

Condition-based Maintenance

Real-time vibration monitoring and fault detection

Problem

Traditional maintenance models, such as corrective maintenance (fixing things after they break) and preventive maintenance (scheduled maintenance), often struggle with issues like unplanned downtime, inefficient planning, and labor shortage, ultimately leading to lower utilization and rising operational costs.

Solution

An online CBM system with in-built fault detection and incident tracking, on the other hand, is non-intrusive and highly scalable. 4PointX CBM suite comes with necessary IoT hardware, vibration gauges, and real-time monitoring software — all integrated to deliver equipment availability at an affordable cost..

BENEFITS OF A CBM SYSTEM

Increased Availability

- through real-time monitoring and acting

Cost Savings

- lower maintenance costs and increased productivity

Faster Troubleshooting

- single window, remote, and aided by algorithms

Knowledge Continuity

- immune to staff shortage and transitions

ADVANCED CAPABILITIES OF 4POINTX CBM

Scalable to multiple plants and 1000s of equipment

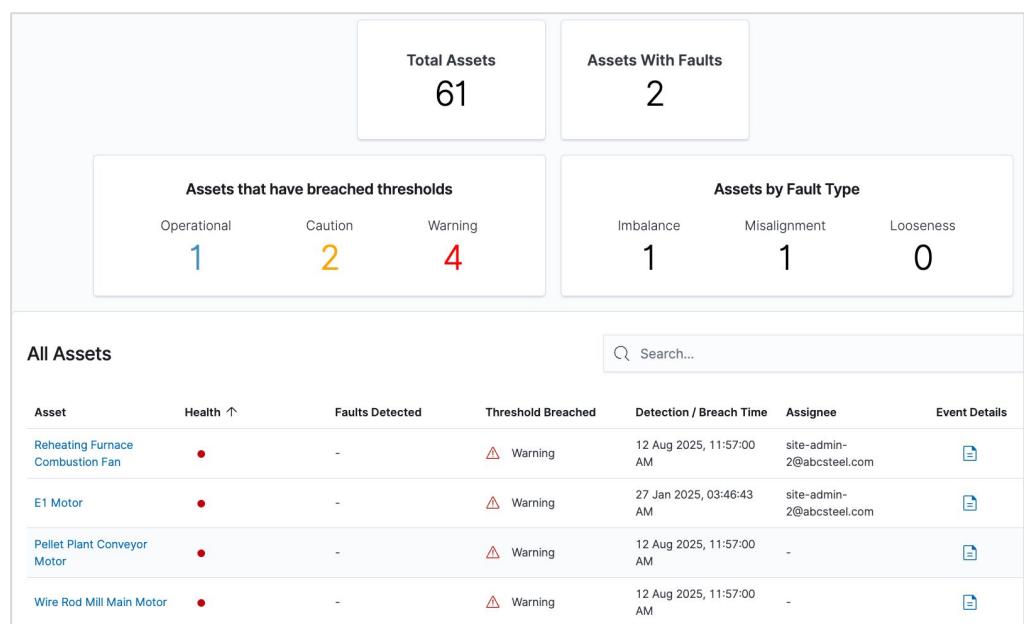
IIoT Workbench for merging condition data with process and production data

Custom Dashboards

Using a no-code, drag-and-drop interface

Notebooks

for advanced analysis and ML models



Features

4PointX EMS is one of the three apps on 4PointX IIoT Workbench and comes with following features right out of the box.

Condition dashboards

- Plant health summary
- Asset condition dashboard
- 3-axis velocity, acceleration and displacement with sensor-level drill down and trends

Alerts

- ISO and custom thresholds
- Breach history

FFT analysis

- FFT chart for 3-axis velocity
- Annotated peaks

Predictive maintenance

- Automated fault detection
- RUL estimation

Process correlation

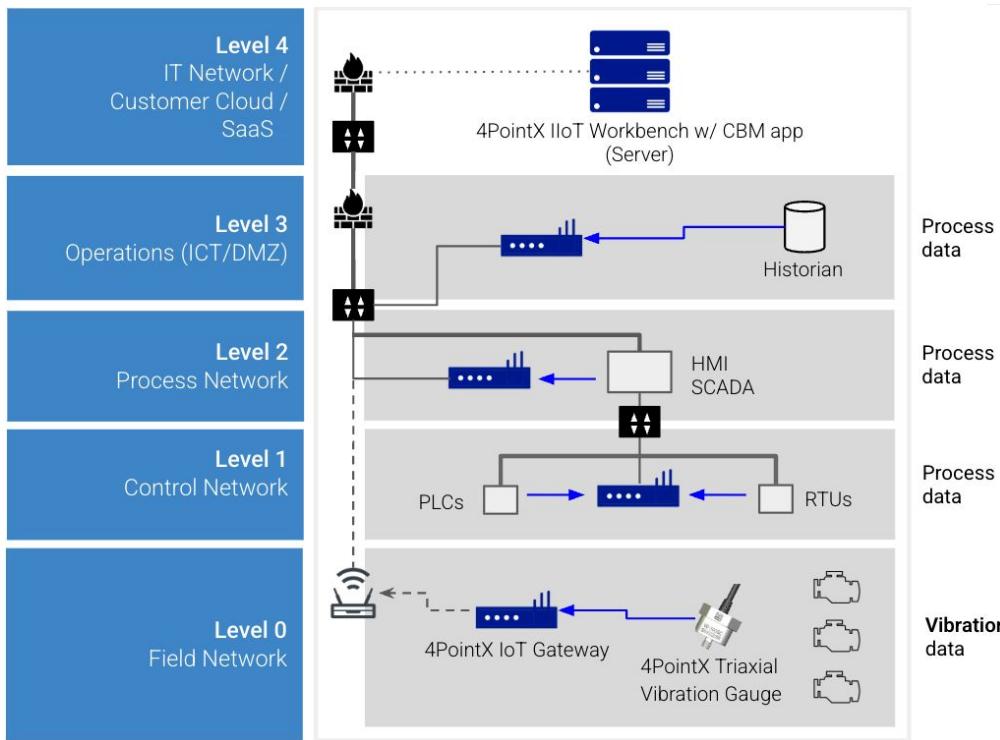
- Visualize process tags and vibration parameters in a single chart

Event workflow

- Start-to-end incident tracker with assignee, investigation details, corrective action taken etc.

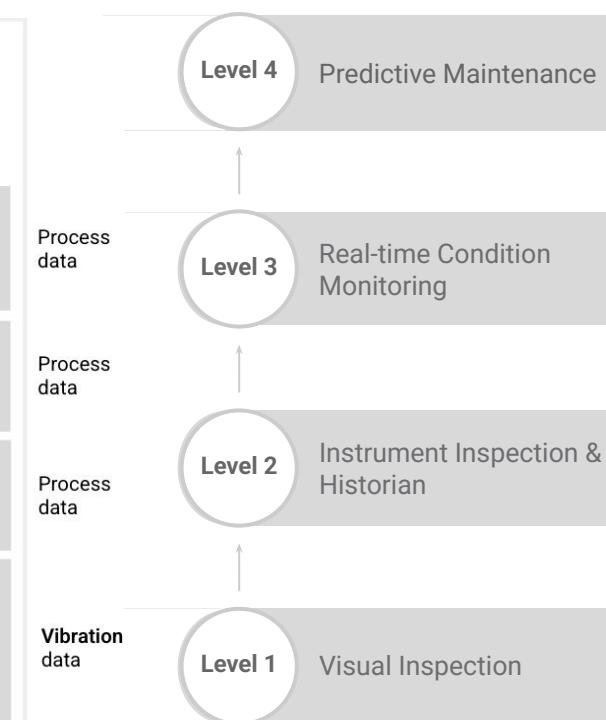
CBM Deployment Architecture

4PointX CBM is one of the I4.0 apps on 4PointX IIoT Workbench. The solution comes with IoT gateway, and triaxial vibration gauge. The server can be either deployed locally in the Plant or Cloud, or subscribed as SaaS.



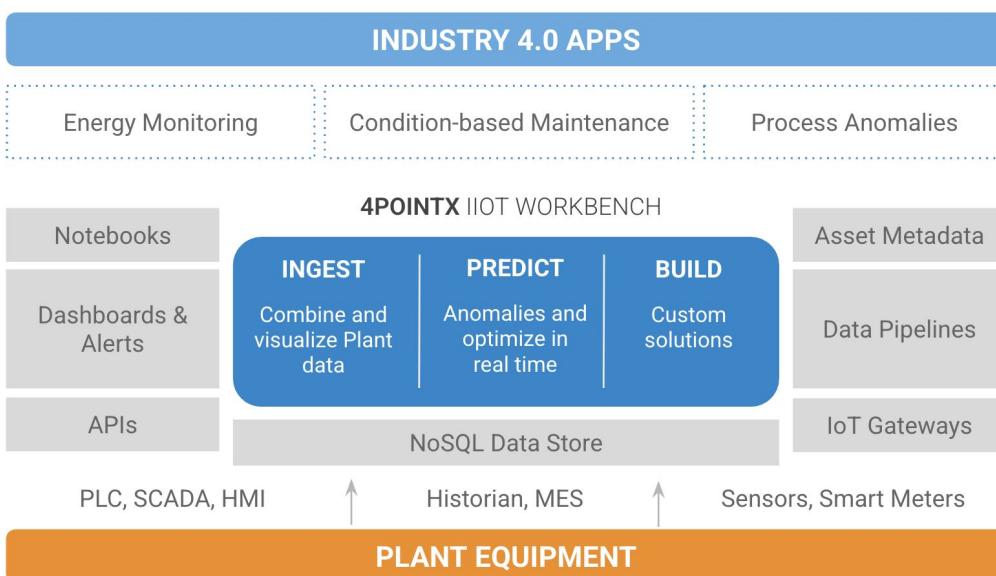
4POINTX

CBM Maturity Levels



4PointX IIoT Workbench

4PointX IIoT Workbench simplifies industrial analytics by bridging the IT/OT gap and enabling manufacturers to implement data-driven solutions to optimize the production lines. The Workbench integrates with SCADA and provides a scalable analytics layer for building custom IIoT solutions.



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