ENERGY AND UTILITIES

Accelerating and Improving
Digital Transformation

Data-driven insights enabling in the moment decision-making and action to improve reliability, efficiencies, and reduce costs.

KEY FEATURES

- Ingest, process, analyze, & store high-velocity, high-volume sensors & meter data

- Validation, Estimation and Edits engine

- Full versioning and traceability

- Support for late and updates to data

- Any data and volume - AMI, SCADA, PMU, DER, smart home IoT, assets and context / reference

- Solution accelerators for MDM, Historians, ADM, Data Lakes, and Settlements

- Flexible deployment in the field on edge devices, on prem or in the cloud

- High availability, resiliency & disaster recovery for OLTP and OLAP workloads

The energy and utility industry is undergoing digital transformation in order to make better and faster decisions for improving reliability, efficiency, effectiveness and reducing cost of delivering power to business and residential consumers. This is being made more challenging with distributed renewable energy resources, evolving and expanding energy markets, demanding customers, and electrification of the transportation system.

KX is at the heart of this digital transformation. KX enables distribution, transmission, and market operators to improve efficiency, reliability, and reduce costs through improved and accelerated visibility and decision making. High value use cases include:

- Meter Data Management
- Operations & Historical Analytics
- SCADA and ADMS

- Data Exchanges and Settlements
- Forecasting and Planning
- Asset Monitoring

KX delivers these insights using an integrated streaming analytics software platform that enables operators to achieve real-time optimization and efficiencies from monitoring, alerts, analytics, actions, and automation based on data from ADMS, OMS, SCADA, smart meters and more. The platform provides full life-cycle data ingestion, validation, estimation, processing, and data management enabling mission critical operations, 24x7, with no data loss.

Sample client success stories

- Powering a data management and analytics service for over 100 utilities in North America, reducing time to detect and resolve customer issues. Currently processing over 1 million sensor readings per second and providing improved query response times by 10x to 100x

- Powering an electricity market exchange for over 100 utilities in EMEA supporting higher efficiency, accelerating key market processes by 10x to 50x

- Improving effectiveness of drilling/extraction operations in the field and edge (Major Oil & Gas services company)

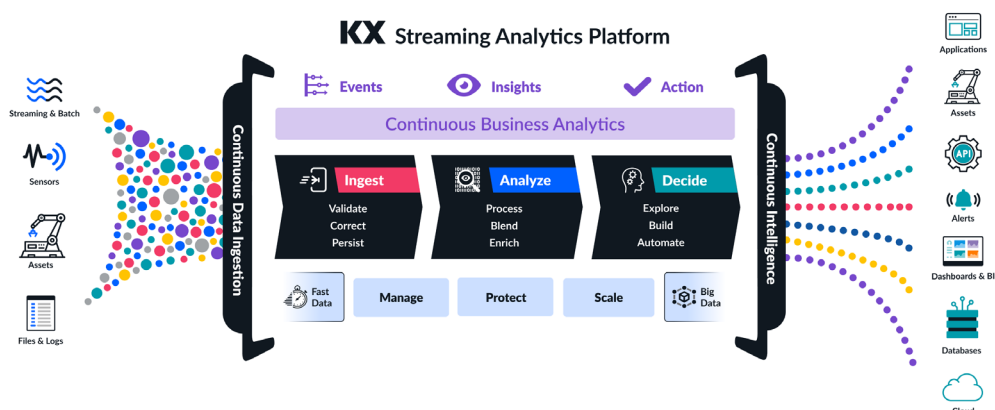For more information please contact: sales@kx.com or visit www.kx.com

FULL LIFE-CYCLE DATA INGESTION, PROCESSING AND ANALYTICS

DATA INGESTION AND INTEROPERABILITY

- High performance, high and low velocity and volume sensor (meter, SCADA, PMU, RTU) data ingestion and data management
- Support for late data and updates to data – no restrictions (hours to years)
- Supports any type of data, frequency, quality, order and time-horizon – time-series, relational, semi-structured
- Support any number of channels and units of measures, including cumulative/index and interval readings
- APIs, SDK, solution accelerators – including retrievals, aggregations, calculations
- Traceability and versioning of data

DATA PROCESSING AND ANAYTICS

- Continuous ingestion, processing, calculations and aggregations
- Data validation & estimation and processing for detecting and correcting data
- Automatic profile generation for estimation and analytics
- Complex event processing for detecting anomalies and making predictions
- Rich configurable visualizations across all data – easily tailored
- AI/ML feature Engineering, model training, inferencing, model updating and tuning

PERFORMANCE & SCALABILITY, AND DEVOPS

- Ingesting and processing over 1 million sensor readings per second, scaling from hundreds of senor/metering points to 10s of millions
- Easily support databases of multi-TB to PBs on commodity infrastructure
- Advanced query routing and load balancing for data in motion and at rest
- Tiered storage, on-line data migration, and compression keeping all data on-line cost-effectively
- DevOps support for on-line changes (code, schema, API)
- Multi-tenant ready (multi-organizations, grid-areas, suppliers, consumers, authorized third parties)

HIGH AVAILABITY AND FAULT RESILIENCE

- 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
- On-line changes to nodes in a cluster

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