

Customer Insight

PROVIDING HIGHLY PERSONALIZED, VALUE-ADDED SERVICES IN LINE WITH CUSTOMER NEEDS THROUGH REAL-TIME ANALYSIS OF VEHICLE SENSOR AND OTHER DATA

////////////////////////////////////

Business Challenges

- Business innovation based on data-driven organization
- Provide competitive information services

Deployment Results

- Achieved high impact services through real-time analysis of Big Data
 - Significant reduction in information management costs
- ////////////////////////////////////

Mitsubishi Fuso Truck and Bus Corporation (MFTBC) is a leading manufacturer of trucks, buses, and industrial engines. With a focus to shape itself into a data-driven organization, MFTBC continues to grow through business innovation and provision of new value-added services to its customers. One such breakthrough innovation is Truckconnect, which integrates vehicle sensor data and other data to bring relevant information to the customer’s fingertips. This service is available on its “Super Great” large truck models. The information analysis platform behind this service is supported by Microsoft Azure HDInsight, while Cloudera Professional Services provided smooth implementation and stable operation.

Using Big Data to Accelerate Digital Transformation

MFTBC was part of Mitsubishi Motor’s truck and bus operations, but in 2003 it became an independent entity. It enjoys a strong reputation in the FUSO market for its high quality, affordable, robust functional designs, and reliable services. Currently, MFTBC is part of the Daimler AG group, and the Japanese subsidiary provides an important base in the Asian region. The company has been using IT technology to promote business innovation and digital transformation.

Speaking on the company’s business innovation initiatives, Lutz Beck, CIO of MFTBC, says, “There are two aspects of digital transformation that we are promoting. First is internal organization. We started using Big Data in 2014, and since then, we have set up a special department to collect and analyze various types of data. In other words, we have evolved into a data-driven organization. The other aspect is to provide new insights gained from analyzing the data, and using it to value-add for customers. We think of trucks and buses as “devices” like smartphones. We integrate information from vehicles with backend information and provide this information in the form of different services to users. This creates a new demand, and is also our differentiating point.”

Tele-Diagnosis That Brings Forth “Connectivity”

MFTBC is conducting a “Connectivity Project” in which data from sensors installed in vehicles is combined and analyzed with other data sources such as those from backend systems. The company makes use of the connectivity of this Big Data to provide accurate diagnosis of the vehicle’s status in remote locations. This data has also paved the way for the creation of Truckconnect, a value-added service to address vehicle problems.

“Our vehicles are installed with numerous sensors. Even if one sensor encounters an issue, it is difficult for many drivers to know the reason behind the error and make an instant judgment on what to do next. Tele-diagnosis allows users to check information from the user portal, such as abnormalities at specific locations, the impact on operations, what measures to take, available parts for repairs, and the location of service centers. Many manufacturers are thinking of providing such services but I believe we are the pioneer. Our tele-diagnosis is one of the most advanced services available not only in Japan but the world over,” adds Beck.

Commenting on the architecture of Big Data utilization, Erik Spitzer, Manager, MFTBC IT Process Design and Innovation, says: “Sensor data in vehicles alone will not be useful information to users. For example, in the case of fuel consumption data, we can only gather

About Cloudera

At Cloudera, we believe that data can make what is impossible today, possible tomorrow. We empower people to transform complex data into clear and actionable insights. Cloudera delivers an enterprise data cloud for any data, anywhere, from the Edge to AI. Powered by the relentless innovation of the open source community, Cloudera advances digital transformation for the world's largest enterprises.

Learn more at cloudera.com

when and how much fuel has been consumed. However, if we perform tele-diagnosis by combining and analysing the data with other data, we would know why so much fuel was needed and how to use fuel more efficiently. It is important to compare and analyse fluid data, or data-in-motion, from sensors with static data, or data-at-rest."

Building an Information Analysis Platform on Azure HDInsight

MFTBC uses Microsoft Azure HDInsight as its information analysis platform, which is the core of the "Connectivity Project", which utilizes Big Data. HDInsight is a cloud service based on the Cloudera Data Platform. It includes various applications such as ApacheSpark, HBase, Kafka, Storm, Pig, Hive, Interactive Hive, Sqoop, Oozie, and Ambari. For a smoother construction and operation of the system, MFTBC uses Cloudera Professional Services.

Lutz Beck recounts his experience with Cloudera in the selection of Hadoop platform. "When we were considering the use of Big Data as part of digital transformation, we had the opportunity to meet with representatives from Cloudera. When they presented some user scenarios of Big Data, we felt that this platform is workable. Of course, we also checked the usability in-house."

Highlighting the reasons for selecting Cloudera's services from a technical perspective, Erik Spitzer says, "Cloudera's Data Platform is also used in Daimler AG, but there were three reasons for selecting Cloudera's platform for this particular project. The first reason is that CDP is the first Hadoop distribution that can be used at enterprise level. Cloudera is the largest contributor in the Hadoop community. For example, with Cloudera's expertise, we can see immediate results in our monthly improvements. Finally, CDP is most compatible with cloud."

Deployment Results

MFTBC is proud to be the first Japanese commercial vehicle manufacturer to offer Truckconnect, an advanced tele-diagnosis service, since May 2017. Truckconnect diagnoses vehicles' conditions such as engine and transmission statuses and provides vital information for speedy repairs of problems, efficient operation, and reduction of fuel consumption. The user portal targets drivers, assistants, and managers who are working in the office.

According to Beck, "We believe that a Big Data service is able to provide great value to customers. We will continue to be the market leader by offering this unparalleled and advanced service." The information analysis platform also integrates data silos, which enables a significant reduction in companywide information management costs.

Future Outlook

MFTBC plans to further expand this service in the future. It will first be offered on large vehicles, and subsequently rolled out to medium-sized and small vehicles, and finally to all types of vehicles. Currently, vehicle sensor data and data from backend systems are integrated in the connectivity system, but MFTBC plans to consolidate more data, such as SNS, in the future.

According to Beck, "We plan to use this service to increase our revenue and expand our market share. To do that, we need Cloudera to be number one in the Hadoop community. In order to provide a valuable service to our customers, we hope that our partners will also continue to provide number one products to us. We hope that we can continue with the innovation and great work together to provide new and outstanding services."

With Big Data offering immense growth potential globally, many automobile manufacturers are also considering launching similar services as MFTBC. To maintain its market position, MFTBC needs to continuously value-add through innovation, to differentiate itself from other competitors and to maintain its competitive edge. Cloudera will actively continue to support MFTBC's Big Data transformation.