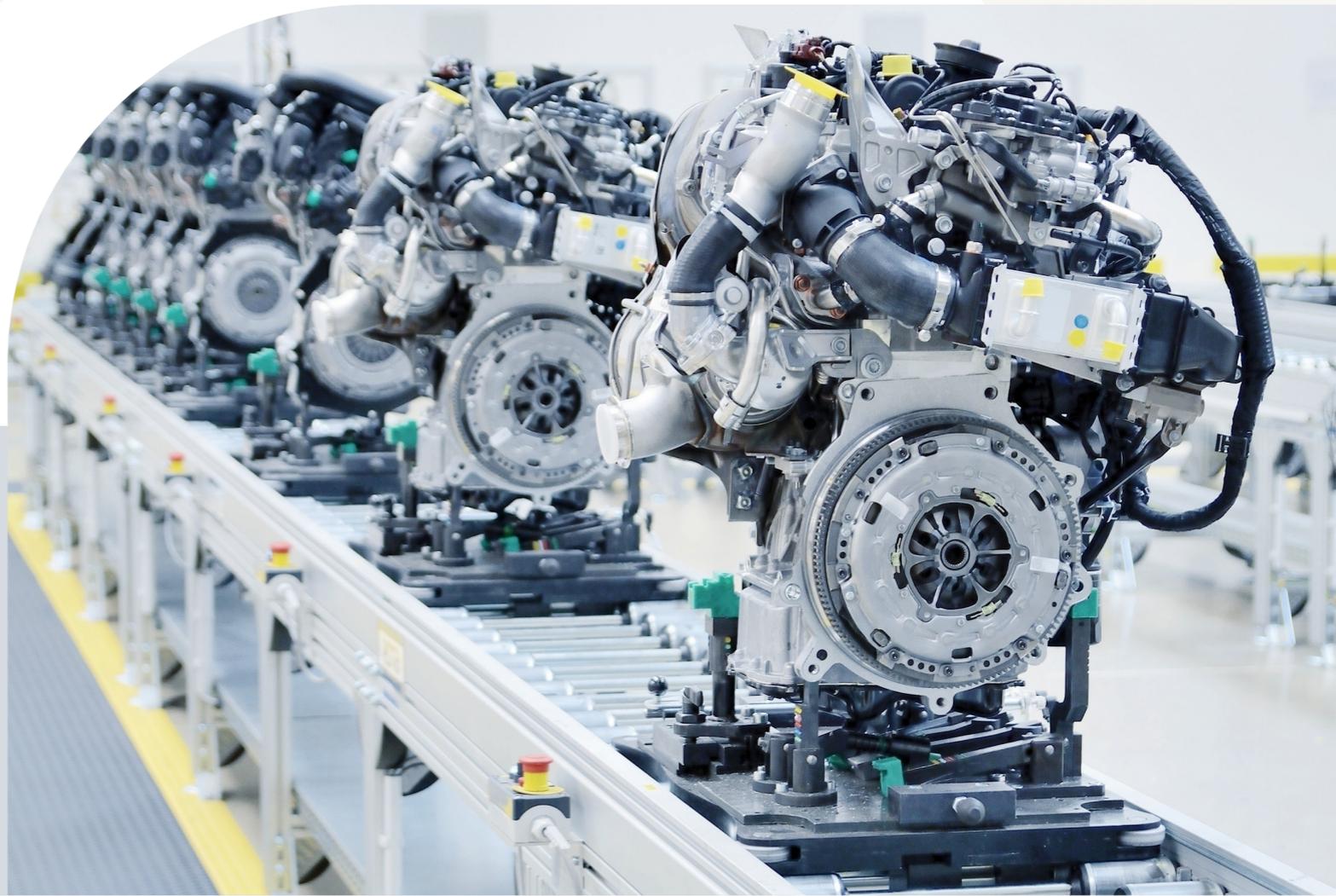


eBook

Put Your ERP Data to Work

Get better value, usability
and analytics with SAP data
on the Lakehouse



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INTRODUCTION

Digital Transformation Is Built on Enterprise Data

Against the backdrop of intense global competition, supply chain disruptions and an inflationary macroeconomic environment, manufacturing and consumer goods companies must use data and AI to work smarter to address volatility and variability. To generate higher returns on invested capital (ROIC) in the post-pandemic era, companies must accelerate time-to-market for products, optimize production capacities and design resilient supply chains to serve their customers and differentiate against competition. Transforming enterprise data is the common thread to achieve all of these valuable outcomes.

To address these enterprise challenges, organizations need to analyze their business with a complete picture.

The challenge is that business critical data (IT data such as ERP) resides in silos and is distinctly separate from the data generated from systems that support the production line, distribution network and customer service activities.

In fact, until only recently, it was inconceivable to have enterprise data convergence at a lower total cost of ownership that led to comprehensive, real-time business intelligence and prescriptive insight. Today, businesses have the ability to provide a seamless path to transform ERP data into business value, supporting real-time advanced analytics at much lower TCO.

85%

of organizations accelerated digital transformation strategies during the pandemic

Deloitte

20%

higher total shareholder return for manufacturing companies that prioritized digital transformation during the pandemic

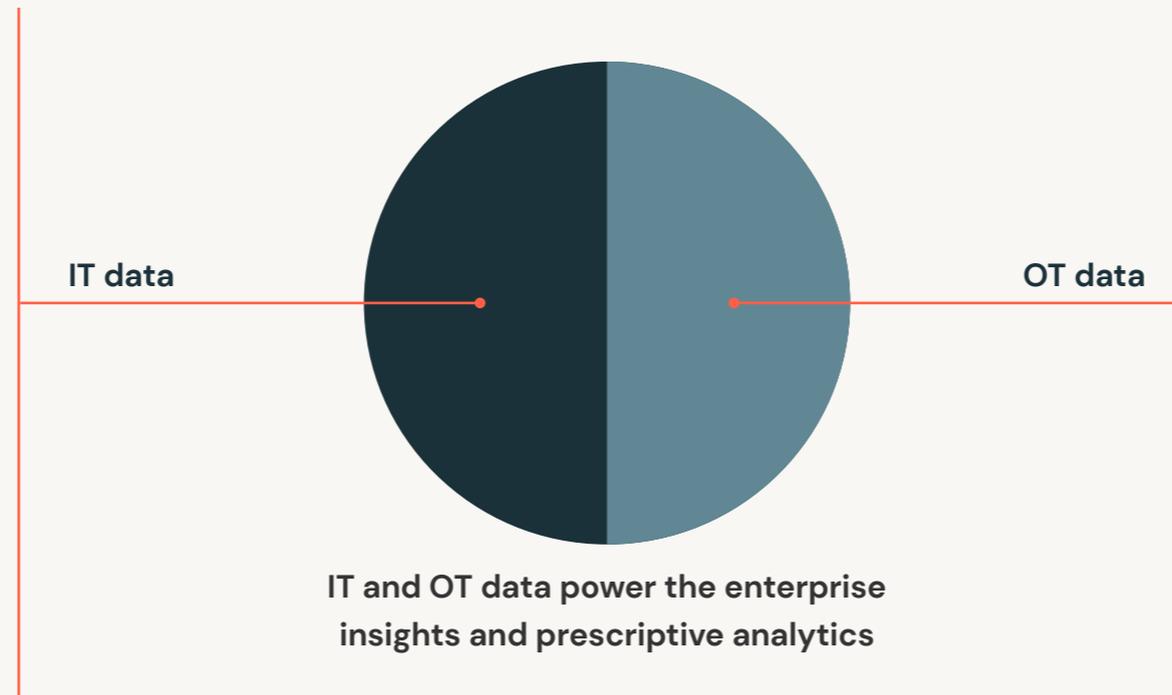
McKinsey

Why Is Enterprise Resource Planning Data Important to Accelerate Enterprise Value?

Information technology data

ERP data (sometimes called IT data) is business critical data touching all financial and human capital business processes and created in ERP modules such as:

- Finance & general ledger
- CRM
- Human resources
- Inventory control
- Material requirements planning (MRP)
- Purchasing
- Warehouse management



Operational technology data

Third-party data includes data created outside of ERP systems. A major source of third-party data in manufacturing is operational technology data from the direct monitoring and/or control of industrial equipment, assets, processes and events:

- Process data
- Quality control data
- Worker data
- Logistics data

Major trends impacting ERP technology:

- Increased use of cloud ERP and mobile ERP
- Artificial intelligence in ERP providing prescriptive insights
- Increased focus on business intelligence with the use of real-time dashboards and prescriptive analytics
- Increased connectivity to the Internet of Things (IoT) and Industrial Internet of Things (IIoT)

Business Unlock: Maximize Value From Your SAP Data

As winning companies embrace digital transformation and understand the need for enterprise data, they strive for:



Flexibility in extracting and integrating SAP and third-party data:

Easily extract SAP IT data and integrate it with non-SAP data (sensor data, external sales and more) to understand the full picture of your value chains with reporting and predictive analytics.



Build more accurate and robust analytics:

Customers often see double-digit improvement in forecast accuracy when moving to the Lakehouse. Build more accurate predictions using all your data with a platform designed from the ground up for advanced analytics.



Improved outcomes and lower total cost of ownership:

Retain historical data for reporting and analysis for a longer period of time in the Lakehouse than is economically feasible in SAP while lowering your SAP data licensing, support and compute costs.



Prudent IT leaders will invest through a recession to position themselves to accelerate through the inevitable. Success is not about cost cutting, but about targeted spend.”

Adam Ronthal, Vice President and Analyst, Gartner



Qlik-Databricks Synergy

Two industry powerhouses have teamed up to deliver reduced cost of ownership and the granular data needed for advanced analytics workloads

Qlik

Get the data you need

Qlik Data Integration accelerates the availability of SAP data to Databricks with its scalable change data capture technology. Qlik Data Integration supports all core SAP and industry modules, including ECC, BW, CRM, GTS and MDG, and continuously delivers incremental data updates with metadata to Databricks in real time.

Automate the data warehouse/data lakehouse pipeline

Once your SAP data is landed in the Databricks Lakehouse, Qlik's model-driven workflow automates the data pipeline without the hand coding associated with traditional ETL approaches. Qlik's automated data-mart provisioning simplifies the data warehouse lifecycle.

Make trusted analytics-ready data

Qlik enables every business user to intelligently discover curated SAP data-marts, preview and augment with data from across the enterprise. Users publish data sets in a variety of formats that are ready for use with their analytics tool of choice.

Databricks

Streamline your data ingestion and management

With automated and reliable ETL, open and secure data sharing, and lightning-fast performance, Delta Lake transforms your data lake into the destination for all your legacy SAP structured, semi-structured and unstructured data holding data at rest until you need it, thus lowering TCO of SAP data warehouses.

Derive new insights from the most complete data

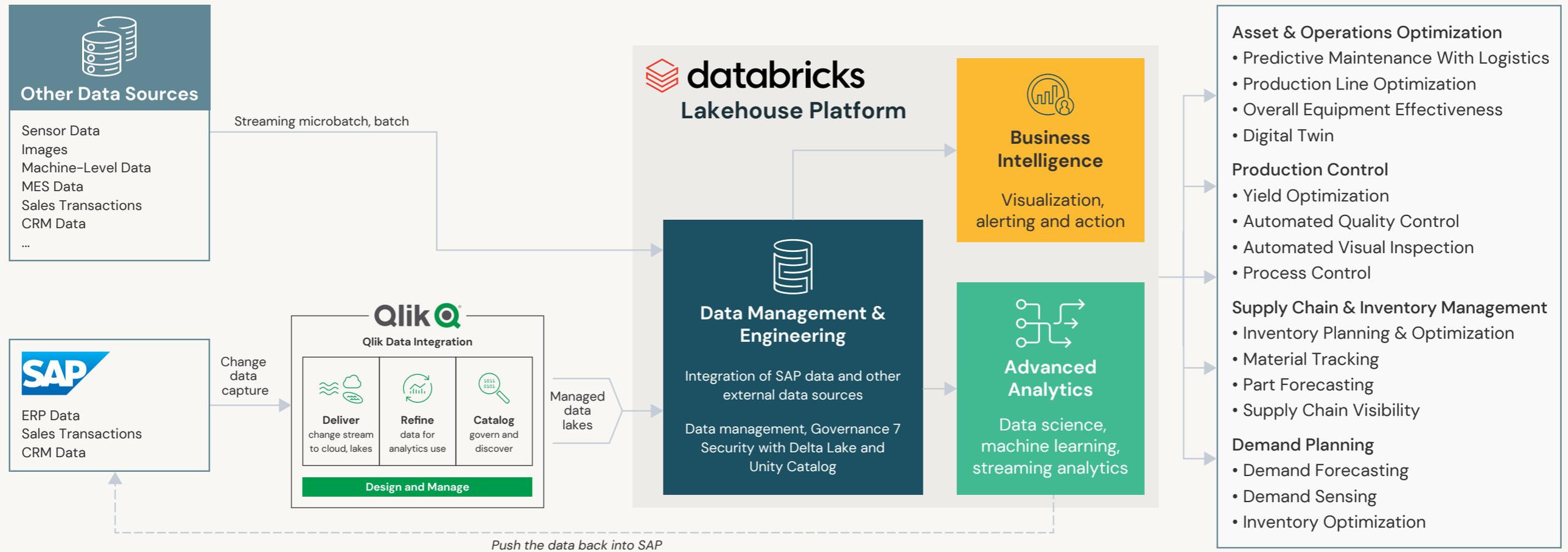
With ready access to the freshest and most complete data and the power of Databricks SQL — up to 12x better price/performance than traditional cloud data warehouses — data analysts and scientists can now quickly derive new insights.

Accelerate ML across the entire lifecycle

The Lakehouse forms the foundation of Databricks Machine Learning — a data-native and collaborative solution for the full machine learning lifecycle, from featurization to production using any date type — both from SAP IT sources and your OT sensor data to build robust enterprise-wide machine learning use cases.

Enterprise Data Access Architecture

High-Level Architecture



THE DESIRE:

Flexibility in Extracting and Integrating SAP and Third-Party Data

Companies need to integrate enterprise data from SAP with additional data to develop richer analysis. Why have organizations struggled to use their ERP data with other data sources?



Challenge:

SAP provides companies with rich control of processes and SAP analytics tools that are designed in support of data that is created in SAP.

As the need to join SAP data with other sources for real-time and predictive insights has grown, customers are looking for more efficient ways to accelerate availability of SAP data outside of the core system to leverage simple, open, multicloud environments like the Lakehouse.

Solution:

Qlik Data Integration accelerates the availability of SAP data with its scalable change data capture technology. Qlik Data Integration supports all core SAP and industry modules, including ECC, BW, CRM, GTS and MDG, and continuously delivers incremental data updates with metadata to Databricks Lakehouse in real time.

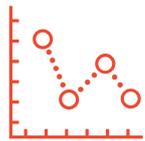
Once in the Lakehouse, users can rapidly join SAP data with non-SAP data using streamlined pipeline creation tools such as Delta Live Tables to enable new reports and advanced analytics in hours and days.

Enterprises are able to power decisions in real time, integrating the freshest reliable information from business critical systems such as SAP with operational technology data sources (sensors, customers, process, suppliers, etc.) to power advanced analysis.

THE DESIRE:

Build More Accurate and Robust Analytics

Organizations need the most accurate, relevant predictions. With data coming in torrents from so many sources, valuable SAP data needs to be joined with other sources and analytics to maximize results.



Challenge:

SAP's heritage in analysis provides operational reporting and useful analysis that is critical for organizations.

As the need for external data sets has grown exponentially, the opportunity in supplementing and complementing native SAP modules has grown.

The Lakehouse is built from the ground up to supercharge valuable systems like SAP to offer limitless scale for data science, machine learning and analytics.

Solution:

The Lakehouse was designed to drive real-time and advanced analytics. The average Databricks customer sees a double-digit improvement in forecast accuracy when migrating forecasts from proprietary tools to the Lakehouse.

Customers derive even more value from their SAP system to create predictive and prescriptive analytics using all sources of data, including structured and unstructured data.

Common use cases include:

- Demand forecasts as well as vendor-managed inventory and vendor-managed replenishment (VMI/VMR) predictions that incorporate shipments and customer sales data
- Predictive maintenance use cases like ensuring replacement part procurement processes are aligned with the downtime of each specific process or piece of equipment
- Load tendering and multistep route optimization that incorporates current orders with traffic data
- Customer segmentations, customer lifetime value, and other customer analytics that help manufacturers prioritize where to invest trade and channel dollars

THE DESIRE:

Improved Outcomes and Lower Total Cost of Ownership

Historically, systems have based costs on the volume of data stored. This is as true of SAP as it is for many critical systems of record, but as analytics and AI at scale now rely on ever-increasing amounts of data – including many external sources and massive amounts from streaming for real-time insight – costs can quickly spiral if not carefully managed. How can companies maximize the value of their investment in SAP while controlling costs and improving outcomes?



Challenge:

Companies implement SAP for the proven performance, consistency and operational integration it drives throughout the organization. These firms derive considerable efficiencies across their business after implementing SAP, including enabling operational reporting on current data within SAP. However, licensing, compute, and support costs are tied to data volumes, which isn't feasible to address the torrents of data required for accurate, relevant, predictive modeling.

Solution:

Companies can still benefit from the tight integration of SAP modules with HANA for operational reporting, while also moving SAP data to the Lakehouse where it can be integrated with third-party data, used for advanced analytics and serve as long-term retention.

The Lakehouse was built with an understanding of the challenges faced in a world with so much data. It addresses the challenges of tech debt and cost with pricing based on compute. Companies can inexpensively store petabytes of fine-grained data in inexpensive cloud object storage and pay primarily when the data is used for analysis.

The Lakehouse + SAP enables companies to maximize their investment in SAP, reducing the TCO without sacrificing any business data capabilities.

About Databricks

Databricks is the data and AI company. More than 7,000 organizations worldwide — including Comcast, Condé Nast, H&M and over 40% of the Fortune 500 — rely on the Databricks Lakehouse Platform to unify their data, analytics and AI. Databricks is headquartered in San Francisco, with offices around the globe. Founded by the original creators of Apache Spark,™ Delta Lake and MLflow, Databricks is on a mission to help data teams solve the world's toughest problems. To learn more, follow Databricks on [Twitter](#), [LinkedIn](#) and [Facebook](#).

About Qlik

Qlik's vision is a data-literate world, where everyone can use data and analytics to improve decision-making and solve their most challenging problems. Qlik offers real-time data integration and analytics solutions, powered by Qlik Cloud, to close the gaps between data, insights and action. By transforming data into Active Intelligence, businesses can drive better decisions, improve revenue and profitability, and optimize customer relationships. Qlik serves more than 38,000 active customers in over 100 countries.

[qlik.com](#)

Get started with a free trial of Databricks and start building data applications today

[START YOUR FREE TRIAL](#)

To learn more, visit us at:

databricks.com/manufacturing

Or contact Qlik at:

qlik.com/us

