



it's about time

# Kx for Sensors

## Enable, Combine, Integrate and Action your Data

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 30 million sensor measurements per second using just one server. Kx can store and analyze trillions of records, fulfil query responses in microseconds, and scale both vertically and horizontally.

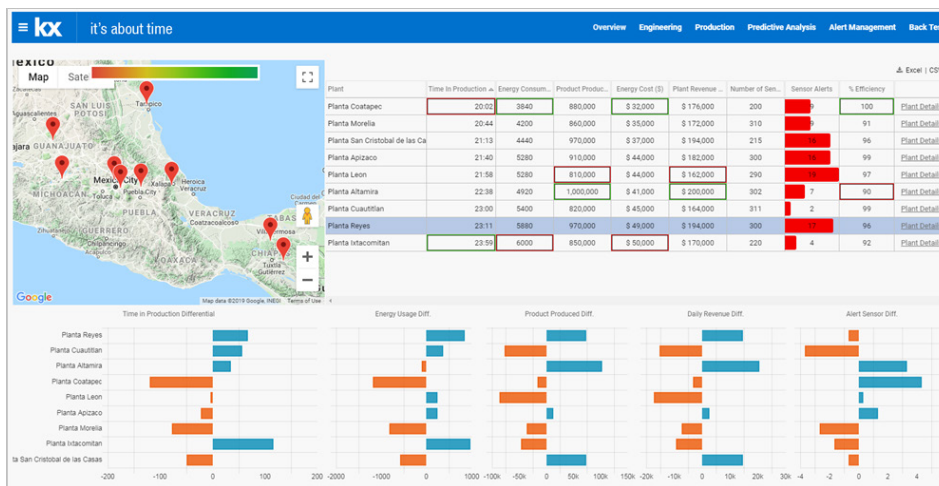
Raw data can then be used to assess the performance of entire plants and machines in real time and feed into predictive and machine-learning models.

## At a Glance

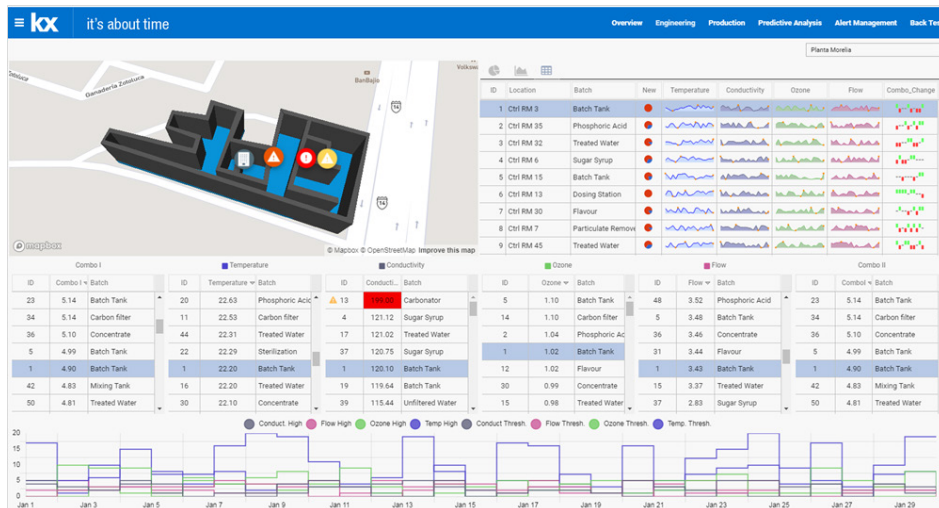


Powered by the world's fastest time-series database, Kx enables manufacturers to improve performance at tool, factory and user analytic levels.

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 other technologies.

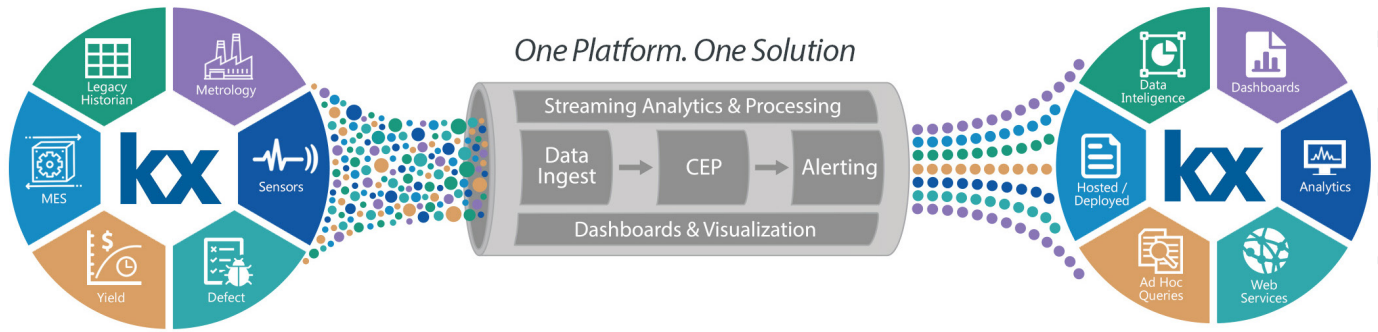


Rich real-time analysis of data presents significant opportunity for optimizing business operations and improving efficiency across the entire production process.



## The Kx Advantage

- One platform for sensor data processing, storage and analytics
- [Ingest and process over 30 million sensor](#) measurements per second
- Supports any sensor measurement, frequency, tags and attributes with nanosecond precision
- Streaming analytics platform with in-built Complex Event Processing
- [Augment existing systems](#) to support massive increase in sensor data volumes
- Ability to capture, store and process over 10 TBs of data per day
- Deploy on-premises, in the cloud or as a hybrid configuration
- Fault and anomaly detection and prediction
- Rich customizable visualization through integrated dashboards
- Single integrated software platform for quicker, easier implementation, lower cost and reduced TCO



### Analytics

Kx can rapidly 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.

[Validates and estimates](#) raw sensor data according to business rules to deliver high quality granular and aggregated data for analytics and operations. Provides real-time visibility to data quality conditions.

### 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 HTML5 Dashboards provide 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.

### Security and Enterprise Grade

Hardened for the enterprise with reliability, availability and security built in.

### 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 Pharma, Retail, Utilities and High-Tech Manufacturing industries scaling effortlessly to the data challenges of the Internet of Things.

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 an uninterrupted track record of customer success and profitable growth since it was listed in 2002.

### Extreme Performance and 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 orders of magnitude [faster than alternatives](#).

Scales vertically and horizontally, on premises, cloud, and across multiple storage technologies.

### Edge

Perform analytics at the edge or 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

#### Control, Deploy & Monitor

- Control for Kx
- Stream for Kx
- Kx for Monitoring

#### Industry Solutions

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

#### Head Office

3 Canal Quay,  
Newry,  
BT35 6BP  
N. Ireland  
+44 (0)283 025 2242

#### London

Cannon Green Building,  
27 Bush Lane,  
EC4R 0AN  
United Kingdom  
+44 (0)207 337 1210

#### New York

45 Broadway,  
NY 10006  
USA  
+1 (212) 447-6700

#### Singapore

One Raffles Quay,  
North Tower,  
#30-03,  
048583  
Singapore  
+65 6592 1960

#### Sydney

22 Pitt Street,  
NSW 2000  
Australia  
+61 (02) 9236 700

#### Toronto

31 Lakeshore Road  
East, Suite 201  
Mississauga, On,  
L5G 4V5  
Canada  
+1 289 329 0636

#### Tokyo

20F Shin-Marunouchi  
Center Building,  
1-6-2 Marunouchi,  
Chiyoda-ku, Tokyo,  
Japan 100-0005  
+81 (0)36-634-9799