FUJITSU

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Data analytics drives better journeys

An Australian-based, public transport operator worked with Microsoft and Fujitsu Data & AI to leverage Fujitsu's Lakehouse Accelerator to create an Azure Modern Data Platform. This provided insights that improves passenger experience, network performance and road safety.

Challenge

Capacity and technical constraints of the current platform limited the ability to conduct scenario-based modelling or analyses on its valuable historical and real-time data. It was inefficient and prone to human error.

Solution

Fujitsu Lakehouse Accelerator was deployed to upgrade its IT infrastructure, retire legacy assets, and build a new data management platform that can support business users make informed decisions.

Outcomes

- Upgraded IT infrastructure and retired legacy assets
- Single, unified and future-ready data management platform
- Improved analytical capability by drawing on historical and real-time data

"Fujitsu Lakehouse Accelerator and Microsoft Azure have been game changing for us. Now, users can obtain the data they need to drive better decision making."

Spokesperson, Australian public transport operator

40-80GB
of vehicle data managed on the platform daily

20+
years historical data migrated to new platform

Modernised data platform for better decision making

This proud Australian-based company takes its mission to deliver solutions for better customer journeys seriously.

In 2020, it identified two key areas that required it to accelerate its digital transformation plans. Firstly, data and data insights are an integral part of improving safety and experience for its passengers, and secondly, its legacy system and analytical tools were inefficient and could not deliver the results it needed now – or in the future.

At first, it tried to develop solutions for its digital transformation internally. But with limited resources, the pressures of a global health pandemic, a complex data picture that included data for 500 vehicles operating across 250 busy routes, and a need to share data with other road and public transport operators, the operator quickly realised it needed expert help.

The operator was using data for business reporting but didn't have any analytics capability. It realised that it needed to set up a data management platform that would give users data for data-driven decision making.

But matching how the business was using the data for reporting with getting it into a data management platform proved a real challenge. By 2022, the business was in a state of analysis paralysis, so it reached out to Microsoft and Fujitsu, and quickly started seeing results it was after.

With the strength of the partnership enabling the operator to power ahead, the business was able to expedite deployment, and the solution was implemented in just six months.

Smarter and safer vehicles with deeper data insights

Fujitsu Data & AI and Microsoft worked hand-in-hand to provide an ongoing solution that has far exceeded the operator's expectations and is helping the business to obtain smarter data with insights into the public transport network performance and road safety analysis. Greater passenger journey insights also help the operator improve the public transport experience.

As the technology partner, Microsoft offered an Azure Modern Data Platform (MDP) complete with sophisticated data infrastructure: Azure Data Factory, Azure Databricks, Azure Purview and Microsoft PowerBI. Fujitsu Data & AI provided the Fujitsu Lakehouse Accelerator to support the operator with implementing the MDP successfully.

The solution is based on the Fujitsu Lakehouse Accelerator, which provides a flexible, rapid approach for integrating datasets into the MDP. Its architecture follows the existing Azure architecture where Databricks moves all data into a landing zone for processing and cataloguing with Unity Catalog, then stores it in the Data Lake's Gold Zone. From here, Power BI can access a dataset comprising imported data, query tables and composite data, ready for users to analyse with customisable dashboards.

One of the many data sources feeding into the MDP is data about vehicle routes, infrastructure such as bridges, public transport stops and traffic lights along those routes, and operations and monitoring control data. A Power BI dashboard sits on top of this and allows the operator to interrogate the data.

Industry:
Public transport

Location:
Australia

About the customer

The Australian public transport company is the operator of a public transport system, with 500 vehicles running across 250 routes. It is committed to delivering transport services that are safe, reliable and meet the evolving needs of the communities it serves.

200
million passenger trips supported annually

This allowed the operator to slice and dice and query the data to make better business decisions that contribute to a safer and more efficient transport network and give its customers a better journey.

By analysing real-time passenger counting and GPS information of the vehicles, the operator can see when a vehicle is at capacity, and assign another one to the route. As a result, customers will see more vehicles in busier periods. The operator can also identify network pain points and work collaboratively with other transport operators to ease them.

Partners in success drive smoother journeys into the future

The operator is now confident that it has the technology and solutions it will need in the future. It knows the MDP can take in as much data as it needs, and that it will be able to use the data to develop new use cases that continue to bring value to the business.

One which it has in mind is getting a better understanding of fare evasion. Another is observing passenger behaviour at network pain points, for example, where there is a higher-than-average incident of traffic accidents. Yet another is preventive vehicle maintenance and safety.

"Our mission at Microsoft is to empower every person and every organisation on the planet to achieve more. We look forward to growing our partnership with Fujitsu and continuing to support the operator in its mission to expand its data use cases and adoption of AI," says Vanessa Sorenson, Chief Partner Officer at Microsoft.

With Fujitsu and Microsoft as its technology partners, the possibilities for the operator to create positive outcomes are endless.

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