

Accelerating and Improving Decision Making in Manufacturing

THE KX ADVANTAGE

Data-driven insights enabling in the moment decision-making and action to improve yield, quality, and control in and across factories

KEY FEATURES

- Ingest more data more quickly with multiple data loaders, sharded tables, micro-batching, and support for late and updates to data
- Scale analytics applications and databases elastically on-line
- Deployable on-premises, at the edge, in the cloud
- Single integrated, interoperable software platform for quicker, easier implementation, and reduced TCO
- High availability and fault-resilience to ensure no downtime, no data loss

It's not just the stock market or Formula 1 that KX accelerates to victory. The same data analytics and decision-making capabilities used to beat markets and win races is also empowering digital transformation in manufacturing. For instance, KX is rapidly reducing costs for manufacturers through predictive analytics that increases equipment uptime and factory utilization, and improving quality, safety, and productivity. Leveraging the power of contextual analytics, KX ingests data and provides insights across OT and IT layers such as sensors, assets, MES/FA, SCADA and other systems to deliver business results and improved ROI.

Those insights are achieved by knowing what's happening, right now, at every point along the manufacturing process, leveraging it with historical and contextual data, and performing analytics to generate results, models, control processes and actions for the manufacturing ecosystem. Sample applications include:

- Fault Detection and Classification
- Sensor Data Historian
- Real-time Advanced Process Control
- Asset Health Monitoring
- Predictive Analytics
- Digital Twin Operations, Processes, Assets, Systems

KX delivers these outcomes via an integrated streaming analytics platform that provides full life-cycle data ingestion, processing, analytics, and storage. For maximum flexibility, it can run on-premises, on edge devices and / or in the cloud to enable organizations to achieve real-time optimization and efficiencies from insights and actions on both streaming and historical data from sensors, industrial equipment, and factory systems.

Sample client success stories



• Ingestion, visualization and ML/AI processing of billions of trace data values for a critical fab process >300x faster than legacy system.



• Materials engineering solution delivering 50x better processing and query performance than alternatives, operating at a lower TCO and saving thousands of engineering hours per year.



• Operating as a sensor data historian for fault-detection, and other applications across thousands of tools, millions of trace measurements per second.

For more information please contact: sales@kx.com or visit www.kx.com

KX® and kdb+ are registered trademarks of KX Systems, Inc., a subsidiary of FD Technologies plc.

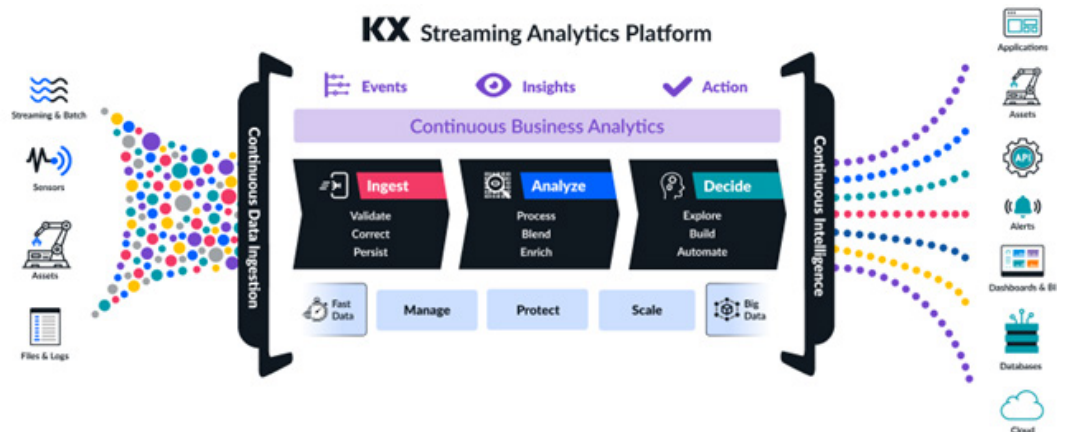
➤ FULL LIFE-CYCLE DATA INGESTION, PROCESSING AND ANALYTICS

DATA INGESTION AND INTEROPERABILITY

- Interoperability with any OT device or sensor regardless of protocol type and data formats.
- High performance, high velocity and volume sensor data ingestion and data management, including support for late and updates to data
- Supports any type of data, frequency, quality, order, and time-horizon – time-series, relational, semi-structured
- In-memory database with configurable data write-down frequency and historical database management
- APIs, SDK, solution accelerators

DATA PROCESSING AND ANALYTICS

- Time-series optimized with relational data capability for context
- Complex event processing engine for detecting anomalies, predictive analytics, and machine learning
- Rich configurable visualizations across all data – easily tailored to manufacturing cell, process, factory, and organization profiles
- Calculating and distributing KPI measures to applications and Dashboards
- AI/ML Feature Engineering, model training, real-time inferencing, model updating and tuning



PERFORMANCE & SCALABILITY, AND DEVOPS

- Horizontal scaling of nodes easily supporting TBs per day with no downtime
- Clustered nodes and sharded data feeds supports scaling ingestion and analytic performance
- Advanced query routing and load balancing while data is in the data stream and at rest
- Tiered storage and compression keeping all data on-line cost-effectively
- On-line data migration across local storage, SAN, NAS, and cloud to optimize performance and storage costs

HIGH AVAILABILITY AND FAULT RESILIENCE

- Providing mission critical 24x7 operation with no downtime or data loss in servicing demanding query workloads
- High-availability, data replication, auto fail-over and fail-back, and synchronization for diverse deployments
- Advanced system and performance monitoring, query routing and load balancing

For more information please contact: sales@kx.com or visit www.kx.com

KX® and kdb+ are registered trademarks of KX Systems, Inc., a subsidiary of FD Technologies plc.