

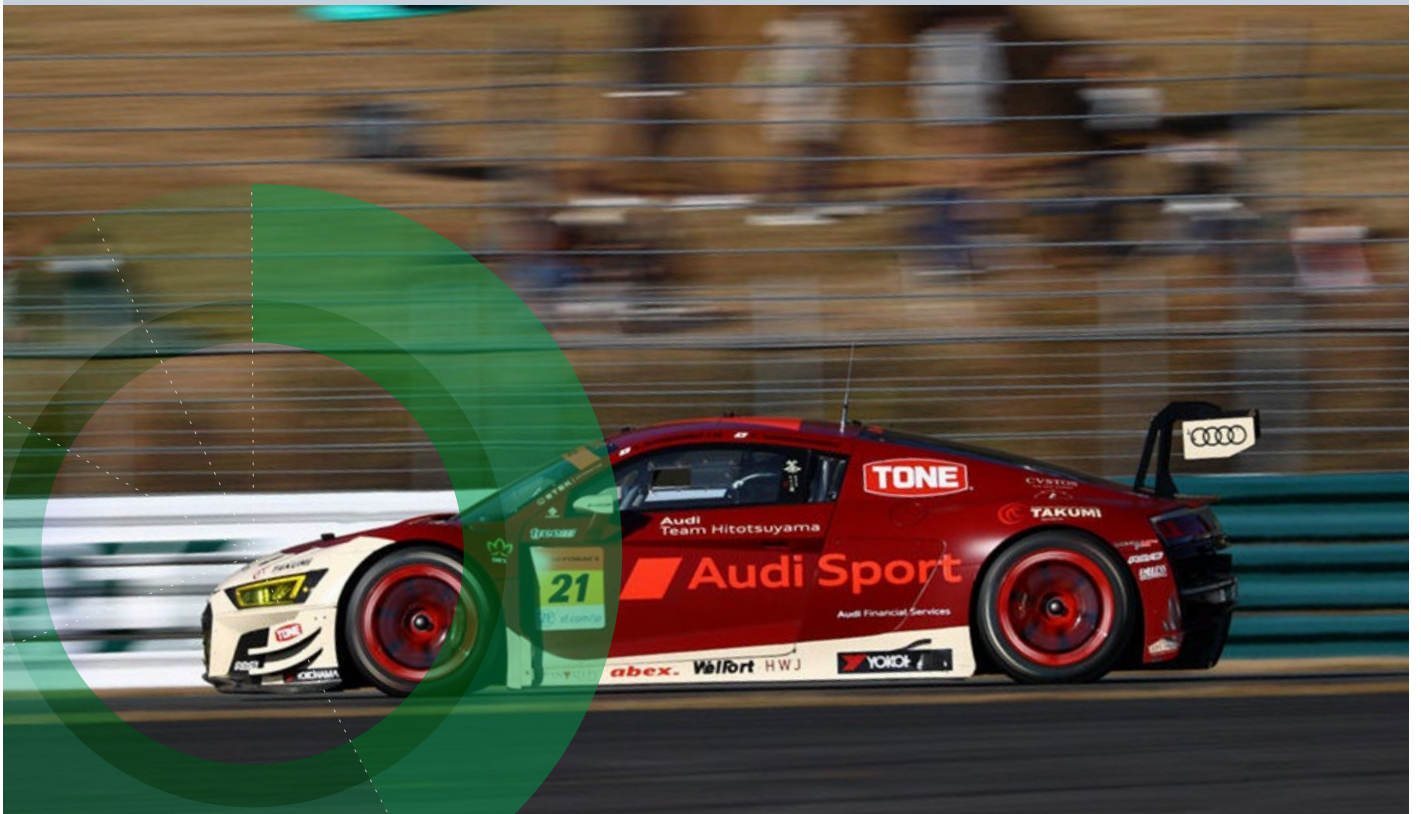
DATA ANALYTICS

CUSTOMER STORY

Insights put racing team in pole position

Qlik Sense helps Audi Team Hitotsuyama stay ahead of the competition

GRAN VALLEY





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“Data analysis is indispensable for winning a race. Objective data is important for a race strategy in order to understand the advantages and the shortcomings of a team.”

Ryoji Hitotsuyama, Audi Team Hitotsuyama Representative

Need to learn from race analysis

Audi Team Hitotsuyama is a racing team formed through a partnership between Hitotsuyama Racing and Audi Japan. It has been participating in the Super GT Series GT300 Class since the 2014 season.

With split seconds in it, achieving race success is increasingly dependent on acquiring and analyzing car and race data in real time. As the team’s Ryoji Hitotsuyama says: “We must use data analysis to the full extent, otherwise we cannot be successful in modern motor sports.”

In order to visualize race data in close to real time, and deliver insights in an easy-to-understand dashboard, Qlik Sense was selected for crucial race analysis.

“This is the first time we have undertaken race analysis, and one of the first things we had to do is create a lap time dashboard for performance review after the completion of each race,” says Shota Kawamura, Race Analytics Team Leader at IT consultancy GRANVALLEY, Audi Team Hitotsuyama’s analysis partner. “After the race, lap time data of the entire car is provided by the promoter, but since it is in a CSV format, it cannot be understood intuitively.”

“This data is converted to an easy-to-understand dashboard by Qlik Sense, and is then uploaded to the cloud to be viewed by the team. By converting to a graph, the race status can be visualized and understood at a glance.”

Solution Overview

Customer Name

Audi Team Hitotsuyama

Industry

High Tech

Geography

Shizuoka, Japan

Function

IT

Business Value Driver

Reimagined Processes

Challenges

- Obtain an easily understood visualization of lap time data
- Better use of in-vehicle data logger information
- Get knowledge of tire temperatures, and the relationship with other cars on the track

Solution

Audi Team Hitotsuyama used Qlik Sense to visualize large amounts of data at very high speeds, and leveraged it to make informed decisions on race strategy.

Results

- More efficient comparison of lap times for different races
- Insights to drive race strategy and ultimately improve race performance
- Use of data enabled the team to record victories at races in June 2020 and November 2021

Using Qlik Sense eliminates the need for complex Excel reports, and since it includes data from the last five years, comparisons have become much easier. This gives crews access to key insights to enable them to develop improved strategies for upcoming races.

Ability to use multiple data sources

In-car telemetry is the usual way to collect data from race cars, but as this is not permitted under Super GT regulations, a data logger is installed in each car.

“For a race engineer, the data through which the behavior of the car can be understood is of utmost interest. While some data can be obtained with analysis software provided by the data logger manufacturer, it is more targeted at the racing driver rather than the race engineer. Visualizing vehicle data with Qlik Sense gives us an understanding of the requirements of the race engineers,” says Yusuke Nakano, East Japan Group Manager for GRANVALLEY.

Qlik Sense is valued by the team because it enables the association of multiple data sources, has an excellent GUI performance and enables data sharing in a safe environment for convenient use by all team members.

Qlik Sense helps us to set variables effectively, making it easier to customize the dashboard’s layout. The arrangements are set out in such a way that by selecting items from a pulldown menu, data analysis can be performed from various angles. From the perspective of the user, Qlik is a tool with an easy-to-operate and easy-to-understand screen,” adds Takumi Uchida of GRANVALLEY’s System Consulting Department.

Pinpointing tire trends

The Super GT race has a preliminary and a final round and is held over two days. It is therefore critical to determine the setting that enables the fastest time during practice sessions. Information about the state of the car’s tires and also the vehicle’s relationship to other cars on the track are two elements that are key to winning.

Kawamura says: “In the data logger, we focus on the temperature of the tires and the acceleration of gravity. Tires warm up as a result of rubbing on the road and cool down due to wind or the atmospheric temperature. If the tires for racing are not maintained at an appropriate temperature, they cannot perform as expected. By cross-analyzing data items with Qlik Sense, it is possible to pinpoint the temperature range at which the best performance can be achieved. These trends are shared with the team for use in the final round of the race. Analysis of tire data is also immensely useful in selecting tires for the next race.”

Audi Team Hitotsuyama now plans to use AI-based automatic analysis to predict future performance, which will be particularly useful in formulating race strategy.

The keys to success



5 year comparisons of lap time data



1 dashboard covers various data analysis results

“Success depends on how one can drive for a long period at the right time, we will continue to make advancements in reliable data analysis ahead of other cars.”

Ryo Hitotsuyama, Audi Team Hitotsuyama Representative



About Qlik

Qlik's vision is a data-literate world, where everyone can use data and analytics to improve decision-making and solve their most challenging problems. Our cloud-based Qlik Active Intelligence Platform delivers end-to-end, real-time data integration and analytics cloud solutions to close the gaps between data, insights and action. By transforming data into Active Intelligence, businesses can drive better decisions, improve revenue and profitability, and optimize customer relationships. Qlik does business in more than 100 countries and serves over 38,000 active customers around the world.

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GRANVALLEY



About GRANVALLEY

GRANVALLEY is a professional consulting company that solves customer problems using advanced data-driven techniques including Artificial Intelligence (AI), machine learning and data analysis with a client-focused, vendor-neutral approach. We discover hidden business rules and expose business insights based on “Data Sources” which are aggregates of various data from ERP, CRM, and IoT devices such as sensors, by employing Analytics and AI technologies.

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