

Service Management im IoT-Umfeld

28.06.2022

Mit Gast-
referenten



FROX
NOSERGROUP



NOSER
ENGINEERING

Wir stellen uns vor



Referent

Matthias Weidinger
Senior Solution Engineer
BMC Software



Referent

Dr. Hanspeter Seiler
Head of Digitalization
FROX AG



Moderator

Oliver Buntfuss
Head of Sales
Noser Engineering

Agenda

1. Wer ist Noser Engineering?
2. Wer ist FROX AG?
3. IoT Journey – Vom Device zum neuen Business Service/Model
4. Service Management am Beispiel einer Windparkanlage
5. Fragen und Antworten [→ Chat]

Wer ist Noser Engineering?



WE KNOW HOW

Seit

1984

Dienstleistungen in der
technischen Informatik



7'840'464

Stunden Erfahrung für
lokale, europäische und
multinationale Kunden

8

Firmen bilden die
Noser Group

4.6

kununu

100%



Wertschätzung
und Respekt

>50

qualifizierte NOSER
Academy Kurse

6



Winterthur, Luzern,
Bern, Rheintal,
München, Basel

333%

Wachstum in den
letzten zwölf Jahren



>80

Lernende bei NOSER
Young. Einer der
grössten ICT-Ausbilder
der Schweiz.

>200

Mitarbeitende



83%



17%

Wer ist FROX AG?

DIE FROX AG

Ein Unternehmen der Noser Group

Ihr Digitalisierungspartner
im Bereich Service
Management und
Automatisierung von
Geschäftsprozessen

Seit mehr als 25 Jahren



 bmc

servicenow.

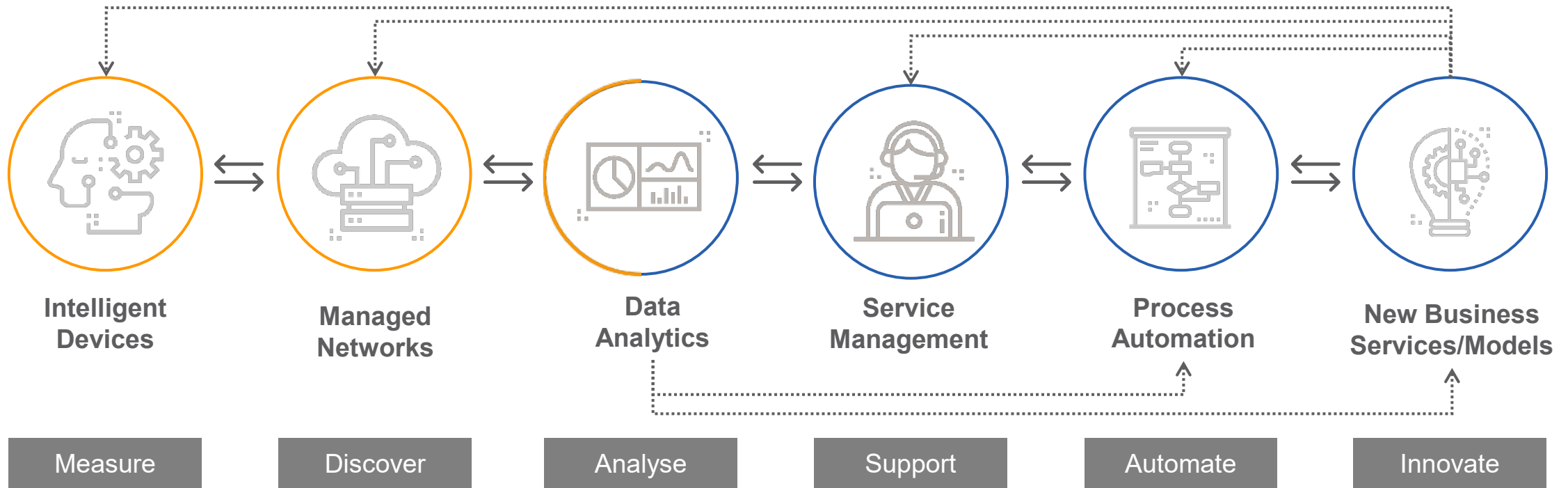
AXONIVY

CAMUNDA

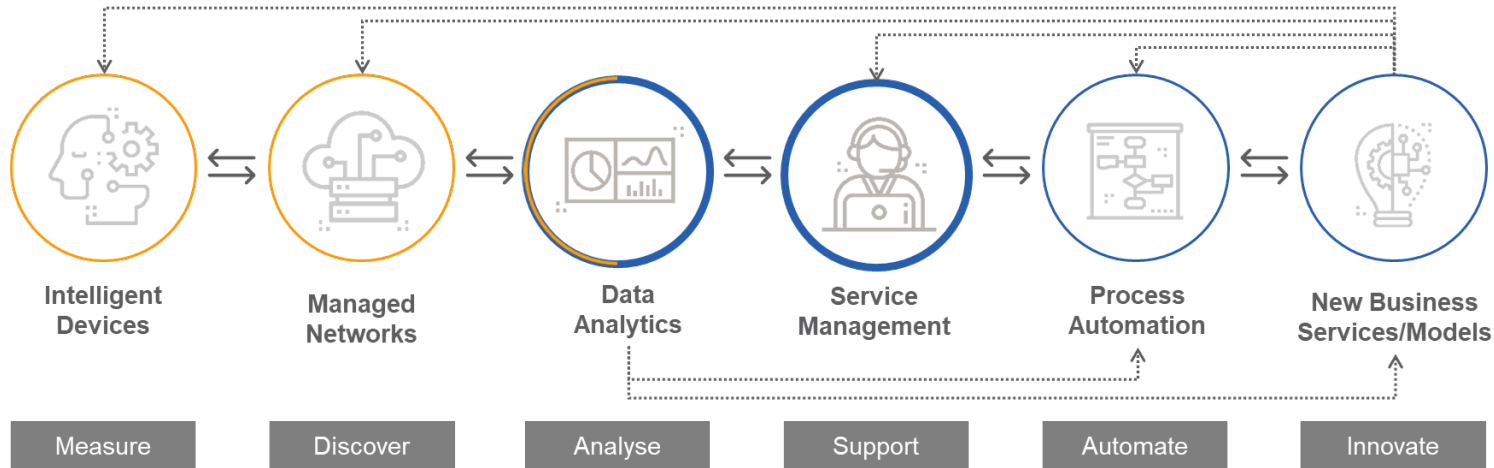
IoT Journey – Vom Device zum neuen Business Service/Model



IoT Journey – Vom Device zum neuen Business Service/Model



Service Management im IoT Umfeld – Am Beispiel der Überwachung eines Windparks



FROX
NOSERGROUP



NOSER
ENGINEERING

Service Management am Beispiel einer Windparkanlage



The Explosion of IoT Has Created a Trove of Data



50 billion devices

connected to the
internet by 2025



\$1,463 Billion

Global IoT market
worth by 2027



\$61.14 Billion

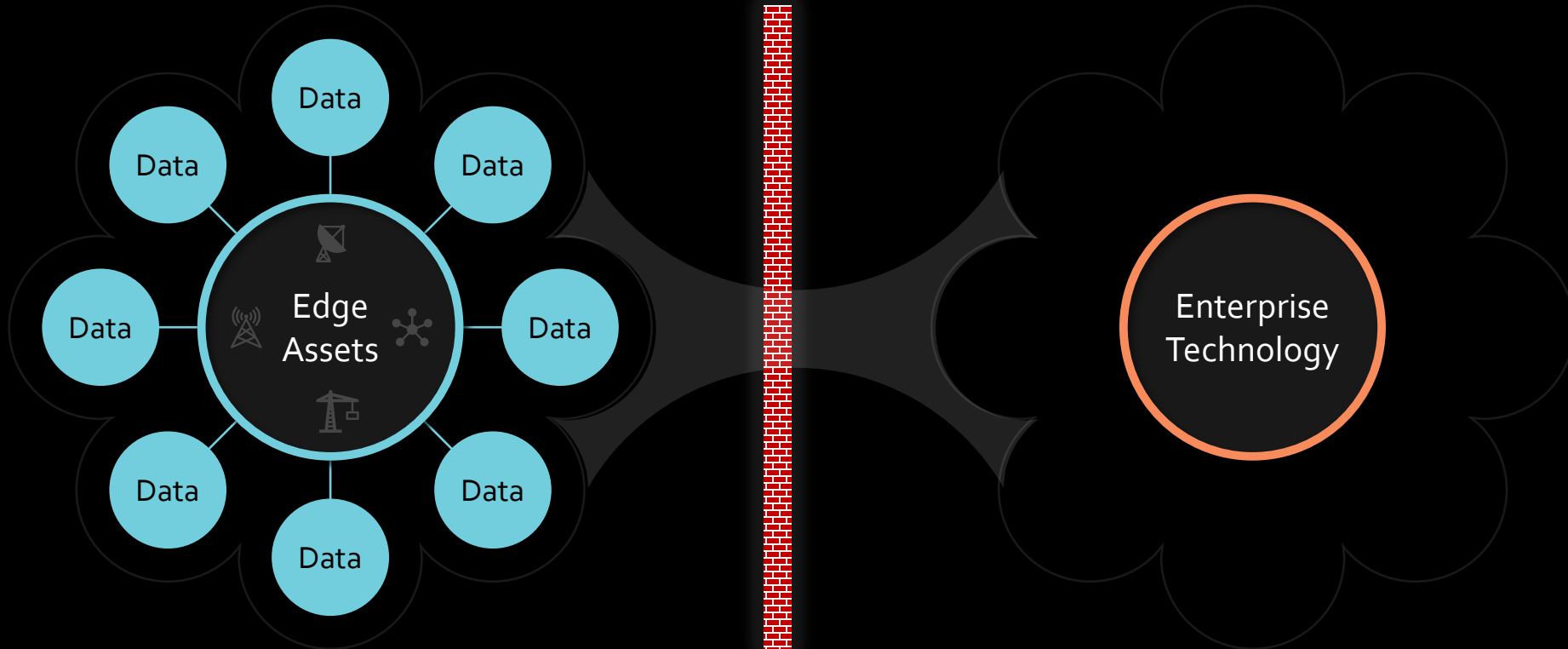
Edge Computing Market
worth by 2028



IT and OT Data Systems are Siloed

Operational Technology (OT)

Information Technology (IT)



Segmentation of duties,
tools, and processes



Lack of insight and holistic
picture of operations



Lack of higher level of
automation through AI



Unable to predict potential
failures or monitor business-
critical systems

Edge Computing Compounds Challenges

Performance Issues



Increase in operating expenses

Downtime



Difficulty in maintaining SLAs

Poor Service



Negative impact to customer satisfaction

New Tech Rollout



Scale leads to complicated inventory management

Aging Equipment



Poor performance and increased operating expenses

Collect and analyze operational
technology data at the edge

Introducing

BMC
HELIX EDGE

A unifying platform for the
Industry 4.0 Edge



Asset
management
and discovery



Condition
monitoring and
predictive
maintenance

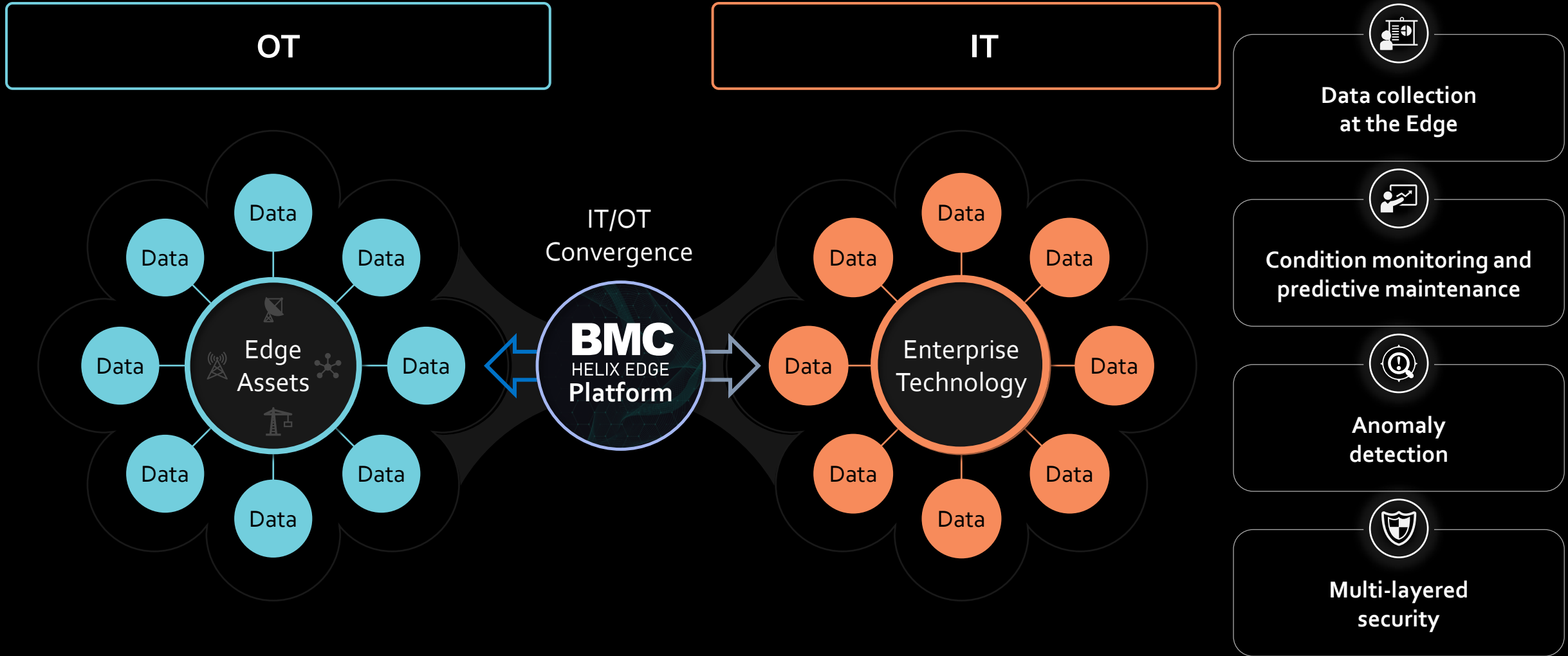


Anomaly
detection



Multi-layered
security

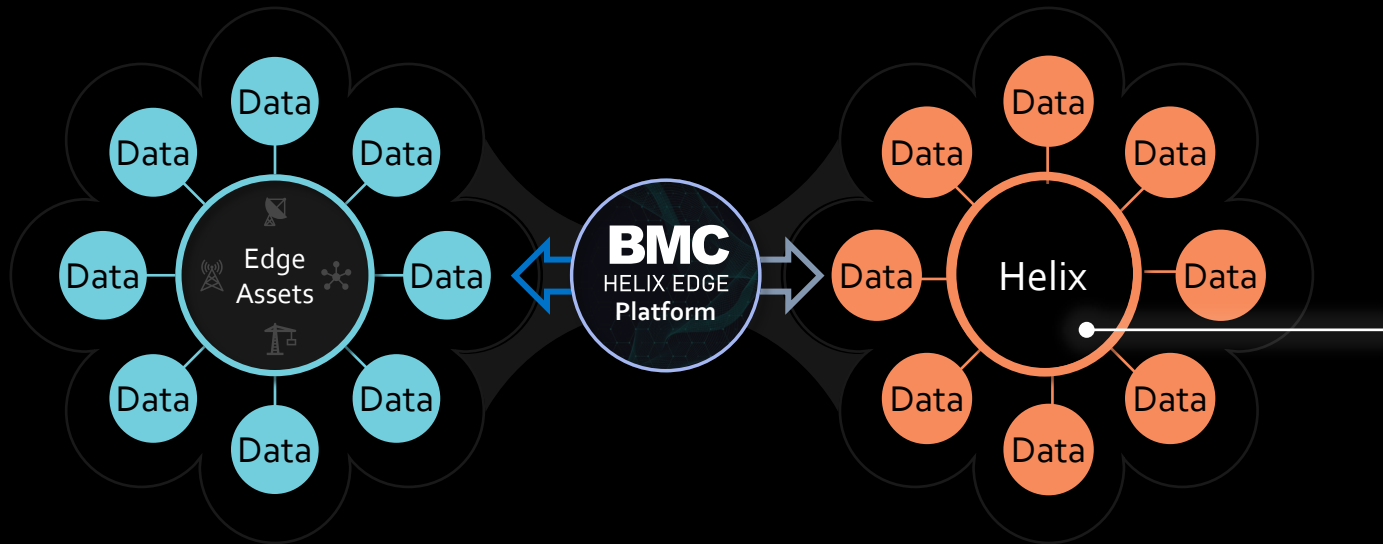
Gain Enterprise-Wide Visibility and Real-Time Insights



Compliments and Extends Our Portfolio

OT

IT



Discovery

Holistic view of infrastructure across IT and OT



Monitor

End-to-end operations mgmt. applying AI at the Edge



ITSM

Proactive service mgmt. of Edge assets



Optimize

Manage utilization of Edge resources and optimize



Remediate

Automate security vulnerability management of Edge assets



Control-M

Workflow orchestration of assets

Demonstration



Helix IoT Edge

Home Devices ▾ Anomaly ▾ Workflows ▾ Administration ▾ Integrations ▾ Helix Cloud ▾

Helix Edge Dashboards

Telecom Base Station
SF Alemany Theresa

Find how hedge monitors telco towers, identifies anomalies & takes remedial actions - all in real time @edge

Wind Farm
Alta Wind Energy Center

Find how hedge monitors Windturbines in a windfarm, identifies anomalies & takes remedial actions - all in real time @edge

Water Cooler
National Cooling Plant

Check how water coolers are being monitored to reduce waster and maintain water quality

Food Manufacturing
NextFood Manufacturing Plant

Check out how hedge helps monitor & analyze your manufacturing process in your plant

Hedge Telco Demo

Hedge Windfarm Demo

Updates

- 💡 We are ready with new [Demo](#) of Hedge Telco.
- 💡 We are ready with new [Demo](#) of Hedge Windfarm.

Enterprise-wide visibility across and actionable insights across IT and OT assets

Minimize unplanned downtime by enabling predictive maintenance

Improved MTTR and MTBB

Increased return on assets

Helix Edge Dashboards

Telecom Base Station
SF Alemany Theresa

Find how hedge monitors telco towers, identifies anomalies & takes remedial actions - all in real time @edge

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Alta Wind Energy Center

Find how hedge monitors Windturbines in a windfarm, identifies anomalies & takes remedial actions - all in real time @edge

Water Cooler
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Check how water coolers are being monitored to reduce waster and maintain water quality

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NextFood Manufacturing Plant

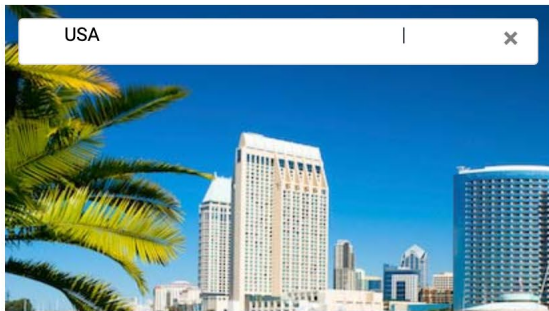
Check out how hedge helps monitor & analyze your manufacturing process in your plant

Hedge Telco Demo

Hedge Windfarm Demo

Updates

- We are ready with new Demo of Hedge Telco.
- We are ready with new Demo of Hedge Windfarm.



United States

4

Wind Farms



Alta Wind Energy Center

California
34 MW



Shepherds Flat Wind Farm

Oregon
23 MW



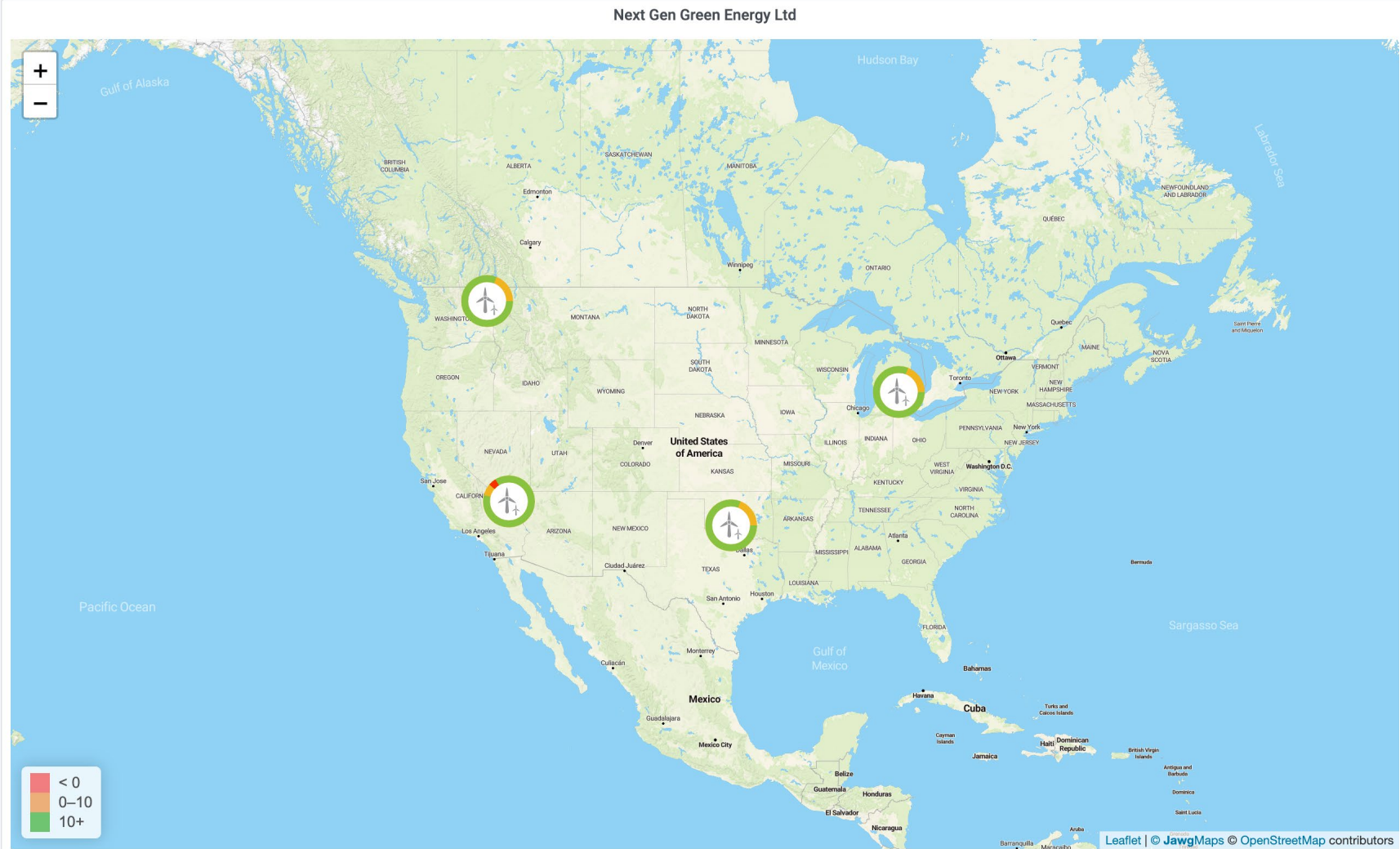
Meadow Lake WindFarm

Indiana
18 MW



Roscoe WindFarm

Texas
16 MW





Alta Wind Energy Center 6
Mojave, CA, USA Turbines



Alta NS12
California
1.27 MW

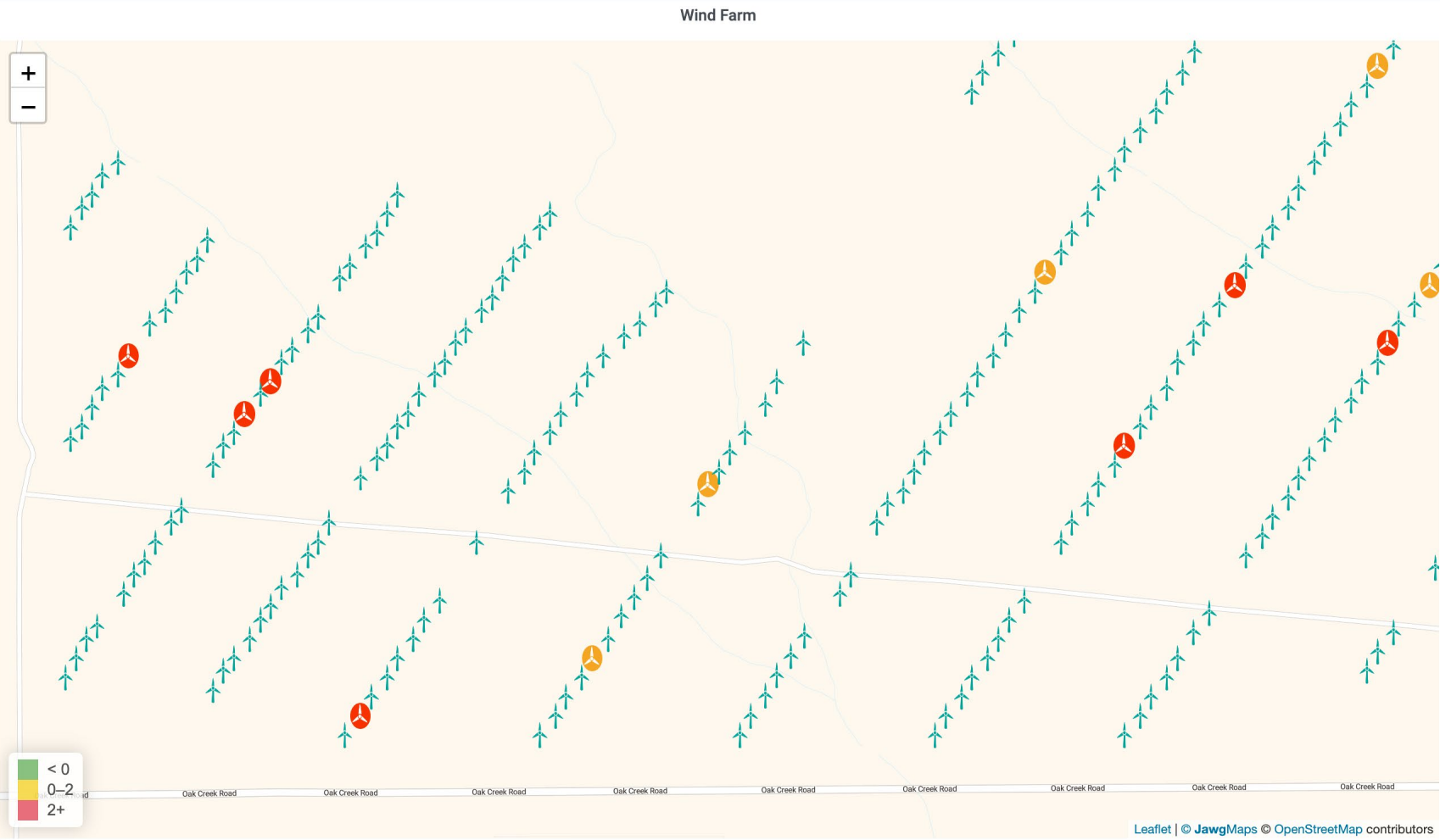


Alta NS16
California
1.27 MW



Alta NS66
California
1.27 MW

Alta NS11





WindMill / Alta Wind Energy Digital Twin ☆ 🔗



🕒 Last 5 minutes ▾



10s ▾

Management Node

hedge-node.trybmc.com ▾

Wind Farm

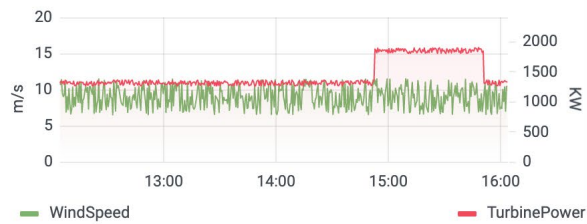
Alta Wind Energy ▾

Wind Turbine

Alta NS12 ▾

🔗 Alta Wind Energy Center

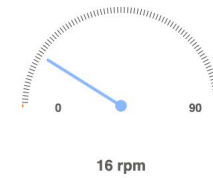
Power



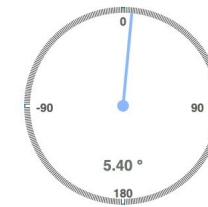
Anomalies and Events

- **Alta NS12** : Increase in Vibration of Turbine Shroud detected
Onsite Inspection scheduled
Ticket Id : 14801

Rotor

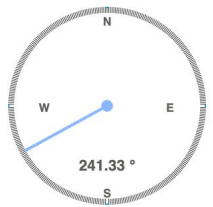


Nacelle(Yaw Error)



Cable Twist (turns) 1.48
Vibration (gE rms) 0.18

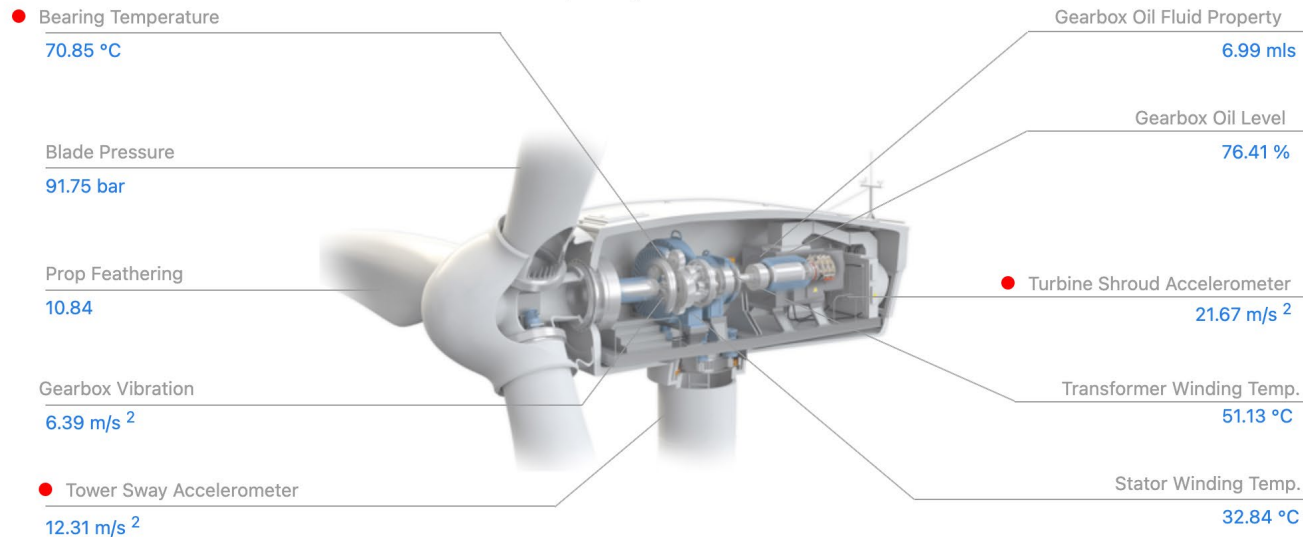
Wind Direction



Speed (m/s)



Operating Conditions



Avg Temperatures

15.7 °C 58.6 °C 68.6 °C 29.3 °C



Turbine Asset Information

- 📄 Asset Information
Model : GE 4 8 158
Manufacturer : General Electric
Control System : Wind SCADA, APM
Power Capacity : 2MW
- 📅 Scheduled Maintenance
2022-04-10
- 🔧 Maintenance History
2021-11-24 - Rotor Replaced
2018-08-04 - Regular Maintenance
2017-11-09 - Gearbox Repaired
2015-02-07 - Blade 2 Required
2014-10-19 - Regular Maintenance
2012-03-02 - Regular Maintenance
- 📅 Scheduled End of Life
2031-12-31



WindMill / Alta Wind Energy Digital Twin ☆ 🔗



⌚ Last 5 minutes ▾



10s ▾

Management Node

hedge-node.trybmc.com ▾

Wind Farm

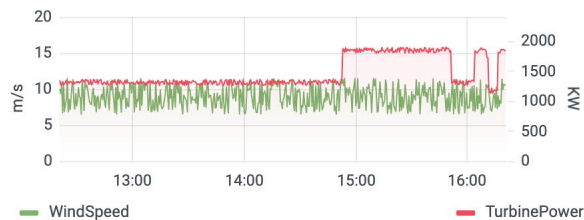
Alta Wind Energy ▾

Wind Turbine

Alta NS12 ▾

🔗 Alta Wind Energy Center

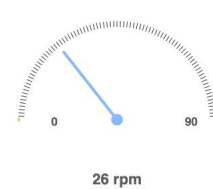
Power



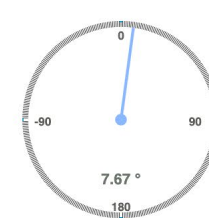
Anomalies and Events

- **Alta NS12** : Gearbox Oil below 44.234700000000004%
Order Generator Gear Oil
Ticket Id : 17276
- **Alta NS12** : Increase in Vibration of Turbine Shroud detected
Onsite Inspection scheduled
Ticket Id : 14801

Rotor

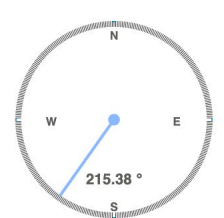


Nacelle(Yaw Error)

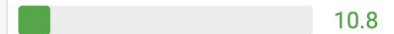


Cable Twist (turns) 1.99
Vibration (gE rms) 0.18

Wind Direction



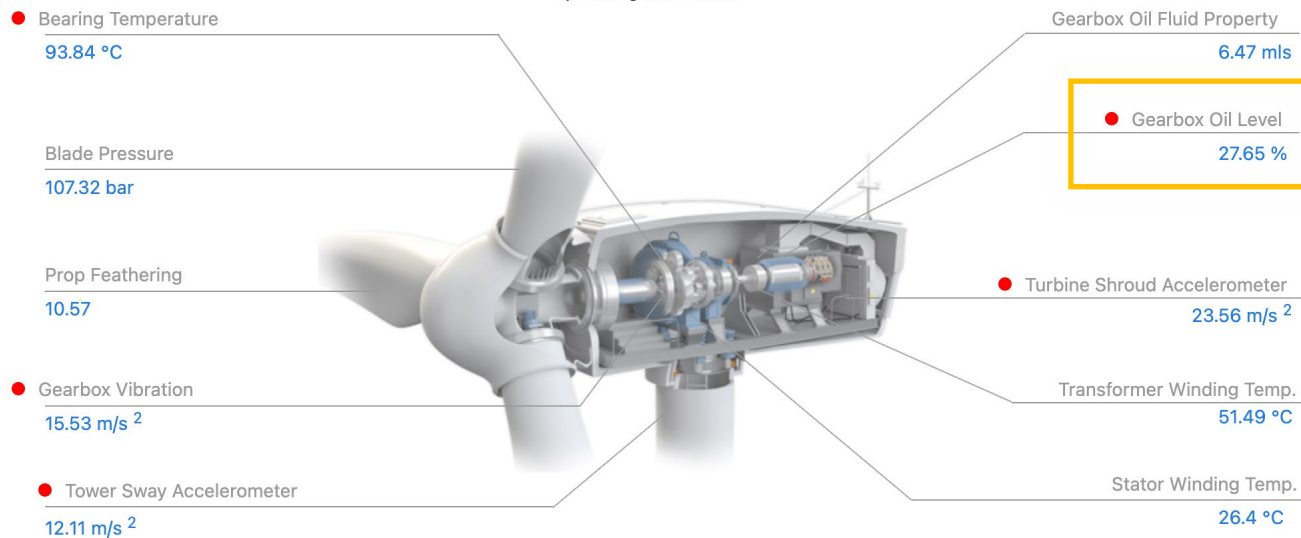
Speed (m/s)



Turbine Asset Information

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- 📅 **Scheduled End of Life**
2031-12-31

Operating Conditions



Avg Temperatures

16.2 °C 66.4 °C 60.2 °C 27.8 °C





WindMill / Alta Wind Energy Digital Twin ☆ 🔗



⌚ Last 5 minutes ▾



10s ▾

Management Node

hedge-node.trybmc.com ▾

Wind Farm

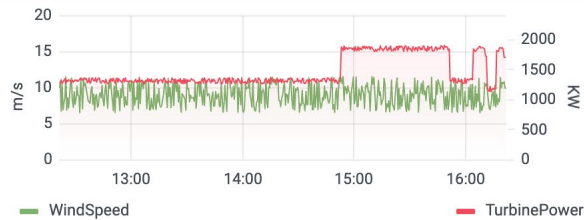
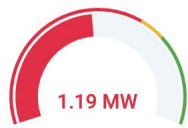
Alta Wind Energy ▾

Wind Turbine

Alta NS12 ▾

🔗 Alta Wind Energy Center

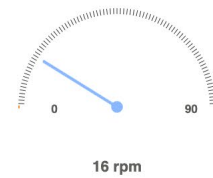
Power



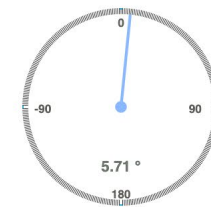
Anomalies and Events

- **Alta NS12** : Alta NS12:Anomaly detected in windtower, normal operations may be impacted
Power production cut by 50% & New bearings ordered
Ticket Id : [17277](#)
- **Alta NS12** : Gearbox Oil below 44.234700000000004%
Ticket Id : [17276](#)
- **Alta NS12** : Increase in Vibration of Turbine Shroud detected
Ticket Id : [14801](#)

Rotor

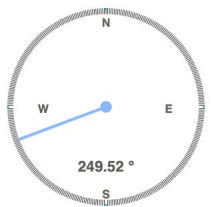


Nacelle(Yaw Error)

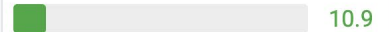


Cable Twist (turns) 1.39
Vibration (gE rms) 0.16

Wind Direction



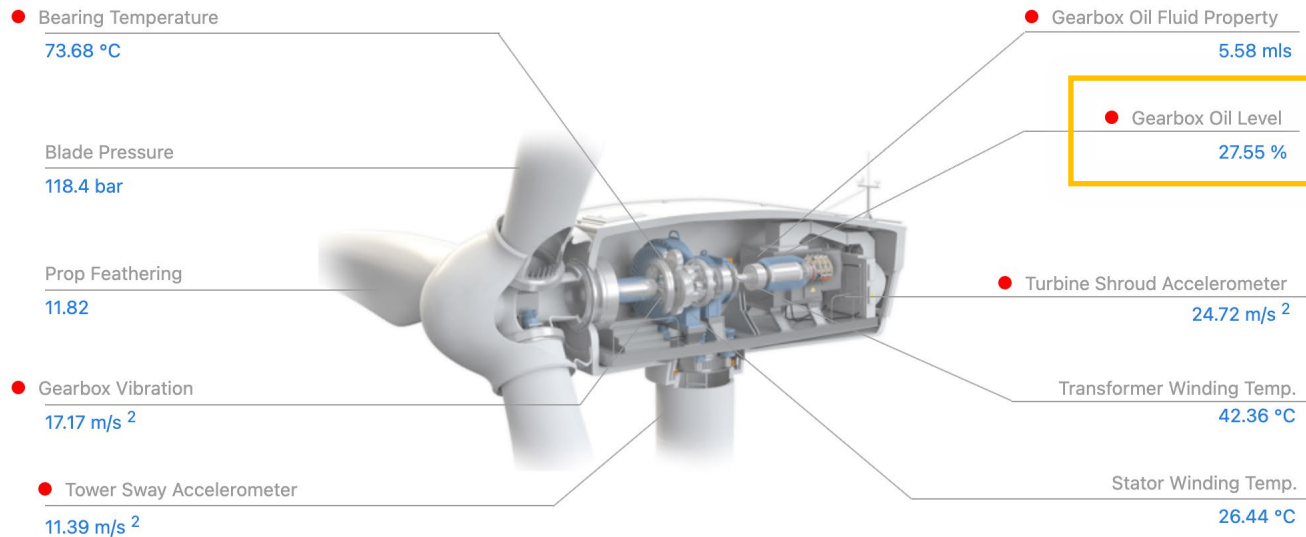
Speed (m/s)



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Power Capacity : 2MW
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2012-03-02 - Regular Maintenance
- 📅 **Scheduled End of Life**
2031-12-31

Operating Conditions



Avg Temperatures

16.3 °C 67.5 °C 65.2 °C 28.9 °C



Hello, how can I help you?

Active events

Filter

Order New Gearbox Bearings and Schedule Maintenance
In Progress

For: Allen Allbrook
By: Hannah Admin

Request ID: 17277

[Cancel](#) [Details](#)

Order Generator Gear Oil
In Progress

For: Allen Allbrook
By: Hannah Admin

Request ID: 17276

[Cancel](#) [Details](#)

Order On Site Fuel Service
In Progress

For: Allen Allbrook
By: Hannah Admin

Request ID: 17261

[Cancel](#) [Details](#)

Past events 1 – 10

Filter

Order New Gearbox Bearings and Schedule Maintenance Cancelled	For: Allen Allbrook By: Hannah Admin	Request ID: 17275	Date: 27 Jun 2022
Order Generator Gear Oil Cancelled	For: Allen Allbrook By: Hannah Admin	Request ID: 17274	Date: 27 Jun 2022
Order New Gearbox Bearings and Schedule Maintenance Cancelled	For: Allen Allbrook By: Hannah Admin	Request ID: 17273	Date: 27 Jun 2022
Order New Gearbox Bearings and Schedule Maintenance Cancelled	For: Allen Allbrook By: Hannah Admin	Request ID: 17270	Date: 27 Jun 2022

https://mobility19-dsom-dwp.trybmc.com/dwp/app/#/activity/events/details



Order Generator Gear Oil

In Progress

Status

In Progress

Request ID

17276

Quantity

1

Request for



Allen Allbrook
Allen@trybmc.com

Request by



Hannah Admin

Progress

✓ Submitted

✓ Approval

In Progress

Completed

Details

Submitted

27 Jun 2022 at 16:20

Last updated

27 Jun 2022 at 16:20

Requested for email

Allen@trybmc.com

Requested for phone

1 212 555-5454

Requested for company

Calbro Services

Summary

Order Generator Gear Oil

Reason for Request

Gearbox Oil below 44.234700000000004%

Generator gear oil level

44.234700000000004

Comments (0)

Add comment

Cancel

Request Again

Free

Collaborators:

[Options](#) ▼

[< My Activity](#)
[Details](#)


Order New Gearbox Bearings and Schedule Maintenance

In Progress

Status

In Progress

Request ID

17277

Quantity

1

Request for



Allen Allbrook
Allen@trybmc.com

Request by



Hannah Admin

Progress

✓ Submitted

✓ Approval

In Progress

Completed

Details

Submitted

27 Jun 2022 at 16:21

Last updated

27 Jun 2022 at 16:21

Requested for email

Allen@trybmc.com

Requested for phone

1 212 555-5454

Requested for company

Calbro Services

Impacted device

Turbine Power Generation :Alta NS12

Anomaly Id

c7bbdf93-a3c9-f918-0de2-9bd100d3fecc

Comments (0)

Add comment

Cancel

Request Again

Free

Collaborators:

[Options](#) ▼

Fragen?



Referent

Matthias Weidinger
Senior Solution Engineer
BMC Software



Referent

Dr. Hanspeter Seiler
Head of Digitalization
FROX AG



Moderator

Oliver Buntfuss
Head of Sales
Noser Engineering



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E-Days 2022
Live Webinare
25.8.2022