



it's about time

Kx for Space

Out of this World Data Processing

Kx for Space is a high-performance, low latency data management platform that has the ability to rapidly process voluminous and varying datasets, either for ground systems, at high altitude, or in-orbit, to enable actionable insights. The technology enables end-users to model, simulate and visualize satellite data like never before, whilst catalyzing innovative applications.

Kx for Space, with its expertise in ultra-high speed processing of real-time, streaming and historical data, has the potential to disrupt the industry. By analyzing terabytes and petabytes of satellite imagery on a daily basis, Kx for Space unearths value on local, national and global scales.

Serving the needs of both public and private entities, Kx for Space offers a flexible, user-oriented solution, aimed at providing dynamic insights through cutting-edge technology. Kx for Space transforms data stemming from satellites and other remote data sources, to optimize on-the-ground decision-making.



Kx makes all of this possible through its ability to capture, analyze, store and visualize both real-time and historical data from a variety of remote sensors with stellar performance. This processing ability changes pixels into actionable data.

Understanding, processing, and observing geospatial data through Kx for Space allows information once considered out of touch to be interpreted, modelled and visualized more efficiently than ever.

Kx for Space extracts intelligence from high resolution imagery to transform data into commercially valuable information that can be used across a wide range of applications spanning a number of industries.

Out-of-the-box dashboards provide feature-rich visualization and control tools which can be effortlessly customized and extended for specific analysis, monitoring and research requirements.

At a Glance



Kx for Space is a complete software platform capable of aggregating vast and diverse big data sets from multiple sources of remotely sensed information. This enables optimized and efficient on-the-ground decision-making, as well as innovative commercial and societal applications.

The Kx Advantage

- High performance, low latency processing powered by Kx technology
- Deploy on-premises or in the cloud
- In-built capacity for "edge computing", enabling in-orbit pre-processing and compression of data
- Converts pixels into actionable data on local, national and global scales
- Extendible analytics library for analyzing historical and real-time satellite imagery
- Ability to capture, store and rapidly process petabytes of data
- Stream processing platform with in-built Complex Event Processing
- Rich customizable visualization through integrated HTML5 dashboards enabling self-service Business Intelligence
- Single integrated software platform for quicker, easier implementation, lower cost and reduced TCO

In-Orbit Processing

The amount of quality data gathered remotely by sensors that require harvesting and analysis is growing rapidly. Satellite operators require new methods to rapidly ingest, aggregate, inquire, compress and disseminate data from space-borne assets in order to fully exploit this new wealth of information. Kx for Space can be deployed in-orbit to provide a new range of on-board edge analytics and pre-processing solutions for space-borne assets and data. Kx's small footprint, high performance and low power consumption make it ideal for in-orbit processing and longer duration missions.

Geospatial Data Analytics

Going beyond data acquisition, Kx transforms pixelated data into useable, actionable information. A market leader in Big Data stemming from large-scale geospatial data, Kx can process more than 30 million data points in 120 seconds. Move beyond traditional processing technologies and unearth previously unattainable insights relating to feature extraction and change detection.



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

Edge Analytics

Perform analytics at the point where data is collected, only collecting the data which has been determined to be useful by the tag or sensor. Complex Event Processing (CEP) can be performed on the data drawn in from these sensors on the 'edge' with sub-millisecond CEP latencies. Data can be forwarded securely to a centralized location for consolidated analysis and situational awareness. Due to its light footprint Kx can perform CEP and store data locally when installed on smaller appliances and IoT gateways.

Innovative Applications

The high scalability of our technology allows space-related applications of kdb+ to be integrated into other verticals. Kx's industry-agnostic solution offers commercial benefits across risk & insurance, agriculture, shipping, retail, telecommunications, mining, forestry and many others. Societal issues, such as environmental protection and emergency responses, are also catered for.

Predictive Maintenance

Assess the performance of ground segment and in-orbit satellites in real time and feed data into predictive and machine learning models. Make data and analytics available to statistical processes and performance management systems. Kx offers a fault detection solution, takes readings from thousands of sensors providing rapid ingestion, complex event processing, and compares these readings to historical data to detect anomalies and potential faults. Kx is capable of handling many millions of sensor reads per second, representing a significant change in the product's performance and scalability.

Kx in Action

Visualize and Explore Data

- Dashboards for Kx
- Analyst for Kx

Control, Deploy & Monitor

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

Industry Solutions

- Finance
 - Surveillance
 - Algo
 - Flow
- Pharma
- Utilities & IoT

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