Revolutionizing Customer Experiences through Telematics Data Lake Modernization: A Kellton-United Rentals Collaboration

To enhance its rental services, United Rentals - North America's largest equipment rental company - uses telematics data to gather real-time information from its commercial equipment vehicles. The goal is to keep track of equipment locations, usage patterns, and performance issues that could result in equipment loss. However, building a comprehensive data architecture to capture these metrics can be mammoth. This is where Kellton came in to create a cutting-edge data strategy on the cloud and a plan to modernize United Rentals' IoT-based Telematics Data Lake.

Client in spotlight

With over 1300 stores in the United States and Canada, United Rentals stands out as one of North America's largest equipment rental companies. The company caters to the requirements of construction and industrial firms, utilities, municipalities, homeowners, and communities, endeavoring to surpass expectations and fulfill customer needs.

United Rentals aims to leverage telematics data to allow customers to monitor and access equipment operating characteristics, service-related fault codes, and predictive analytics on their rented equipment. With this data, customers can accelerate the efficiency of the equipment, cut costs wherever necessary, and achieve business objectives quicker.

FUN FACT

The global telematics in heavy equipment market size is expected to grow from USD 2.3 billion in 2020 to USD 4.1 billion by 2025 at a Compound Annual Growth Rate (CAGR) of 12.7% during the forecast period (1).

Key challenges

01 To **store and analyze vast quantities of data** collected from construction equipment, United Rentals required a seamless and easily accessible data lake to manage data points.

02 Performing **advanced data analytics,** such as predictive analytics, on equipment operating features, service-related fault codes, and other relevant aspects were limited.

03 Due to limited data architecture, receiving real-time insights, alerts and notifications from construction equipment was a complex and convoluted process, posing a threat to the equipment's efficiency.

Solution

In order to meet the **increasing demand for advanced telematics data analytics,** United Rentals consulted with Kellton to design a data architecture for the ingestion, storage, and processing of large amounts of data collected from rental equipment.

Upon realizing United Rentals' goals, Kellton embarked on a mission to help the customer **select the best cloud-based future-ready system** to enable a flexible and extensible architecture to support future growth.

Our insights were intended to ensure the maintainability and supportability of the machinery, **empower its extensibility and scalability,** enhance system and business performance, and reduce the total cost of ownership wherever possible. Another objective of our insights was to rationalize data originating from multiple sources to a standardized nomenclature to process data better and faster.

Kellton delivered a strategy that **combined the best of IoT and cloud capabilities,** utilizing AWS-powered Snowflake and PTC ThingWorx data platforms to help United Rentals achieve its vision. With Snowflake, United Rentals can **access a cloud-native enterprise analytic database** that offers advanced functionality. Additionally, ThingWorx provides powerful tools and technologies that empower businesses to develop and deploy IoT solutions quickly.

The solution offered tailored **Operation Improvement Capabilities** that catered to a wide range of equipment types, resulting in improved operational efficiency.

Insights and impact | Telematics Data - Revolutionizing the Construction Industry

The construction industry is **progressively embracing advanced telematics** data due to its ability to provide valuable insights into the performance and efficiency of construction equipment. With an estimated revenue of more than $11 Billion USD, **United Rentals,** a leader in equipment rental, **adopted data and analytics** to augment its Overall Equipment Effectiveness (OEE).

Along with maintaining high efficiency of the capital, construction industries leverage data and analytics to mitigate risks pertaining to their equipment. With a platform to monitor fuel metrics, location, and run time of the equipment, construction managers can now easily chalk out any possibilities of losses that can be incurred.

To ingest, store, and make the best use of such data, we enabled United Rentals in their mission to **harness technology to achieve the business goals** of construction project leaders and business owners alike.

Improved Scalability

Ease in processing of telematics data by going to the Cloud

Enabled telematics

Related alerts such as low fuel and geo-fence in near real-time

Enabled

The customer to leverage dozens of previously unseen insights