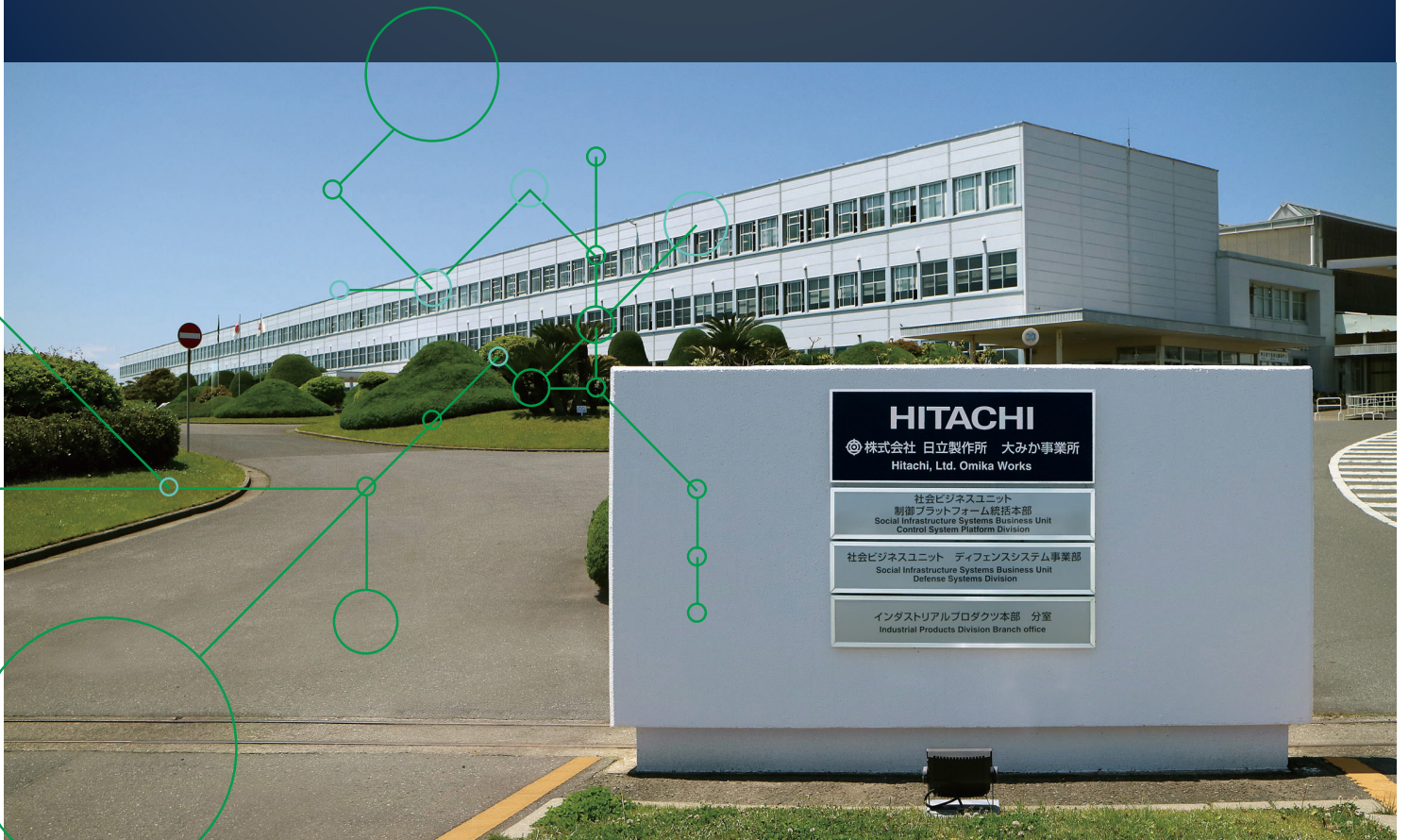ANALYTICS

Advanced factory unifies information

Hitachi Omika Works uses Qlik
to inform risk analysis and decisions

Qlik

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Inspire the Next

"The important thing is to quickly comprehend accurate data. The deployment of Qlik allowed us to meaningfully visualize information and make decisions smoothly."

Atsumi Furukawa, Supply Chain Management Center Director, Omika Works, Control Platform Division, Hitachi, Ltd.

Easing tight supply and demand for parts

Hitachi Omika Works designs and manufactures information control systems for electrical power, railways, water supply and sewage, as well as industrial applications. With a wide variety of production lines that mean each product is made to order, in 2020 it was selected as a 'Lighthouse' – one of the world's advanced factories – by the World Economic Forum (WEF).

As user requirements diversify, mass customization has become a major trend in manufacturing. However, with increasingly diverse user requirements as well as supply shortages and logistical disruptions caused by Covid-19, the parts supply chain is tighter than ever.

"The impact is widespread and issues have quickly become apparent," says Mr. Atsumi Furukawa, Director of the Supply Chain Management Center. "We launched the Supply Chain Management Center in 2022 to promote risk analysis and visualization across the supply chain."

Qlik Sense® links data to enable strong analysis

Teams at the Omika Works studied BI tools to promote visualization of the supply chain.

Yoshio Yamamura, Chief Engineer at the Supply Chain Management Center, explains: "Our plant has hundreds of thousands of parts. We would input each into Excel and use the filtering function to manage them. However, it became very difficult to see which parts were stuck in the supply chain and what impact this had. We realized that BI tools could solve this problem."

Solution Overview

Customer Name
Hitachi, Ltd., Omika Works

Industry
Manufacturing

Geography
Ibaraki, Japan

Function
IT

Business Value Driver
Reimagined Processes

Challenges
- Manage tight supply and demand situations for parts, improving production stability
- Respond smoothly to sudden workload increases

Solution
Incorporating Excel data into Qlik Sense enables the unification and sharing of information to optimize the supply chain

Results
- Statuses and situations can be understood quickly and clearly
- More accurate strategies and responses now possible
- Future utilization expected to expand rapidly

With a successful track record within the Hitachi Group, Qlik Sense was an obvious choice. Ms. Yui Hemmi, Smart Business Integration Department, Sustainability Transformation Division, Hitachi Social Information Services, played a key role in the new system's construction.

"Most of our customers use Excel for analysis and cross-tabulation, so it was important to ensure that data from Excel would be incorporated into Qlik Sense seamlessly," she says. "This sometimes involves complex Excel functions, so we developed an add-in tool, Self-ETL Assistant, to improve compatibility with Excel. We set it up in Qlik Sense to share as an easy-to-use system."

Agile development delivers rapid system set-up

The system was completed just six months after the decision to deploy Qlik, and this speed of development was particularly important.

Ms. Hemmi explains: "We used an agile development that repeated the planning-design-implementation-testing cycle roughly once a week. For each cycle the center responded appropriately, so we could smoothly narrow down any points for improvement."

Mr. Tomoyuki Kasahara, Deputy General Manager of the Management Group, Omika Procurement Department, Procurement Division, adds: "We were on the same path. The Supply Chain Management Center took the lead with great support from the Hitachi Social Information Service, using Qlik."

Dashboards deliver timely and reliable insights

Mr. Kasahara notes that an important aspect of optimizing the supply chain was strengthening cooperation between manufacturers and suppliers.

"We used to spend considerable amounts of time preparing for negotiations and meetings," he says. "However, with Qlik Sense, it became possible to negotiate while looking at a common screen, so the time spent confirming delivery dates with suppliers has been reduced by up to 33%. Even in online meetings, it is now possible to create and examine graphs while changing conditions on the spot."

Mr. Masanori Matsumoto of the Management Group, Hardware Procurement Department, Omika Procurement Division, who works with Mr. Kasahara on the procurement strategy, confirms that losses have been significantly reduced.

"Using Excel, differing definitions could distort the data. Qlik Sense has standardized them and provided a common base for interacting with trading partners," he says. "By having conversations on the basis of the same KPIs, misunderstandings have been reduced, while dashboard visualizations make it possible to share data on procurement statuses, production management and even individual documents in real time."

Additional data connections were achieved in the Control Platform Quality Assurance Division by integrating information such as staffing, on-site testing processes, personnel and pending orders into Qlik Sense.

Mr. Masahiko Niioka, Control System Platform Quality Assurance Center, Quality Assurance Division (of Control System Platform), notes: "Fiscal year-end is the busiest time of year for public works projects, and those involved in information control systems for public infrastructure are also extremely busy."

He adds: "We were struggling to respond to sudden increases in work volume and frequent changes in dispatch schedules. It was often time-consuming to evaluate the situation while checking dispatch schedules, on-site schedules and personnel information. By unifying this data in Qlik Sense, visualizing information has improved, making it possible to see quick, accurate overviews of current situations."

Eliminating ambiguity for faster decisions

The ability to easily visualize data and make comparisons with past data and multiple datasets has had a positive effect on decision-making processes.

Mr. Furukawa observes: "Being able to grasp situations at a glance is very reassuring. In the past, we would compare multiple datasets and make decisions based on intuition and experience. Being able to check each fluctuating situation in real time has given us the confidence to identify the areas to prioritize."

Mr. Matsumoto adds: "It has also had a positive impact outside the company. Progress in data visualization, such as tightening parts supply and demand for each business partner, has made issues and priorities clearer. We can also make comparisons with other companies in the same industry. This is useful both internally and for external partners in formulating countermeasures."

Mr. Yamamura notes: "If you prepare data properly, it can be used for various analyses. Ease of use has also increased thanks to Self-ETL Assistant. We used to extract data from separate files and create new tables for comparison, but with Qlik Sense, once the data is loaded, analysis is available immediately and comparisons with past data are also possible. The longer this work continues, the more effective Qlik Sense will become."

Advancing active data analysis with Qlik

Mr. Furukawa says he now wants to connect to data mining more actively, and can see a clear road ahead for measures to receive parts.

"A future challenge will be how to expand usage," he says. "I would like visualizations to focus on cashflow optimization and connect to forecasts based on current data."

Ms. Hemmi adds: "The push notifications available in Qlik Sense SaaS would enable even faster decision-making. One benefit of Qlik Sense is that you can set flexible data alerts, and I would like to explore this more deeply."

In addition to numerical visualization, Mr. Niioka is also looking at text mining. He is already seeing results in terms of visualizing personnel and projects, and is now working on other parts of the business.

"We are still collecting data on the number of defects in Excel," he says. "We are looking at ways to capture information on defects by incorporating it all into Qlik Sense to visualize and analyze it. Data from daily and weekly reports is also incorporated, and we're planning on creating a mechanism that automatically sends alerts when specific words are found in text."

The Hitachi Group now aims to continue its drive for innovation by fusing DX and sustainability. Qlik will continue to provide vital support.

The keys to success

33% reduction in work hours to confirm delivery dates

Instant creation of graphs that previously took three hours

"The Supply Chain Management Center took the lead with great support from Hitachi Social Information Service, using Qlik Sense. The good results came from the fact that we all wanted the system to be developed this way, so we moved forward with great coordination."

Mr. Tomoyuki Kasahara, Deputy General Manager, Management Group, Omika Procurement Department, Procurement Division, Hitachi, Ltd.

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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. A private company, Qlik offers real-time data integration and analytics solutions, powered by Qlik Cloud, 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 serves more than 38,000 active customers in over 100 countries.

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