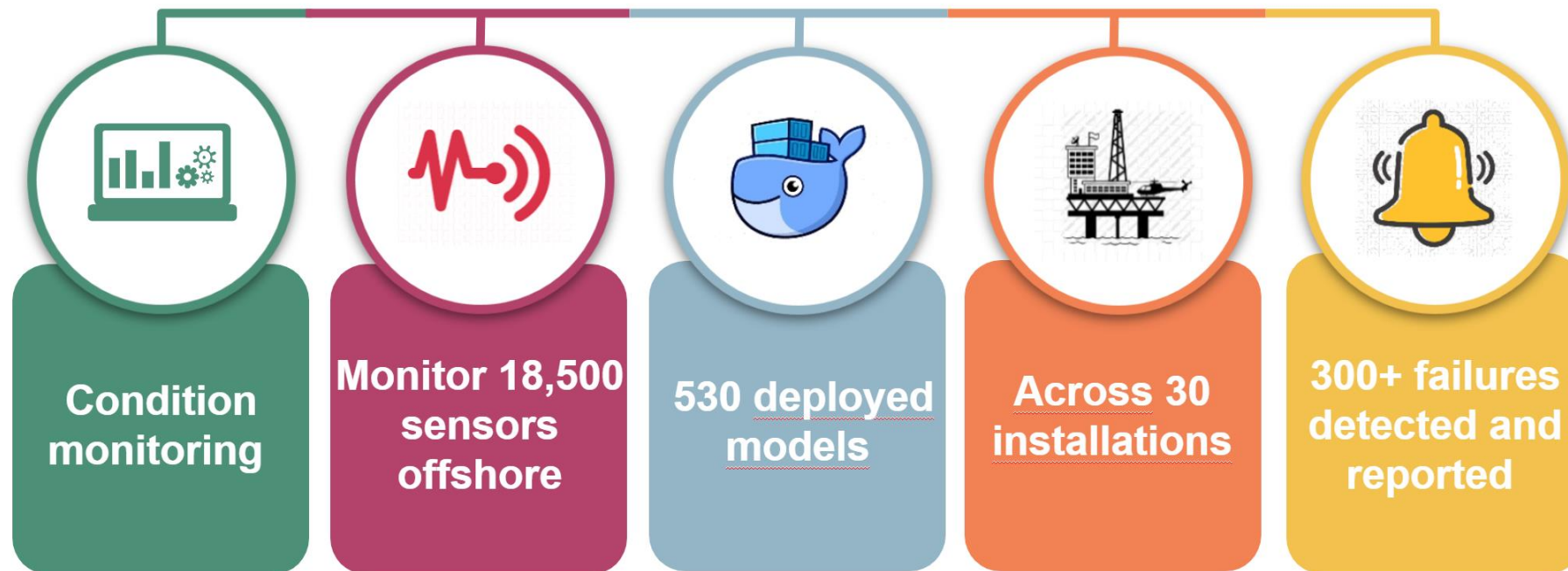


Putting data to work with AI – Condition monitoring

By Olav Landstad

What is OMNIA.prevent?



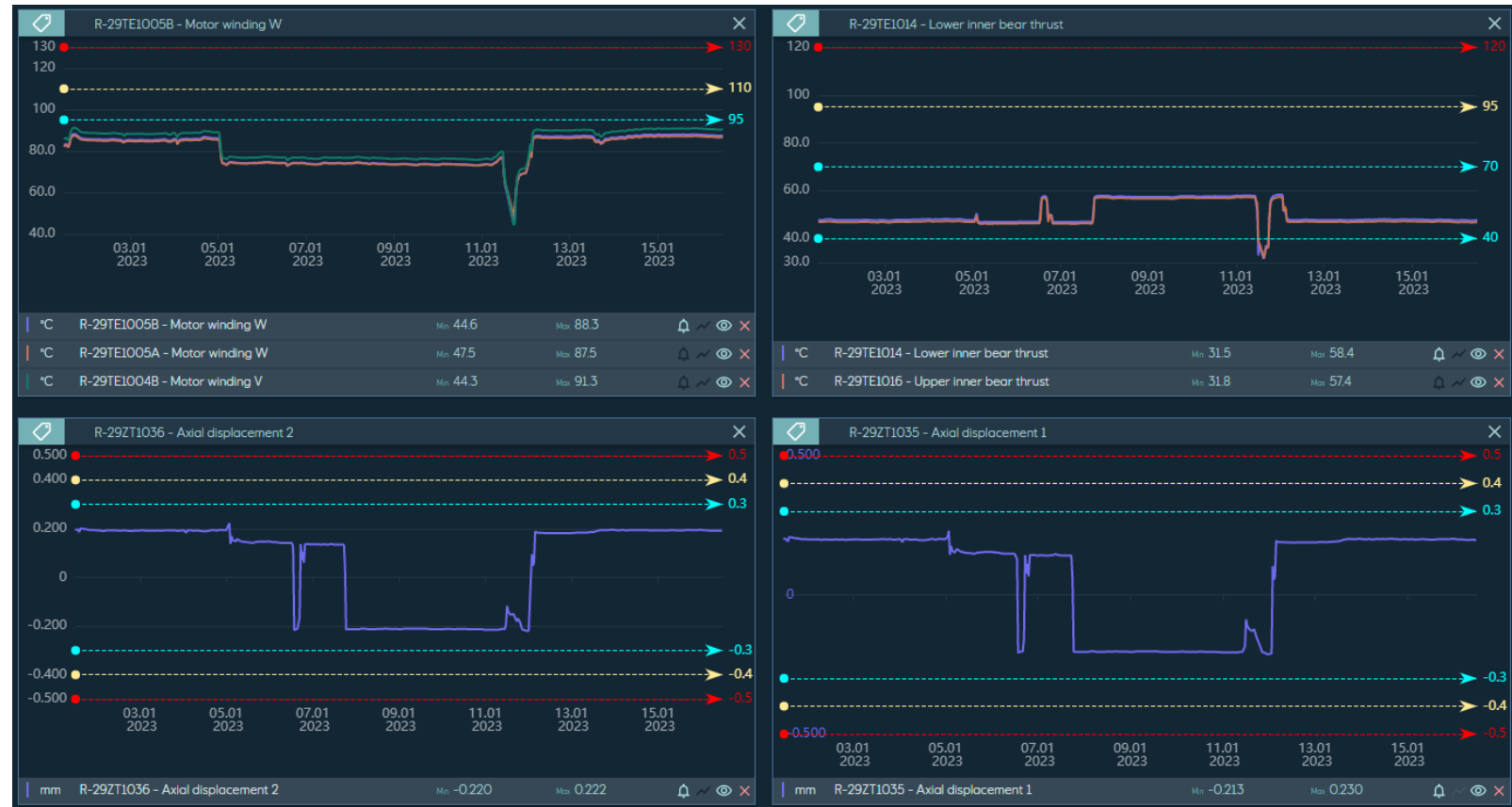
Why use Machine Learning for condition monitoring?

Today's approach:

- Manual and resource heavy process
- Reactive – easy to miss developing failures

By using ML:

- + Increased coverage
- + Acting on subtle changes in the data
- + Scalable



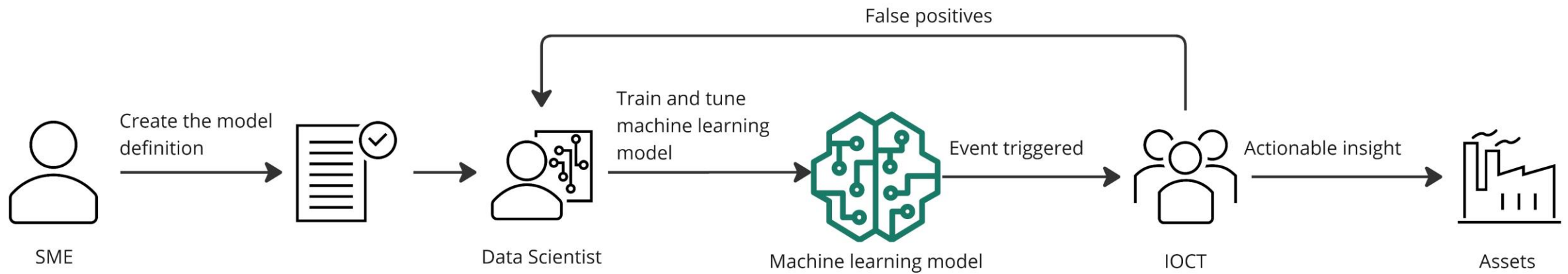


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The model



Model building and maintenance flow



Step 1 – the sensor list



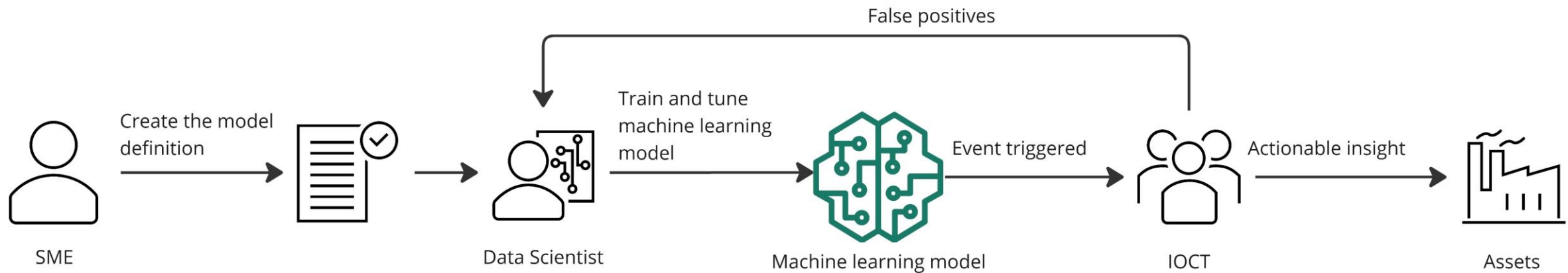
Step 2 – the training period

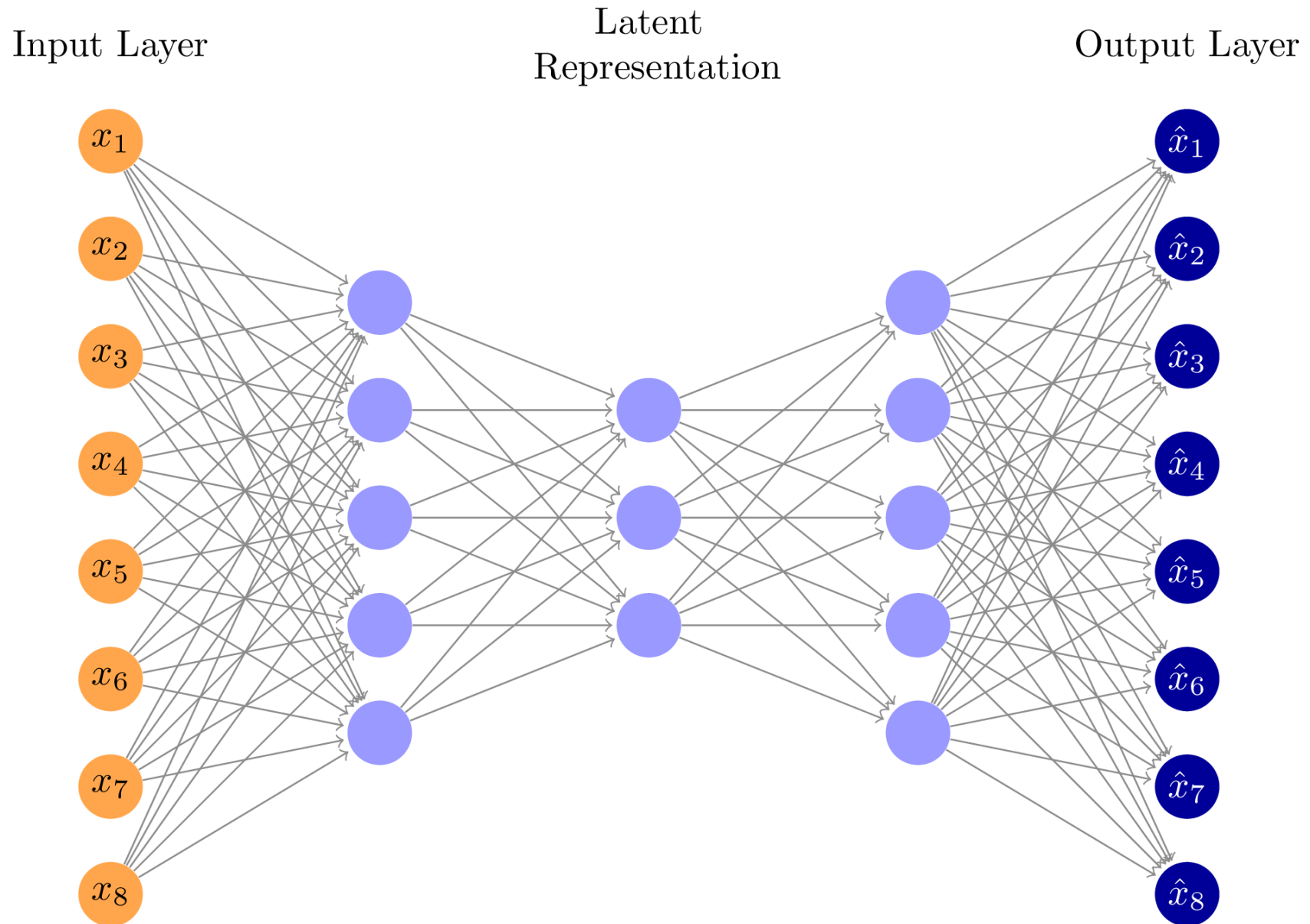


Step 2 – the training period



Model building and maintenance flow





Step 3 – the result



Step 3 – the result



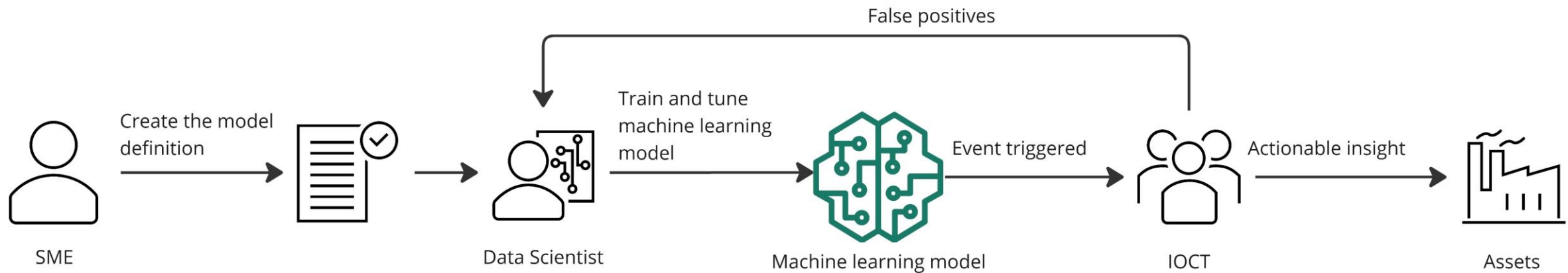


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Event handling



Model building and maintenance flow



Event handling workflow

Research, Predictive Analytics
1756 - Grane | System 23

HA-23-0005 - 5th Stage Compressor Suction Cooler
Gorda, Autoencoder

Event Title: Automatically created event
Start: 09-02-2023 03:00 End: none
ID: 3085

Research, Predictive Analytics
1772 - Oseberg Field Centre | System 25

PA 25831 A - Condensate Pump A OSD
Gorda, Autoencoder

Event Title: Automatically created event
Start: 07-02-2023 04:10 End: none
ID: 3082

Research, Predictive Analytics
1220 - Snorre A | System 21

21A-PA02A - Oil Export Pump A
Gorda, Autoencoder

Event Title: Automatically created event
Start: 03-02-2023 00:00 End: none
ID: 3065

Research, Predictive Analytics
1140 - Sleipner | System 23

G-23-KZ01A - Recompressor Package A SLT
Gorda, Autoencoder

Event Title: Automatically created event
Start: 02-02-2023 18:40 End: none
ID: 3062

Research, Predictive Analytics
1110 - Gullfaks A | System 23

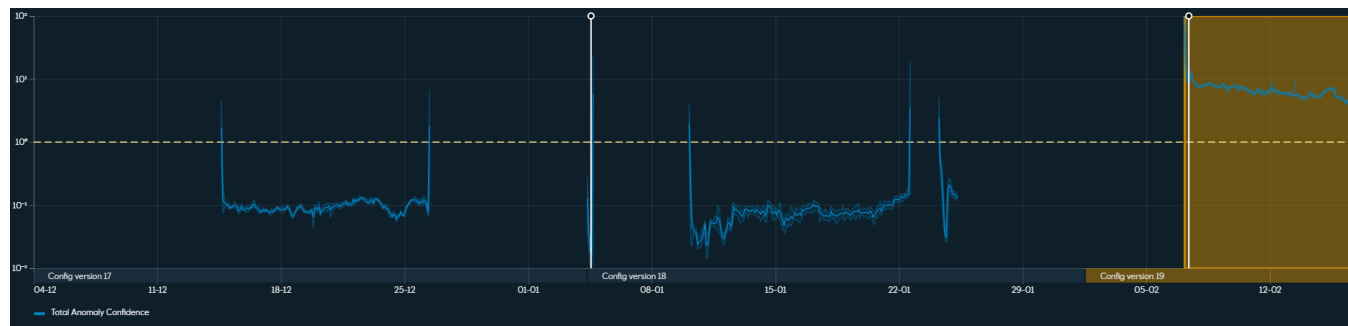
23-KZ01B - Compressor Train B
Gorda, Autoencoder

Event Title: Automatically created event
Start: 23-12-2022 08:00 End: none
ID: 2887

Research, Predictive Analytics
1230 - Visund | System 21

PA-21-0001A - Crude Oil Export Pump A
Gorda, Autoencoder

Event Title: Automatically created event
Start: 03-12-2022 08:20 End: none
ID: 2766



Event last updated by:
Olav Landstad
<OLLA@equinor.com> 03-03-2023 10:32

Input Comments Meta

Interaction Status

In Review

Title
Automatically created event

Redefine Event Start
07-02-2023 04:10

Redefine Event End
dd-MM-yyyy HH:mm

Binary Classification
True positive

Trigger
1/7 Selected

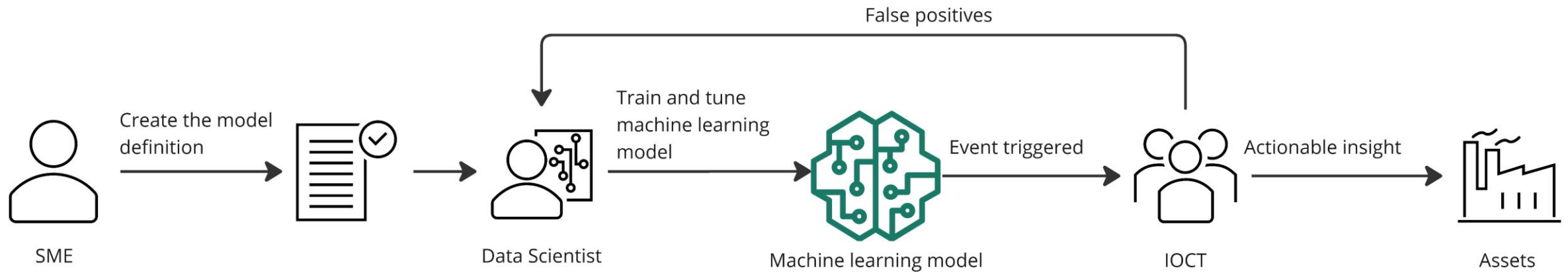
Culprit Tags

25-YI-0326Y - Pump DE Bearing Vib

Actions
1/7 Selected

Labels
+
OLLA

Model building and maintenance flow



Putting data to work with AI – Condition monitoring

Olav Landstad

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