



Belden + Edge2Web

Smart Factory Insights

Solution Brief

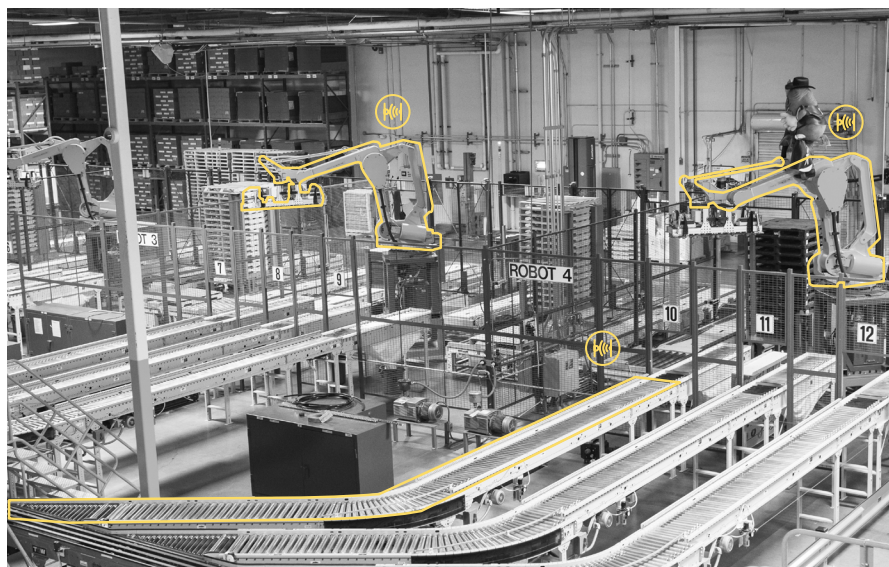


Smart Factory Performance Monitoring and Optimization

Belden and Edge2Web Smart Factory Insights, powered by AWS IoT SiteWise, delivers a comprehensive smart factory solution that enables manufacturers to digitize operations, compute and visualize KPIs, and drive continuous improvement. This no-code, cloud-native platform integrates edge data acquisition, contextualized analytics, and GenAI-powered insights to help manufacturers improve asset availability, reduce downtime, and optimize production performance.

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Current State of Smart Factory Systems

Manufacturers today face a range of challenges in deploying smart factory systems, including:

Technology and Integration Challenges

- Diverse plant control system interfaces
- Manual cloud digital asset modeling
- Limited edge data integration and conditioning
- Multi-vendor patchwork solutions
- Proprietary, siloed cloud data management

Operational and Implementation Challenges

- Complex setup, configuration, and rollout
- High costs and lengthy implementation times

Expertise and Resource Limitations

- Shortage of factory domain experts
- Lack of expertise in leveraging cloud and machine learning technologies needed for digital transformation

Impact of These Challenges

These issues often lead to:

- Delayed digital transformation
- Complex, prolonged roll-outs
- Increased operational costs
- Missed opportunities for performance optimization

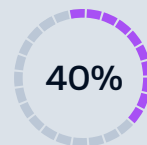
Operational management in discrete manufacturing



of discrete manufacturers lack analytical capabilities to derive actionable insights from energy data.



of capacity losses (after scheduled losses) are due to equipment being unable to produce up to capacity.



of global manufacturer DO NOT use analytics data recorded from connected devices to analyze processes and identify optimization possibilities.



of investments in new industrial assets will fully incorporate intelligent design features by 2026.

Source: Accenture Research

Addressing key priorities

In many manufacturing organizations, optimizing operational efficiency is a shared priority across multiple functional areas. Key leadership stakeholders may include the following:

CEO

How can I leverage digital automation to enhance performance and efficiency in order to maintain our competitive edge?

CIO/CSO

How do I securely enable IT/OT network convergence and enable access to AI for our digital transformation?

Chief Digital Officer

How can I safely implement robotics to drive digital transformation and modernize operations on the factory floor?

Manufacturing VP

How do I reduce unplanned downtime, improve product quality, and optimize capacity utilization?



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The Edge2Web + Belden solution combines:

- **Belden BHDO:** A robust platform that connects 300+ industrial protocols and normalizes plant data acquisition, enrichment, and secure transmission to AWS IoT SiteWise.
- **Edge2Web Factory Insights:** A SaaS application that computes and visualizes KPIs such as OEE, TEEP, MTBF/MTTR, and energy consumption.

The Edge2Web + Belden Smart Factory Solution empowers manufacturers to unlock the full potential of their operational data. With rapid deployment, no-code customization, and seamless AWS integration, it delivers measurable improvements in uptime, quality, and efficiency—making it the ideal platform for industrial digital transformation.



Value Drivers

- No-Code Tools:
Create custom KPIs, dashboards, and scorecards without programming.
- Edge-to-Cloud Integration: Seamless data flow from plant devices to AWS IoT SiteWise.
- GenAI Assistance: AI-powered summaries, alerts, and digital playbooks for faster decision-making.
- Multi-Protocol Support: Connects to over 300 industrial device types and protocols.
- Scalability: From single-site deployments to global, multi-site operations.

Positive Outcomes

- Rapid Deployment: Configure and launch in days, not months.
- Reduced Costs: Minimize custom development and integration expenses
- Improved Visibility: Gain real-time insights into asset performance and process efficiency
- Enhanced Productivity: Empower operators with intuitive tools, alerts and guidance.
- Future-Ready: Integrates with AWS services for ML, analytics & GenAI.



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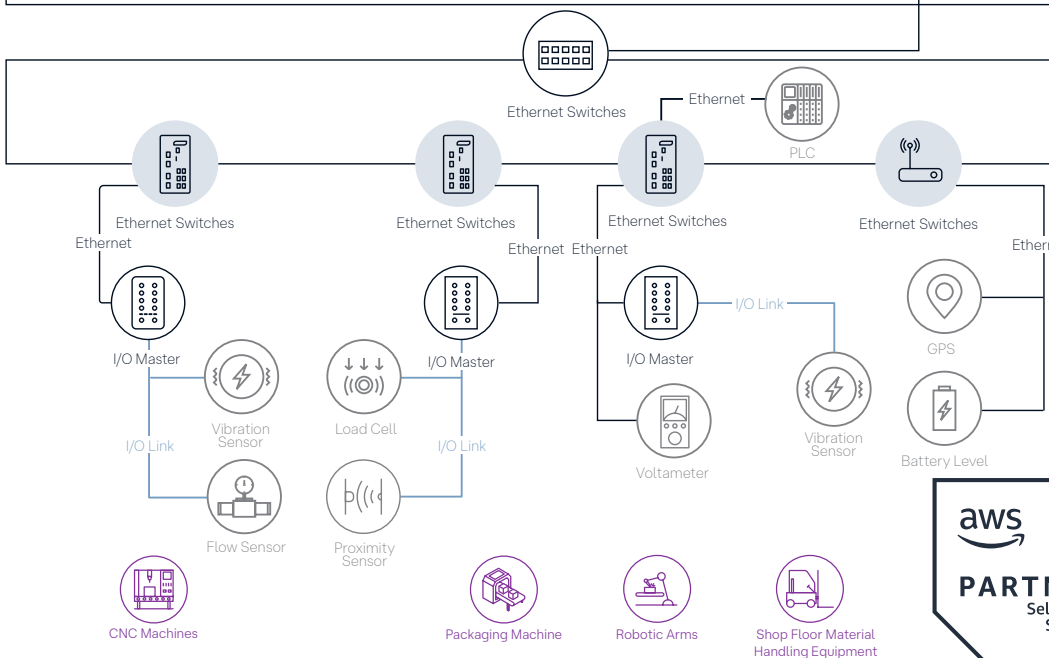
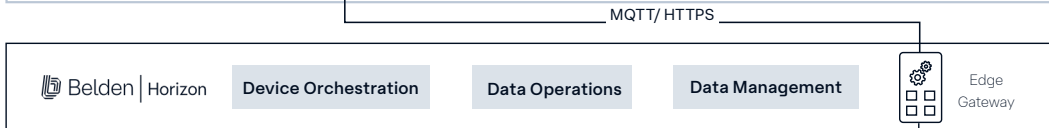
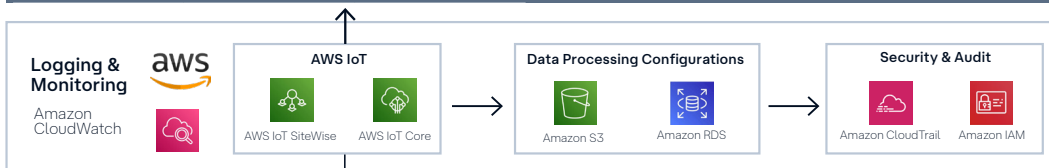
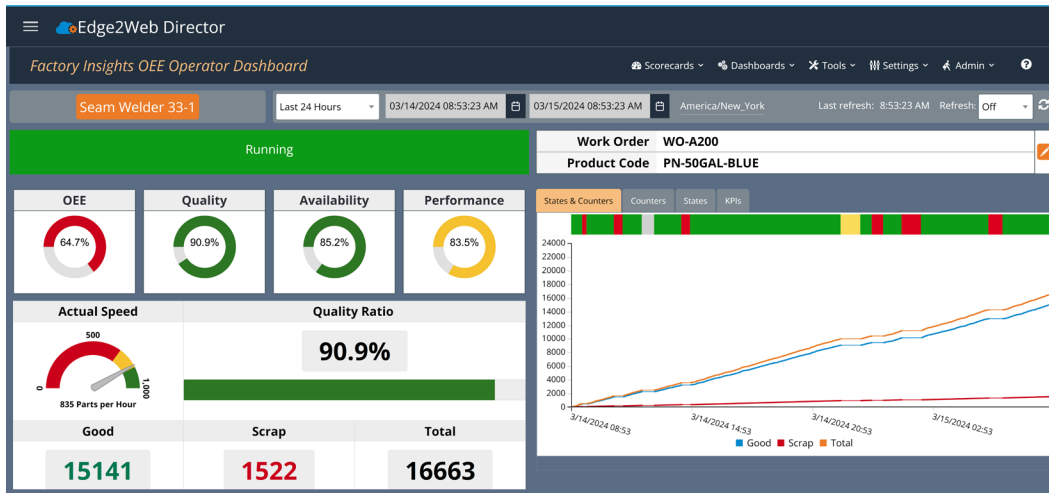
Turning Data into Insights

Together, these components form a scalable, end-to-end smart factory solution that is fast to deploy, easy to configure, and extensible with no-code and low-code tools.



How It Works

- 1 Data Acquisition: Belden BHDO collects and normalizes data from shop floor devices.
- 2 Cloud Ingestion: Data is securely transmitted to AWS IoT SiteWise.
- 3 KPI Computation: Edge2Web Factory Insights computes standard and custom KPIs.
- 4 Visualization: Dashboards and scorecards provide contextualized insights by asset, shift, product, or order.
- 5 AI Integration: GenAI tools assist with anomaly detection, maintenance planning, and operational summaries.



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[Contact us](#) for more information about Belden Horizon Factory Insights.

About Belden

Belden Inc. delivers the infrastructure that makes the digital journey simpler, smarter and secure. We're moving beyond connectivity, from what we make to what we make possible through a performance-driven portfolio, forward-thinking expertise and purpose-built solutions. With a legacy of quality and reliability spanning 120-plus years, we have a strong foundation to continue building the future. We are headquartered in St. Louis and have manufacturing capabilities in North America, Europe, Asia, and Africa.

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