



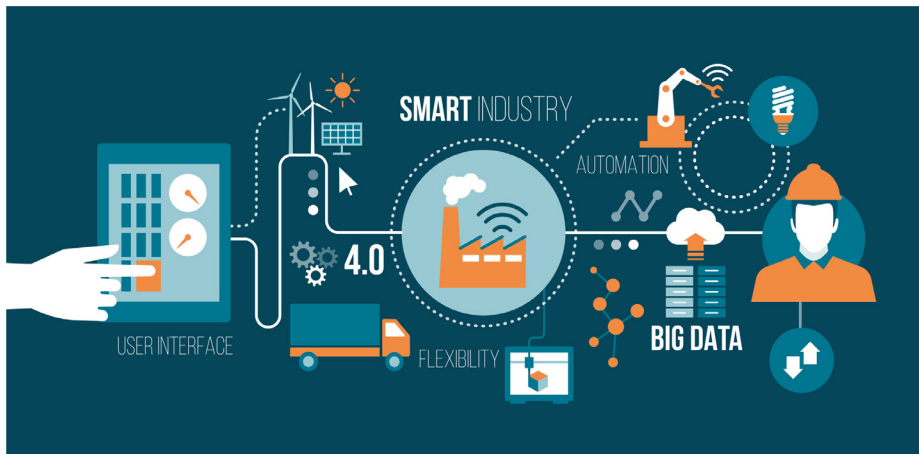
it's about time

# Kx for Manufacturing

## Accelerate Your Evolution Into Industry 4.0

Kx is the world's [fastest time-series database](#) and analytics platform for manufacturing. It is a high-performance, cost-effective and low latency solution for ingesting, processing, and analyzing real-time, streaming and historical data from industrial equipment sensors and factory systems.

Kx is a single integrated software platform enabling quick, easy implementation and low total cost of ownership. It can be deployed on premises, in the cloud or as a hybrid configuration.



### Performance

Featuring a superior columnar-structured [time-series database](#), kdb+, Kx can scale anywhere from thousands to hundreds of millions of sensors, at any measurement frequency whilst maintaining extreme levels of performance.

Kx has the ability to [ingest and process over 20 million sensor measurements](#) per second using just one server. With the same server, Kx can store and analyze trillions of records, fulfill query responses in microseconds, and scale both vertically and horizontally. The data can then be used to assess the performance of entire plants and machines in real-time and feed into predictive and machine-learning models.

### At a Glance

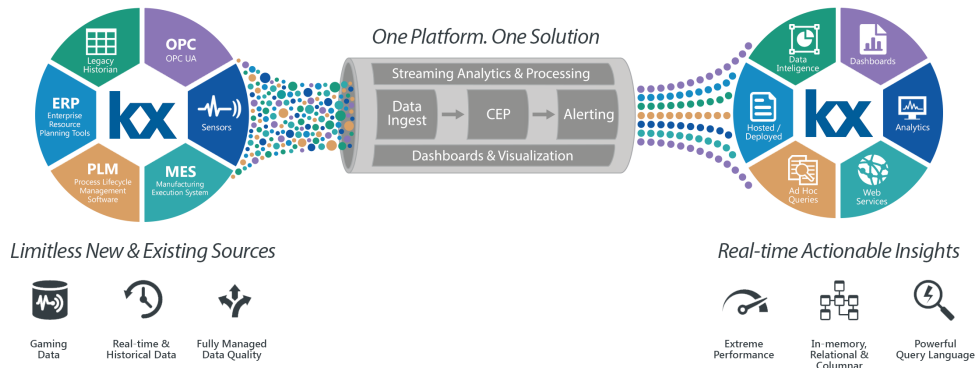


Powered by the world's fastest time-series database, Kx enables manufacturers to improve performance at tool, factory and user analytic levels. Kx is able to handle millions of events and measurements per second, gigabytes to petabytes of historical data, with nanosecond resolution, more efficiently and cost-effectively than any available alternatives.

### The Kx Advantage

- Ingest and process over 20 million sensor measurements per second
- Supports any sensor measurement, frequency, tags and attributes with nanosecond precision
- Stream processing platform with in-built Complex Event Processing
- [Augment existing systems](#) to support massive increase in sensor data volumes
- Ability to capture, store and process TBs of data per day
- Deploy on-premises, in the cloud or as a hybrid configuration
- Rich customizable visualization through integrated dashboards enabling self-service Business Intelligence
- [Single integrated software platform](#) for quicker, easier implementation, lower cost and reduced TCO

## Kx for Manufacturing



### Analytics

Kx can capture, analyze, and store high-frequency time-series data from thousands of sensors to compare with historical data for **fault detection and yield** sensitivities to improve factory cycle time and factory yield. It can support any sensor measurement, measurement frequency, tags and attributes, with nanosecond precision and time-based aggregations.

Assess the performance of entire plants and machines in real-time and enable statistical process and performance management systems.

### Interoperability

Use Kx to integrate with legacy systems and **multiple data sources**, enabling you to augment or replace existing historians and manufacturing execution systems. Transition from your current historian to the world's fastest; overcome current latency, volume and velocity issues with the sheer power of Kx.

### Visualization

Our out-of-the-box **Dashboards** product provides feature-rich visualization and control tools including powerful OLAP drill-down features and query builders. Dashboards can be effortlessly customized and extended for specific testing, monitoring and research requirements. Dashboards can be shared across user groups or entitled to individual users.

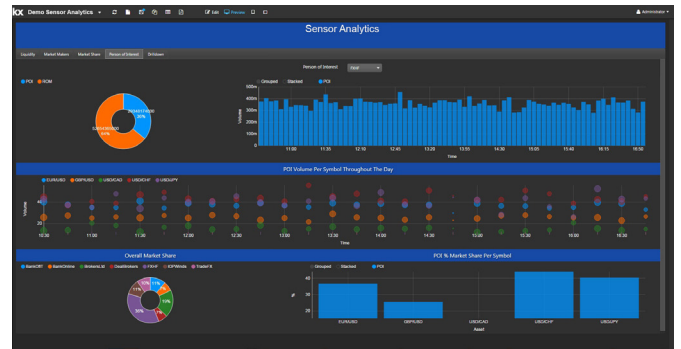
### About Kx

Kx has been the software leader for complex analytics on massive-scale streaming data for over two decades. The Kx technology is an established and trusted standard for trading, surveillance and research in financial services. Kx has emerged as the elegant, integrated solution to the analytic needs of the Utilities, Telco, Semiconductors and High Tech Manufacturing industries scaling effortlessly to the IoT data challenges.

Kx is a division of First Derivatives plc. Listed on the London Stock Exchange [FDP:LN] First Derivatives is a specialist software and consulting organization with a uninterrupted track record of customer success and profitable growth since it was listed in 2002.

### Scalability

Scale vertically or horizontally across machines using modular architecture. Supports thousands of concurrent time-series queries involving trillions of rows of data, and analytic **performance that is leagues above any of the alternatives.**



### Edge

Perform analytics at the edge - directly at tool level where Kx's small footprint enables Complex Event Processing (CEP) on all tools with sub-millisecond latencies. Data can then be forwarded securely to a centralized location for consolidated analysis and situational awareness.

### Kx in Action

#### Visualize and Explore Data

- Kx Dashboards
- Kx Analyst

#### Frameworks

- Control for Kx
- Stream for Kx

#### Industry Solutions

- Automotive
- Capital Markets
- Semiconductors
- Space
- Telco
- Utilities

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