DQLABS

A Global Industrial Tech Leader Boosts Operational Excellence with Data Reliability and Observability

A global industrial technology leader specializing in the design and manufacture of electrical and electronic components, this organization operates in around 130 countries and employs over 85,000 people, including 9,000 engineers. Its solutions enable the reliable distribution of power, signal, and data—supporting next-generation transportation systems, energy networks, automated factories, data centers, and medical devices. With a diverse product portfolio that includes mission-critical connectors and sensors, the company plays a vital role across industries such as automotive, aerospace, defense, medical, and energy—where safety, efficiency, and innovation rely on advanced connectivity and sensing technologies.

Customer Success Story

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How the Company Leverages Data for its Business Operations

This industrial technology provider is embedding data and analytics across core operations to enhance efficiency, innovation, and product intelligence:

- **Supply Chain Optimization with SAP IBP**: Uses advanced analytics for demand forecasting and end-to-end visibility, enabling better planning and decision-making across global operations.

- **Generative AI for Engineering Productivity:** In collaboration with technology partners, developed a generative AI platform that consolidates 75 million engineering documents into a single, searchable system—accelerating product development and knowledge reuse.

- **AI-Powered Quality Inspections with CT Data:** Combines computed tomography (CT) analysis with AI and machine learning to speed up inspections and improve defect detection accuracy.

- **IoT-Enabled Smart Components**: Embeds sensors in connectors to capture real-time data (e.g., temperature, vibration, pressure), feeding insights into a cloud-based IoT platform for deeper operational analysis.

Challenges

As the company advanced its data-driven initiatives across engineering, supply chain, and connected product strategies, several data quality challenges surfaced:

- **Gaps in Global Supply Chain Data Impacting Forecasting**: Missing or incomplete inventory, demand, and supplier data across regions limited forecast accuracy and production planning in SAP IBP, reducing responsiveness to shifting global supply dynamics.
- **Fragmented Engineering Data and Metadata Inconsistencies**: With over 75 million engineering documents, inconsistent tagging, naming, and versioning made it difficult for teams to find specifications quickly, sometimes leading to the reuse of outdated or incorrect files.
- **Blind Spots in Data Pipelines and Broken Job Detection**: Lacked proactive monitoring in tools like dbt and Airflow. Failures in job runs or missing metadata files often went unnoticed, causing downstream data breaks and slowing root cause analysis.
- **Unreliable and Non-Standard Sensor Data Streams**: IoT sensors embedded in the company's products occasionally produced noisy or missing data. Variations in time formats, measurement units, and structures further complicated integration and analysis.
- **Limited Trust in AI Outputs Due to Poor Lineage**: Engineering teams using AI-powered insights had limited visibility into data provenance—such as document authorship or revision history—making it difficult to validate recommendations.
- **Domain-Specific Rule Complexity and Governance Gaps**: Diverse business units required tailored quality checks on Critical Data Elements (CDEs). Translating these nuanced business rules into executable logic across systems created scalability and governance challenges.

Solution

By implementing DQLabs, the organization gained a unified, automated platform that enhanced observability, traceability, and proactive alerting—enabling faster resolution and more reliable analytics.

No-Code Onboarding and Intuitive Interface

Business and engineering users could onboard datasets and configure rules without writing code, accelerating adoption and reducing dependency on IT.

Tableau Dashboard Monitoring

DQLabs monitored Tableau extract job statuses and refresh times, proactively alerting users of failures or delays. Alerts included essential metadata to ensure analytics were based on fresh, reliable data.

Anomaly Detection and Intelligent Observability

DQLabs continuously monitored data pipelines, detecting anomalies in volume, schema, freshness, and integrity. Integrated with tools like dbt and Airflow, it proactively flagged broken jobs, missing files, and unexpected patterns.

Lineage-Aware Automation and Enriched Alerting

Combined column-level lineage with AI-driven rule recommendations to automatically propagate rules across datasets. Alerts included impacted dashboards, affected pipelines, and SQL logic—enabling fast triage and resolution.

Automated Semantic Discovery

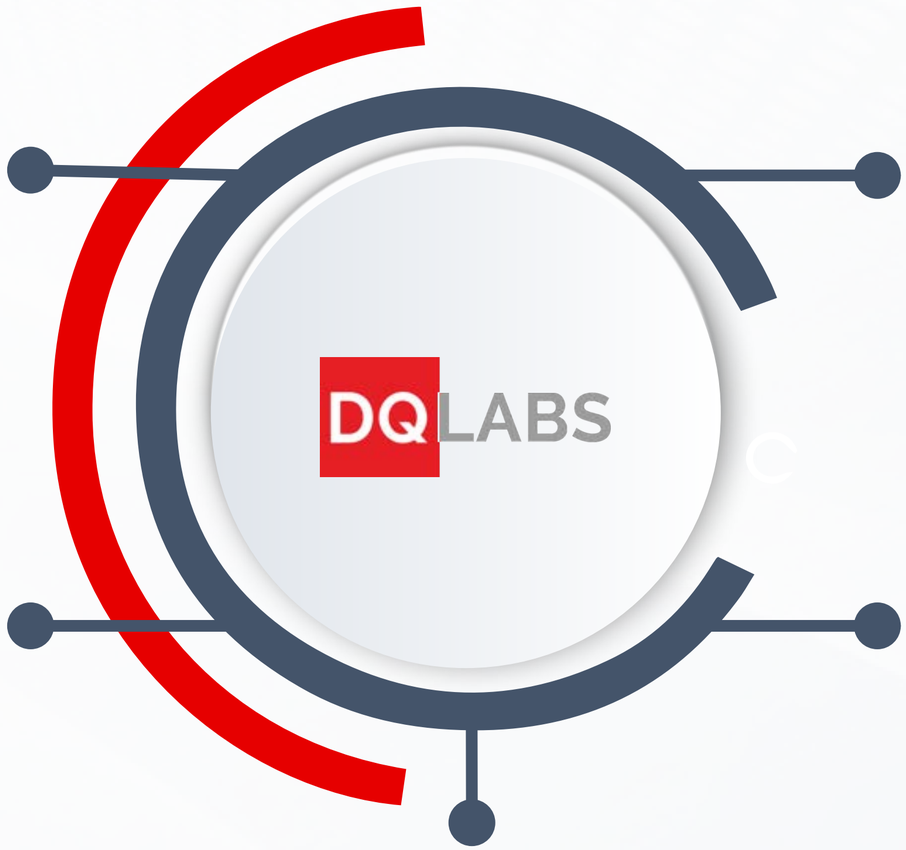
Automatically identified and classified CDEs, relationships, and business terms across systems. This semantic context supported metadata standardization, simplified rule creation, and drove consistency—especially across engineering and supply chain teams.

Results and Impact

DQLabs helped the organization embed trust, automation, and agility into its data operations—empowering teams to act faster and more confidently.

50% faster root cause analysis and resolution, enabled by enriched lineage insights and context-rich alerting.

25–30% increase in productivity across engineering and data teams, thanks to automation of quality checks and monitoring.



40%+ drop in Tableau dashboard refresh failures, with time-to-detect reduced from hours to minutes.

Stronger governance and consistent data quality enforcement across global operations.

Greater readiness for AI and analytics initiatives, supported by clean, reliable data pipelines.

About DQLabs

DQLabs is an Agentic AI Data Observability & Data Quality Platform that enables organizations to observe, measure, discover, and remediate the data that matters. With an automation-first approach and self-learning capabilities, the DQLabs platform harnesses the combined power of Data Observability, Data Quality, and Data Discovery to enable data producers, consumers, and leaders to turn data into action faster, easier, and more collaboratively.

Book a Demo

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