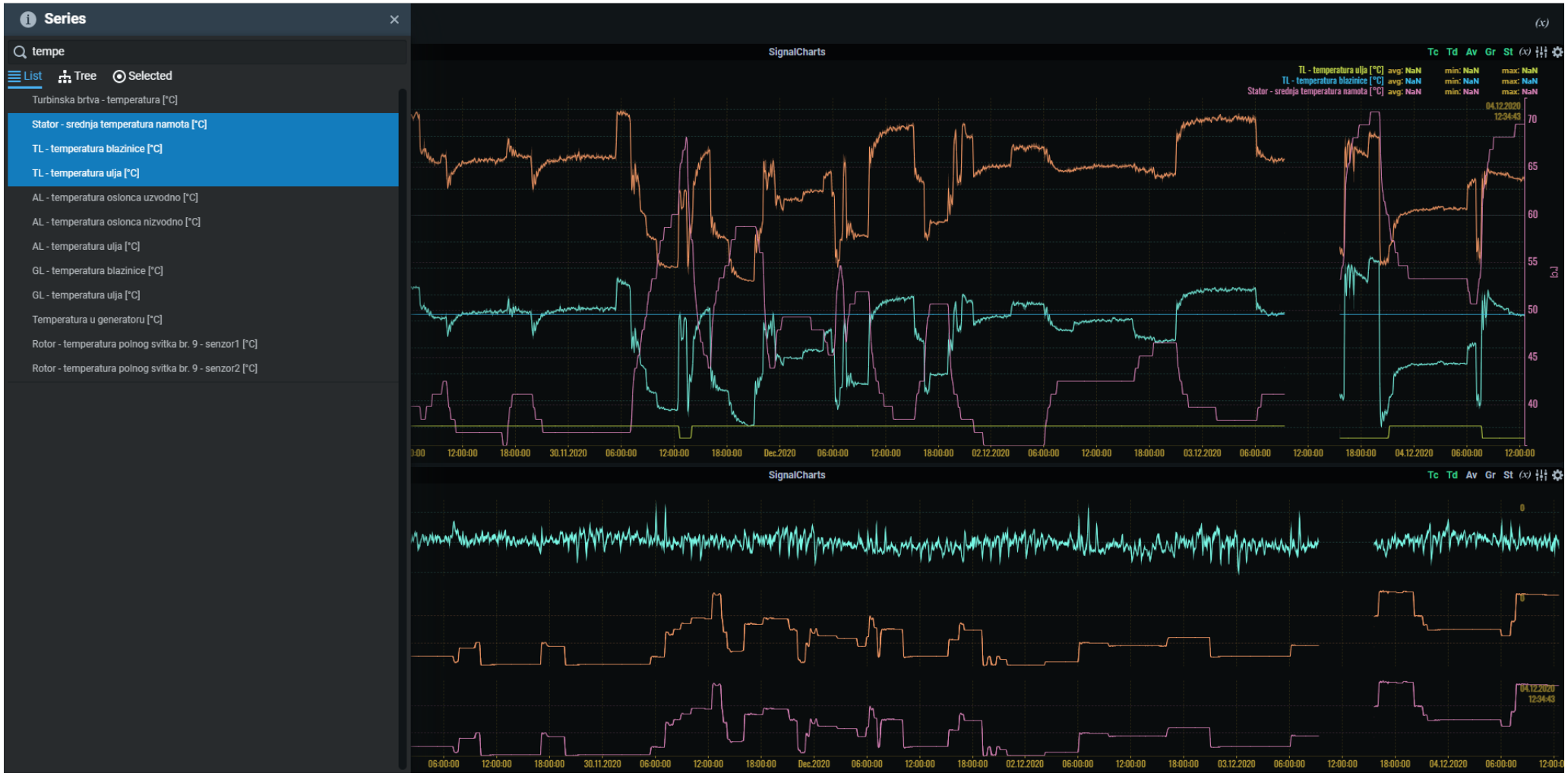
HISTORY TRENDS

Multi year trend plot



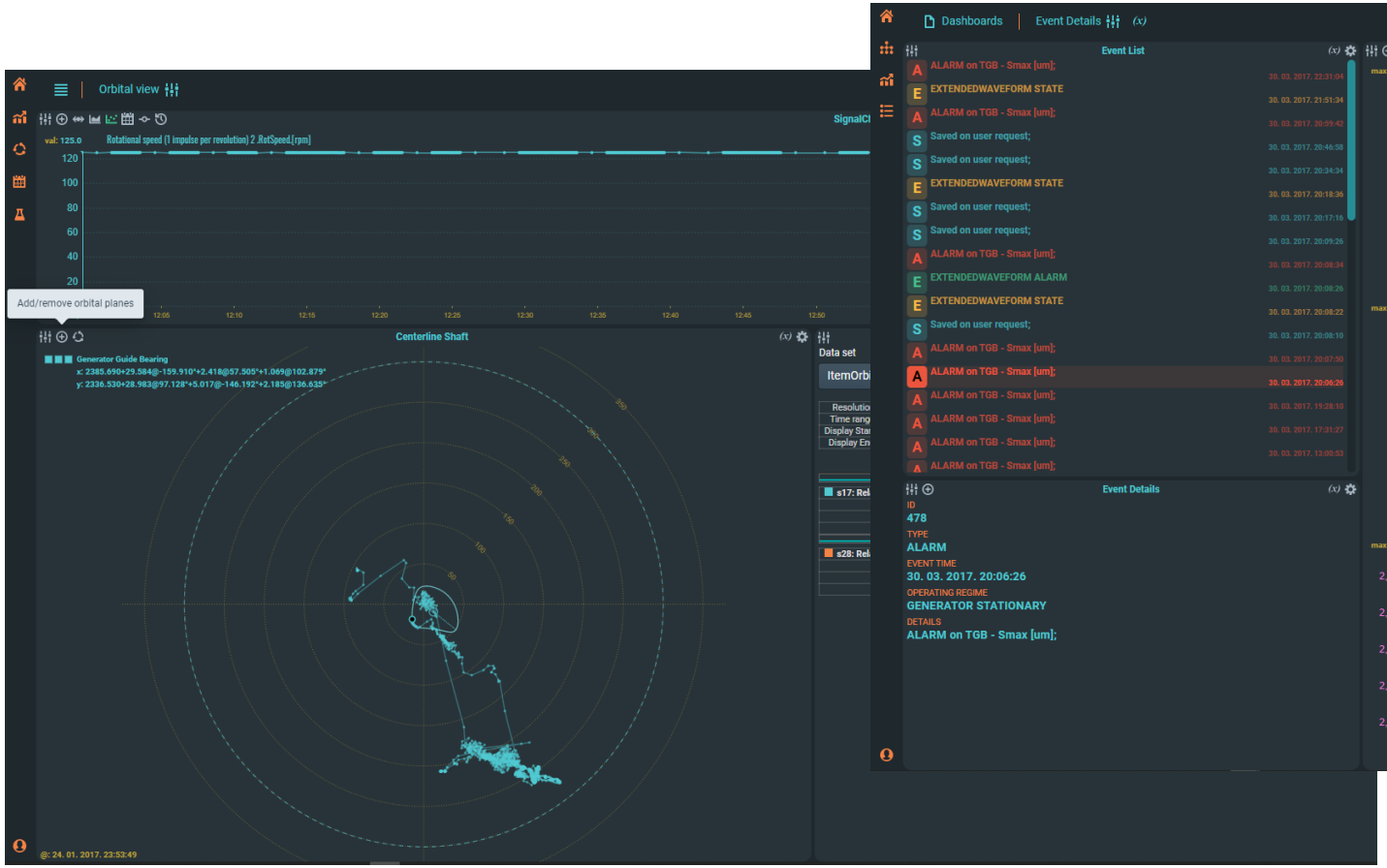
Capability to plot over 10 years data trends with resolution
from 1 sec to 1 min.

DATA FILTERING



AAnT Online DATA ANALYSIS

Raw data analysis, Orbits, FFT, AIR GAP and FLUX and many more tools avalible



DATA SHARING

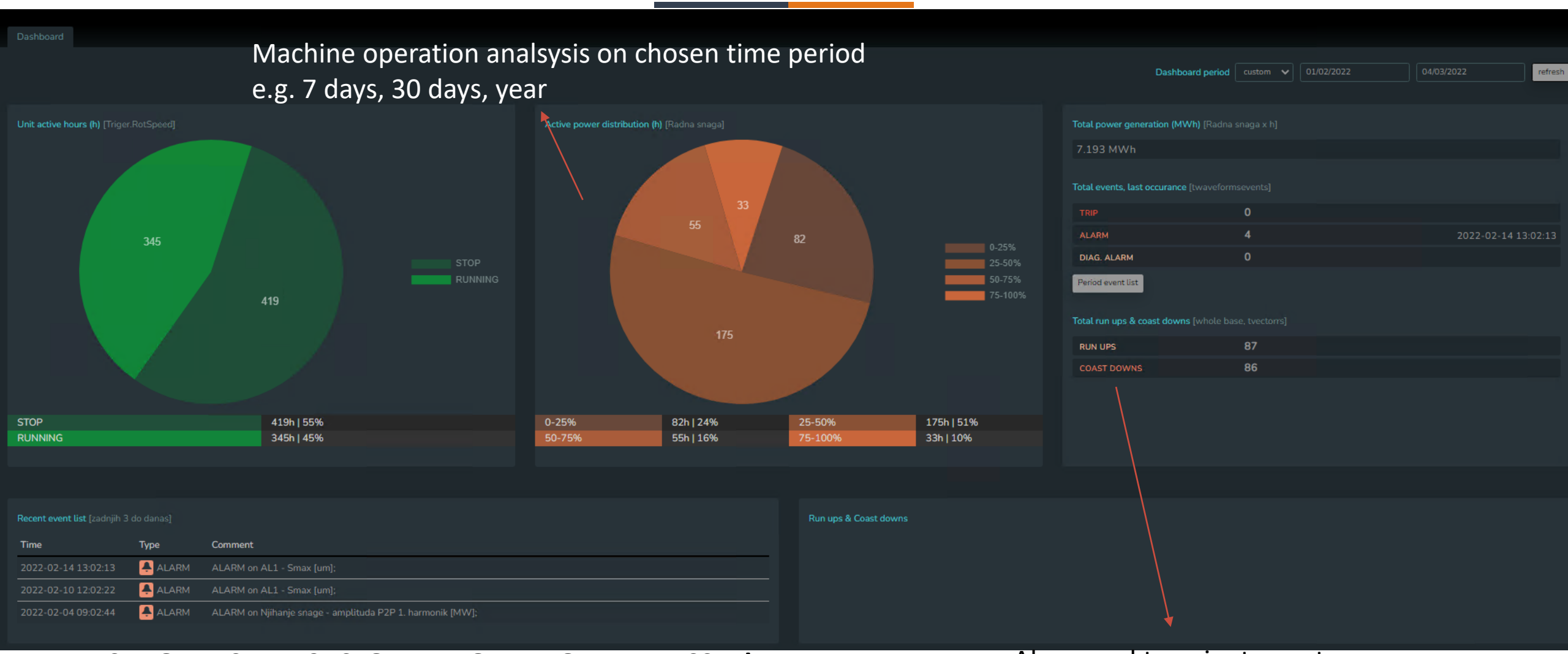
192.168.0.198:4000/#/dash/d54e9000-c2af-11eb-bcb8-7e9ff63a94a1/{"tr":[1606589088000,1606603944000]}

ENGINEER 1
Shares URL

ENGINEER 2
Opens URL

- Sharing the link to actual dashboard and data via email or mobile app
- Bookmarking the link to specific dataset
- Make custom analysis notes and link the dashboards

AAnT Cloud DASHBOARDS



DASHBOARDS ARE CUSTOM TAILORED TO EVERY ASSET!

Alarm and transient count

HISTOGRAM ANALYSIS

Compare the histogram data over two different time periods in same operating conditions

Statistical data:
Min
Max
Median
Average

Operating condition filtering

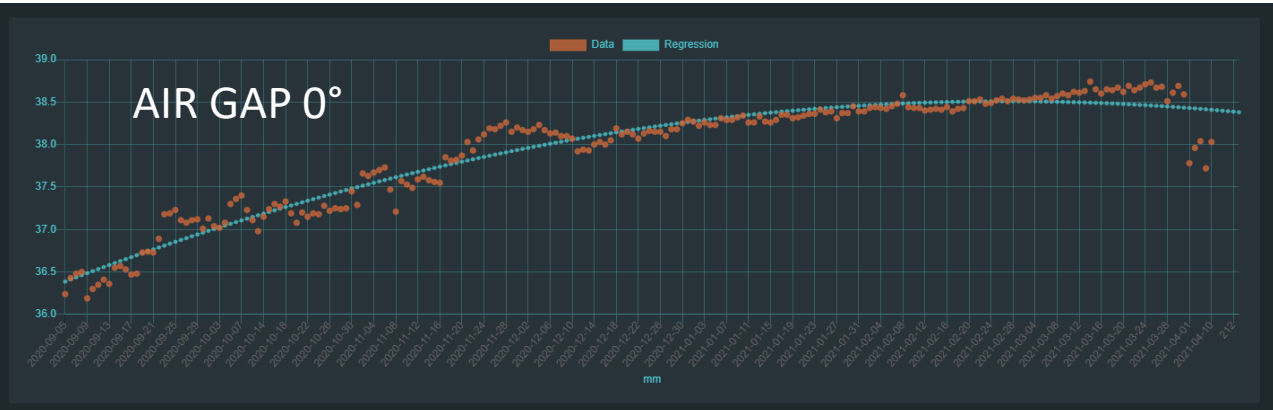
REGRESSION CURVE ANALYSIS

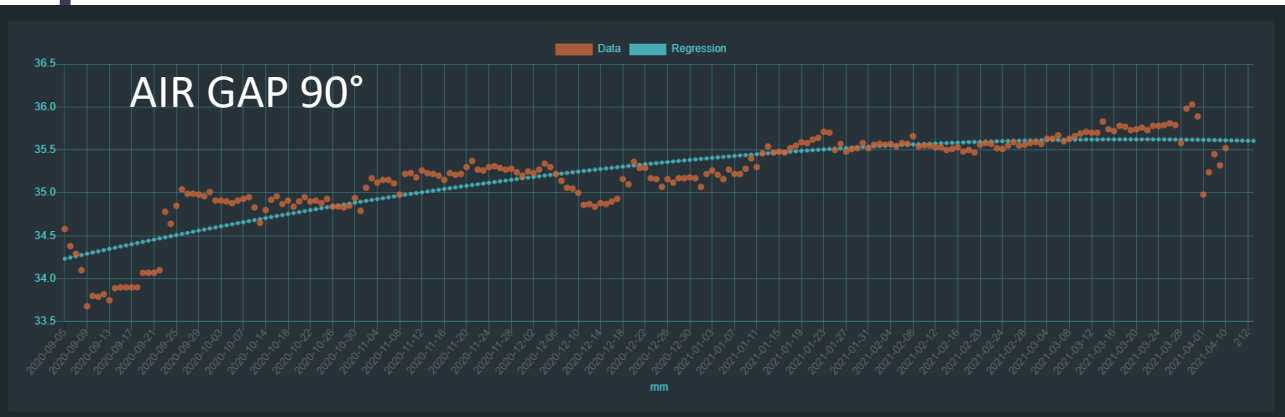
Estimate the possible outcome using regression curve fitting

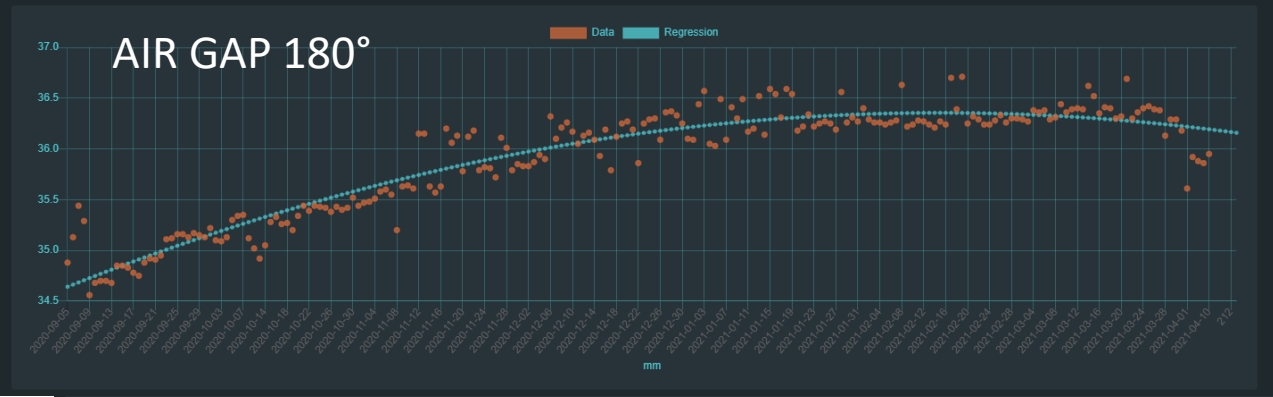
Operating condition filtering

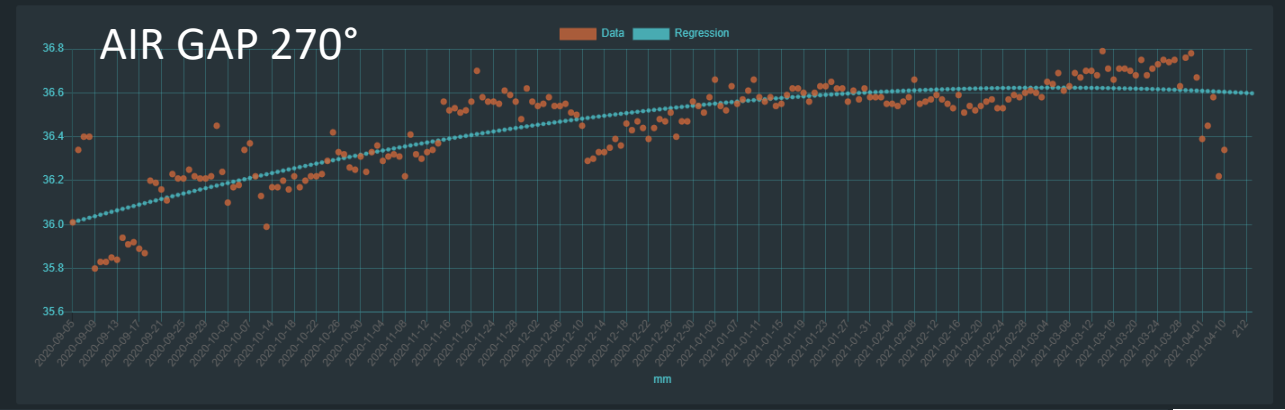
Additional filter critera
(e.g. certain power span, temperature etc.)

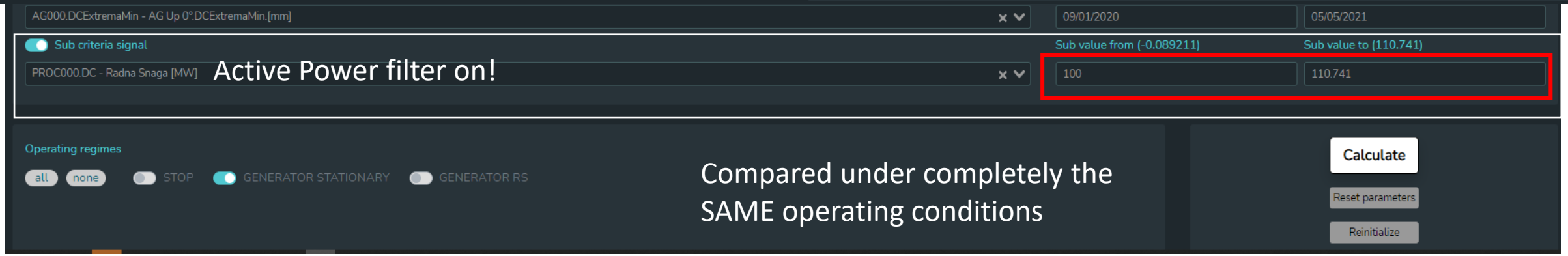
Example





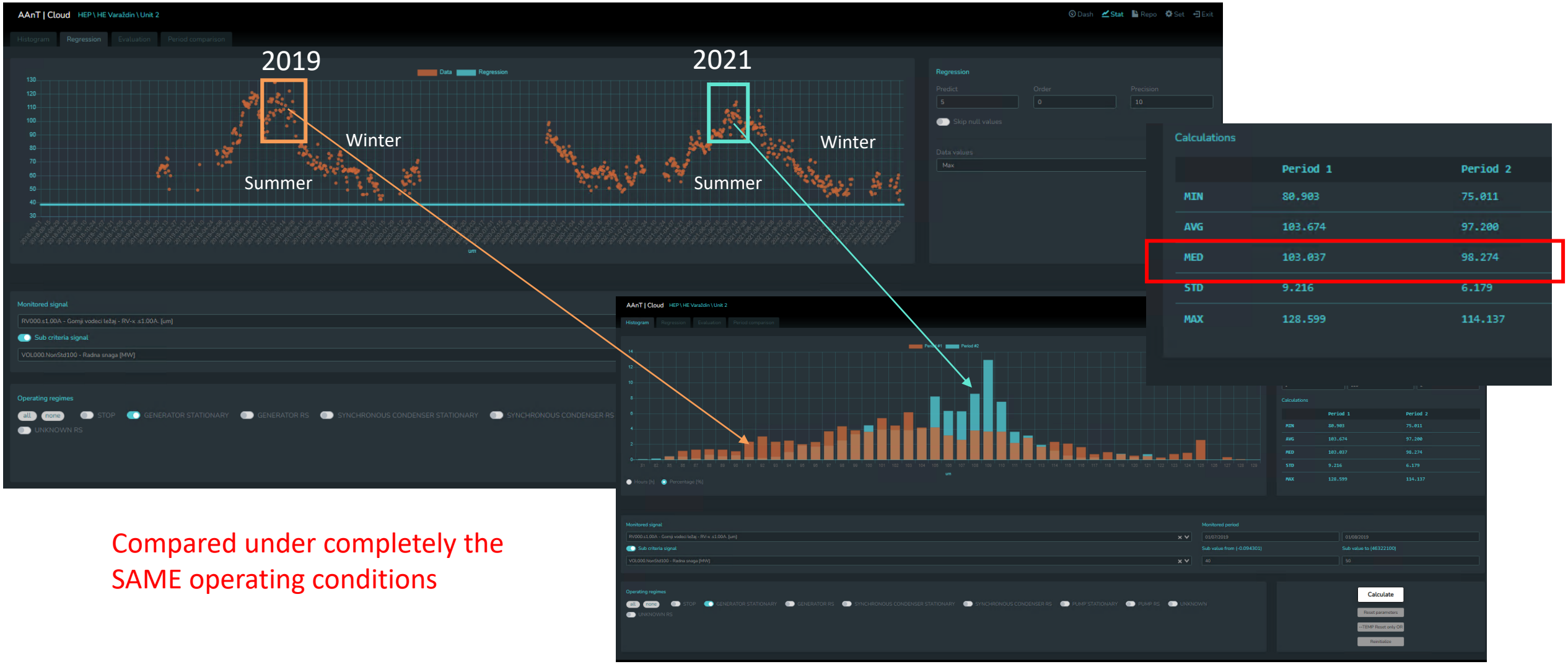






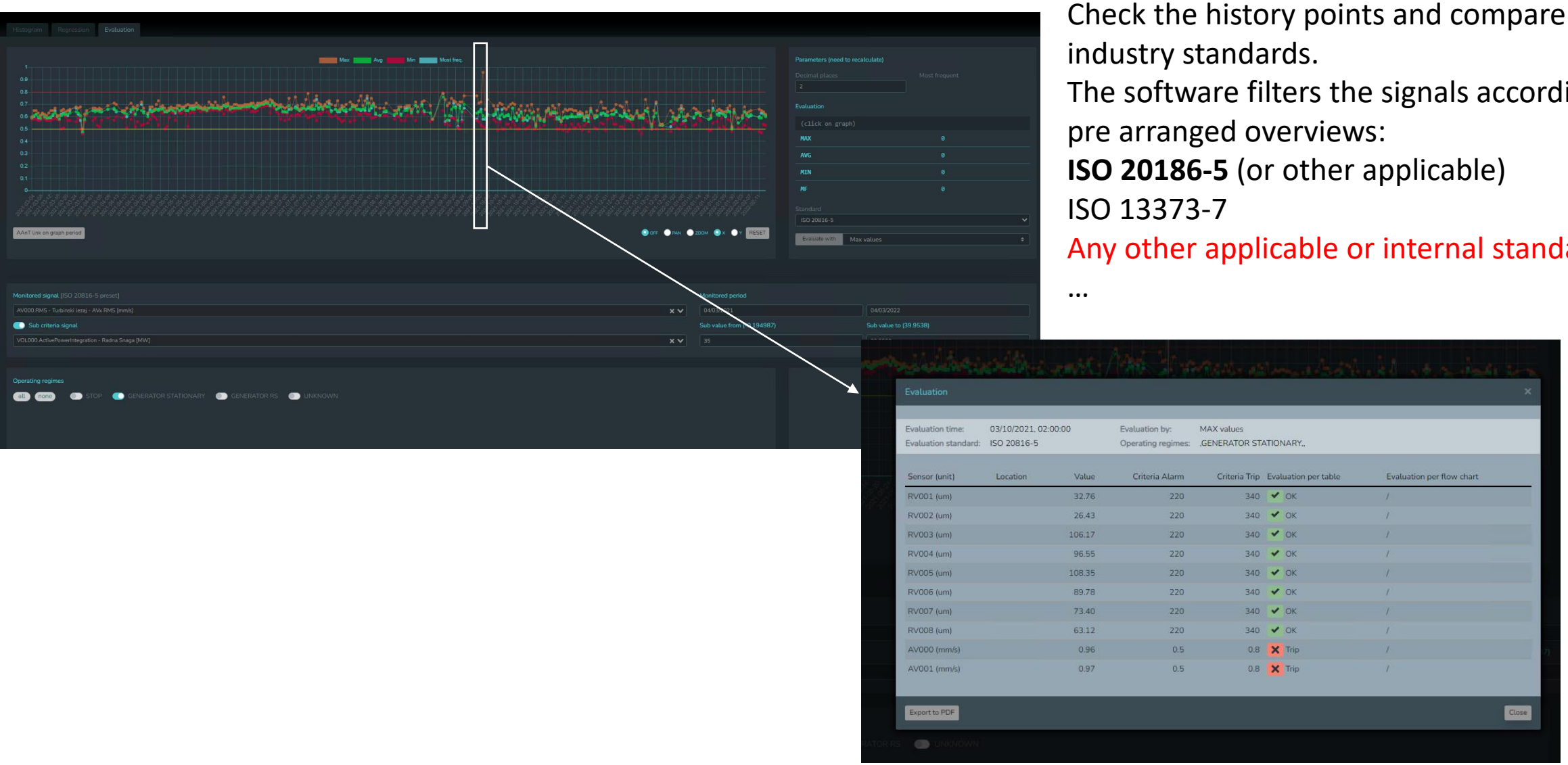
Compared under completely the SAME operating conditions

Example



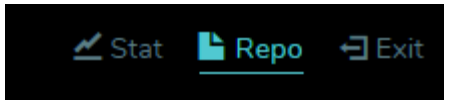
Compared under completely the SAME operating conditions

EVALUATION vs STANDARDS

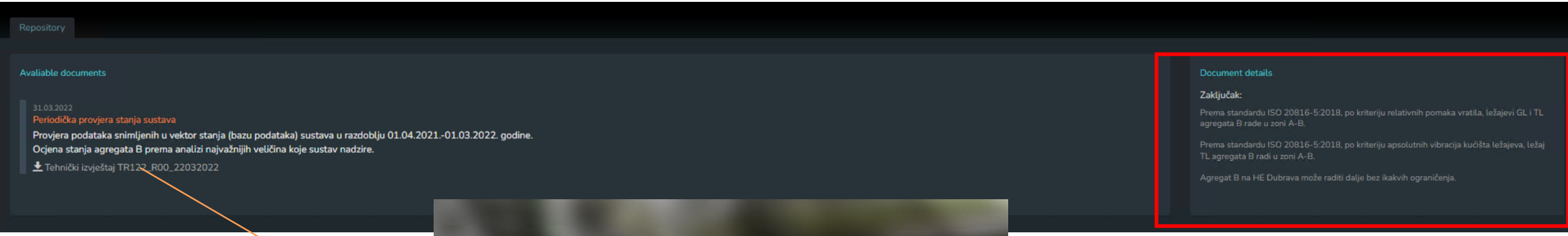


Check the history points and compare to industry standards.
The software filters the signals accordingly to pre arranged overviews:
ISO 20186-5 (or other applicable)
ISO 13373-7
Any other applicable or internal standard!
...

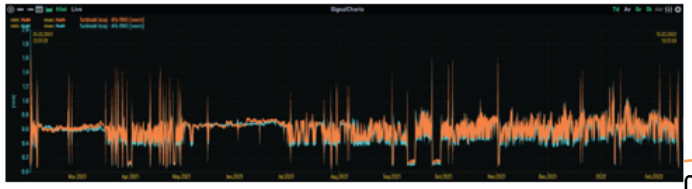
REPORT REPOSITORY



Keep records of all machine diagnostic and work reports in one place. Conclusions highlighted

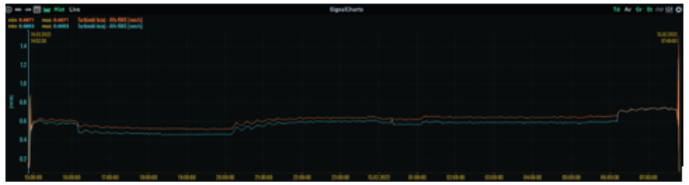


REPORT to data HYPERLINKS



sl. 5 RMS vrijednosti apsolutnih vibracija kućišta turbinskog ležaja u vremenskom intervalu 01.02.2021. - 15.02.2022. Plavom bojom prikazan X smjer na TL, narančastom Y smjer na TL

Kao i kod relativnih pomaka vratila, za ocjenu vibrodinamičkog stanja agregata odabran a je zadnja vrtnja agregata prije ovogodišnjeg remonta, **od 14.02.2022. oko 15 h do 15.02.2022. oko 8 h.**
Na sl. 6 očitane su vrijednosti od trenutka kad je agregat bio progrijan i radio na snazi od ~**19 MW, 15.02.2022. oko 6:00 h.**



sl. 6 RMS vrijednosti apsolutnih vibracija kućišta turbinskog ležaja u zadnjoj vrtnji agregata prije remonta. Plavom bojom prikazan X smjer na TL, narančastom Y smjer na TL

Najviše očitanje vrijednosti su:

- TL X smjer = 0.60 mm/s
- TL Y smjer = 0.66 mm/s

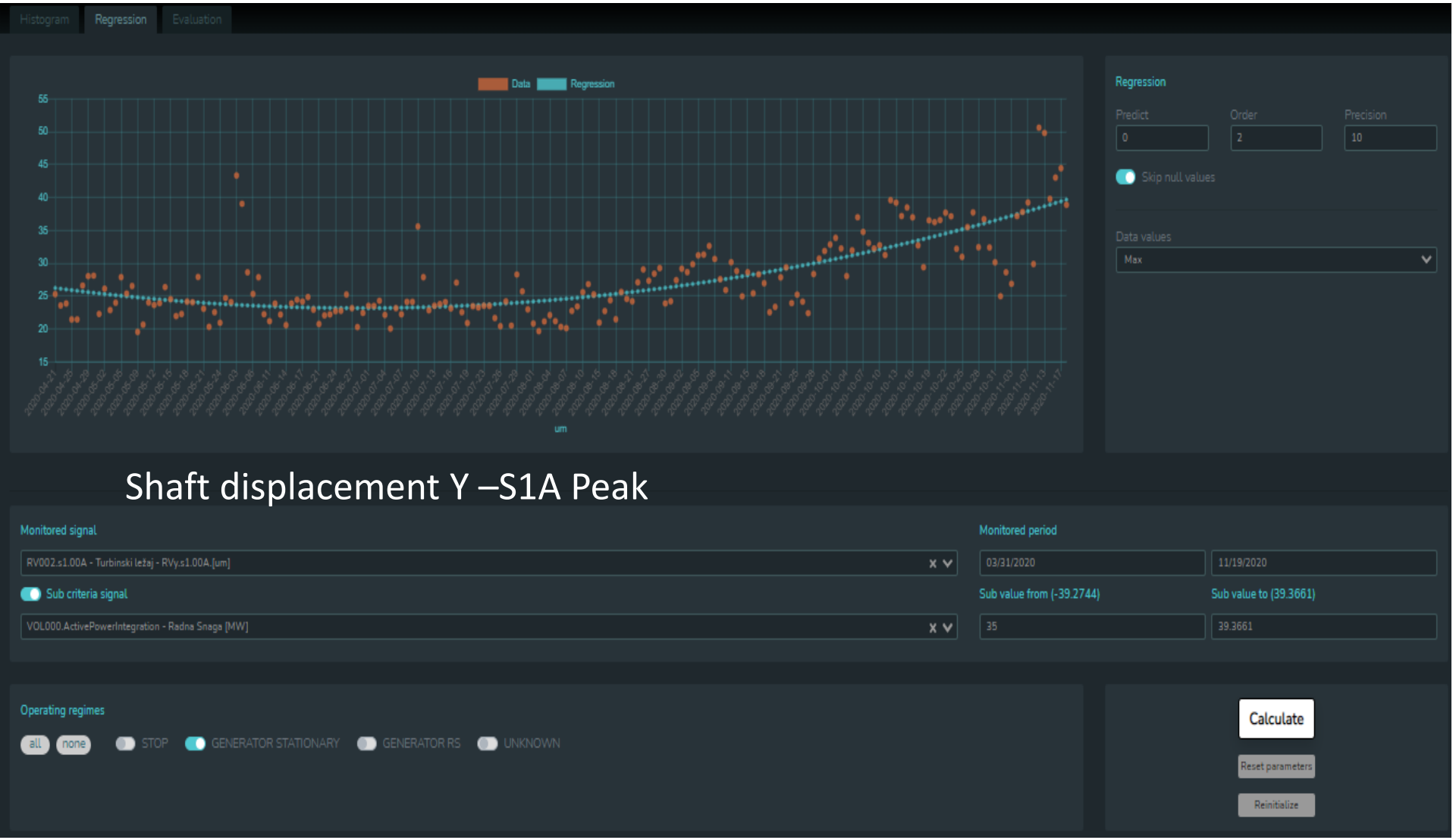
Iz očitanih vrijednosti vidi se da po kriteriju apsolutnih vibracija kućišta ležajeva agregat B na HE Dubrava radi u **zoni A-B**.

2.3 Aksijalni pomak vratila

Na sl. 7 prikazan je signal davača aksijalnog pomaka vratila u cijelokupno promatranom vremenskom intervalu, od 01.02.2021. do 15.02.2022. godine.

Hyperlinking the report graphs to actual data helps in backtracking

Example



Shaft displacement Y –S1A Peak

FILTERS:

35-39MW

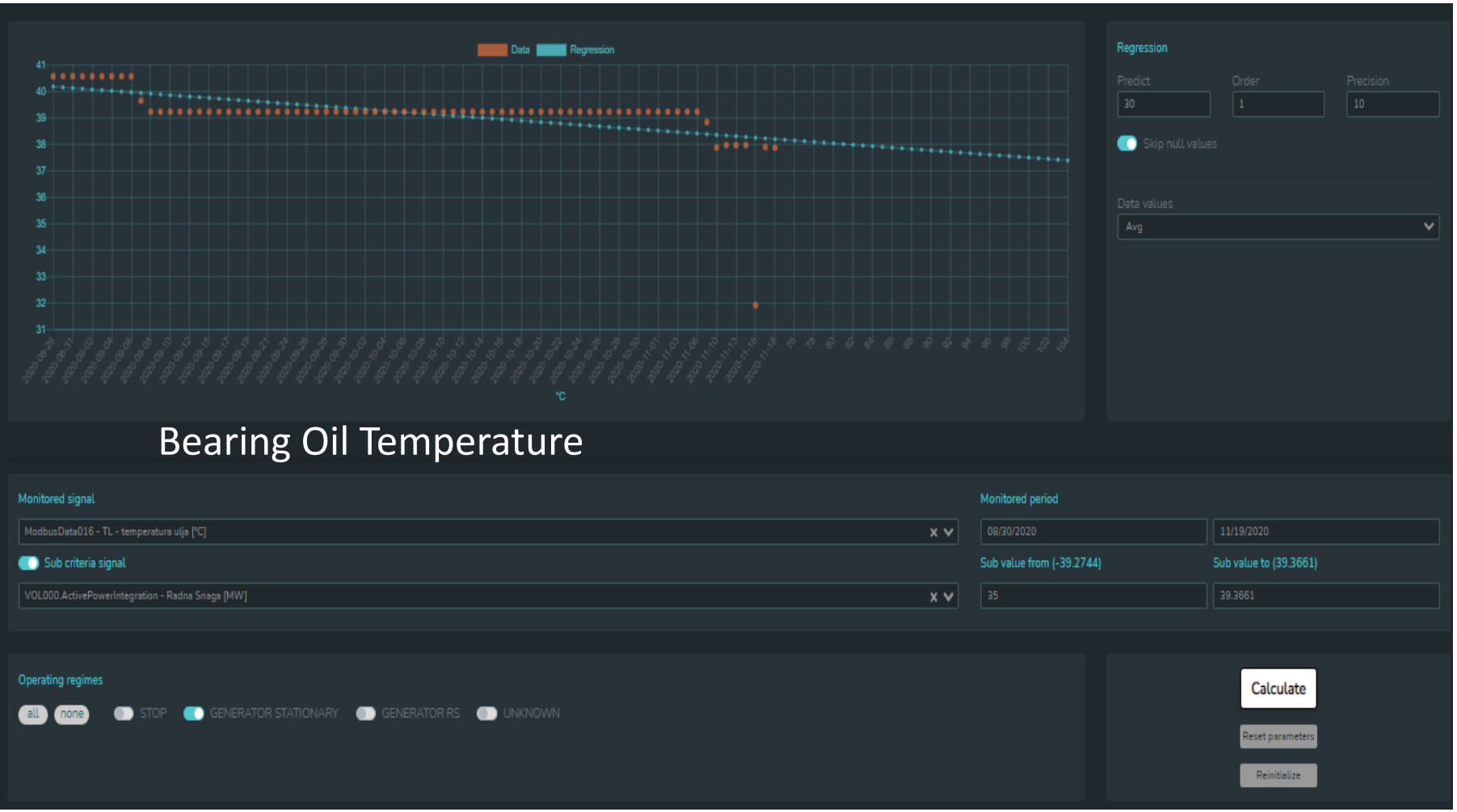
Steady state

The value increaed >35%!

From 30um-45um Peak

SHOULD WE BE WORRIED?

Example



Bearing Oil Temperature

FILTERS:

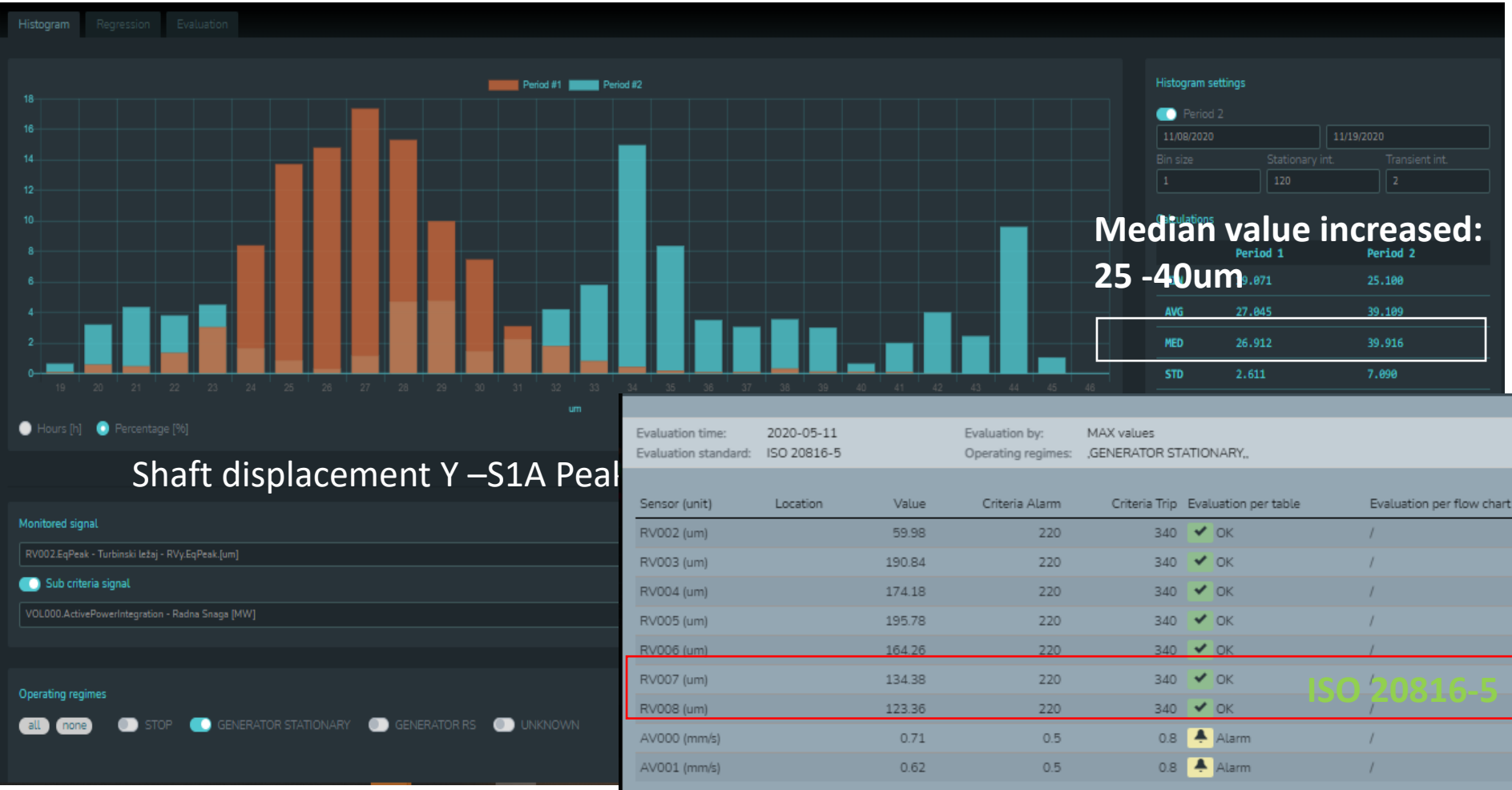
35-39MW

Steady state

The value decreased >10%!
From 41°C to 38°C

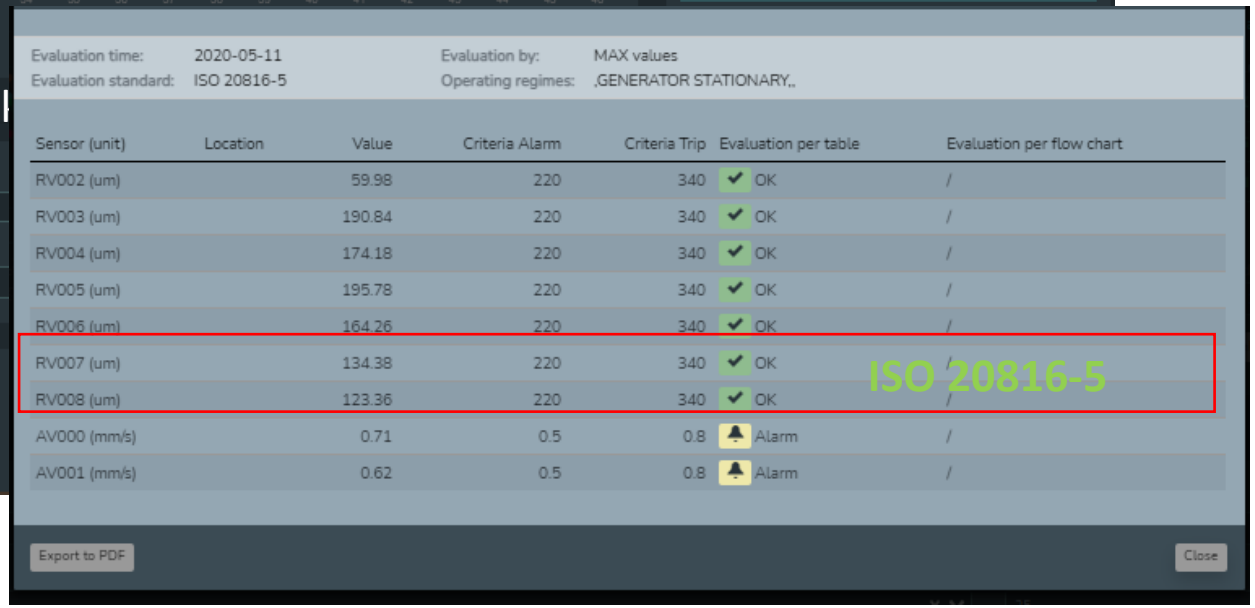
CORRELATION?

Example



Median value increased:
25 -40um

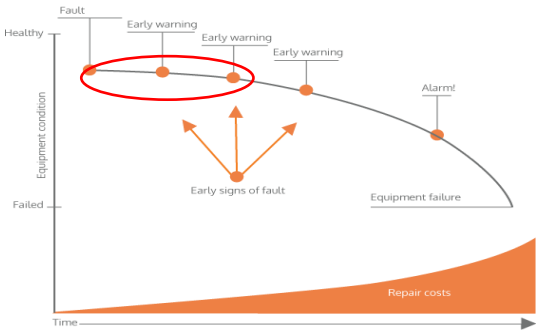
Shaft displacement Y –S1A Peak



FILTERS:
35-39MW
Steady state

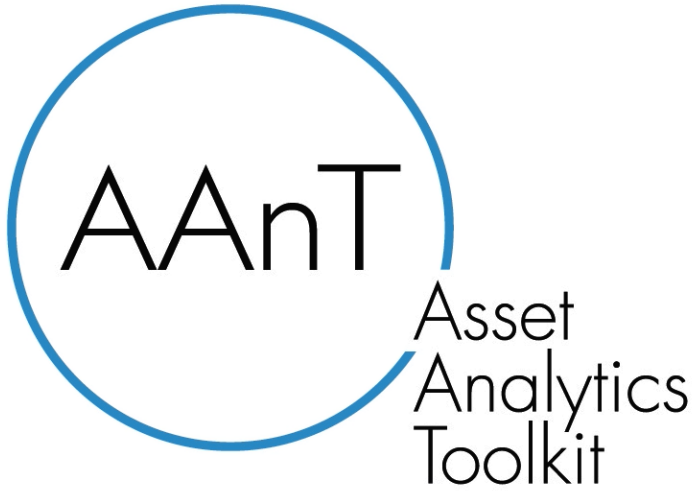
NOT CRITICAL – FLAGED

TRACK THE PROGRESSION WITH TIME!



Why AAnT

AAnT is data analytics software
designed by engineers for engineers,
helping them turn the data into fact-based
maintenance decisions.



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