Improve Your Operational Efficiency with an Operational Control Tower

Major geopolitical, trade, and pandemic disruptions are pushing manufacturers to reconsider the agility and resilience of their value network. Greater resilience will be driven by tighter integration between operations and sourcing and distribution chains, and improved efficiency and predictability.

Manufacturers can accelerate their journey to operational excellence with a data foundation that enables cross-functional management and real-time decision-making across assets, plants and production networks. This will require a new approach to data management that focuses on optimization across disciplines and breaking down organizational and data silos.
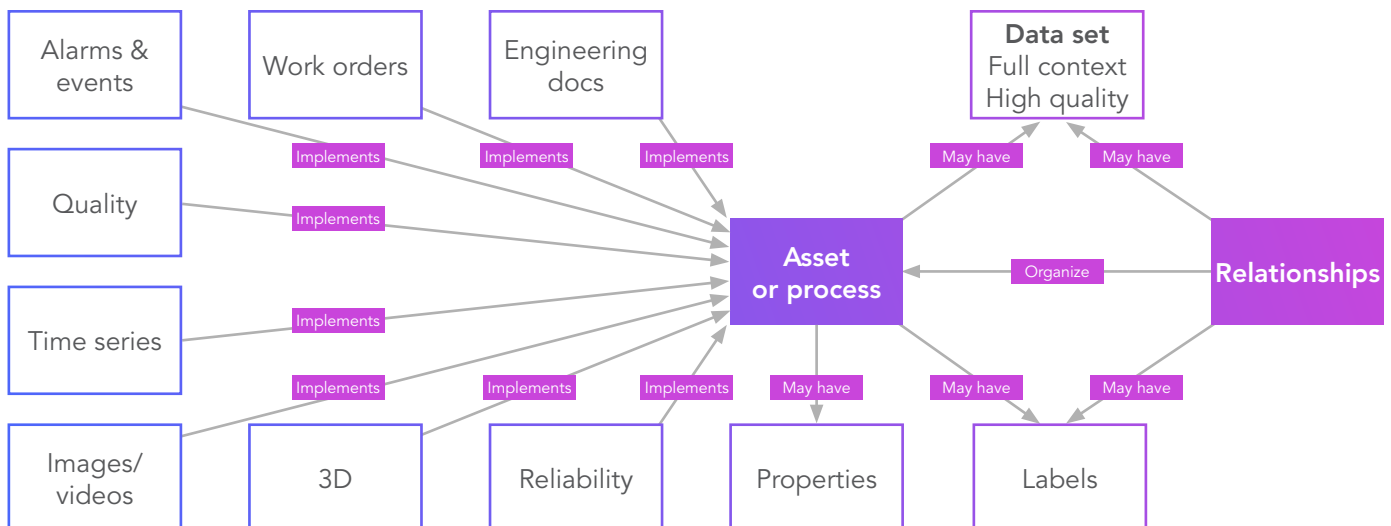
With Industrial DataOps, manufacturers can use data and AI to create tailored decision-making solutions to tackle operational challenges.
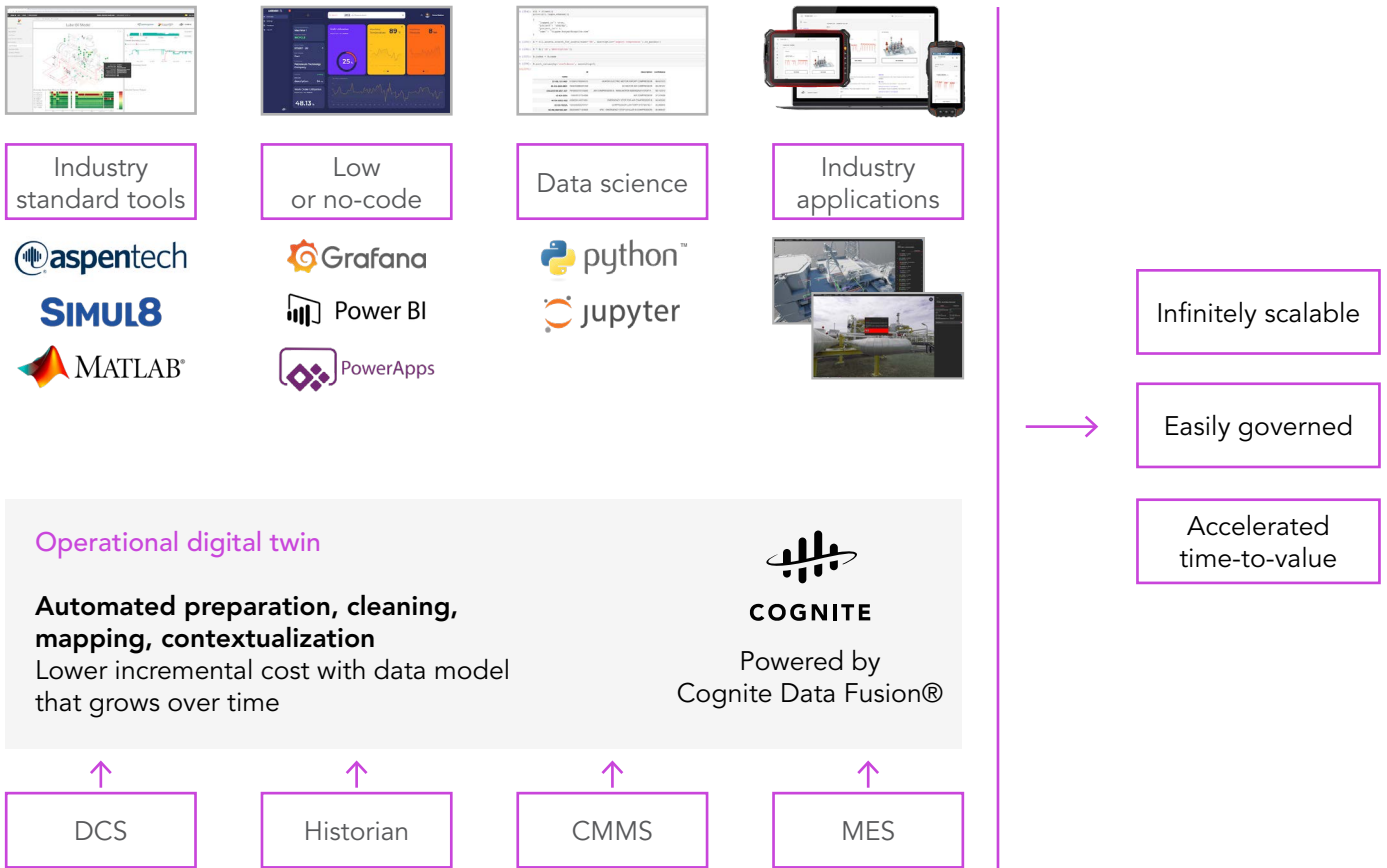
Solve the manufacturing data problem with Cognite Data Fusion®, the leading Industrial DataOps platform

Cognite Data Fusion® makes manufacturing data available, usable, and valuable. It breaks down data silos by connecting IT, OT, and engineering data from your ERP, LIMS, MES, SCM, IoT, and more—to build

an industrial knowledge graph, giving you instant access to historical, real-time, and simulated data and scenarios.

Industrial knowledge graph

Industry standard tools	Low or no-code	Data science	Industry applications

Industry standard tools: aspentech, SIMUL8, MATLAB

Low or no-code: Grafana, Power BI, PowerApps

Data science: python, Jupyter

Infinitely scalable

Easily governed

Accelerated time-to-value

Operational digital twin

Automated preparation, cleaning, mapping, contextualization
Lower incremental cost with data model that grows over time

COGNITE

Powered by Cognite Data Fusion®

DCS	Historian	CMMS	MES

With contextualized data in Cognite Data Fusion®, you can build and scale more real-time and data-driven insights across operations and supply chain.

Cognite Data Fusion® bridges the gap between your existing OT and IT architecture, giving you the building blocks to innovate, empower your experts, and get

high-quality products that are designed for sustainability to market faster.

Cognite Data Fusion® key differentiators

Collect, integrate, access
Contextualize and understand
Develop and deploy
Monitor and govern
Scale

- Automatic IT/OT/ET data contextualization
- Data governance and lineage
- Data security and compliance
- 3D and unstructured data
- Open framework and toolboxes
- Hybrid AI
- Real-time data access
- Performance and scale

Prevent disruptions with a scalable operational control tower

Cognite Data Fusion® gives you real-time, cross-plant operational visibility with the first knowledge graph built for industry at scale. With instant access to data searchable in domain languages, more users can understand previously siloed data and start extracting value. One way is with Cognite's application building blocks, with which you can build tailored solutions to support business decisions and scale those solutions across fleets of assets and plants, reducing the time to value and driving continuous improvement.

Cognite's Solutions Portal provides a single, persona-based point of access to all applications powered by Cognite Data Fusion, from Power BI dashboards and Cognite applications to third-party Grafana solutions, and everything in between. The operational control tower helps manufacturers address:

Cost
Reduce costs through remote and real-time monitoring, and preventive and predictive insights.

Sustainability
Understand, control, and improve your use of energy, materials, and water to reduce emissions.

Resilience
Optimize production daily to account for variations in raw material and operating conditions.

Throughput and capacity
Increase your rate of production and eliminate bottlenecks and unplanned stops.

Quality
Reduce waste and identify root causes of operational issues.
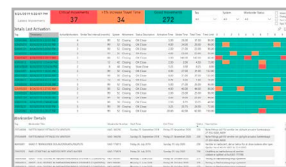
Asset management

Live machine reporting

20-30% annual reduction in service costs using a bad actor report to prioritize maintenance

Data sources:
- CNC machine alarms
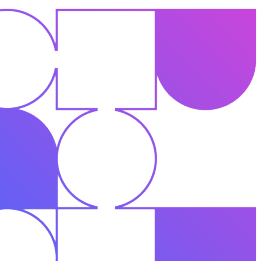- ERP work orders

Asset performance monitoring

Live asset status in an aggregate view to address degrading assets **before failure occurs**

Data sources:
- Technical documentation
- Sensor data (Historian)
- Work order repository (SAP)

Process optimization
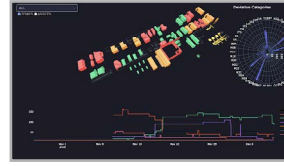
Increase asset utilization

Understand current utilization to identify ways to **increase OEE** and identify underperforming assets

Data sources:

- Equipment data (MTConnect)
- ERP work orders
- Tooling database

Product quality monitoring

Reduce time to deliver corrective actions by **10-20%** and a **5% reduction** in product deviations

Data sources:

- Quality system deviation database
- ERP work orders

Sustainability
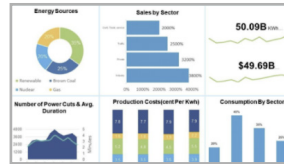
Reduced energy consumption

Site visibility to energy consumption to **identify highest energy consumers** and make process adjustments

Data sources:

- MQTT Energy Monitoring
- ERP work orders

Emission monitoring

Identify, assess and **track** sustainability outcomes

Data sources:

- Process Data (DCS)
- Sensor data (Historian)

Predictive maintenance

Heat exchanger performance

Hybrid AI to forecast when fouling occurs and its impact to production

Data sources:

- Simulated Data (Simulator)
- Sensor data (Historian)
- OEM documentation

Predict equipment failures

Proactive notifications for **early intervention** of impending problems

Data sources:

- Process Data (DCS)
- ERP work orders
- Equipment Operating Curves
- OEM documentation

↘ Get started today and realize value by the end of the next quarter. — info@cognite.com